An Innovative way to reliably reduce Harm, Waste and Variation in elective Surgery

The UK’s first ever prescribing-pharmacist led Theatre Admission Suite (TAS). Ninewells Hospital, NHS Tayside

INTRODUCTION

In keeping with the global trend of an aging population, the proportion of over 75 years old in Scotland’s population, who are the highest users of NHS Services, continue to grow and are expected to increase by about 60% by 2033(1). As older individuals require more medical services relative to their younger counterparts, this trend will therefore cause a significant increase in the demand for surgical services(2). NHS Scotland’s 2020 vision(3) aims to ensure that when these surgical treatments are required, that patients will have the shortest length of stay possible. Day of surgery admission units, which are dedicated pre-operative waiting areas for patients who have been admitted on the day they are scheduled to have their surgery, play a key role in enabling NHS boards and their surgical team to achieve this aim. It enables suitable patients to be admitted on the day of surgery and saving them an unnecessary overnight stay in hospital. These units also allow patients to be admitted to the hospital, prepared for surgery and sent directly to the operating theatre prior to a bed being available on the ward, which has the added advantage that operating lists can start promptly which improves operating theatre efficiency.

PROBLEM

Ninewells hospital has a day-of-surgery admission unit where all medical and prescribing services are provided by ad-hoc cover from junior doctors undergoing a surgical rotation. This very common traditional doctor-dependent model has proven to be unsustainable as it compromised and reduced:

- Quality – evidenced by dissatisfaction among both patients and staff regarding the timeliness of care being provided
- Safety – evidenced by low rates of compliance with the medication safety requirements of WHO theatre check lists
- Efficiency – evidenced by a significant waste in both
- Theatre time due to the units inability to safely gel patients ready and sent to theatre on time therefore causing persistent late starting operating lists
- Ward bed capacity due to the surgeons’ reluctance to admit their patients through the underperforming unit and opting to admit patients directly to the wards instead

METHODS

With full engagement of all relevant stakeholders, a systematic service redesign and skill mix review was undertaken to replace the traditional medical model of ad-hoc junior-doctor cover in the unit with a permanent prescribing pharmacist presence to deliver all prescribing services supported by up skilled nursing staff to deliver most of the traditional medical services such as venipuncture and ECGs.

This new independent prescribing Pharmacist led collaborative working arrangement aimed to reduce:

- Variation by standardising the entire patient admission pathway including manner, time and location of prescribing input
- Harm by optimising pre-operative pharmaceutical care and reducing prescribing and administration errors
- Waste by timely review of patients pre-operatively and early identification & resolution of medication related problems, therefore reducing risk of patient delays and cancellations and ultimately improving efficient use of theatres and beds
- Patient & Staff dissatisfaction using patient and staff surveys to ensure engagement and guide further improvements

OBJECTIVE

Design, develop and test a new and innovative Theatre Admission Suite (TAS) that,

- Integrate the traditional doctor-dependent model with permanently present independent prescribing pharmacists
- Contribute to the Strategic 2020 vision where day-of-surgery admission is the norm and patient-centered care is provided to highest standards of quality & safety
- Improve patient and staff experience of care
- Improve theatre efficiencies

RESULTS

THERAPEUTIC EFFICIENCY

- Baseline data prior to the implementation of the new TAS model show a significant wastage in theatre operating time costing the organisation £665k per month (Figure 1)
- Once the new TAS model was implemented, theatre efficiency steadily and continuously improved to ultimately deliver more than 38% improvement saving the organisation £255k per month (Figure 1)
- The positive impact of the new TAS model on theatre efficiency is confirmed by data collected from the elective orthopaedics theatre which only operates on elective patients admitted through TAS (Figure 2)
- The new TAS model helped improve the theatre efficiency of the elective orthopaedic theatre by a similar 34% (Figure 2)

SAFETY

- 100% compliance with medication safety requirements of WHO theatre check lists

CAPACITY & FLOW

- The success of the new TAS model encouraged the surgeons to admit more of their elective patients through the new unit replacing direct patient admissions to the wards
- More than 44% increase in day-of-surgery admissions (DoSA) to TAS freeing up more than 52 surgical beds on the wards(Figure 3)

DISCUSSION

- This project was successfully designed and implemented using the improvement methodologies of small scale testing with PDCA cycles and using data & patient stories to secure both leadership support and full engagement & ownership of all staff members from different disciplines(3)
- Patient feedback & engagement was strongly encouraged using surveys to support patient-centered care
- The constant presence of independent prescribing pharmacists in the new TAS model provided reliability and removed Variation which helped reduce the associated Waste and Harm
- This project clearly demonstrates that independent prescribing pharmacists can play a key role in delivering the Scottish Government’s 2020 vision in line with the Prescription for Excellence Strategy(4)
- The success of this project led to expansions in TAS to meet growing service needs locally and the Spread of this new model to other surgical sites both in NHS Tayside and other neighbouring boards

Satisfaction

- Completed surveys showed very high levels of satisfaction among both patients and staff with the new TAS model
- Nurses reported that new model is much more structured, reliable, safe and efficient
- Doctors reported that new model is less distracting and allows them to be more efficient and safe on wards
- Patients completed 47 surveys over 3 weeks and “very” or “completely” satisfied with new TAS model of care

Everybody makes you feel at ease and kept informed of everything that is going on. Very good all around. Could not ask for anything better.

“I have noticed a welcome decrease in the number of phone calls to prescribe in TAS. The downside is that our pharmacist hasn’t always been able to be present at the start of the ward round and having a prescribing pharmacist is a massive help on the ward. We need more prescribing pharmacists.”

The new TAS model is more efficient than the old model ever was and one major factor is the introduction of Prescribing Pharmacists. Prior to this we would be waiting hours for FY1s to prescribe and this has a knock on effect & delayed theatre time

“I’ve certainly noticed that I have been bleeped less by the surgery unit and I therefore have had more time to complete tasks for the patients on the ward. This will improve patient care for patients on the ward.”

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References