



Bundles, Audit and Teamwork

WORKING TOWARDS REDUCING HEALTHCARE ASSOCIATED INFECTION IN CRITICAL CARE

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- Scottish Patient Safety Programme
- Bundles
- Teamwork
- Audit
- Results



WGH Intensive Care Unit

- 16 bedded unit
- SE Scotland neuro referral centre
- Oncology/Haematology
- Colorectal
- Infectious Diseases
- National Home Ventilation Service





National directive in partnership with IHI and co-ordinated by NHS QIS with the aim of –

- 30% reduction in adverse events recorded through regular case note audits using the Global Trigger Tool.
 - 15% reduction in standardised hospital mortality rates from the 2006/7 baseline.
- By 2011
- This will be achieved by the reliable implementation of evidence-based interventions by clinical teams.



- Ventilator Associated Pneumonia: 0 or 300 days between
- Central Line Bloodstream Infection: 0 or 300 days between
- Blood Sugars w/in Range (ITU/HDU): 80% or >
- Bloodstream Infection: 30% reduction
- Crash Calls: 30% reduction
- Harm from Anti-coagulation: 50% reduction in ADEs
- Surgical Site Infections: 50% reduction



- Daily Goals Sheet
- Daily Multi-Disciplinary Ward Rounds
- Glucose Control
- DVT Prophylaxis
- Ventilator Bundle
- Central Line Bundle
- Hand Hygiene
- General Infection Prevention Practice



**“GROUPINGS OF BEST PRACTICES
WITH RESPECT TO A DISEASE
PROCESS THAT INDIVIDUALLY
IMPROVE CARE, BUT WHEN APPLIED
TOGETHER RESULT IN
SUBSTANTIALLY GREATER
IMPROVEMENT”.**

IHI



Insertion Bundle

- Checklist and Documentation
- Hand Hygiene
- Skin Antisepsis (2% Chlorhexidine)
- Catheter Site Selection

The screenshot displays the '4D Client' software interface for a 'Daily Assessment' in an ICU. The date is set to 22/04/2008, Day 2. The assessment is for a 'central line insertion bundle'. The interface shows a table of questions and responses, with a 'Print Category Responses' button. Below the table, there is a 'Choices' section with 'Y' and 'N' options. The bottom of the screen features a navigation bar with various icons for clinical functions.

Category	Question	Response
central line insertion bundle	new central line inserted in unit today?	Y
	insertion checklist in notes	Y
	hand hygiene and maximal barrier precautions	Y
	skin antisepsis	Local Exclusion
	catheter site selection	Y

Response must be a Y or N. Response is mandatory

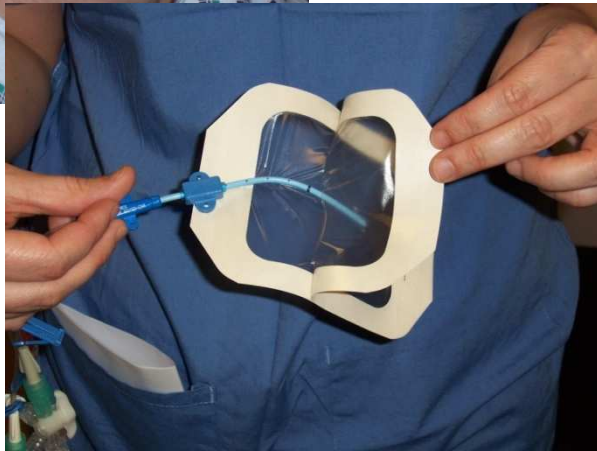
Choices: Y, N



Maintenance Bundle

- Consider the need daily for Central Line
- Skin Antisepsis (0.5% Chlorhexidine)
- Hand Hygiene
- Needle-free ports on all access points
- Dressing, if clean and intact, is left for up to 7 days





- Tegaderm Sandwiches
- 2% Chlorhexidine Wipes
- Impregnated Catheters



Shared Ownership

- Small groups assigned to each aspect of care bundle.
- Membership open to all members of staff.
- Education, audit, protocols etc. responsibility of all group members.
- Barriers discussed and tackled as a group.





- Posters
- Tick Chart
- Unit Tutorials
- Communication
- Education
- Roadshow



I AM A VICTIM OF
MY OWN ADMINISTRATION

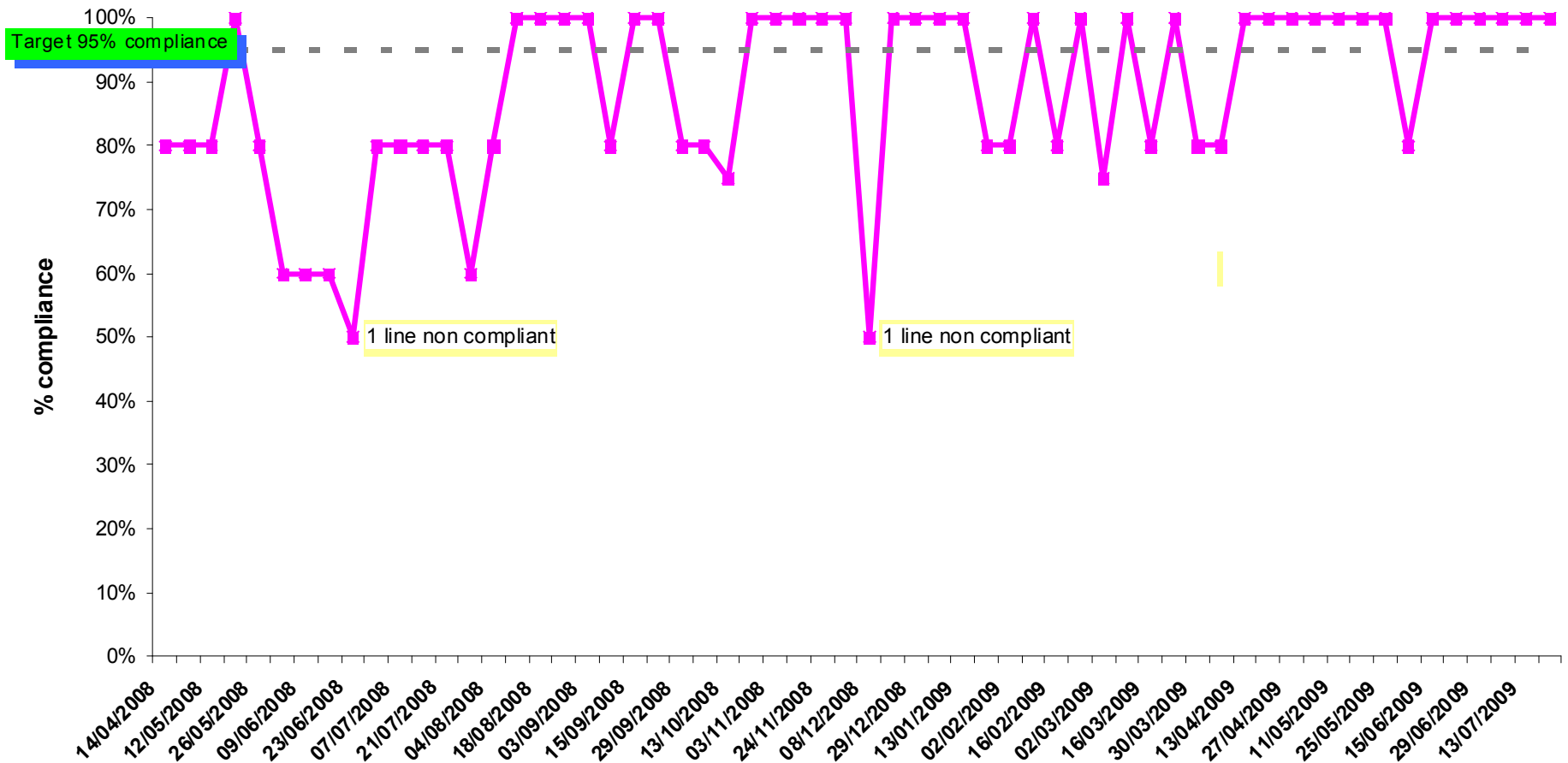


- Weekly audit of all elements
 - Regular production of Run Charts
 - Shared Ownership/ Responsibility
 - Transparency
-
- Initially a high level of audit progressing to surveillance

Compliance Charts



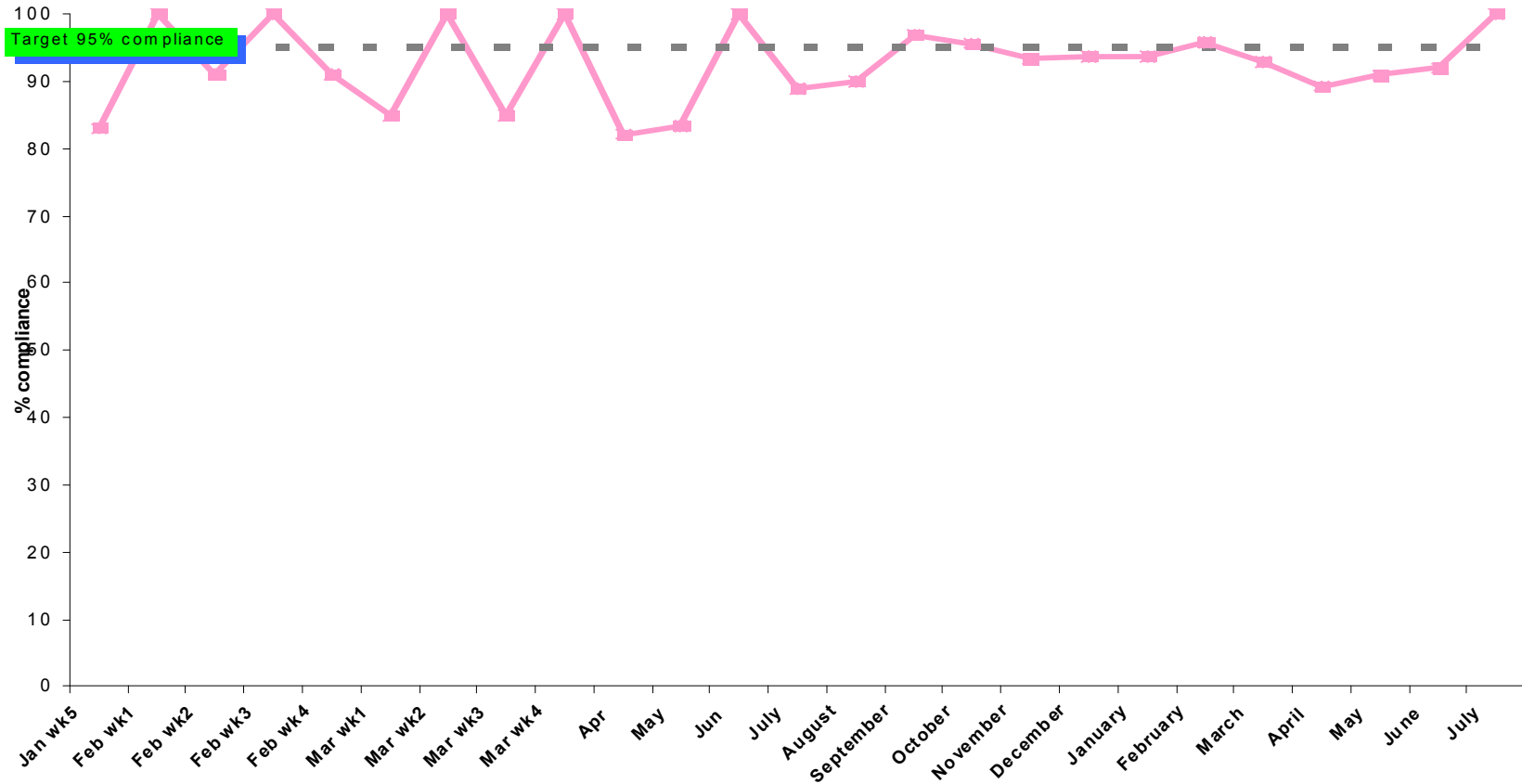
Central line maintenance bundle % compliance



Compliance Charts



C line insertion bundle % compliance



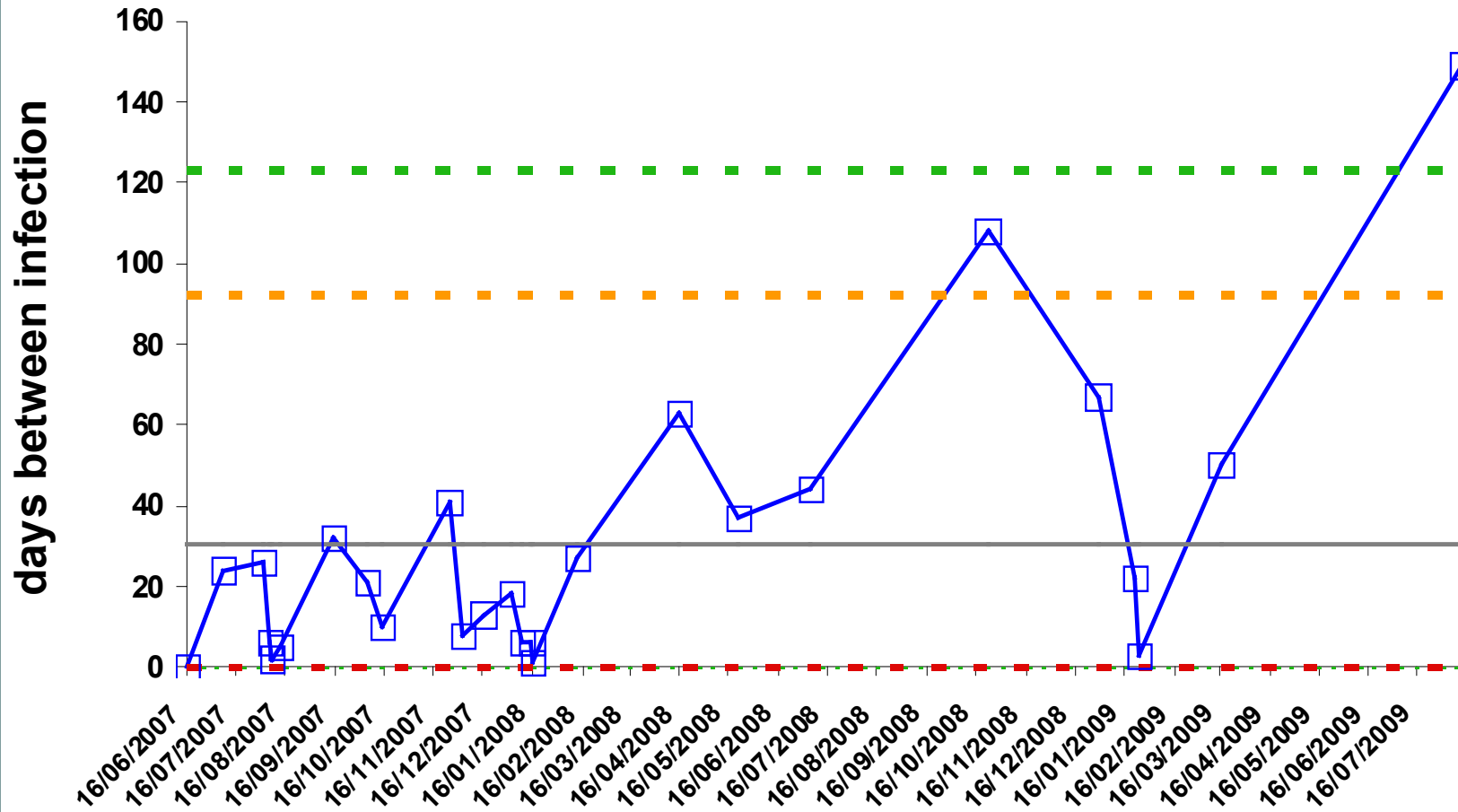


- Notice board in public area.
- Good motivation tool.
- Information available to relatives.
- Raised awareness amongst fellow colleagues.



158

Days Between CR-BSIs



CR-BSI Totals



	Total CRBSI	CR-BSI per thousand catheter days	Greatest number of days between infections
April '07- Mar '08	17	6 (0-19.8)	32
Apr '08- Mar '09	8	3 (0-7.9)	108
Apr '09 - present	0	0 (0-0)	158 (as of 21 st Aug)



- 02/01/09: Candida infection.
- RIJ line day 9.
- 31 year old male
- ARDS secondary to Influenza A.
- PRONED
- Fluclox, ceftriax, clarith, vanc, mero, flucon



- 25/01/09: Candida infection.
- RIJ line day 11.
- Young man Neuro patient.
- Co-amox, cefataz, vanc, taz, caspo, flucon

- 16/03/09: Klebsiella infection.
- Day 3 of admission. Line inserted in previous ward.
- Haematology patient.
- Femoral line: wasn't changed due to access.



- Make it sustainable and simple
- Network: Don't reinvent the wheel
- Get a small team together of motivated staff
- Do one thing at a time
- Display your results

- Aim for a change in attitude toward CRBSI



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www.patientsafetyalliance.scot.nhs.uk

www.IHI.org