

Background

Healthcare-associated infections (HAIs) are major threat to patient safety, leading patient morbidity and mortality, lengthening hospital stay and increasing costs. Catheter-Associated Urinary Tract Infections (CAUTI) is the most commonly reported type of HAI by acute care hospitals.

Our baseline data CAUTI rate among neurosurgical (NS) patients in an acute general ward was 20.8, much higher than the 2012 National Healthcare Safety Network (NHSN) reported CAUTI rates (annualised data) for percentile 50% (median) and 90% at 2.3 and 5.3 respectively.

Team Members

	Name	Designation	Department
Team Leader	Yasoda S.S	Assistant Nurse Clinician	Nursing, 10D
Co-Team Leaders	Kamariah Yunos Jai P. Rao	Nurse Clinician Consultant	Nursing, 10D Neurosurgery, NNI
Team Members	Goh Jia Jun Serene Tan L.H	Resident Physician Advanced Practice Nurse	Neurosurgery, NNI Nursing Service
	Tan Bee Ling Yu Chen Anna Goh P.X Nursyfaa Rahmat	Senior Staff Nurse Senior Staff Nurse Senior Assistant Nurse Senior Executive	Neurosurgery, NNI Nursing, 10D Nursing, 10D OCG, CSI
Sponsor	Mariam Piperdy Rozana Bte Arshad	Senior Nurse Manager (Unit)	Nursing, Level 13 Nursing, Level 10
Facilitators	Ng Woei Kian Brenda Zhuang	Senior Nurse Manager Manager	Nursing Service OCG, CSI

Acknowledgments

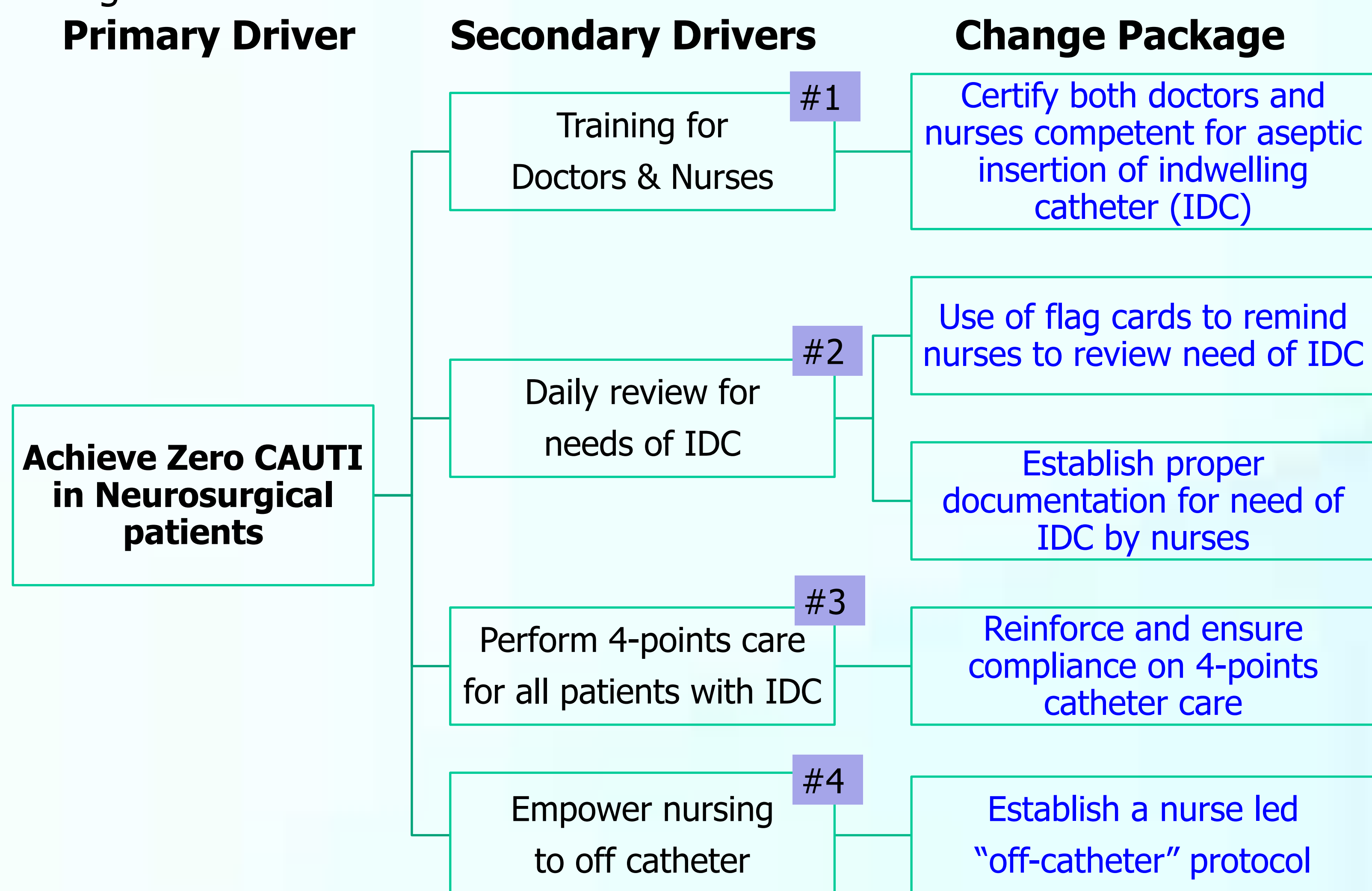
Special thanks to hospital ACMB, A/Prof Tan Hui Ling, NNI Deputy Director, Prof Sitoh YY and Chief Nurse, Mr Yong Keng Kwang for providing the necessary direction and resources. Gratitude to Dr Chong Yew Lam, DDN Hoi Shu Yin and NC Heng Lee Choo for sharing their domain of knowledge. Our heartfelt thanks and appreciation to all the frontline Doctors, Nurses who have made this change to provide better patient care.

Objectives

We aim to achieve ZERO CAUTI in our neurosurgical patients in ward 10D within 3 years by redesigning care delivery by healthcare professionals.

CAUTI Bundle

The IHI Model for Improvement was adopted to drive the change. A driver diagram was drawn to help the team to have a shared view of theory of change.



Plan-Do-Study-Act (PDSA) cycle was used to test a change on a small scale using the 1-3-5 principle. Learn from each test of change, refine the change through several PDSA cycles. After which, the change is ready for implementation in the ward.

Change #1 – Training for Doctors & Nurses

Our gap analysis showed lack of training on IDC insertion among the NS medical officers (MO) and inconsistent IDC insertion practices by the nurses. Hence, trainers were identified from NS department to be part of IDC simulation and assessment for all batches of NS MOs during orientation.



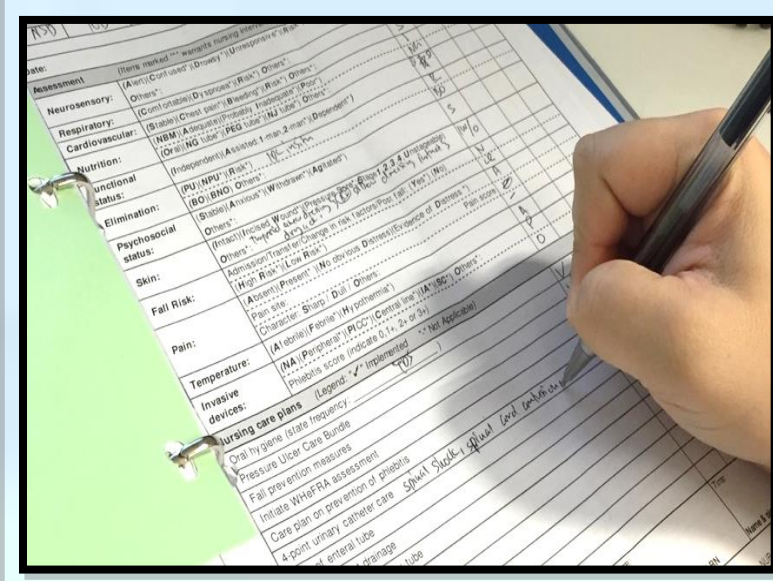
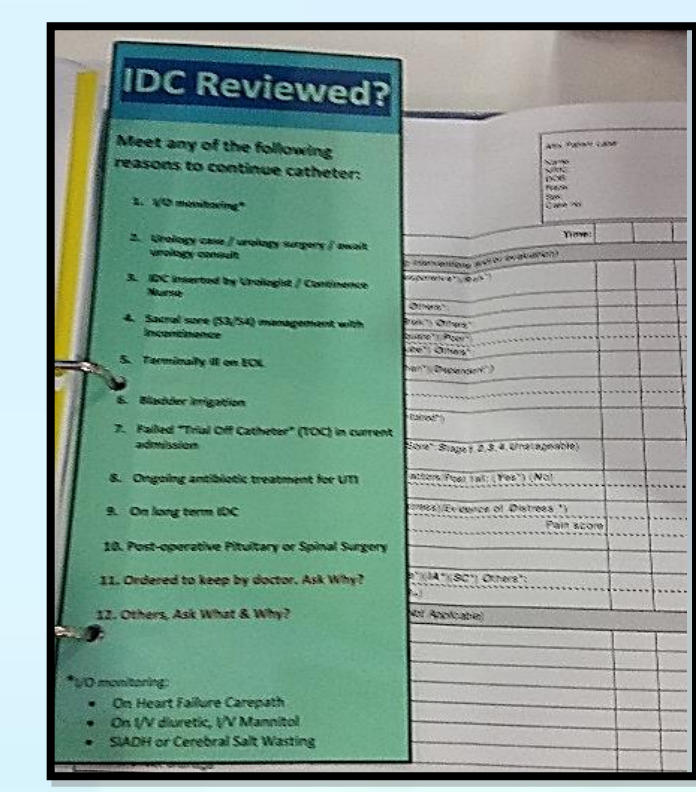
Re-assessment on IDC insertion technique was also conducted among the nurses in the ward to ensure competence.



Change #2 – Daily review for needs of IDC

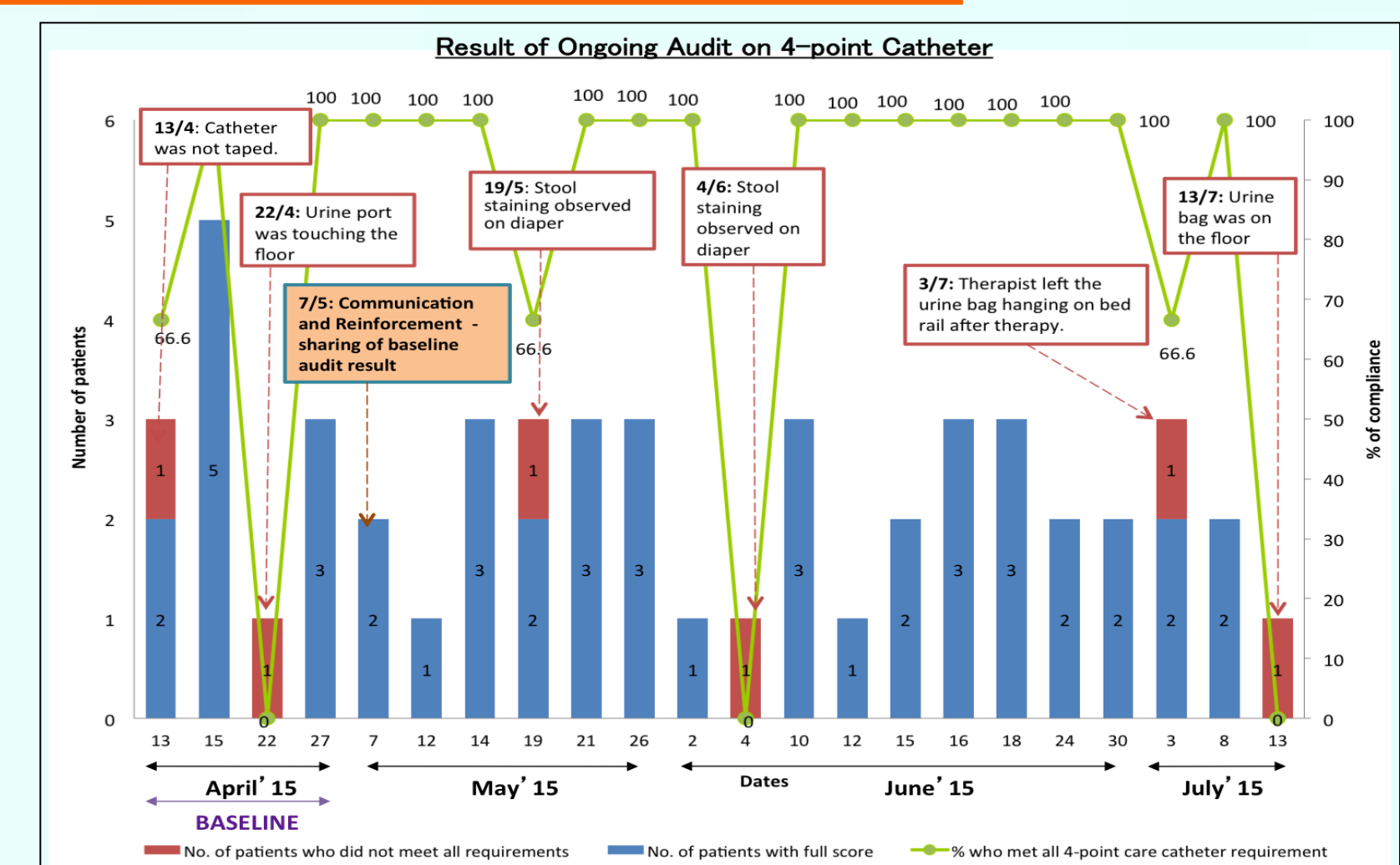
Inconsistent daily review for needs of IDC was revealed from the gap analysis. There was no trigger to remind the nurses to perform daily review.

A flag card was developed to serve as a reminder to review. The card is placed in front of the Patient Care Record (PCR)/ Carepath, and a documentation process has now been established for the nurses to indicate the reason to continue IDC with the use of existing forms.



Change #3 – 4-points care for patients with IDC

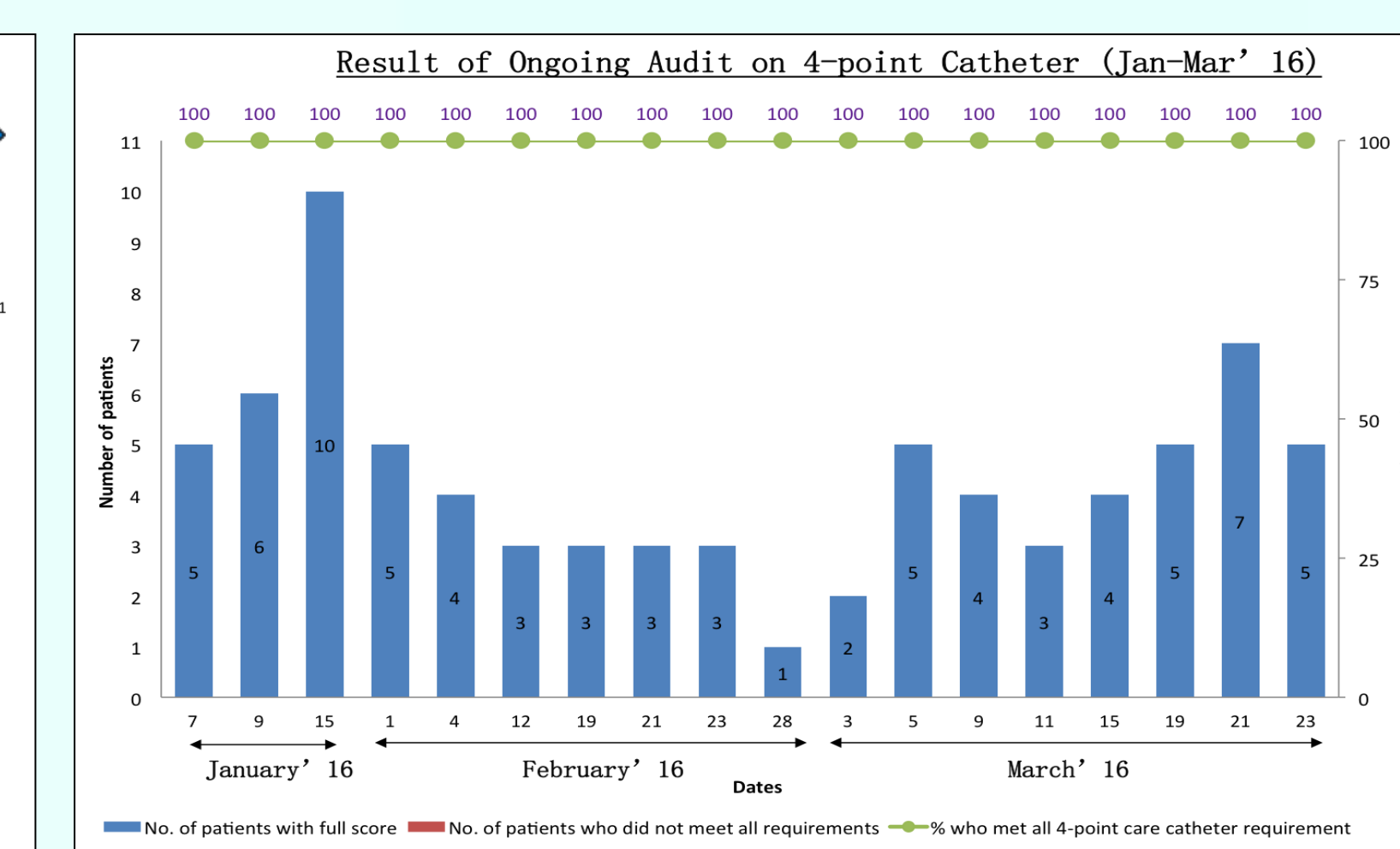
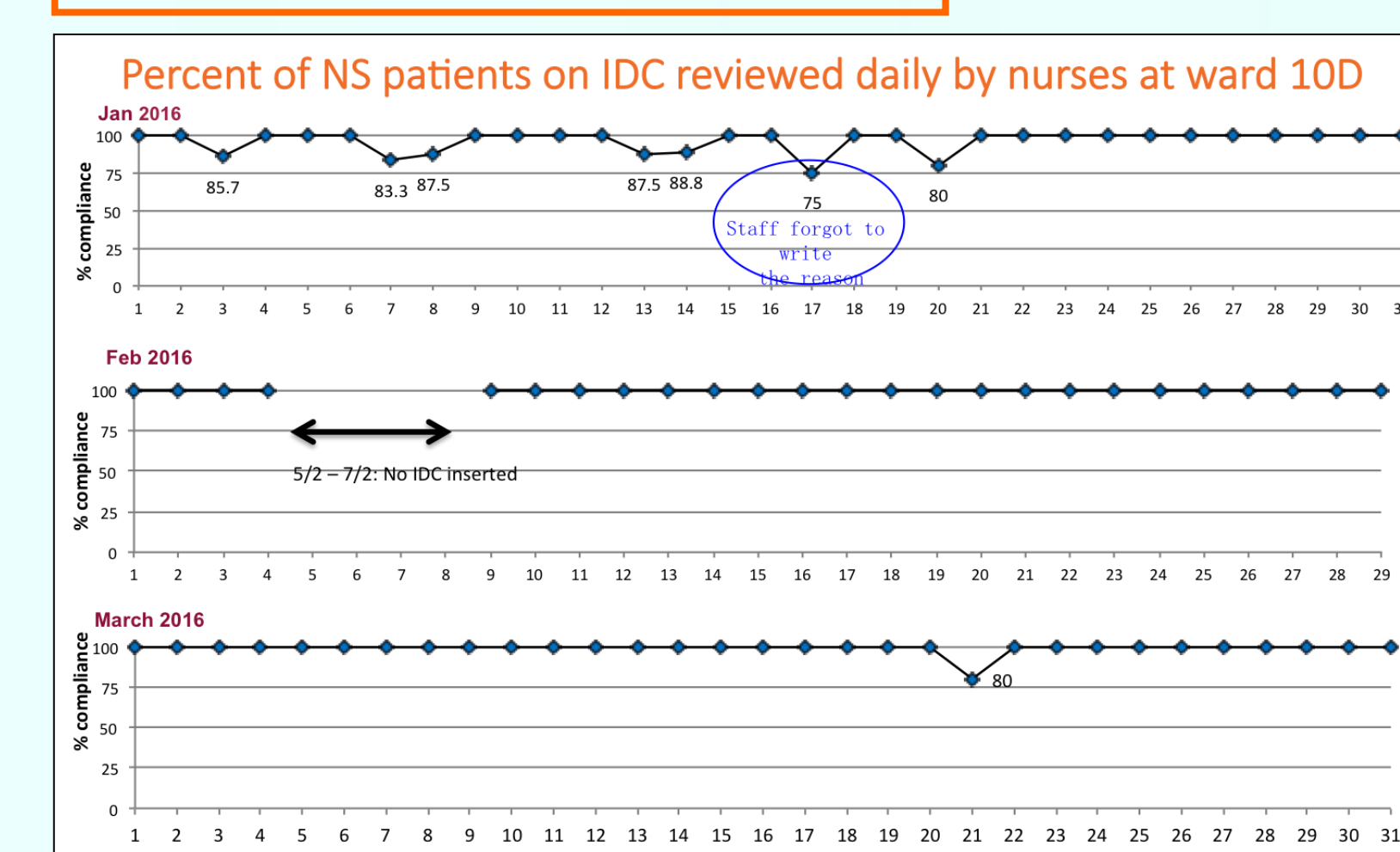
Baseline audit showed non adherence to 4-points care on patients with IDC. Results was shared by the Ward Nurse Leader to create awareness and motivate the staff to work on gaps identified to improve the practice.



Change #4 – Nurse-Led "Off Catheter" Protocol

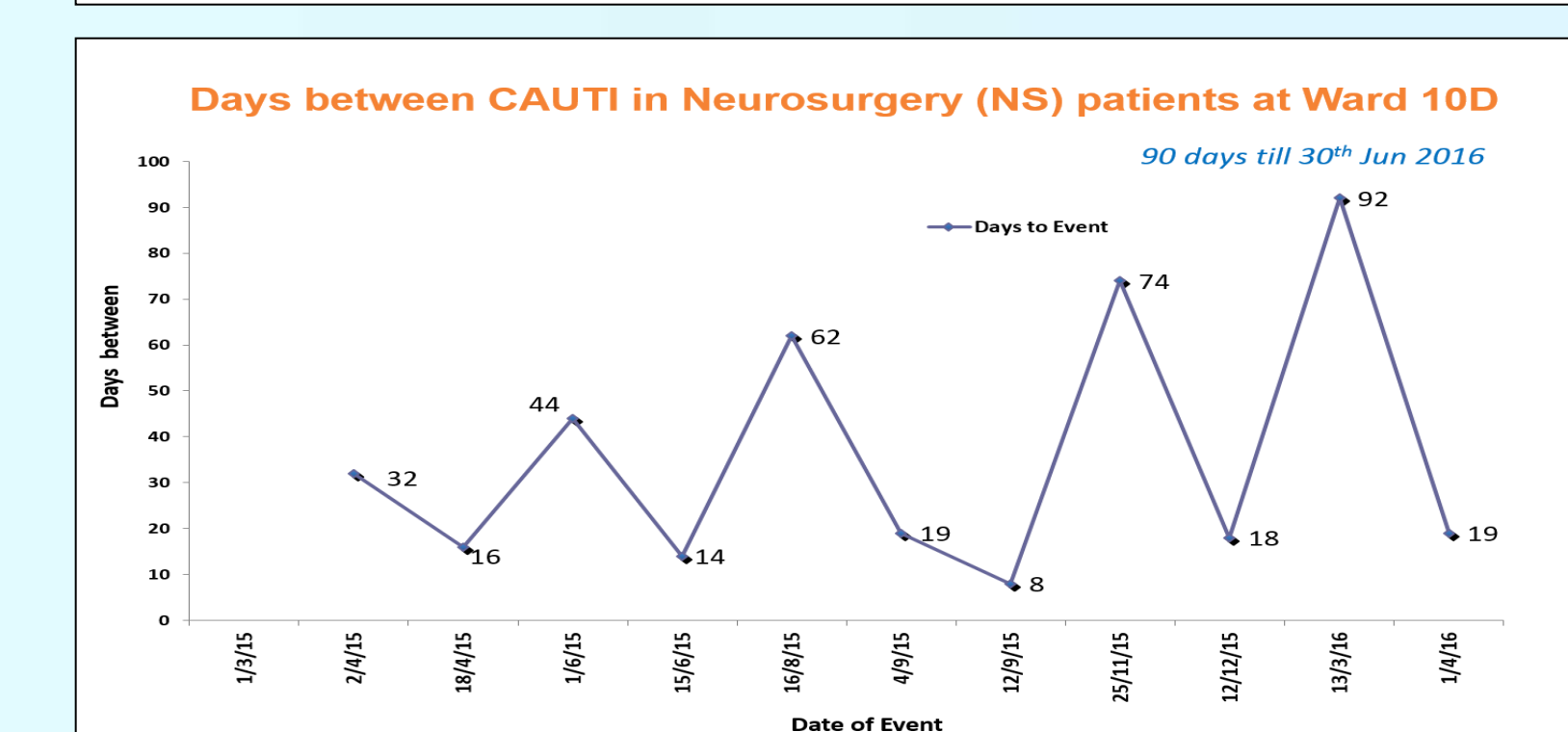
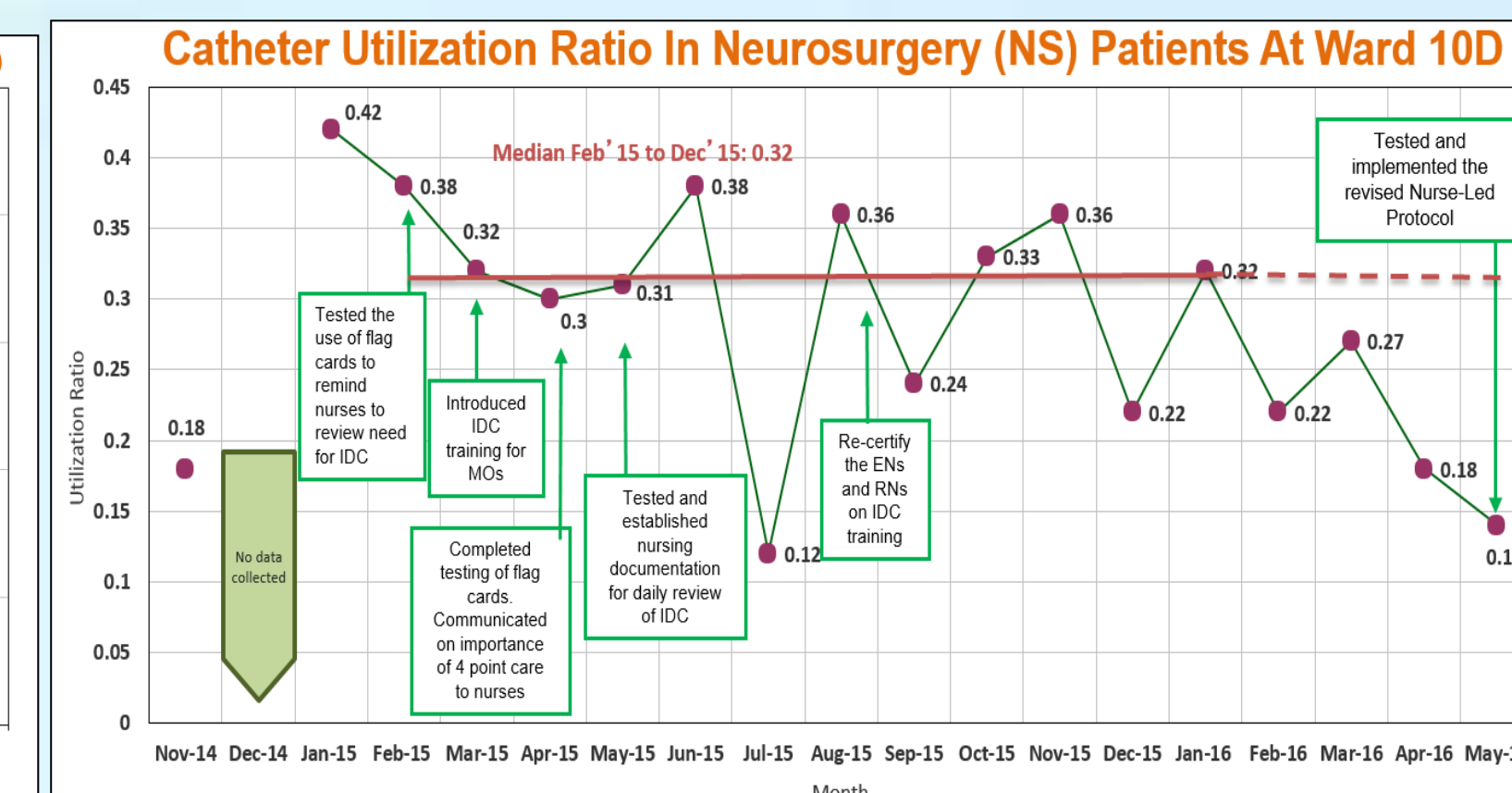
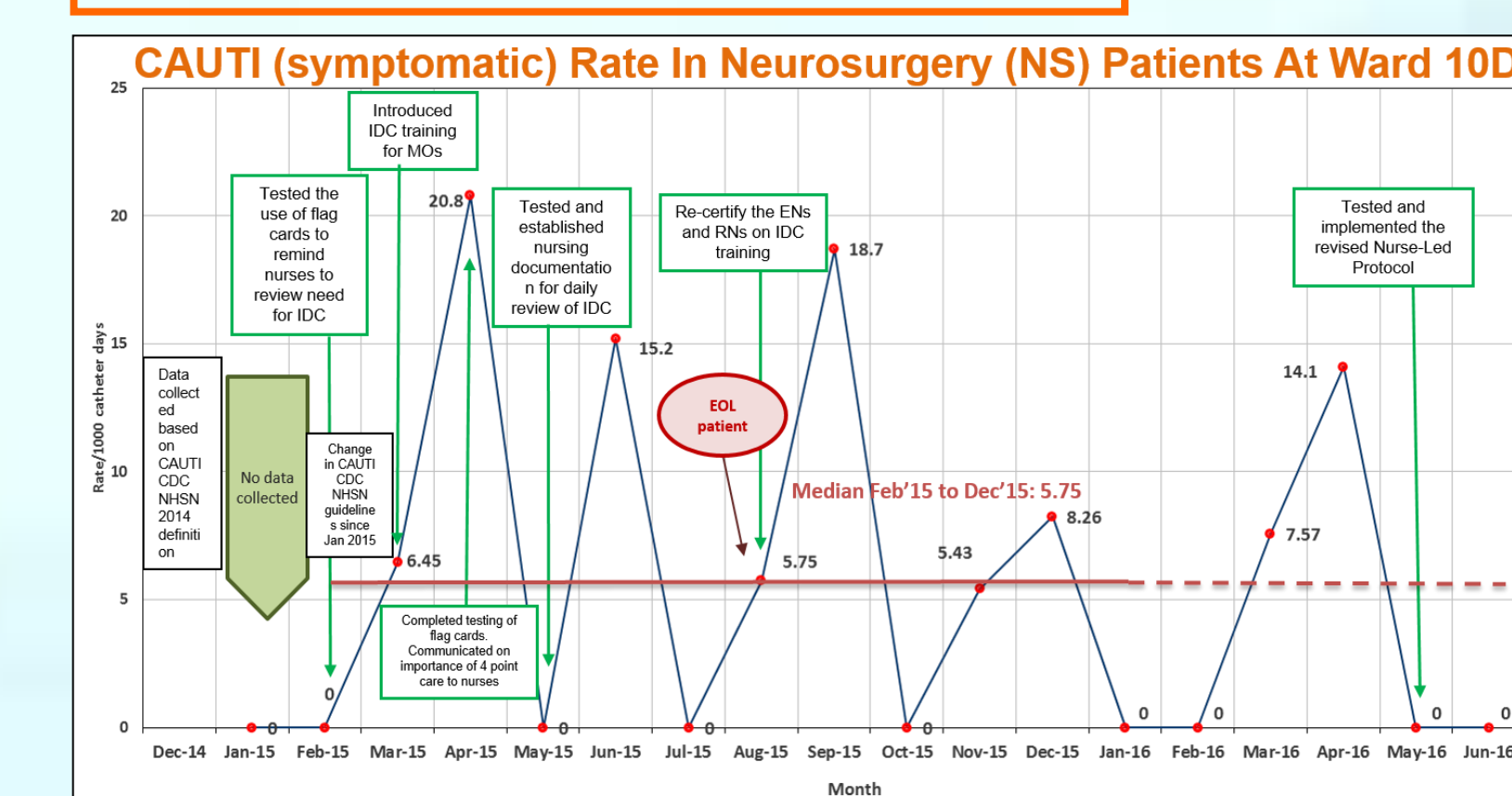
Tested and implemented the revised nurse-led "off catheter" protocol in May. This protocol allows staff to remove the IDC among the female patients if it is deemed not necessary.

Process Measures



We have achieved our targets by sustaining a longer duration of 100% compliance month by month.

Outcome Measures



Catheter utilisation ratio has reduced from a median of 0.32 since Feb'16. CAUTI event free days has also shown increasing peaks with the highest at 92 days.

Lessons Learnt

- Regular 2-way feedback on the results is important as it will provide a sense of achievement and boost motivation for better outcomes.
- Staff engagement is important as they are the main drivers to improvement.
- Leadership engagement is key to achieving quality goals.
- The power of small wins can have huge impact in shaping a culture.

Staff Experience

- Increased awareness on CAUTI bundle, even among the Assistant Nurses (AN).
- Has allowed more conscious effort to review the need for IDC.
- Feel more empowered to discuss the need for IDC with the doctors.