

**NHS Board Meeting
22nd June 2010**



Medical Director

Board Paper No. 10/20

Healthcare Associated Infection – Monitoring Report

Recommendation:

The NHS Board is asked to note the latest 2 monthly report on HAI within NHSGGC

INTRODUCTION

The attached HAI report is the latest of the regular two monthly reports to NHS Board as required by the National HAI Task Force Action Plan. The report presents data on the performance of NHSGGC on a range of key HAI indicators at National and individual hospital site level.

Author's name **Dr Brian Cowan**
Title **Medical Director**
Contact tel. No. **61303**

NHS Greater Glasgow & Clyde HAI MONITORING REPORT JUNE 2010

This is the ninth bimonthly HAI Monitoring Reports for submission to the NHS Board as required by the National HAI Action Plan.

The Report outlines the Board's position and performance in relation to:

- *S. aureus* bacteraemias (HEAT Target)
- *C. difficile*
- Surgical Site Infections
- Hand hygiene compliance
- Monitoring of cleaning services

The data are presented at both national and hospital level.

In summary:

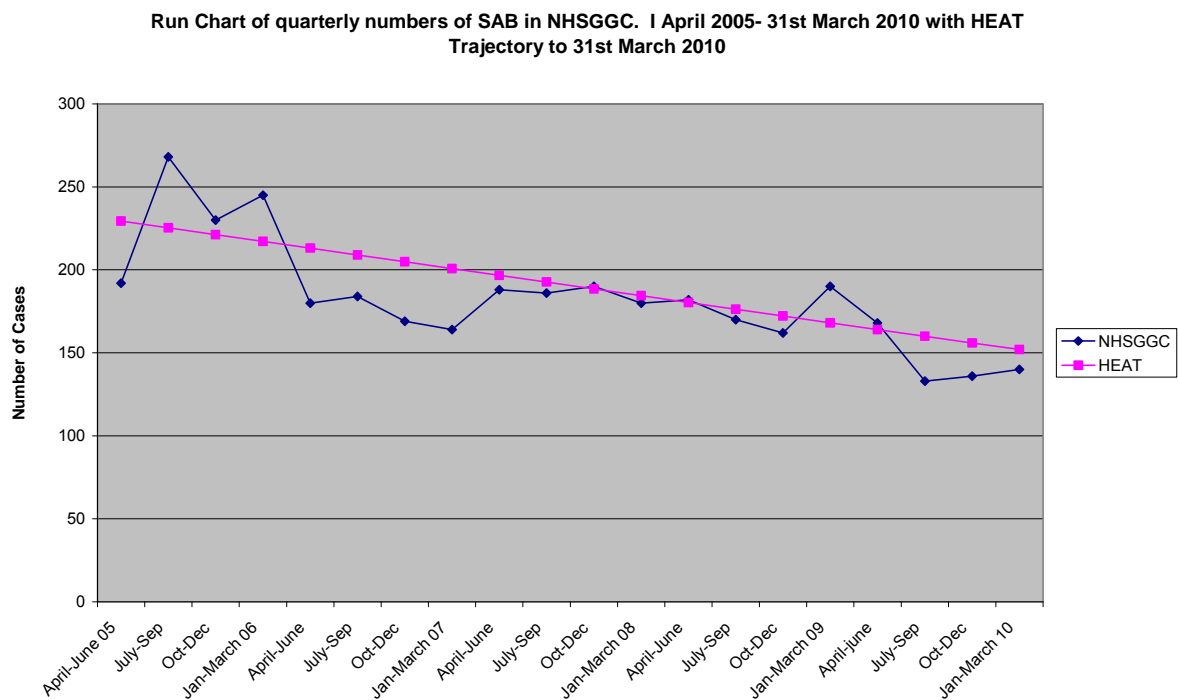
- In 2007 the Scottish Government Health Directorates issued an LDP HEAT target in relation to SABs which required NHSGGC to reduce SABs by at least 35% by April 2010. This target has been achieved. In 2010 this target was extended by an additional 15%. Progress against this additional target will be included in future board reports.
- The National Report published February 2010 shows a further reduction in the rate of *C. difficile* within NHSGGC and clearly places the Board below the national mean (0.52 per 1000 OBD over 65s) and also below the 0.9 per 1000 OBD HEAT target for 2011. The rate for the most recent quarter reported (October-December 2009) is 0.36 per 1000 OBDs. This is a reduction from the previous quarter from 0.43 to 0.36 per 1000 OBD.
- The SSI rates in NHSGGC, for the last quarter of 2009, remain below the national average for all procedures.
- NHSGGC has demonstrated a steady rise in Hand Hygiene compliance during the national audit periods from a 62% baseline in February 2007 to achieve the 90% target in September 2008, and a current figure of 92%.
- All areas within NHSGGC scored **green (>90%)** in the most recent report on the National Cleaning Specification.

Dr Brian Cowan
Medical Director, NHSGGC

Heat Target 1 – To reduce MRSA / MSSA bacteraemias by 50% by 2011

S. aureus is a type of bacteria that is present in the nose of up to 30% of the healthy population. Although normally harmless, *S. aureus* can be a major cause of serious infection such as bacteraemia when the bacteria invade the bloodstream. Both meticillin sensitive and meticillin resistant *S. aureus* (MSSA and MRSA) are present in UK hospitals.

In 2007 the Scottish Government Health Directorates issued an LDP HEAT target in relation to SABs required NHS GGC to reduce SABs by at least 35% by April 2010. This target has been achieved. In 2010 this target was extended by an additional 15%. Progress against this additional target will be included in future board reports.



Key Messages

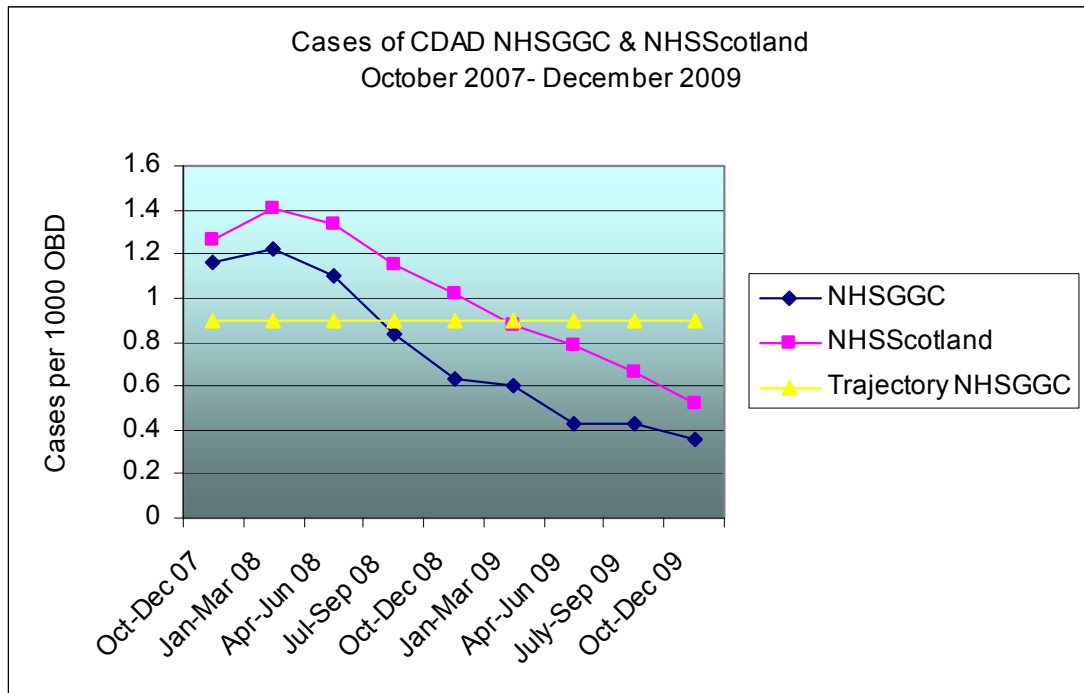
- NHS GGC has achieved the required 35% reduction in *S. aureus* bacteraemia.

Cases of *C. diff* in NHSGGC & NHS Scotland per 1000 Occupied Bed Days

Clostridium difficile (*C. diff*) are bacteria that can cause an infection in the bowel which may result in diarrhoea. *C. diff* is present in the large intestine of a small proportion of health adults. Occasionally *C. diff* can develop into a more serious condition called pseudomembranous colitis.

C. diff mainly causes infection amongst hospital patients, especially the elderly who have received antibiotic therapy. The HEAT target in relation to the reduction in CDAD (CEL 11 (2009)) was issued in April 2009. This target requires NHS Boards to reduce their incidence of *C. diff* by at least 30% by 2011 against a 2006/2007 baseline.

NHSGGC per 1000 occupied bed days for 2007/09 compared to NHSScotland (over 65s).

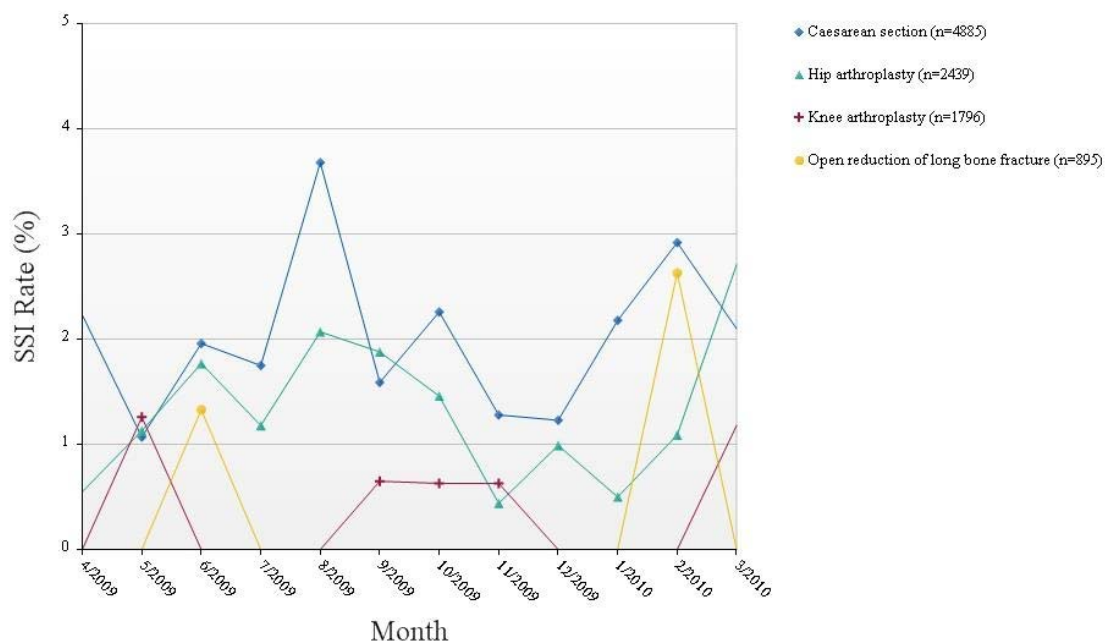


Key Messages

- The National Report published February 2010 shows a further reduction in the rate of *C. difficile* within NHSGGC and clearly places the Board below the national mean (0.52 per 1000 OBD over 65s) and also below the 0.9 per 1000 OBD HEAT target for 2011. The rate for the most recent quarter reported (October-December 2009) is 0.36 per 1000 OBDs. This is a reduction from the previous quarter from 0.43 to 0.36 per 1000 OBD.

Surgical Site Infection Rates as per HDL (2006)38

SSI rate by Month by each procedure between 01 April 2009 and 31 March 2010 in NHS Greater Glasgow & Clyde



- All SSI rates remain within acceptable levels.

SSI rate by Month each procedure between 01 April 2009 and 31 March 2010 in NHS GGC

| Month | Caesarean section (n=4885) | Hip arthroplasty (n=2439) | Knee arthroplasty (n=1796) | Open reduction of long bone fracture (n=895) |
|---------|----------------------------|---------------------------|----------------------------|--|
| 4/2009 | 2.23 | 0.55 | 0.00 | 0.00 |
| 5/2009 | 1.07 | 1.13 | 1.26 | 0.00 |
| 6/2009 | 1.96 | 1.77 | 0.00 | 1.33 |
| 7/2009 | 1.75 | 1.18 | 0.00 | 0.00 |
| 8/2009 | 3.68 | 2.07 | 0.00 | 0.00 |
| 9/2009 | 1.59 | 1.88 | 0.65 | 0.00 |
| 10/2009 | 2.26 | 1.46 | 0.63 | 0.00 |
| 11/2009 | 1.28 | 0.44 | 0.63 | 0.00 |
| 12/2009 | 1.23 | 0.99 | 0.00 | 0.00 |
| 1/2010 | 2.18 | 0.50 | 0.00 | 0.00 |
| 2/2010 | 2.92 | 1.09 | 0.00 | 2.63 |
| 3/2010 | 2.10 | 2.71 | 1.18 | 0.00 |

Key Message

- For the last available quarter the SSI rates in NHSGGC remain below the national average for all procedures.

NHSGGC compared to NHS Scotland 01 October 2009 to 31 December 2009

| Category of procedure | Operations | Infections | NHSGGC SSI rate (%) | National dataset SSI rate (%) |
|--------------------------------------|------------|------------|---------------------|-------------------------------|
| Caesarean section | 1240 | 20 | 1.61 | 3.18 |
| Hip arthroplasty | 636 | 6 | 0.94 | 1.74 |
| Knee arthroplasty | 476 | 2 | 0.42 | 0.79 |
| Open reduction of long bone fracture | 218 | 0 | 0.00 | 0.26 |

Hand Hygiene

As per CEL 5 (2009) NHSGGC has adopted a 'zero tolerance' approach to non-compliance with Hand Hygiene. This has been introduced in line with new Disciplinary Policy and Procedures (Employee Code of Conduct).

| | 3rd Bi-Monthly Audit Report 20-31 July 2009 | 4 th Bi-Monthly Audit Report 21 Sept-2 Oct 2009 | 5 th Bi-Monthly Audit Report 23 Nov-4 Dec 2009 | 6 th Bi-Monthly Audit Report 25 Jan-5 Feb 2010 | 7 th Bi-Monthly Audit Report 22 Mar-2 Apr 2010 |
|-----------------------------|--|---|--|--|--|
| National overall compliance | 93% | 92% | 94% | 94% | 94% |
| NHSGGC overall compliance | 93% | 93% | 92% | 91% | 92% |
| National Nurse | 94% | 94% | 95% | 95% | 95% |
| NHSGGC Nurse | 94% | 95% | 95% | 93% | 94% |
| National Medic | 87% | 88% | 86% | 89% | 90% |
| NHSGGC Medic | 88% | 82% | 75% | 82% | 80% |
| National Ancillary/ others | 94% | 91% | 94% | 92% | 95% |
| NHSGGC Ancillary/ others | 95% | 94% | 98% | 90% | 92% |
| National AHP | 95% | 90% | 96% | 95% | 95% |
| NHSGGC AHP | 93% | 93% | 95% | 92% | 94% |

Key Messages

The latest report on National Hand Hygiene Compliance indicates that NHSGGC has recorded a one percent rise in compliance.

Hand Hygiene is a key area in the inspections being carried out by the HEI teams and this further reinforces the need for all staff to be aware of the policies contained in the Prevention and Control of Infection Manual.

Local hand hygiene audits have been implemented across all acute sites and continue to align the aims from the Infection Control Programme with the Scottish Patient Safety Programme.

Hand Hygiene materials for non acute settings have been distributed with good feedback.

National Cleaning Services Monitoring

As part of its work programme, the HAI Taskforce developed the 'NHS Scotland Code of Practice for the Local Management of Hygiene and HAI', and the 'NHS Scotland National Cleaning Services Specification'. These documents include guidance on cleanliness and hygiene, effectively setting minimum standards for the healthcare environment. They were issued to NHS Boards in May 2004. In addition, the HAI Taskforce commissioned Health Facilities Scotland (HFS) to develop a monitoring framework for the NHS Scotland National Cleaning Services Specification. This was developed in consultation with a range of stakeholders within NHS Scotland and was implemented in April 2006. The first quarterly report was published in August 2006.

Monitoring in this context is defined as the ongoing assessment of the outcome of cleaning processes to assess the extent to which cleaning procedures are being carried out correctly, to identify any remedial actions which are required and to provide an audit trail. An essential component of any monitoring framework is the fundamental principle of continuous improvement. Therefore the monitoring framework not only provides a reporting mechanism, but a rectification process that can be used locally to identify, prioritise and address issues of non-compliance.

Compliance is assessed within NHS Boards using a standardised monitoring template. There are two components to the monitoring:

- Audits carried out on a routine basis by domestic services managers;
- Audits carried out by peer review teams, incorporating a public involvement element.

Cleanliness is assessed using an observational process and according to the technical requirements set out in the NHS Scotland National Cleaning Services Specification. NHS Boards report their results to HFS on a monthly basis. From the data received the monitoring tool produces a score for all Boards and all A1 and A2 hospitals. This data is subsequently used by HFS to compile the quarterly report and fed back to Boards.

The scoring methodology is based on Red; Amber and Green (RAGs) scoring process as follows:

- $\geq 90\%$ equates to a green score
- $> 70\%$ but $< 90\%$ equates to an amber score
- $< 70\%$ equates to a red score

All cleaning rectifications are required to be made within the specified time scales. Additionally, if an area scores amber or red, a RAGs form is completed giving details of why the area failed and how this will be rectified. A red area is re-monitored within 7 days and another score sheet completed. The amber area is re-monitored within 21 days and a further score sheet is completed. In both cases an action plan is produced to enable the rectification to be corrected.

**NHS GREATER GLASGOW AND CLYDE, NATIONAL MONITORING FRAMEWORK
PERFORMANCE, PERCENTAGE SCORES FOR 2010**

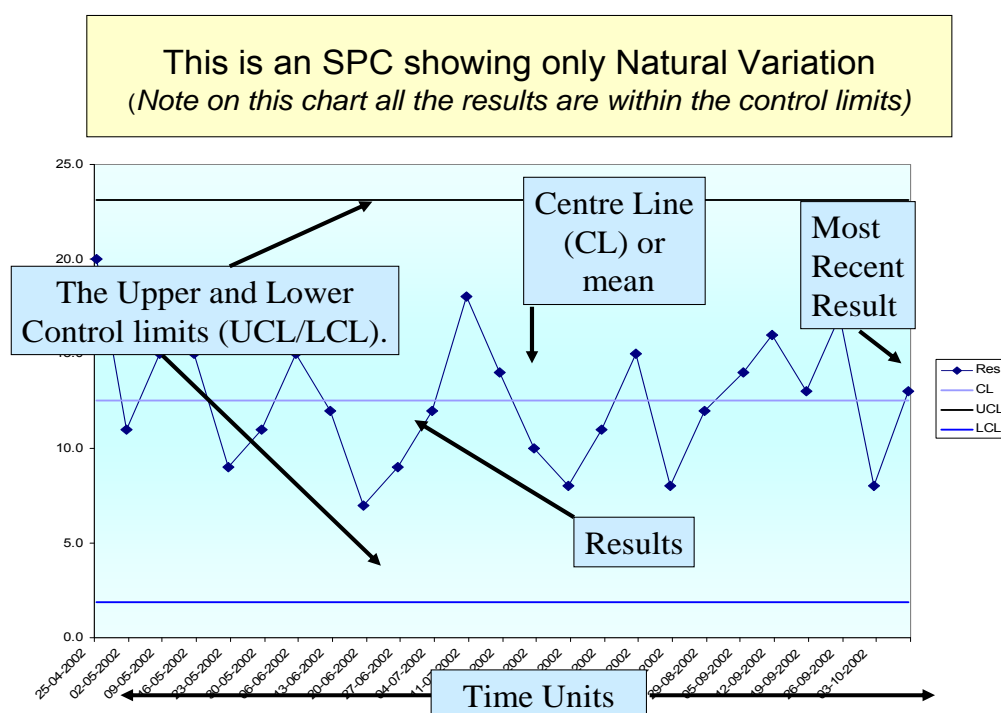
| Hospital / Unit | Sector | Jan 10 % | Jan 10 Ambers and Reds | Feb 10 % | Feb 10 Ambers | Mar 10 % | Mar 10 Ambers | Average 4th Quarter | 4thQuarter Amber Totals |
|--|------------|----------|------------------------|----------|---------------|----------|---------------|---------------------|-------------------------|
| Vale of Leven/Lomond/Dumbarton/Helensburgh | Clyde | 97.0 | 1 x Amber 1 x Red | 96.8 | 1 | 96.3 | 1 | 96.7 | 3 x Amber, 1 x Red |
| Inverclyde Non Acute | Clyde | 97.4 | | 97.2 | | 97.7 | | 97.4 | |
| Inverclyde Royal | Clyde | 98.3 | | 98.1 | | 97.8 | | 98.1 | |
| Dykebar/Johnstone/Merchiston | Clyde | 96.8 | | 96.6 | | 97.2 | | 96.9 | |
| Royal Alexandra Hospital | Clyde | 96.6 | | 96.4 | | 95.5 | | 96.2 | |
| Dental Hospital/Dalian | West | 96.4 | | 96.6 | | 97.5 | | 96.8 | |
| Blawarthill/Drumchapel | West | 95.8 | | 95.6 | | 95.2 | | 95.5 | |
| Glasgow Royal Infirmary | North East | 96.0 | | 95.9 | | 95.2 | | 95.7 | |
| Stobhill Hospital | North East | 94.4 | | 94.0 | | 95.2 | | 94.5 | |
| Stobhill ACAD Unit | North East | 95.0 | | 94.9 | | 95.5 | | 95.1 | |
| Mearnskirk Hospital | South | 95.1 | | 97.1 | | 93.9 | | 95.4 | |
| Langlands Unit | South | 97.3 | | 96.4 | | 94.4 | | 96.0 | |
| Mansion House Unit | South | 97.5 | | 98.4 | | 95.3 | | 97.1 | |
| Victoria Infirmary | South | 96.3 | | 97.0 | | 96.9 | | 96.7 | |
| Victoria ACAD | | 97.6 | | 97.6 | | 97.5 | | 97.6 | |
| Southern General Hospital | South | 96.3 | | 95.9 | | 95.5 | | 95.9 | |
| Yorkhill Hospitals | West | 96.5 | | 97.2 | | 96.2 | 1 | 96.6 | 1 |
| Western Infirmary | West | 95.4 | | 94.9 | | 95.1 | | 95.1 | |
| Gartnavel General Hospital | West | 95.1 | | 94.4 | | 95.2 | 2 | 94.9 | 2 |
| Lightburn Hospital | North East | 94.0 | | 94.3 | | 91.6 | | 93.3 | |
| PCD East | PCD | 95.5 | | 95.5 | | 95.0 | | 95.3 | |
| PCD North | PCD | 95.9 | | 96.1 | | 96.1 | 1 | 96.0 | 1 |
| PCD South | PCD | 96.1 | | 96.7 | | 95.5 | | 96.1 | |
| PCD West | PCD | 94.8 | | 94.6 | | 93.4 | | 94.3 | |
| Overall NHS Greater Glasgow and Clyde | | 96.1 | 1xA, 1xR | 96.2 | 1 | 95.7 | 5 | 96.0 | 7xA, 1xR |

Seven Ambers & One Red have been reported in the quarter January to March 2010

Surveillance data can be used to detect any change in the incidence of disease, which in turn facilitates the early identification outbreaks of infection and leads to prompt initiation of preventive measures. It also allows local infection control teams to focus their interventions in areas where the greatest benefit to patients can be achieved.

Statistical Process Control Charts (SPCs) are the application of statistical theory to Quality Control. They show process data chronologically (per month in most cases). Some examples of where they have been used in healthcare include; queuing analysis of appointment access and delays and forecasting bed needs.

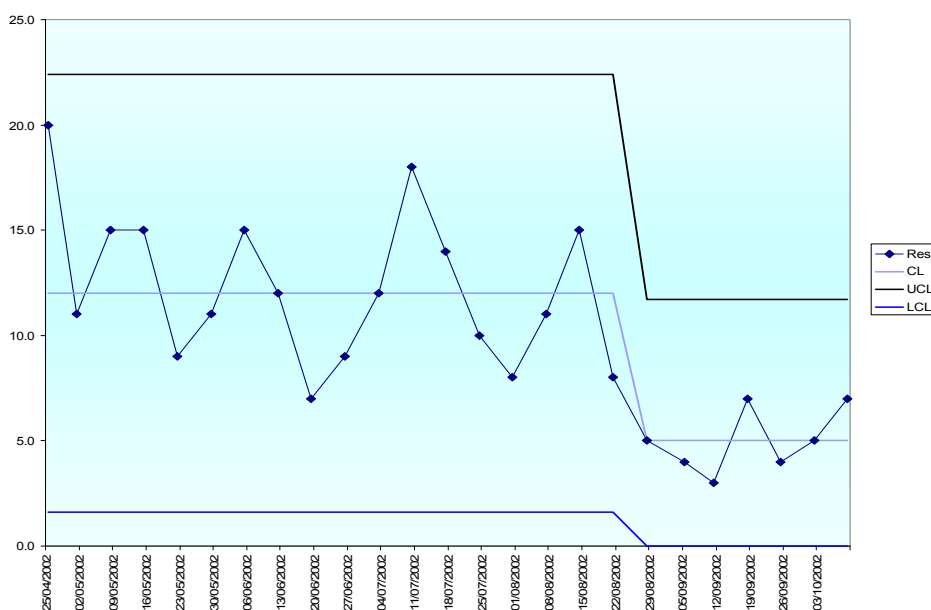
The most common use for SPCs in infection control practice is in relation to healthcare acquired MRSA and *C. difficile* infections. Calculations are made based upon the ward/unit's historical infection rate to produce 3 lines, the upper and lower control limits and the centre line (mean). The setting of the upper control limits allows the local teams to 'trigger' actions promptly in response to any increase in the number of patients identified.



Quality Improvement

Although SPCs are a method of viewing what is going on at a local level the SPC can also be used to drive improvements in care. This is shown by reducing the mean (centre line) which indicates that fewer patients are acquiring infection in our wards and hospitals.

This chart demonstrates that infection control practice on a ward has improved. This in turn has resulted in fewer cases and the mean for this ward has been reduced to reflect this. Now that SPC's are available across the whole of NHS GGC we will be actively targeting improvements in areas with historically high levels of infection and sustaining improvements in areas with low infection rates.



Trigger Events/Charts that Breach the Upper Control Limits

An SPC will only identify that a problem exists – it will not identify what is causing the problem. If a chart is seen to be above the upper control limit the ICT with the local clinical team will review the area to determine the likely cause and develop appropriate action plans.

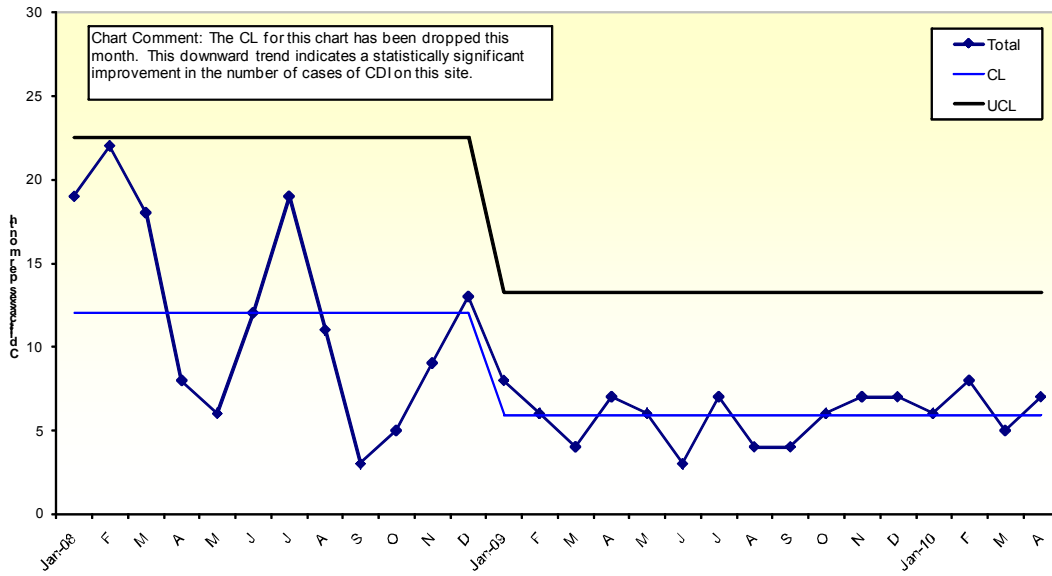
Directorate Trajectories

SPCs are at their most effective when used to reflect what is going on in individual wards/departments. However the data will be used to develop trajectories for the directorates within NHS GGC in relation to C. diff and MRSA.

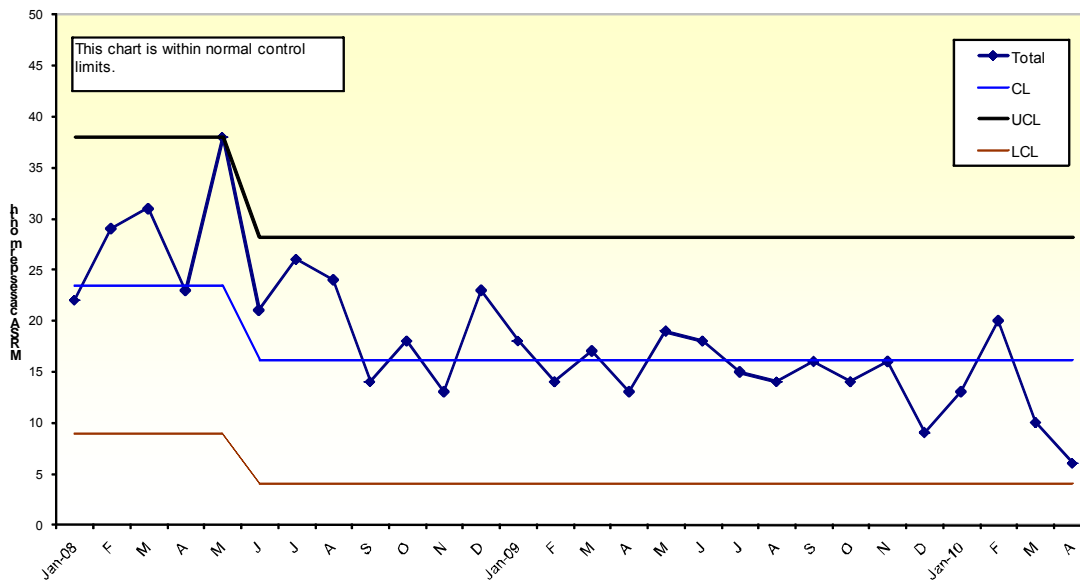
NUMBER NEW CASES (HAI) PER HOSPITAL SITE 2008-2010

GLASGOW ROYAL INFIRMARY

Hospital Acquired
C. difficile in GRI 2008 - 2010



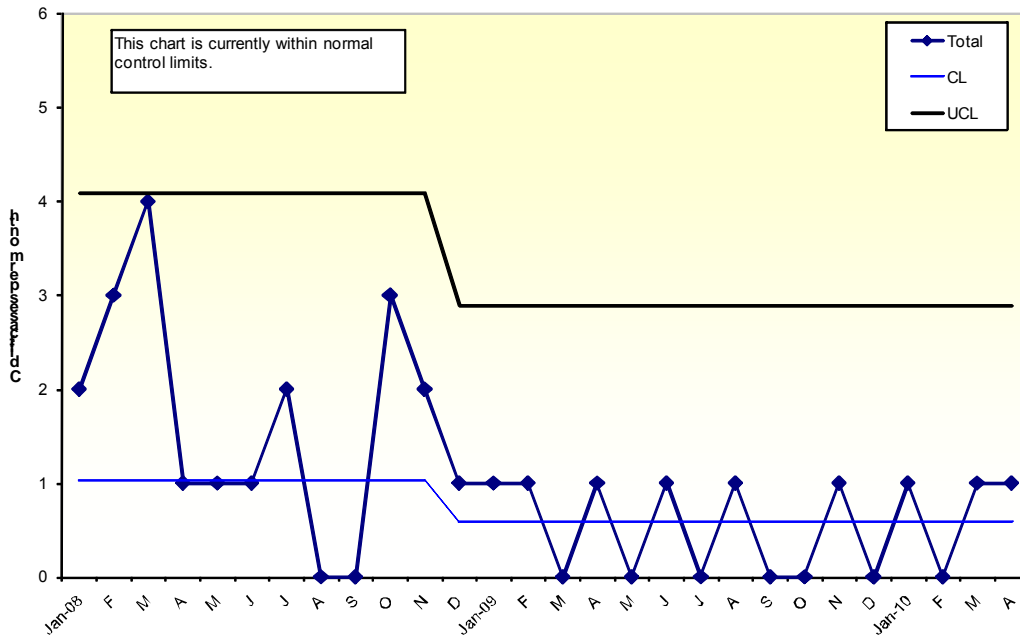
Hospital Acquired
MRSA per month GRI 2008 - 2010



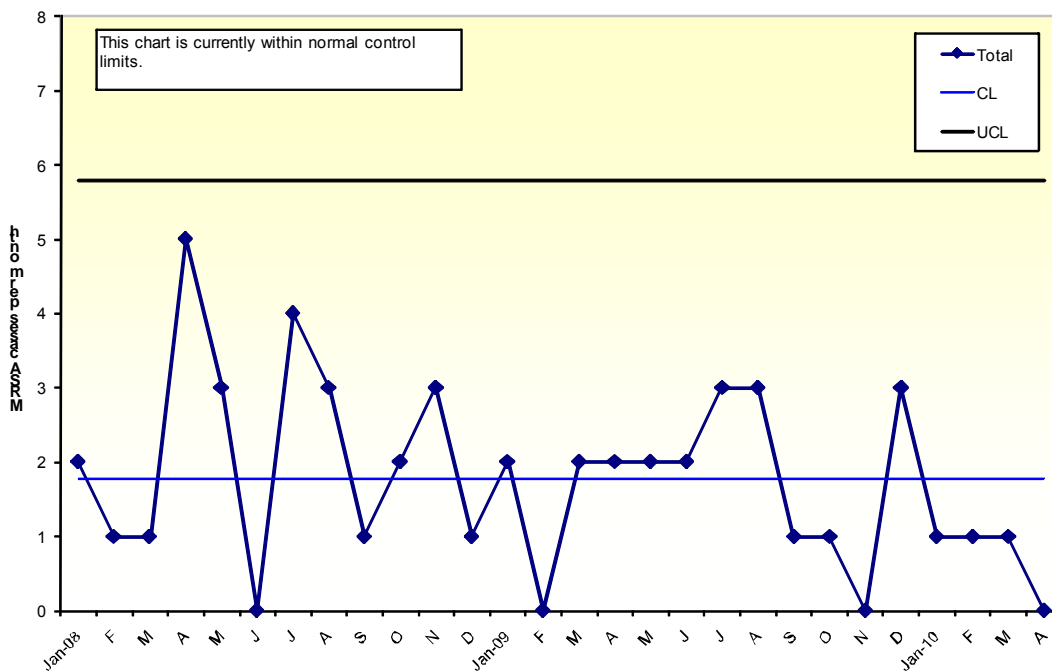
Both charts were within control limits in April 2010.

LIGHTBURN HOSPITAL

Hospital Acquired
Clostridium difficile Lightburn Hospital 2008-2010



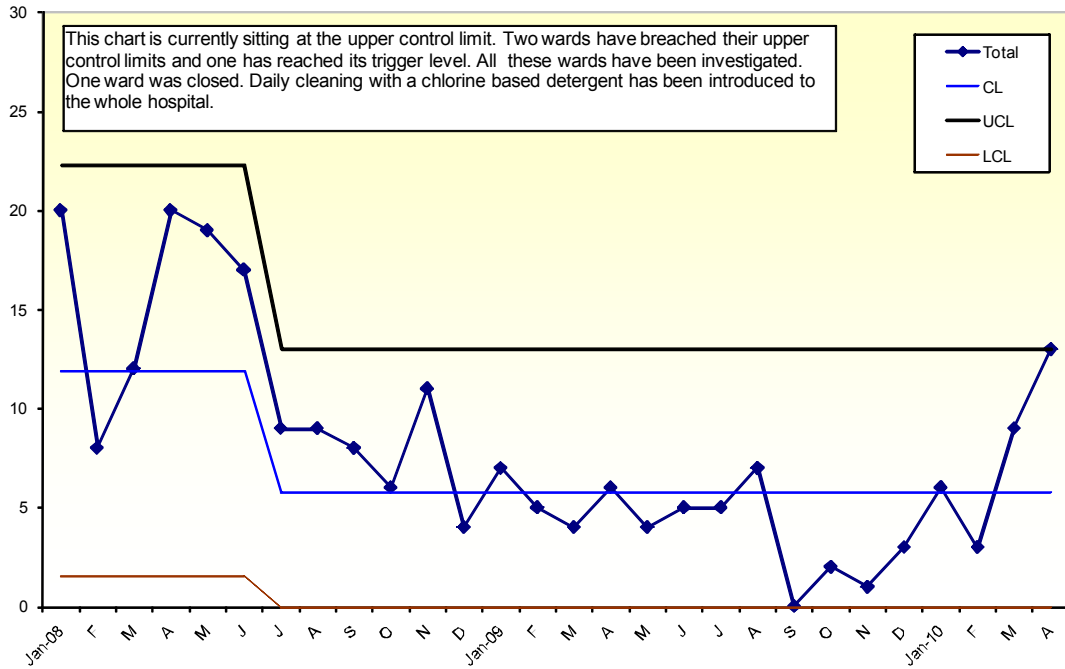
Hospital Acquired -
MRSA Lightburn Hospital 2008-2010



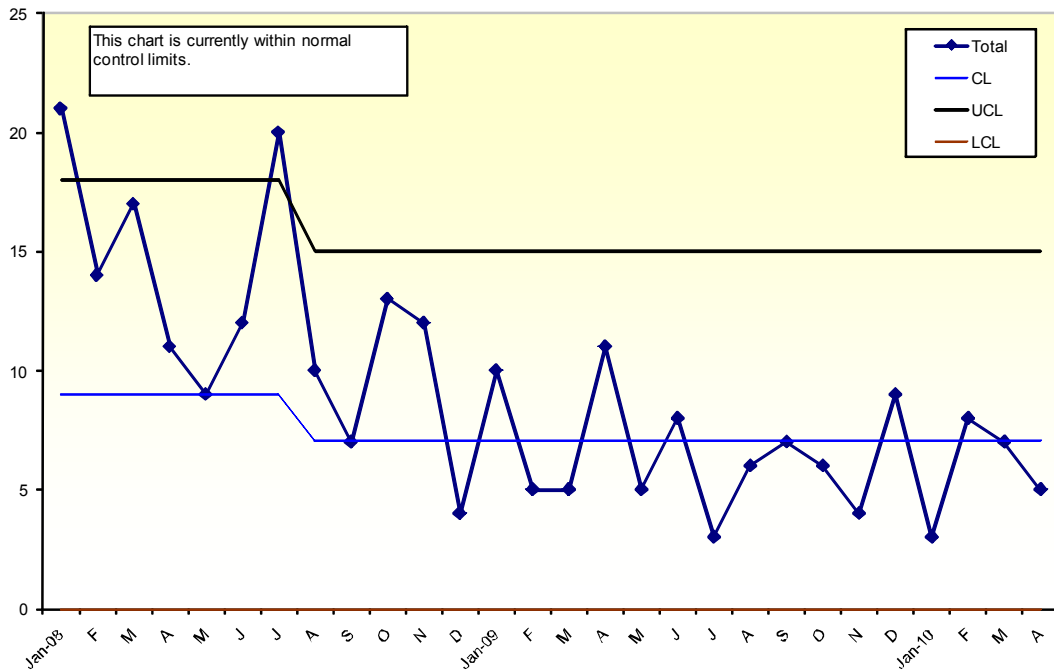
Both charts were within control limits in April 2010.

STOBHILL HOSPITAL

Hospital Acquired -
C.difficile in Stobhill 2008-2010



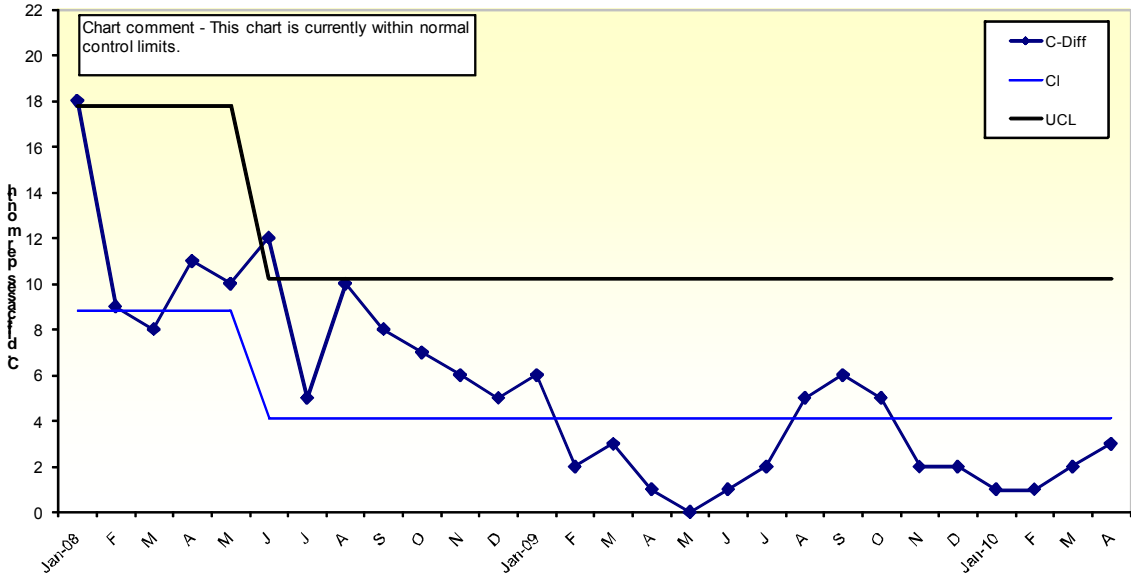
Hospital Acquired
MRSA in Stobhill 2008-2010



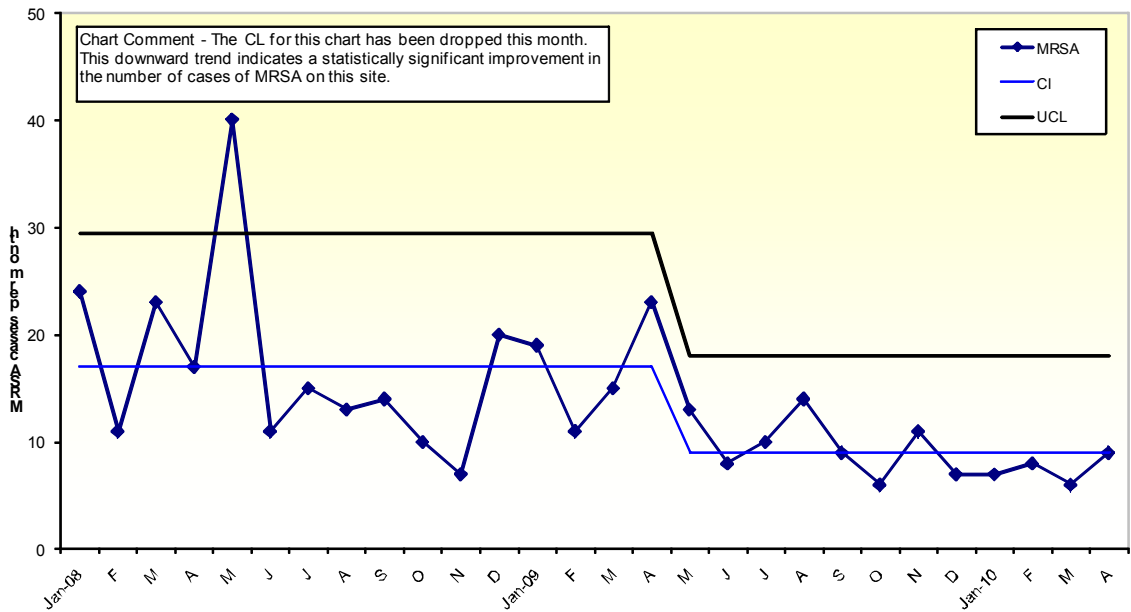
C. difficile reached the upper control limit in April 2010.
MRSA chart within control limits in April 2010.

ROYAL ALEXANDRA HOSPITAL

Hospital Acquired -
C-Diff, 2008 - 2010, RAH



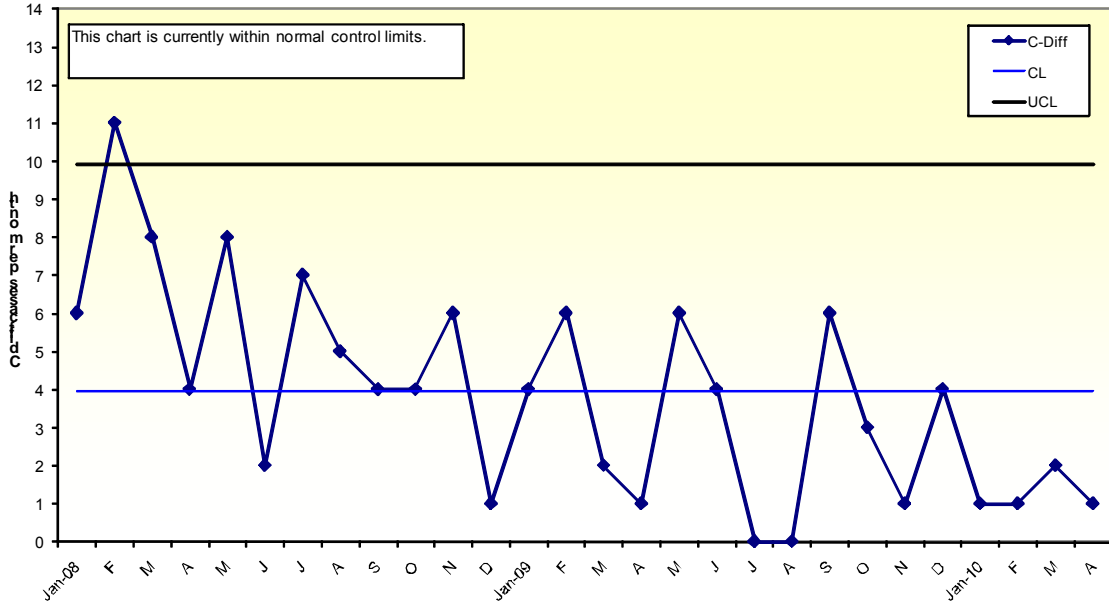
Hospital Acquired -
MRSA, 2008 - 2010, RAH



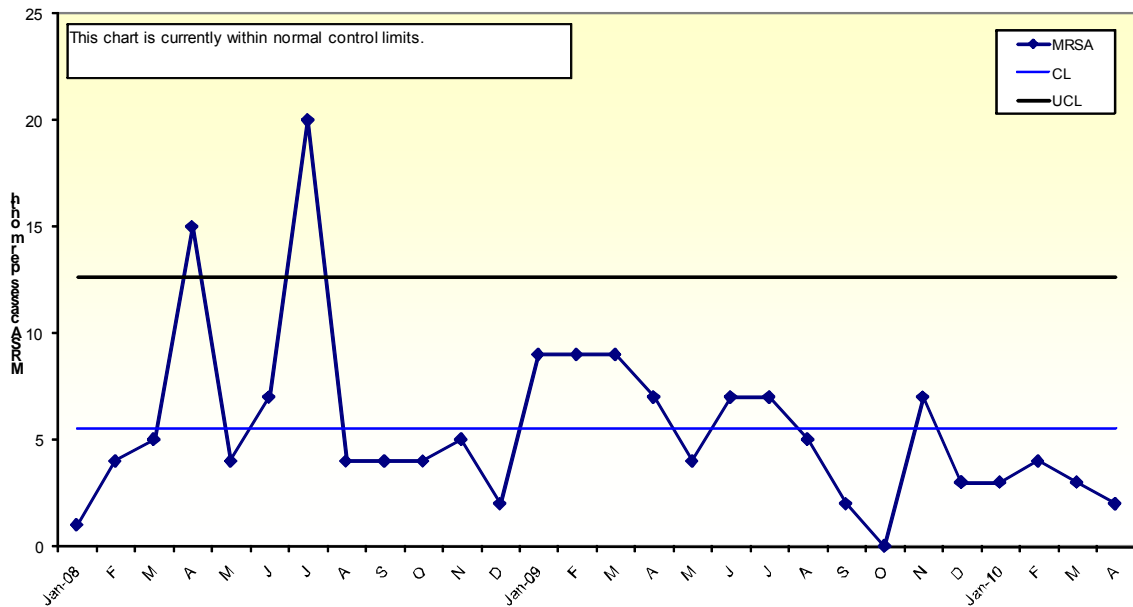
Both charts were within control limits in April 2010.

INVERCLYDE HOSPITAL

Hospital Acquired -
C. diff 2008 - 2010, IRH



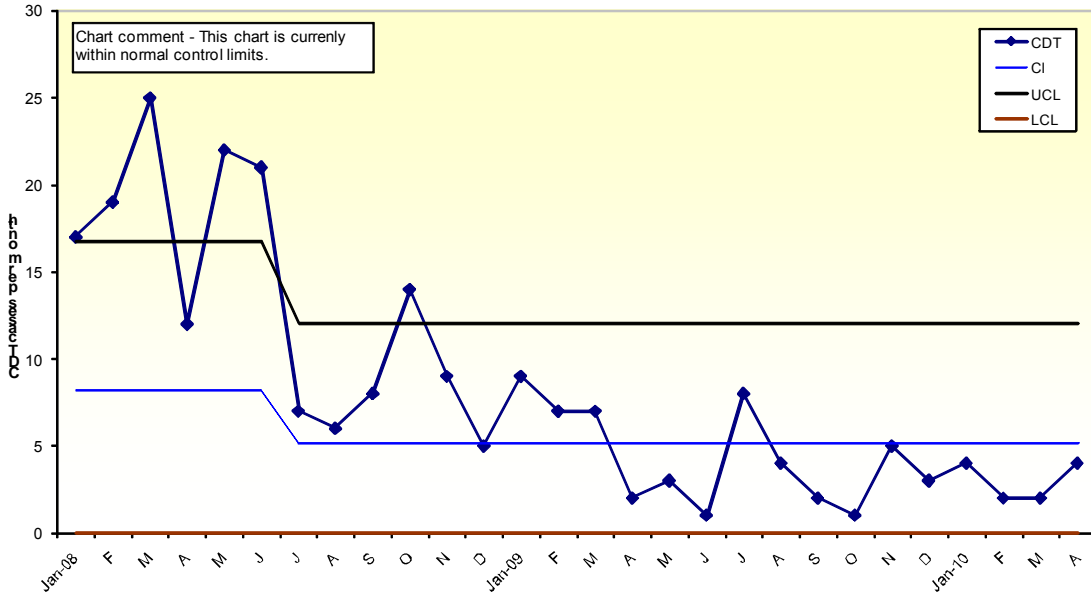
Hospital Acquired -
MRSA 2008 - 2010, IRH



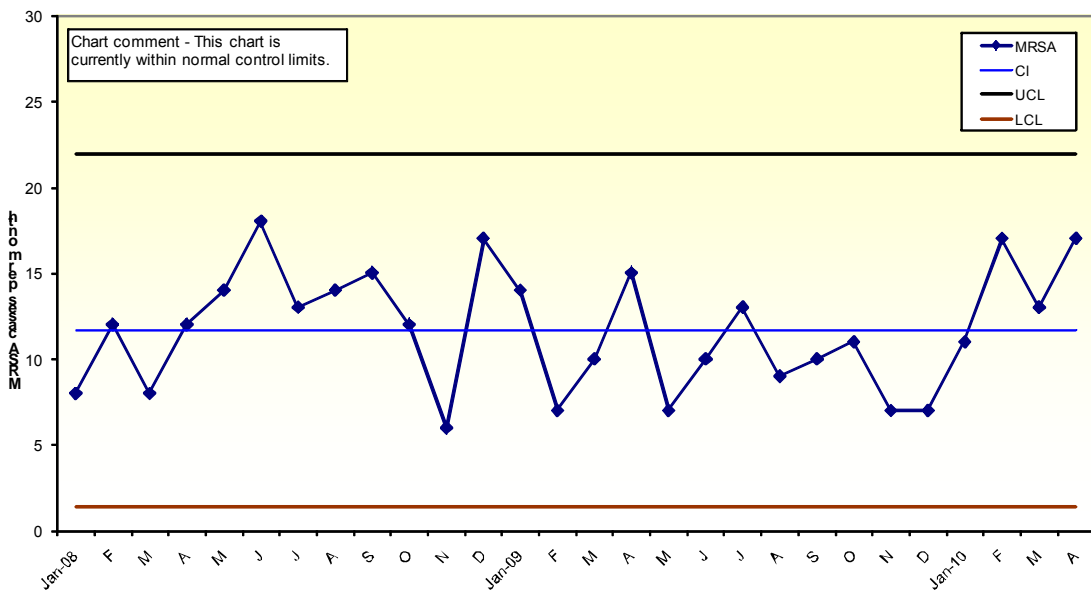
Both charts were within control limits in April 2010.

VICTORIA INFIRMARY

Hospital Acquired -
C. difficile Victoria Infirmary - All Directorates 2008-2010



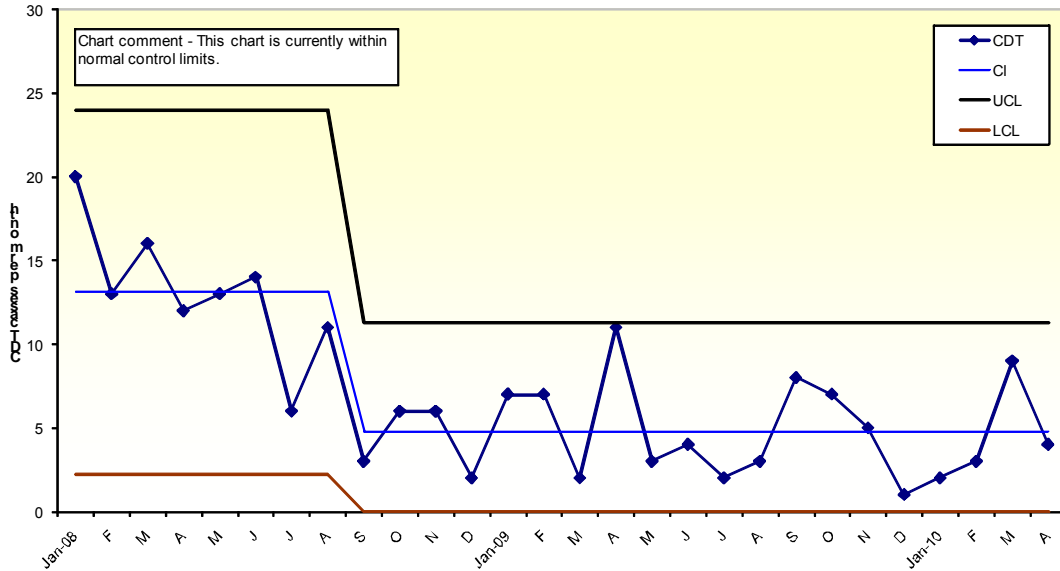
Hospital Acquired -
MRSA Victoria Infirmary - All Directorates Total 2008-2010



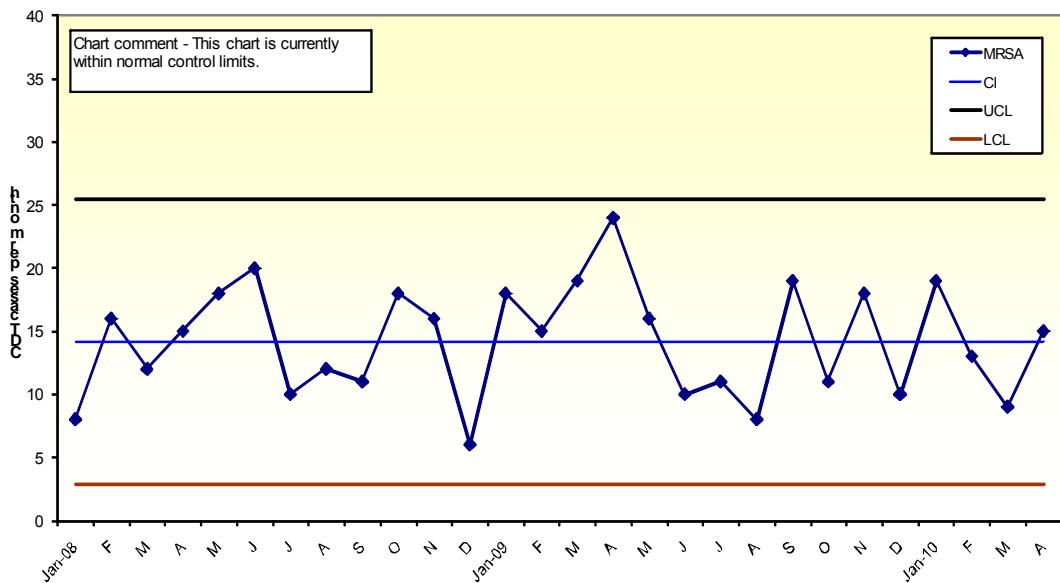
Both charts were within control limits in April 2010.

SOUTHERN GENERAL

Hospital Acquired -
C. difficile Southern General Hospital - All Directorates 2008-2010



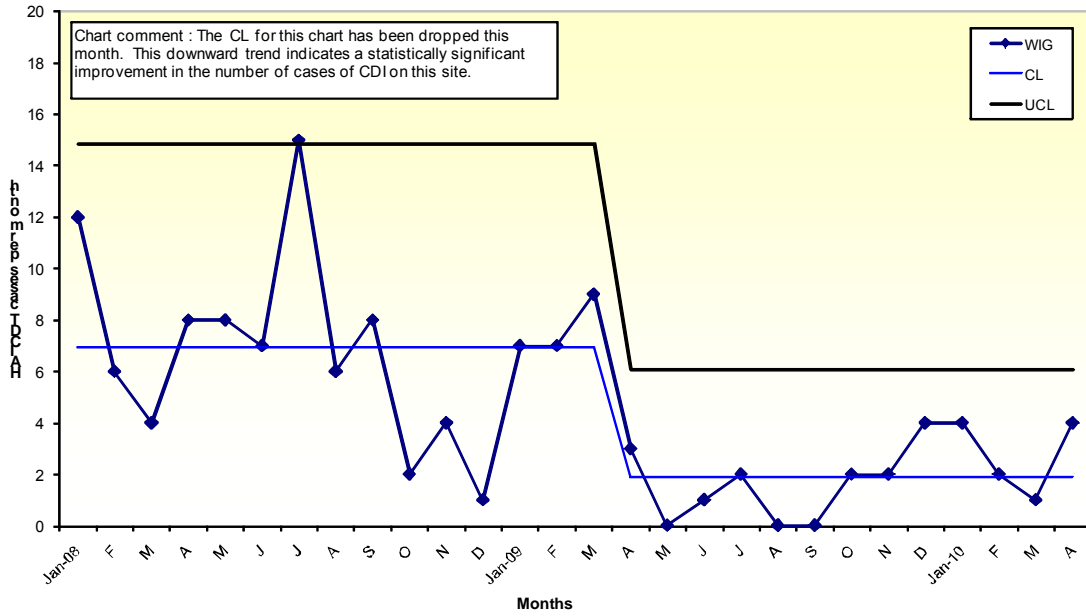
Hospital Acquired -
MRSA Southern General Hospital - All Directorates Total 2008 - 2010



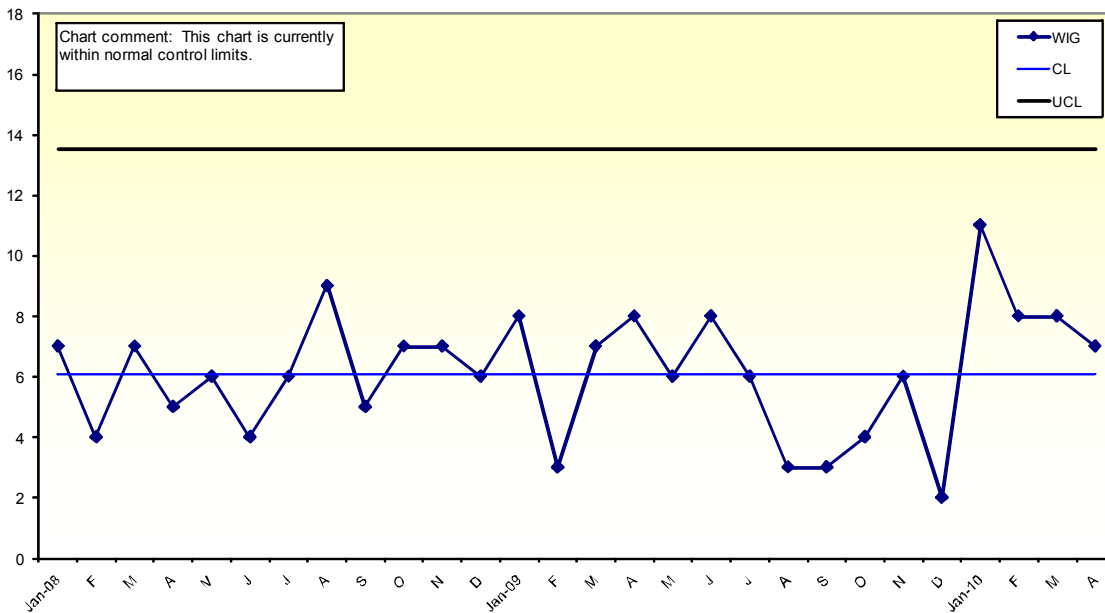
Both charts were within control limits in April 2010.

WESTERN INFIRMARY

Hospital Acquired C.diff - WIG Total 2008 - 2010



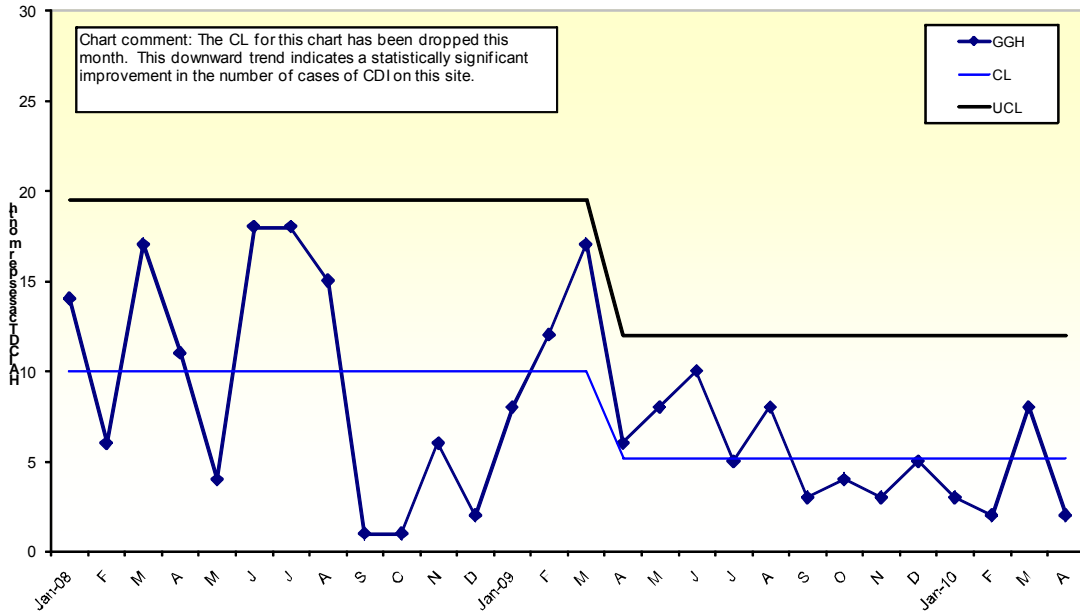
Hospital Acquired MRSA's - WIG Total 2008 - 2010



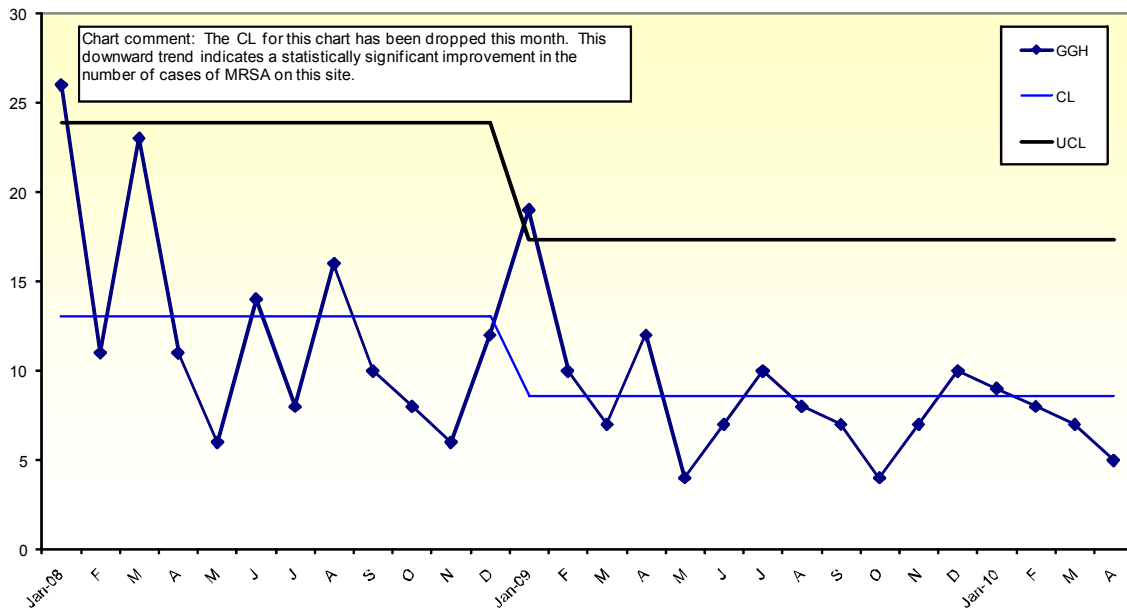
Both charts were within control limits in April 2010.

GARTNAVEL GENERAL HOSPITAL

Hospital Acquired Cdiff - GGH Total 2008 - 2010



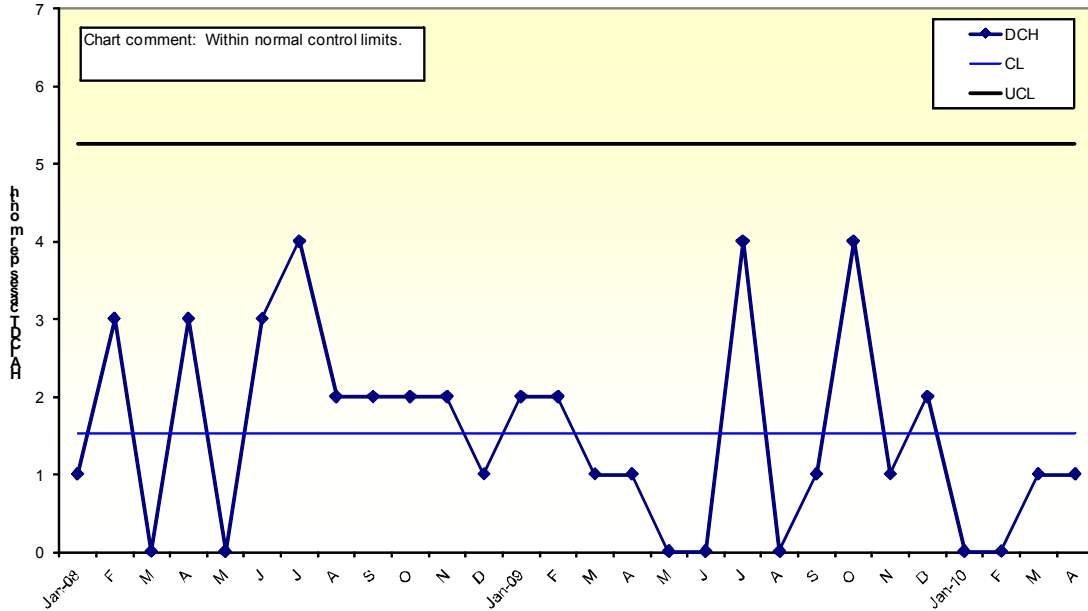
Hospital Acquired MRSA's - GGH Total 2008 - 2010



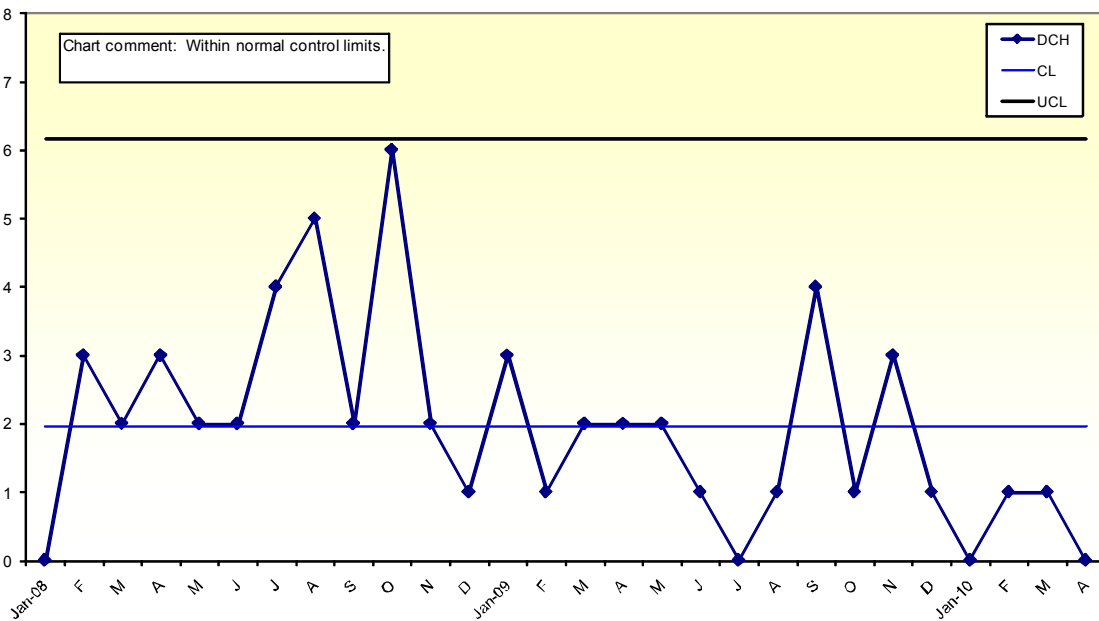
Both charts were within control limits in April 2010.

DRUMCHAPEL HOSPITAL

Hospital Acquired C.diff's - DCH Total 2008 - 2010



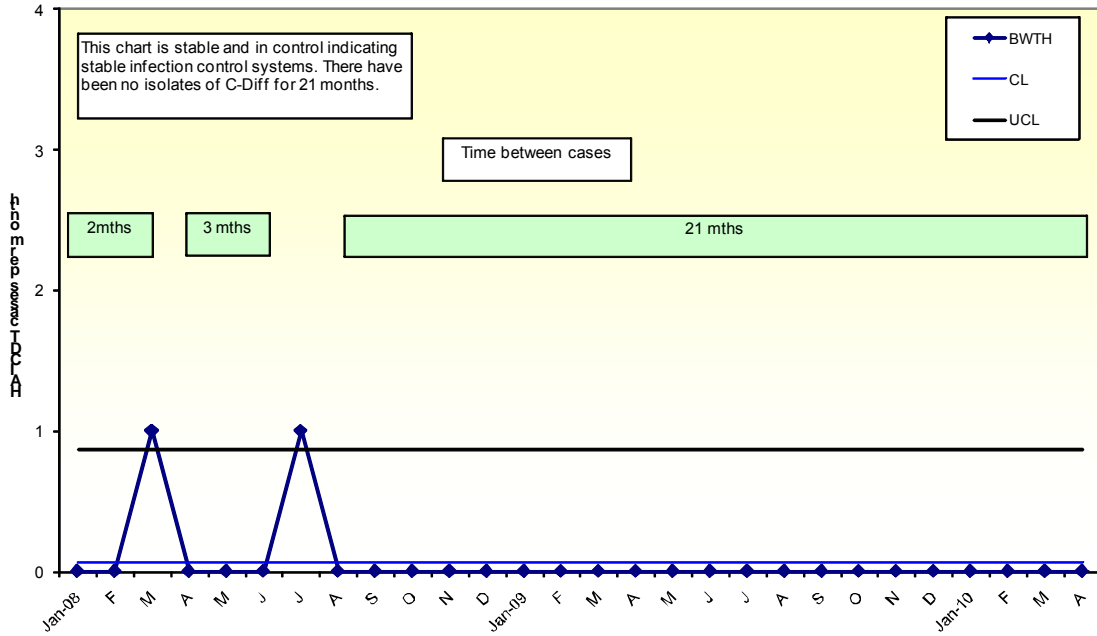
Hospital Acquired MRSA's - DCH Total 2008 - 2010



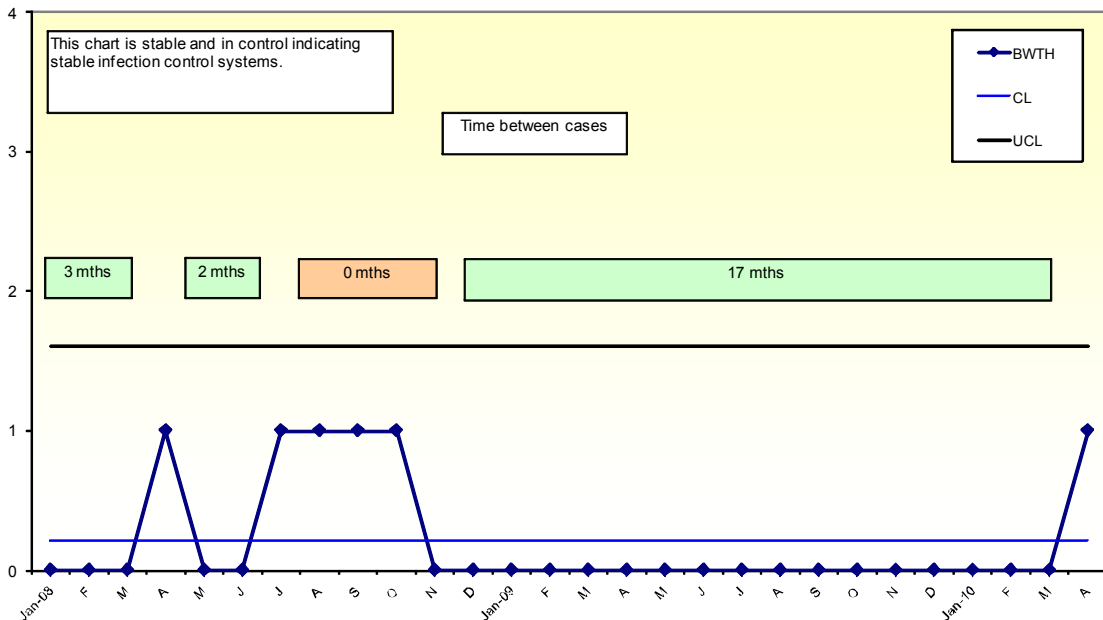
Both charts were within control limits in April 2010.

BLAWARTHILL HOSPITAL

Hospital Acquired C.diff's BWTH Total 2008 - 2010



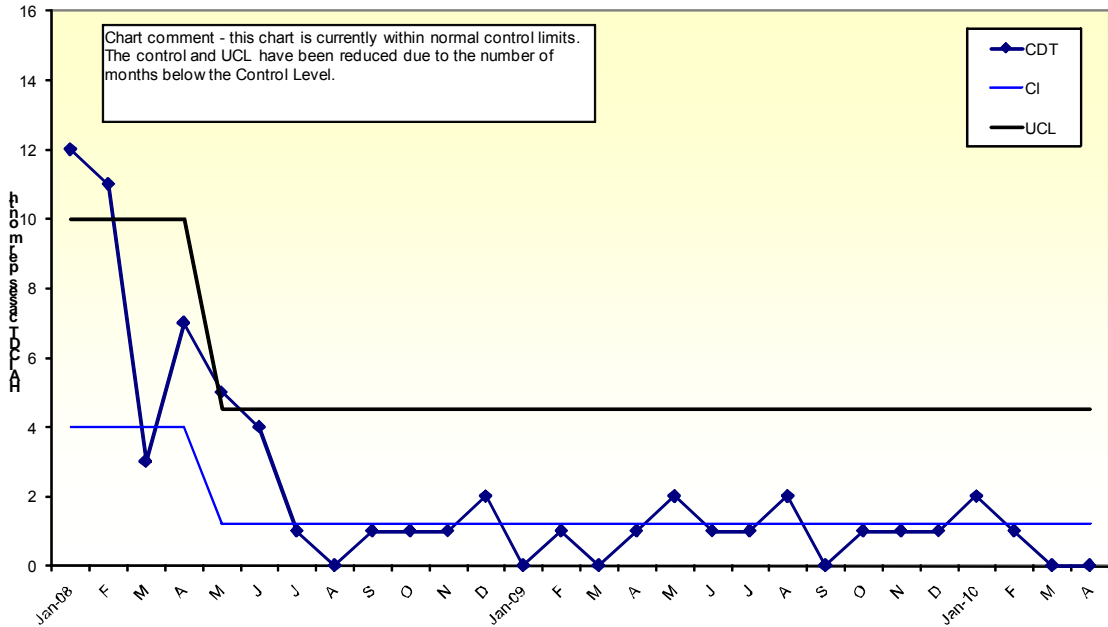
Hospital Acquired MRSA's BWTH Total 2008 - 2010



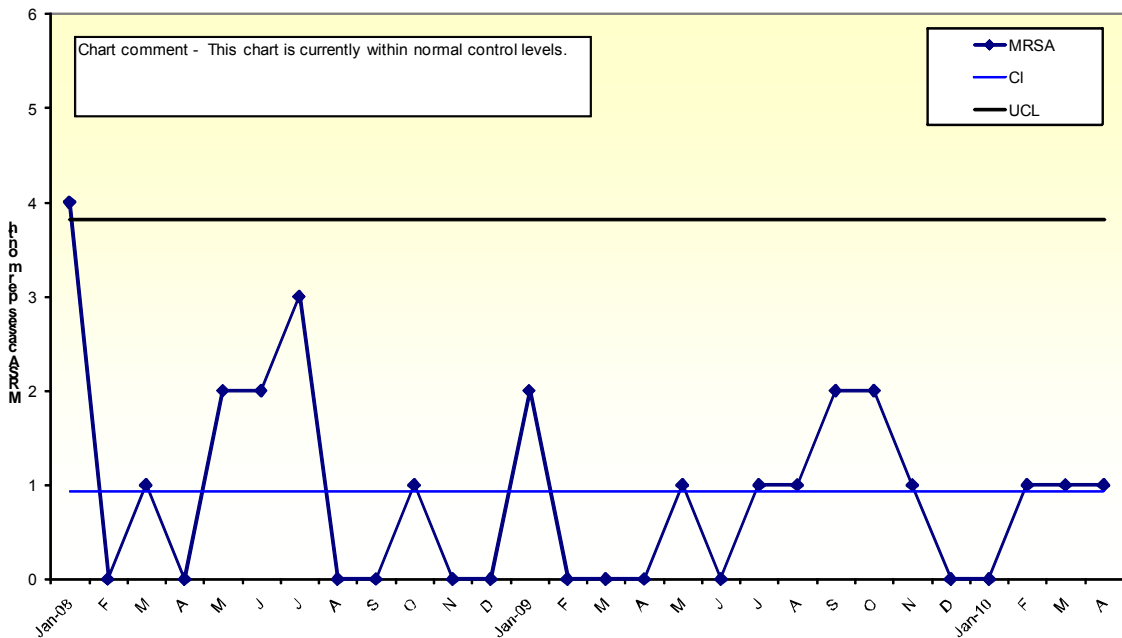
Both charts were within control limits in April 2010.

VALE OF LEVEN

Hospital Acquired C-diff 2008- 2010, VOL



Hospital Acquired MRSA 2008- 2010, VOL



Both charts were within control limits in April 2010.

Ward Based Reporting – Exception Reports

The total number of wards with exception reports per site: April 2010

| HOSPITAL SITE | CDI | MRSA |
|---------------|-----|------|
| Stobhill | 2 | |
| RAH | | 1 |
| SGH | | 1 |
| VIC | | 1 |