

A Team Approach Every Day Keeps the Germs at Bay Harry Collins Award

Introduction

The introduction of peripherally inserted central catheter (PICC) devices started in the 1970s for parenteral nutrition and medications with growing utilisation in the neonatal population. Healthcare-associated infections (HAIs) increased with Central Line Associated Blood Stream Infection (CLABSI).

Aim

Introduce a multifaceted bundle over a 10 year period in Neonatal Intensive Care Units (NICU) with the following aims:

- reduction in late onset sepsis per 1000 patient days
- reduction in CLABSI per 1000 central line days
- improvement in hand hygiene compliance rates among staff

Method

Various strategies have been implemented since 2002:

2002 and 2003

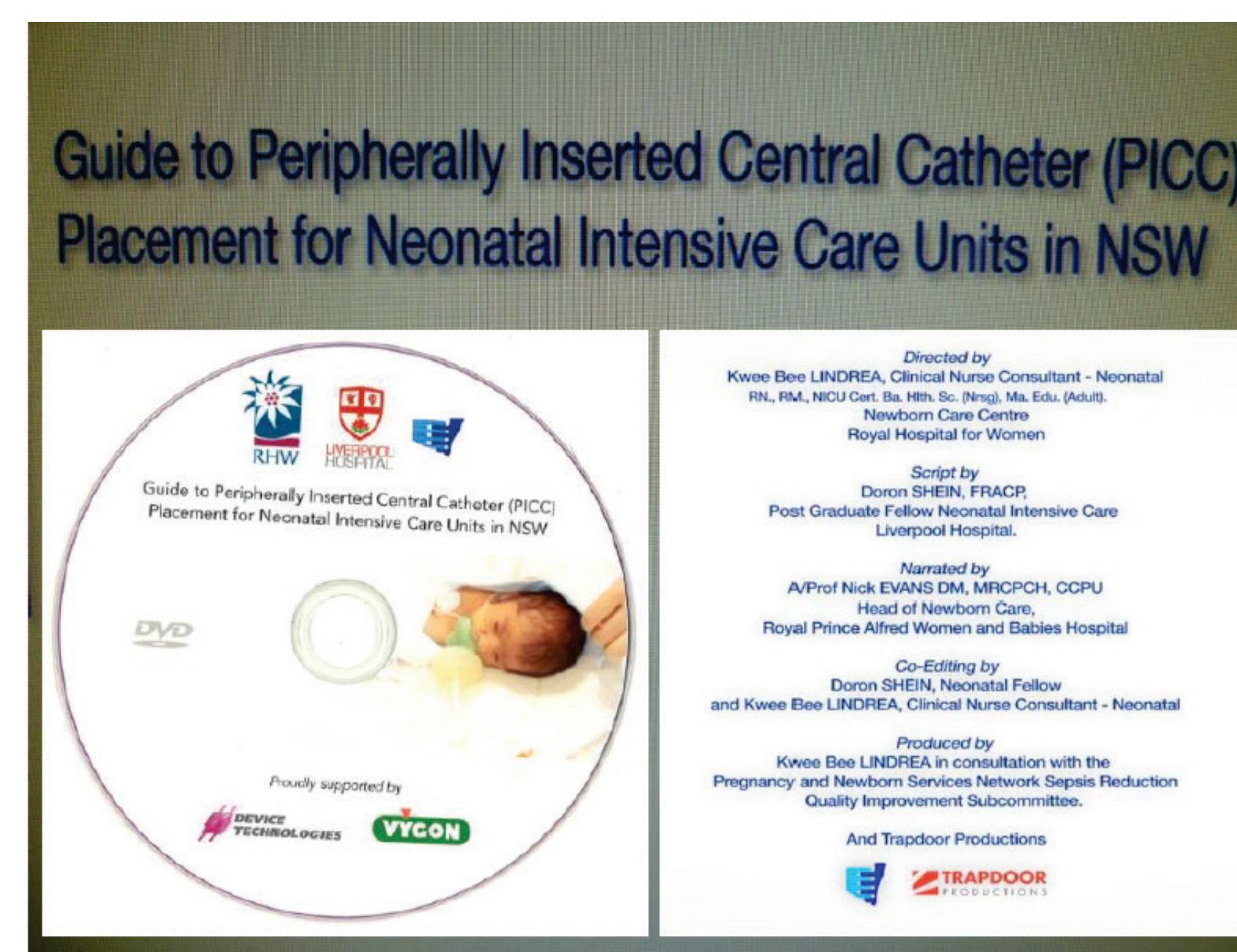
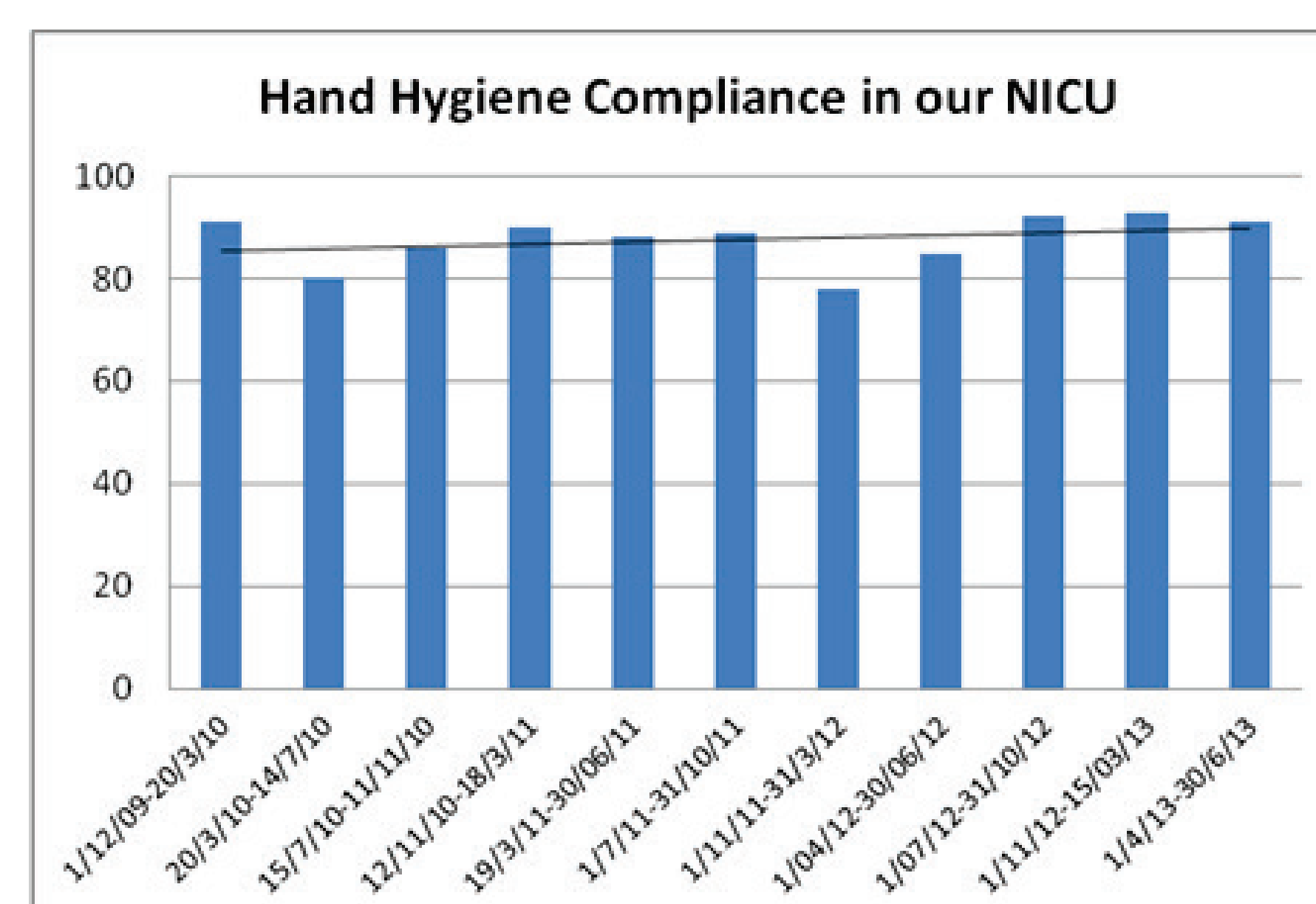
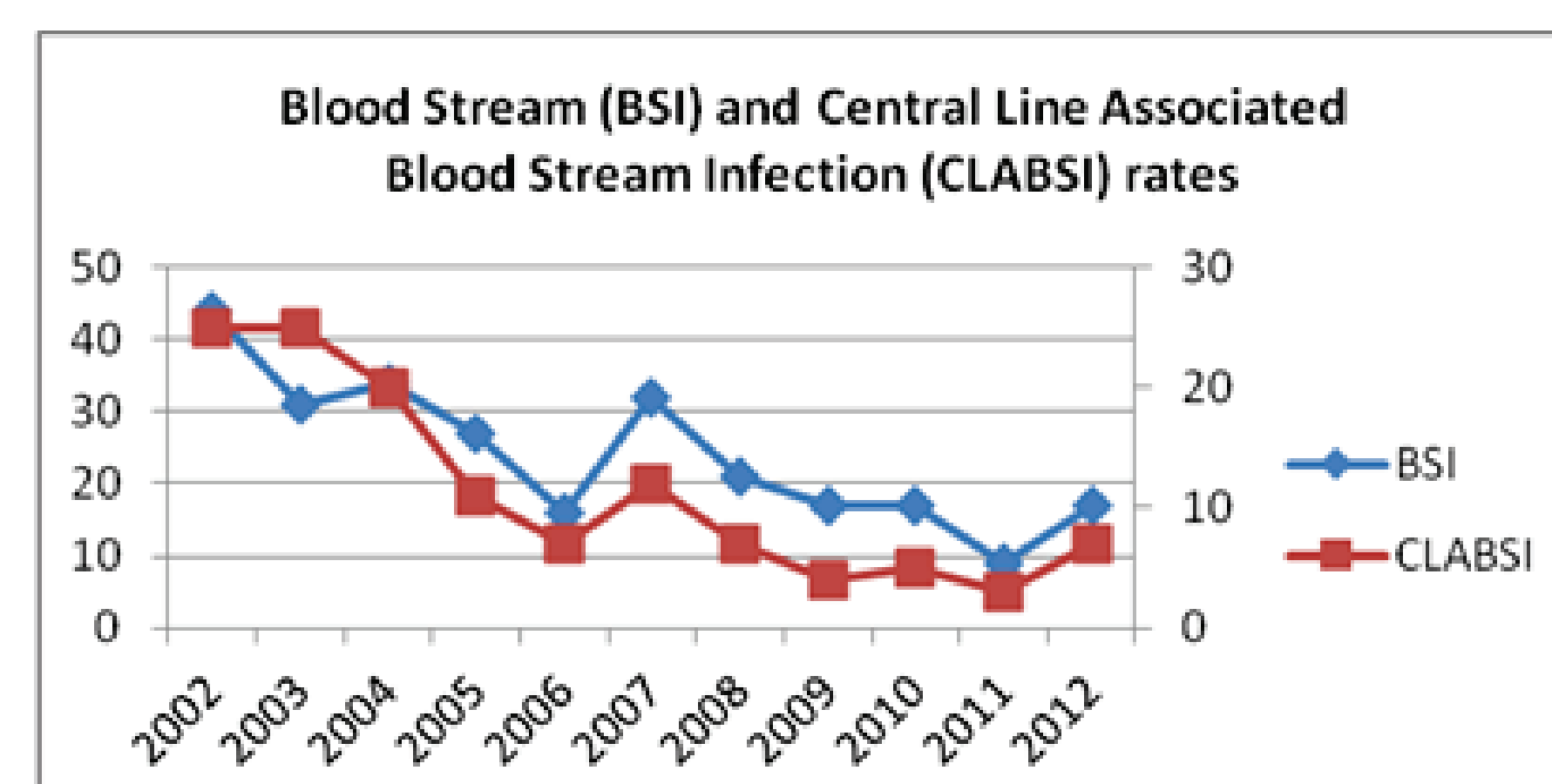
1. Formation of a multidisciplinary **Infection Control Action Committee (ICAC)** inclusive of monthly meetings
2. Review and develop protocols and education for staff and families.
3. Identify need for improvement and change of clinical practice including standardisation of procedures

2004-2010

1. Introduction of a strong education culture: SCORPIO (**S**tructured, **C**linical, **O**bjective **R**eferenced, **P**roblem-based, **I**ntegrated and **O**rganised) lectures, a series of practical teaching sessions
2. Support hand-hygiene champions
3. Cultural change: Encouragement awards ie *Hand Hygiene Hero of the Month* for compliance and good hand hygiene practices.
4. *Central Line Bundles* for central line insertion and maintenance commenced in 2004

Results

1. Infant admissions have steadily increased from 776 in 2002 to 903 in 2011 with Central Line Utilisation Rates (CLUR) increasing from 0.11 to 0.19 per patient days.
2. Significant drop in the number of blood stream infections (BSI) from 44 in 2002 to 17 in 2012 noted
3. A significant drop in CLABSI rate (Central Line Associated BSI per 100 admissions) from 25 in 2002 to 7 in 2012 was also noted.
4. Hand hygiene compliance rates significantly improved. Quarterly audit of all healthcare workers in NCC since January 2009 consistently showed compliance rates over 80% for both nurses and doctors.



Conclusion

Ongoing practice:

- constant vigilance, review and update of policies and engagement of staff
- ICAC meets monthly to review infection cases, gaps and areas for improvement and provide feedback
- regular audits of hand hygiene, central line insertion and maintenance bundles
- strong education focus: orientation program, accreditation process of medical staff for insertion
- adoption of some of the quality initiatives by The Sepsis Prevention and Reduction in NICU's Group (SPRING), a subcommittee of the Pregnancy & Newborn Services Network (PSN) of NSW
- standardisation of PICC insertion in NSW NICUs
- production of a high quality professional video on insertion of PICC lines in neonates by the clinical nurse consultant of our NICU in collaboration with two other NICUs of the NICUS Group in 2012. This video can be viewed via the following url http://www.seslhd.health.nsw.gov.au/rhw/Newborn_Care/videos/PICC_FS.asp
- successful collaboration between tertiary NICUs in NSW to standardise a common practice
- providing ownership to frontline staff to empower them to educate, promote, and monitor good infection control practices.

Acknowledgements

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