REDUCING C DIFF ACQUISITION USING INNOVATIVE TECHNOLOGY

Sherwood Forest Hospitals NHS
NHS Foundation Trust

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1. INTRODUCTION

- Clostridium Difficle is a major cause of diarrhoeal infection in healthcare. This spore forming organism is difficult to control, remaining for months on equipment and in the hospital environment.
- Sherwood Forest hospitals, a 750 bed Trust in Central England, have struggled with C Difficle rates for a number of years. A rigorous audit programme was in place but the overall feeling was that feedback of results was slow and had thus far failed to cause any positive impact.

2. INTERVENTION

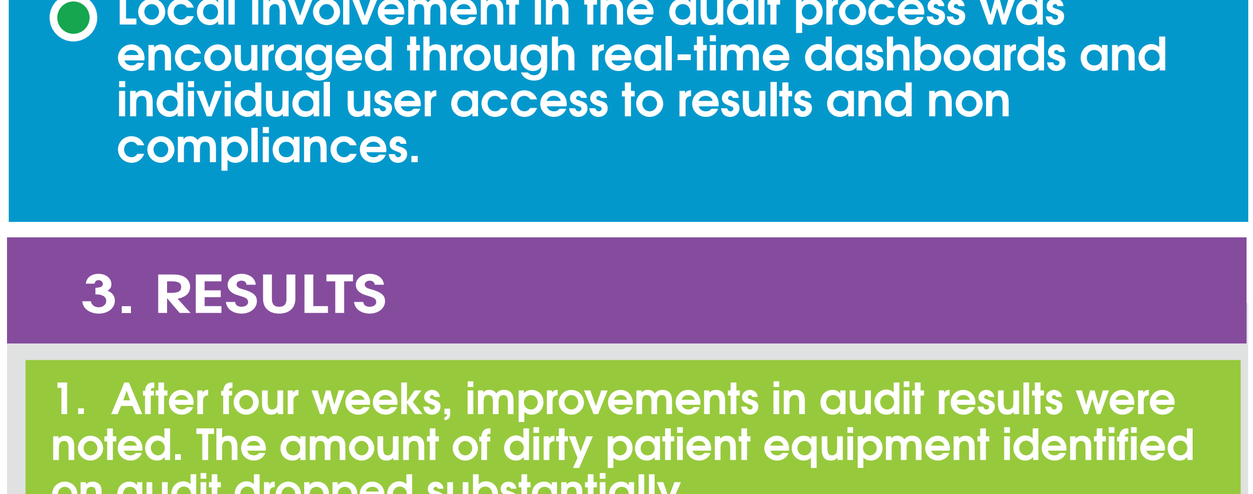
- In May 2015, the hospital invested in an innovative Infection Prevention Auditing, Reporting and Training system called TS+ from Medical Audits Technology Systems®.
- The mobile system provided the Infection Prevention team with the ability to carry out standardised audits, doubled the audit capacity of the team (with the same staffing) and enabled them to provide photographic evidence of issues raised, detailed specific immediate feedback, and education at time of audit.
- The new system included a non compliance tracking system to enable users to close out issues raised - closing the audit loop and ensuring actions were taken to make real changes to improve practice.
- Local involvement in the audit process was encouraged through real-time dashboards and individual user access to results and non compliances.

3. RESULTS

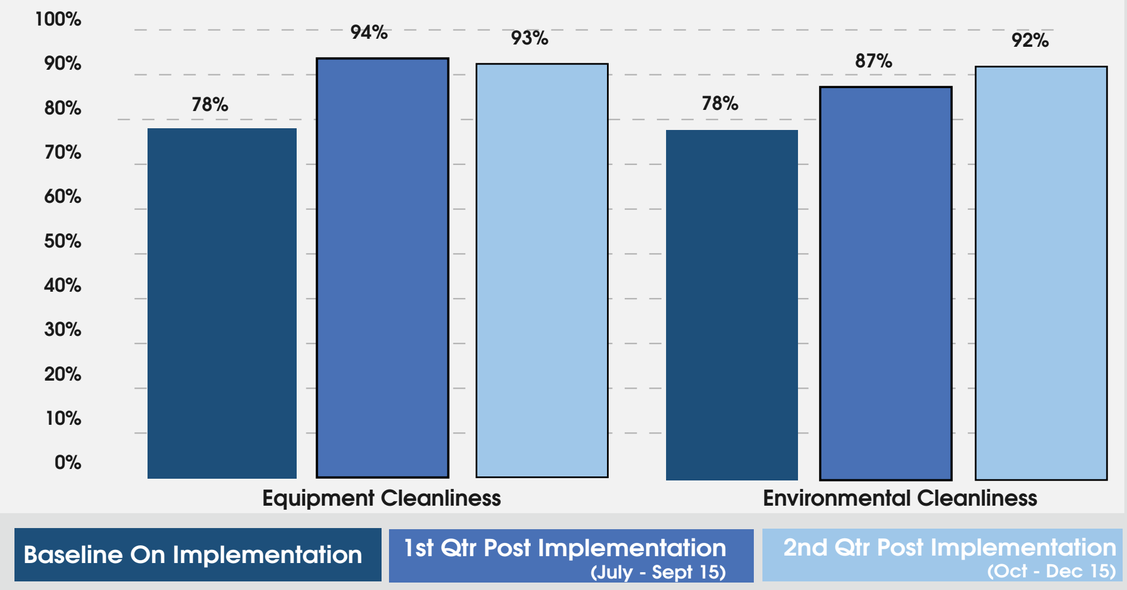
1. After four weeks, improvements in audit results were noted. The amount of dirty patient equipment identified on audit dropped substantially.

2. The cleanliness of commodes and other equipment improved steadily from baseline of 78% to over 90% in the next two quarters.

3. Compliance in environmental hygiene also improved from baseline median of 78%, to 87% and 92% respectively (see figure A)

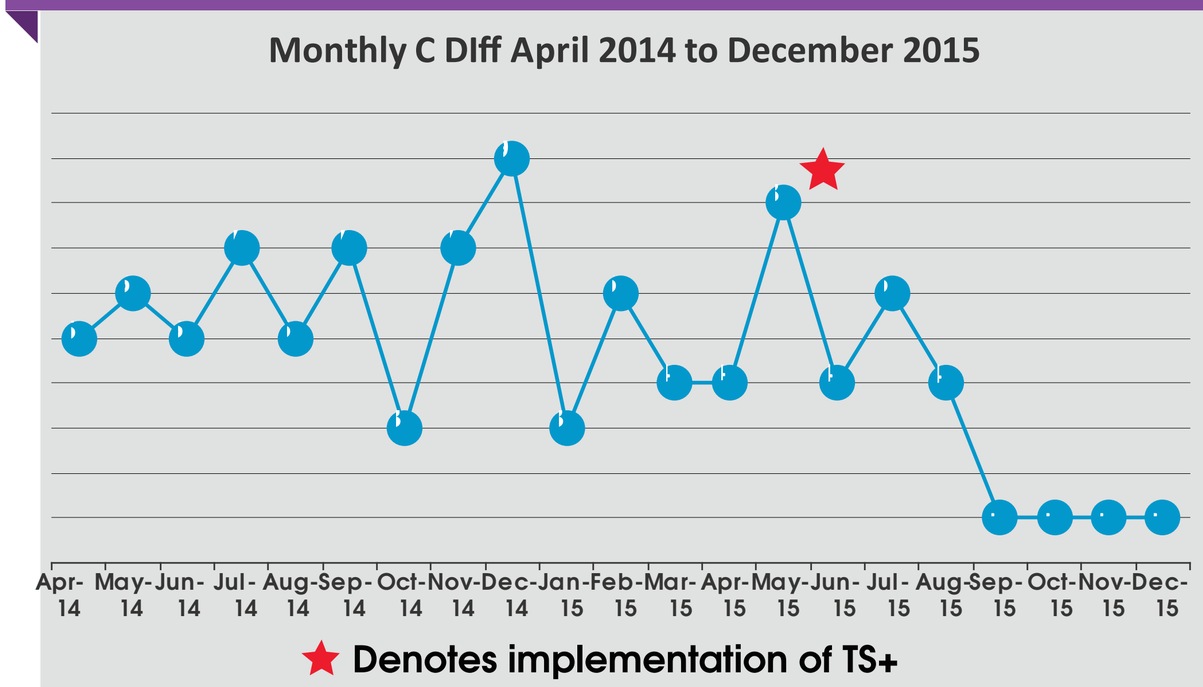


A. IMPROVEMENT IN HOSPITAL HYGIENE



4. Clostridium Difficle rates dropped to below the elusive 3 per month mark for the first time ever;and stayed down at 1 case per month for the next 3 months (see figure B).

B. CLOSTRIDIUM DIFFICLE NEW CASES PER QUARTER, RATES DROPPED



5. New cases of Clostridium Difficle fell almost 50% from an average of 13.3 per quarter during the period Jan 2013 to June 2015 (pre-intervention) to 7 per quarter year to May '16.

6. Clostridium Difficle cases fell to 11 in the first quarter post intervention and again to 1 per month in following 4 months post intervention p=0.001846 (mid –P exact test).

7. Interestingly, there were also no Norovirus or Influenza outbreaks in the hospital in the period July '15 to March '16, despite major outbreaks in other hospitals in the region.

4. CONCLUSION

- The Clostridium Difficle spore forming organism is difficult to control, remaining for months on equipment and in the hospital environment. While antimicrobial stewardship reduces patient susceptibility and choice of disinfectant can play a role in controlling C Difficle, it is well recognised that staff training, meticulous cleaning of equipment and the patient's immediate environment and regular auditing are necessary to prevent outbreaks.
- Using TS+ Medical Audit's, mobile auditing, reporting and training system Sherwood Forest Trust improved compliance with cleaning of patient equipment and the patient's environment. While an exact cause and effect relationship between implementing TS+ Technology System and the sudden drop in C Difficle rates can be difficult to prove, the hospital saw a statistically significant reduction in Clostridium Difficle rates (p=0.006984) and no Norovirus or Influenza outbreaks since implementation.

Reference : 1. Weber DJ, Anderson DJ, Sexton DJ, Rutala WA. Role of the environment in the transmission of Clostridium difficile in healthcare facilities. Am J Infect Control. 2013 May;41(5 Suppl):S105-10.