



System Improvement in Central Venous Access Device (CVAD) Management

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Nurse Unit Manager - CATS

In The Beginning?

- HRH Intravenous device management by a team of nurses
 - Peripheral IV
 - 24 hour 7 day a week service
 - Routinely resited 48-72 hourly
 - Daily surveillance
 - Education – Nursing & Medical

Amalgamation

- HRH & Austin amalgamated 1996
- IV team restructured to 8-4 service 7days per week
- Due to staffing – Surgical wards only – by request elsewhere
- Maintained a zero infection rate for IVC's
- 1997 commenced PICC insertion
- 2006 decision to devolve IV cannulation to ward nursing & medical staff – Training programme for Nursing staff implemented 2007

CVAD Team Implementation

- Oct 2006 significant spike in *S. aureus* CR-BSI
- Infectious diseases/Infection control discussed option of CATS becoming CVAD Team to replace IV team
- CATS performed Biopatch™ trial within Haem / Onc pt group commenced Nov 06
- Marked reduction in CR-BSI when Biopatch™ used

CVAD Team Implementation

- July 2007 CATS staff commenced education re CVAD's
- Competencies completed
- January 2008 we are now the 'experts'
- Commenced
 - Daily surveillance of all acute inpatient areas excluding ICU (Mon – Fri) Data collected for weekends
 - Dressings level 8 (surgical floor)
 - Education ward staff
 - Data collection – modification of ICU's existing database to suit CATS needs

The First Year

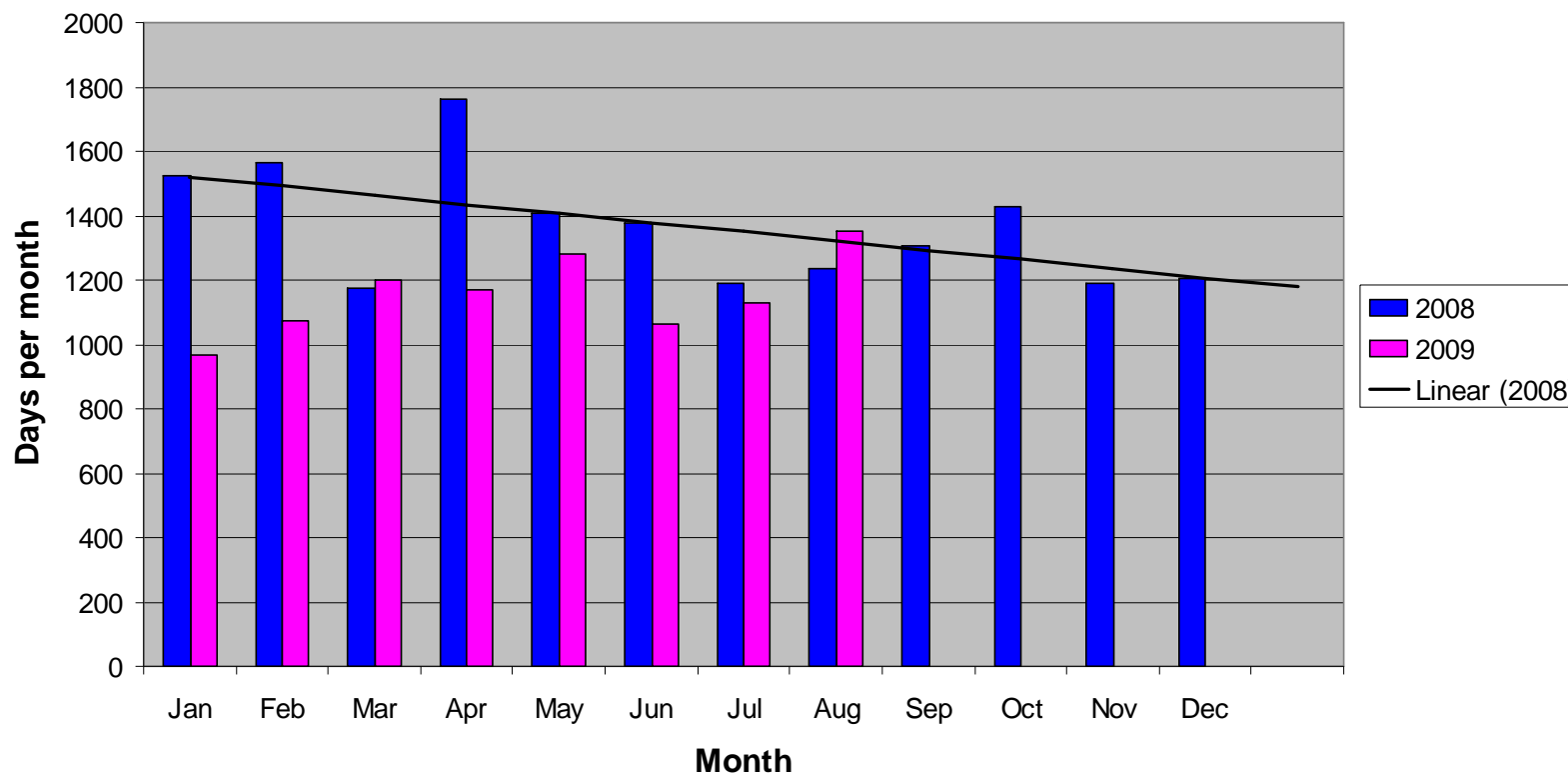
- Refinement of the role
- Education of ward staff re changes to our role
- Up skilling of CATS staff – continued
- Inservice education for ward staff
- Refinement of data collected
- Quarterly reporting to executive
- Liaison with infection control, ID consultants & microbiologist
- VICNISS criteria for CR-BSI definition & confirmation
- All organisms not just *S. aureus*

Our Second Year

- 1 Year of data available for comparison and benchmarking
- CDC – 1.5 CR-BSI/1000 catheter days
- We now really are the “experts”
- Results have demonstrated a
 - Decrease in CR-BSI in particular MRSA
 - Reduction in catheter dwell days
 - Improvement in the care & maintenance of CVAD’s across the Austin
- Our target is ZERO CR-BSI

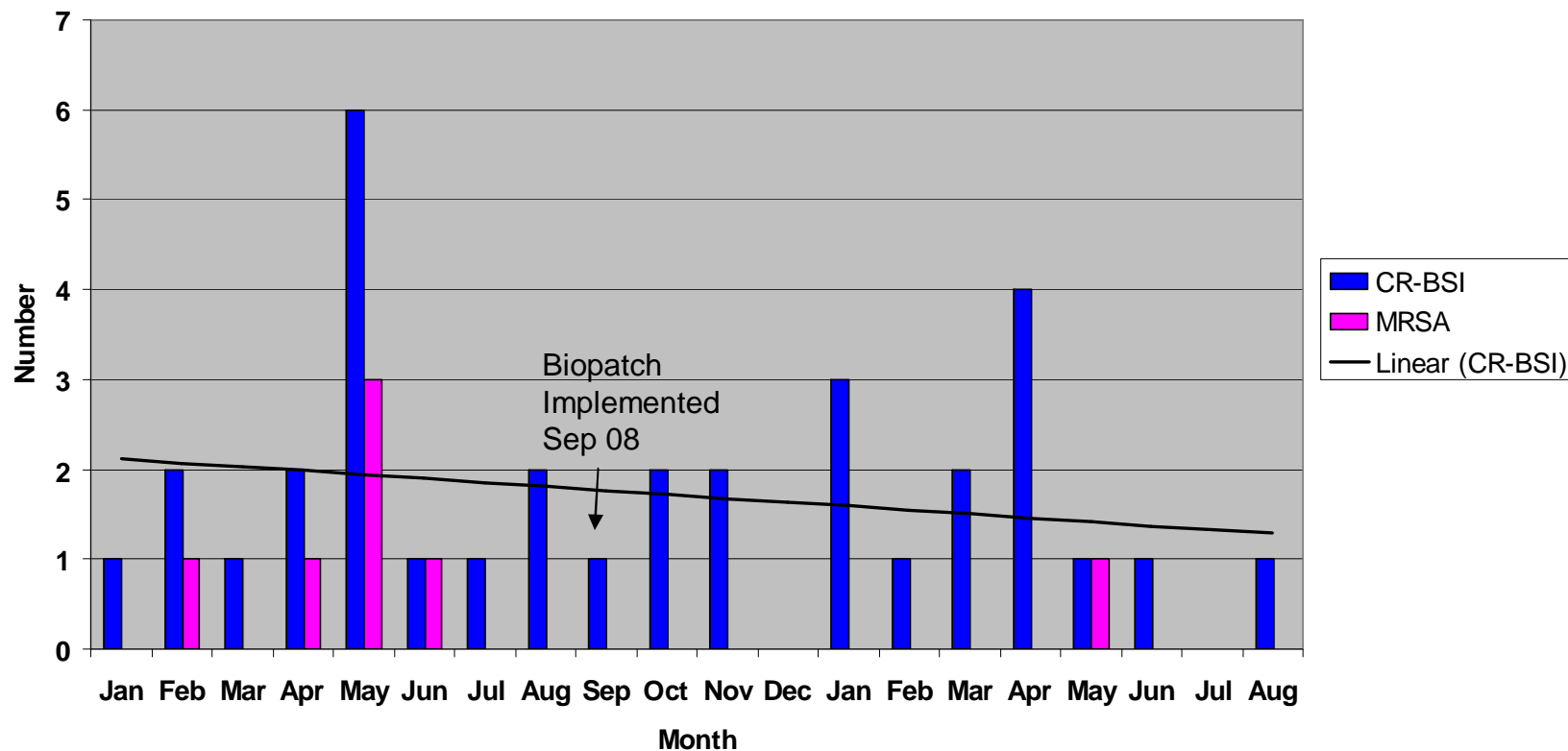
Catheter Dwell Days 2008 - 2009

Total Catheter Days Per Month 2008-2009



Results CR-BSI Jan 08 – Aug 09

CR-BSI Jan 2008 -Aug 2009



CR-BSI per 1000 Catheter Days

	2008	CR-BSI	Rate per 1000 Catheter days	2009	CR-BSI	Rate per 1000 Catheter days
Jan	1526	1	0.01	967	3	3.1
Feb	1565	2	0.03	1074	1	0.93
Mar	1175	1	0.01	1202	2	1.6
Apr	1764	2	0.01	1168	4	3.40
May	1406	6	4.20	1282	1	0.78
Jun	1376	1	0.72	1064	1	0.93
Jul	1191	1	0.08	1129	0	0
Aug	1233	2 (16)	1.60	1351	1	0.74
Sep	1308	1	0.76			
Oct	1429	2	0.13			
Nov	1189	2	0.16			
Dec	1203	0	0			
Total	16365	21	1.28	9237	13	1.4

Formula = $\frac{\text{Number of CR-BSI during the specified surveillance period} \times 1000}{\text{Number of CVAD days measured for the same surveillance period}}$

CDC benchmark 1.5 CR-BSI per 1000 catheter days

Conclusion

A dedicated team of nurses managing & performing CVAD surveillance has led to

- A reduction of CR-BSI across Austin Health
- Improved care of CVAD's
- Improved patient safety and outcomes
- Less patients having multiple CVAD's
- Increased staff awareness
- Cost reductions

QUESTIONS ??