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Developing a ward round model able to achieve a safer and faster in-hospital course for general surgery patients, based on a daily meeting attended by all key professionals, and where key clinical information is discussed and decided upon, and actions' effectiveness and promptness monitored

Submission date 08/02/2021	**Recruitment status** No longer recruiting	[_] Prospectively registered [_] Protocol [_] Statistical analysis plan [X] Results [_] Individual participant data
Registration date 28/04/2021	**Overall study status** Completed	
Last Edited 28/03/2023	**Condition category** Other	

Plain English summary of protocol

Background and study aims
The need for hospital beds available for patients requiring acute care is a long-lasting issue in the NHS. The aim of this study is to monitor the implementation of a service model based on ward round model able to achieve a safer and faster in-hospital course for general surgery patients, based on a daily meeting attended by all key professionals, and where key clinical information is discussed and decided upon, and actions' effectiveness and promptness are monitored.

Who can participate?
All patients admitted from January to December 2017 at the Department of General Surgery at the Royal London Hospital.

What does the study involve?
Patients do not experience any change in their care and are followed up from admission to 30 days after hospital discharge. Participants are made aware of the ongoing service improvement.

What are the possible benefits and risks of participating?
The SAFER Red2Green methodology had been in use in the NHS hospitals in other specialties for approximately two years before the start of the study. The study does not involve any change in patients’ care so there is no direct risk for the patients. The possible benefit for them is a more focused and structured multidisciplinary care made possible by additional time spent by the staff participating in the board round meetings.

Where is the study run from?
Blizard Institute, Barts and the London School of Medicine & Dentistry (UK)

When is the study starting and how long is it expected to run for?
November 2016 to April 2018

Who is funding the study?
Investigator initiated and funded

Who is the main contact?
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Contact information

Type(s)
Scientific

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Additional identifiers

Study information

Scientific Title
Enhancing a safe general surgery patient flow by a modified 'SAFER Surgery Red2Green' multidisciplinary board round

Acronym
SAFER-Surgery-R2G

Study objectives
The application of the "SAFER Surgery Red2Green" multidisciplinary board round safely enhances general surgery inpatient flow.

Ethics approval required
Old ethics approval format

Ethics approval(s)
The project was commissioned by the hospital trust and approved by the Divisional and Service leading groups and discussed in the standard governance meetings throughout. No formal ethical approval was deemed necessary, given the study was designed as a service improvement exercise with no change in the direct clinical care.

Primary study design
Observational

Study design
Observational before and after study

Study type(s)
Other

Health condition(s) or problem(s) studied
Developing a ward round model able to achieve a safer and faster in-hospital course for general surgery patients

Interventions
This is a before-after study, comparing the year 2016 (pre-intervention) versus the year 2017 (post-intervention). The service improvement project was approved by the division of surgery and perioperative care, and is reported according to the SQUIRE 2.0 standards. The study is divided into three phases:
1. Clinical protocol definition
2. Feasibility study and protocol refinement
3. Pilot study

1. Clinical protocol definition
The clinical protocol for the study was designed in November 2016 based on available evidence and experiences, Barts Health Trust policies and projects, and by adapting the SAFER R2G to the surgical environment. The general surgery departmental audit meeting attended by all grades of medical staff approved the preliminary protocol in December 2016, which had the following key principles:

1. Systematic communication of key care plan from the afternoon ward rounds by each surgical firm to the nurse in charge so that this information can be included in the evening handover to the night team
2. Daily (Monday to Friday) multi-disciplinary senior team board round at 10:00 AM addressing:
2.1. Updated key care plan aimed at early discharges
2.2. MDT appropriateness evaluation of each day
3. Twice-weekly attendance of the board round by the hospital management and site managers
4. Weekly review of delays
5. Three consultant surgeons and a specialist nurse led the project

Study participants are not subject to any change in their respective care, and their follow-up is set from admission date to 30 days after hospital discharge. Participants are made aware of the ongoing service improvement.

2. Feasibility study
The 3 months' feasibility phase of the structured board rounds commenced in January 2017 and was chaired by the three consultant surgeons and specialist nurse leading the project. Monthly departmental audit meetings were used to provide progress reports to the entire department. All admissions to the general surgery ward from January 1st 2017 were included in this feasibility study, irrespective of the base specialty. This included some of the "outlier patients" who were under the care of vascular and trauma surgery, and orthopaedics, hosted in emergency in the general surgery ward due to bed shortage in the respective services. However, only general surgery consultants participated in the board rounds.
The study team assessed the safety and feasibility of the project at weekly team meetings and made early revisions of the outcome measures. The final study protocol was presented to and approved at a consensus meeting at the departmental audit day.

3. Pilot study
The 9-month pilot phase of the study was conducted from 01/04/2017 to 31/12/2017. The on-call consultant from the night before chaired the daily MDT board round so that this activity followed the post-emergency take ward rounds. The prospective audit of the MDT board round collated information on performance progress and attendance by different team members and of the communication of the daily surgical key care plan to the nurse in charge. The 12 months after-intervention period ended on 31/12/2017.

Study of the interventions
A set of primary and secondary measures were chosen to assess the impact of the SAFER Surg R2G model, while addressing its sustainability. These were monitored weekly, to ensure their accuracy and completeness. The researchers compared the 12 months before versus 12 months after intervention periods, pairing weekly values of the two groups to reduce the impact of seasonal changes in the demand.

Statistical analysis
The results are expressed as mean ± standard deviation, median, counts or percentages. The Shapiro-Wilk test was used to assess the normal distribution of continuous variables. Categorical variables were analysed with x2 test or Fisher's exact test when appropriate. Comparisons between continuous variables were performed with the Mann-Whitney-Wilcoxon rank-sum test. Cumulative probability of discharge was evaluated by using Kaplan-Meier product-limit estimator, with log-rank test to compare time-event curves. Statistical significance was assumed in each two-tailed test with p-value

Intervention Type

Other

Primary outcome(s)
Hospital stay and readmission outcome measures monitored weekly using the hospital Admission – Transfer – Discharge database for 12 months before versus 12 months after the intervention period:
1. Overall and weekly ward discharges and probability of discharge, chosen as overall flow measure; automatically computed by the hospital admission systems with no gaps
2. Length of stay of general surgery patients (from admission to discharge), as an overall measure of the patient pathway

Key secondary outcome(s)
Monitored weekly using the hospital Admission – Transfer – Discharge database for 12 months before versus 12 months after the intervention period:
1. Elective surgery cancellations due to ACCU (ICU/HDU) and ward bed non-availability from the Department Administrative database
2. Feasibility of a “theatre go” policy (yes/no) as a marker of a stabilised trend of sufficient postoperative care capacity, from the Department Administrative database
3. ACCU (ICU/HDU) step-downs to the general surgery ward
4. Quality control measures: 30-day readmission rates (safety), ward bed capacity utilisation (efficiency)
5. Qualitative assessment: satisfaction rates by MDT board round participants per category. A qualitative measure on the project effectiveness and work environment appreciation, monthly providing a 1-5 score (mean %) to the following question: “Are you satisfied by the MDT board round as an occasion to share and action upon the patients’ issues and expedite their progress safely?”

Completion date
01/04/2018

Eligibility

Key inclusion criteria
All admissions to the general surgery ward from January 1st to December 31st 2017

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Total final enrolment
1986

Key exclusion criteria
Does not meet inclusion criteria

Date of first enrolment
01/01/2017

Date of final enrolment
31/12/2017

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Blizard Institute, Barts and the London School of Medicine & Dentistry
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Sponsor information

Organisation
Barts Health NHS Trust

ROR
https://ror.org/00b31g692

Funder(s)

Funder type
Other

Funder Name
Investigator initiated and funded

Results and Publications

Individual participant data (IPD) sharing plan

The data-sharing plans for the current study are unknown and will be made available at a later date

IPD sharing plan summary

Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	27/03/2023	28/03/2023	Yes	No
Preprint results		03/09/2021	13/01/2022	No	No