

# Intensive care unit and ward length of stay reduction following SLT-led changes to tracheostomy management in a cardiac intensive care unit

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## 1. Introduction

- Many Intensive Care Units (ICUs) in the UK do not have dedicated specialist speech and language therapy (SLT) input which can result in patients commencing oral intake with the tracheostomy cuff inflated.
- Mortality rates can reach 57% following cardiac surgery and pneumonia increases the rate by 8.53<sup>1</sup>.
- Approximately 50-83% of tracheostomised patients aspirate<sup>2,3</sup>, and taking oral intake with the cuff inflated increases the risk of silent aspiration<sup>4</sup>.
- Fiberoptic Endoscopic Evaluation of Swallowing (FEES) can be used by SLTs in ICU to assess swallowing, detect silent aspiration and guide clinical decision-making.

This quality improvement project evaluated the outcomes of introducing an SLT-led change in practice for tracheostomised patients in a cardiac ICU.

## 2. Materials & Methods

The SLT-led change in practice entailed the following:

- all tracheostomised patients being assessed by SLT
- eating and drinking with the cuff inflated only commenced if found to be safe on FEES or for quality of life reasons

Retrospective data were collected for all 26 tracheostomised patients in the 11 months prior to the change in practice. Prospective data were also collected for the following 10 months (32 patients) and analysed using run charts.

## 3. Results

- 7.5 day ICU length of stay (LoS) reduction (Fig.1)
  - ▶ equated cost saving of £302,400 (ICU bed day cost £1260) for 10 month period
- 13 day ward LoS reduction (Fig.2)
  - ▶ equated cost saving of £90,688 (ward bed day cost £218) for 10 month period
- Reduction in ICU LoS resulted in potential for increased numbers of surgeries
  - ▶ projected income generation of £640,000 for the 10 months period (£10,000 per surgery)
- Average reduction in chest X-rays for chest status of 2.5 per patient on ICU.
- 39.1% reduction in total mortality for hospital stay and 6-month post-discharge (p < .29).

Figure 1 - Run chart for intensive care unit length of stay

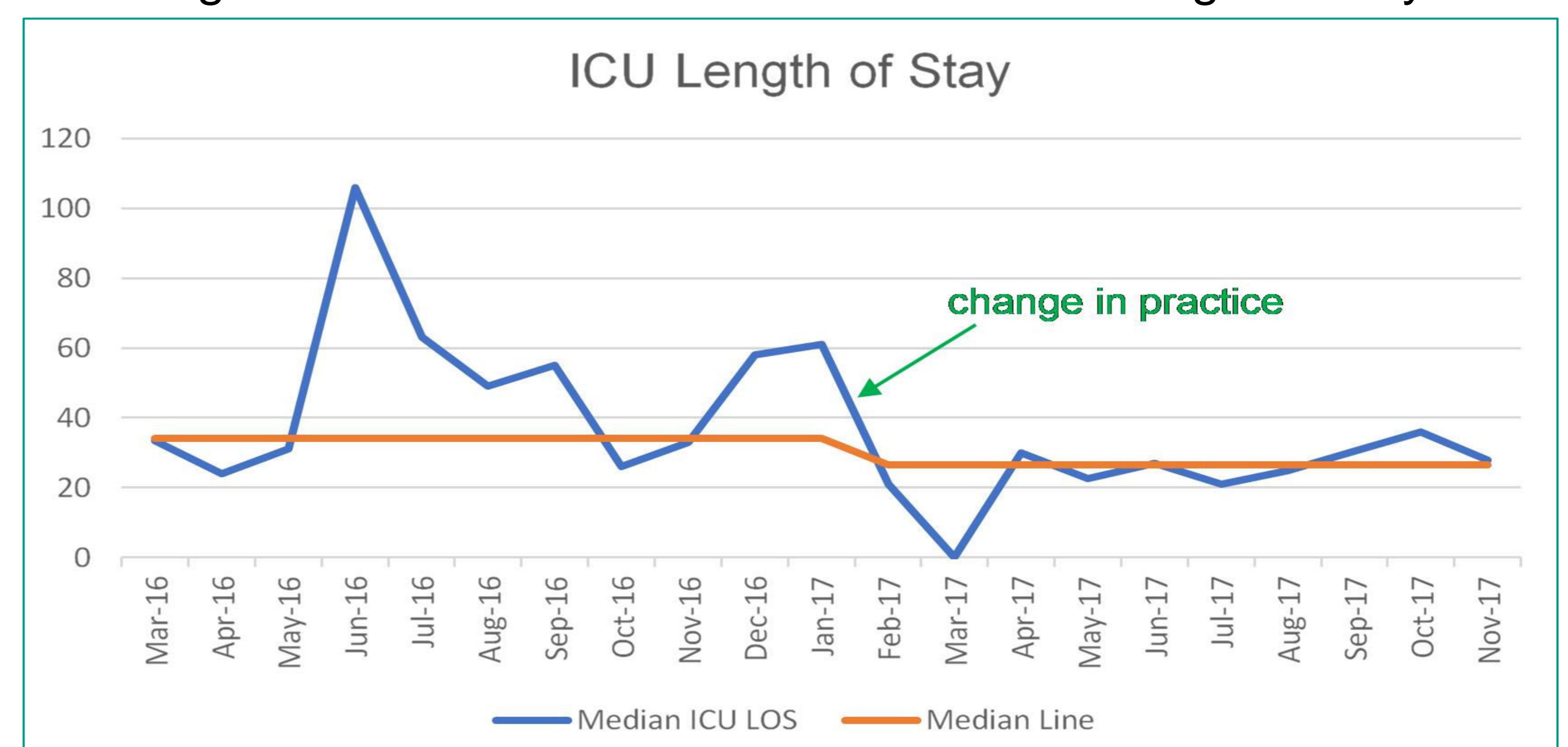
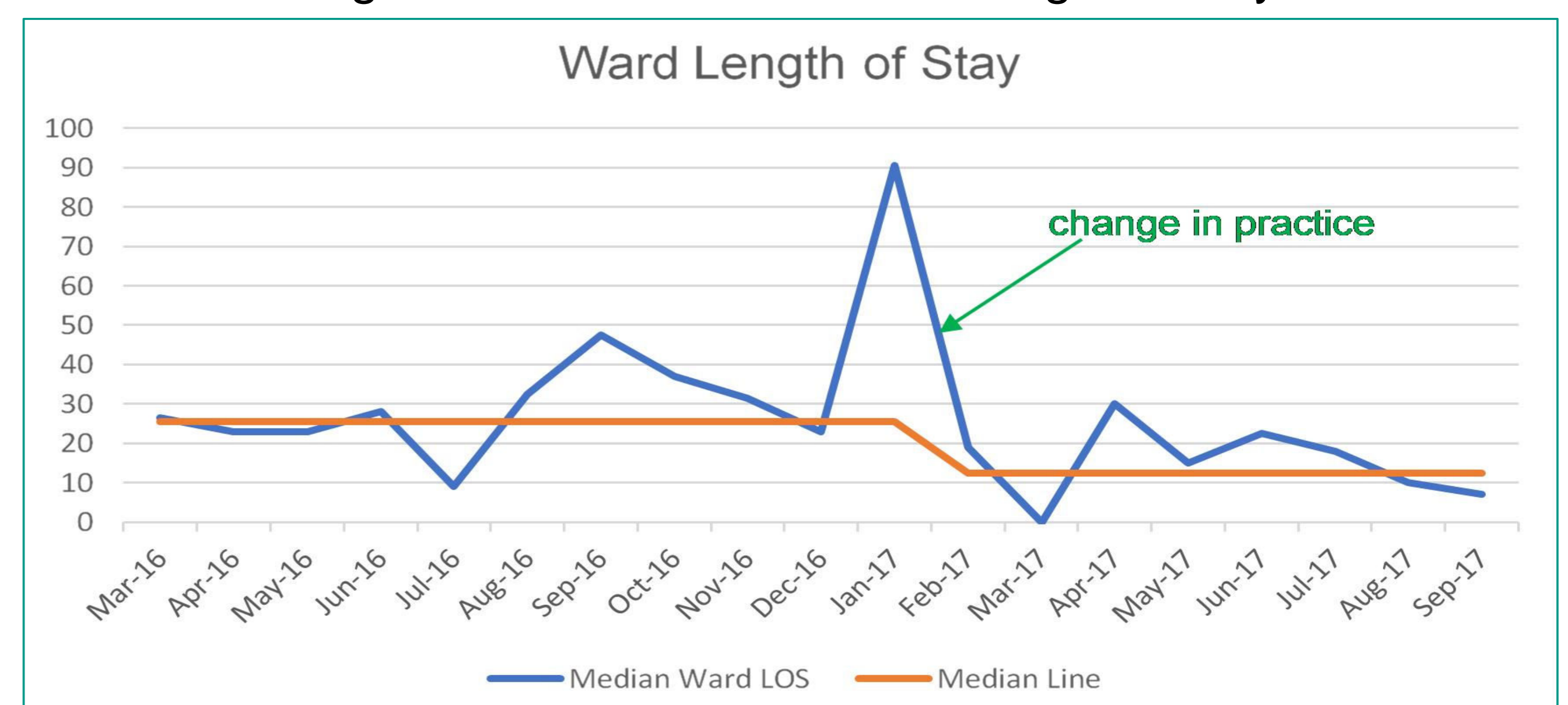


Figure 2 - Run chart for ward length of stay



## 4. Conclusions

- SLT input is vital to identify and prevent silent aspiration in cardiac ICU.
- SLT input can lead to reduction in pneumonia rates, LoS and the potential for significant cost savings and income generation for hospitals.
- This SLT-led change in practice is cost-effective and could be attributed to the specification of cuff-up oral intake based on FEES assessment.

## References

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