Improving rates of daycase laparoscopic cholecystectomy: Communication is key

Mary Venn, Benjamin Butler, Frances Hughes

Why do day surgery rates matter?
● For Patients attending a hospital for a planned day case procedure, an unexpected overnight stay may indicate an operative or post-operative complication as well as cause anxiety.
● For the Trust an unplanned overnight stay puts additional demand on beds, staff and incurs further costs. It may also influence elective operation cancellations the following day.

Why focus on Laparoscopic Cholecystectomy daycase rates?
The Healthcare Commission identified Laparoscopic Cholecystectomy as one of the 25 operations that can usually be carried out safely as a daycase but the national day case rate for laparoscopic cholecystectomy is 50.91%. The rates of daycase laparoscopic cholecystectomy have increased nationally from ~43 ~ 51% in 2 years showing that changes are enabling safe day case operating nationally. Laparoscopic cholecystectomy has the second highest estimated financial savings opportunity nationally of any single operation of ~£725k per quarter, it
- is a common operation
- currently has a relatively low day case rate i.e. potential for significant improvement
- is relevant to the General Surgery department at the Royal London Hospital as we have a significant laparoscopic cholecystectomy case load.

Audit Aims
- To establish the local rate of daycase laparoscopic cholecystectomy
- To identify and compare with national standards
- To identify shortfalls and implement change
- To re-audit and assess progress

Audit Standard
The NHS Plan, 2000 envisaged 75% of all elective operations to be carried out as day cases. Targets from the NHS are for all trusts to reach at least the day case rate standard set by the upper quartile, in the first quarter of the same year therefore targets will change according to rates achieved. Other units have demonstrated acceptable rates for unplanned overnight admissions of less than 10%.
Locally, the reported Barts Health NHS Trust laparoscopic cholecystectomy daycase rate was 59.72%, while London’s rate overall is 46.87% (see Figure 1). The upper quartile rate for the UK is 64% which we will call the auditable standard.

Methods
Inclusion criteria: all adult patients (>18 years) undergoing elective (NICEPOD 4) Laparoscopic Cholecystectomy at The Royal London Hospital within the audit period: 03/11/2014 – 20/02/2015 (16 calendar weeks). Exclusion criteria: planned overnight stay.
Data collection was both prospective and retrospective using physical and electronic patient records.

References
2. Day Surgery – Trust Day Surgery as the Norm. (NHS Institute for Innovation and Improvement, 2006-2015). Available at: http://www.institute.nhs.uk/quality_and_service_improvement_tools/qsi_and_service_improvement_tools/day_surgery_/treated_day_surgery_as_the_norm.html

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Key point:
- The success for daycase laparoscopic cholecystectomy can be significantly improved with simple communication measures resulting in substantial financial benefit.

Results
54 elective laparoscopic cholecystectomies were planned in the 16 week audit period. 40/56 patients were female with a mean age 45.8 (range 23-70) years. 41/56 cases were planned as day case operations (31 female, mean age 44 years) and 13/54 for overnight stay (9 female, mean age 51.4years). 29/41 (70.7%) of planned day case patients were discharged the same day, but the overall rate for laparoscopic cholecystectomies including planned overnight stays was 53.7% missing the target of 64%.
The most common reasons for unplanned overnight stay were pain or a drain in situ but urinary retention, conversion to open and bile leak were also factors (see Table 1).
In several cases it was not clear which team member – nurse or surgeon – had made the decision for unplanned overnight admission and we could not elicit whether every patient was reviewed by the surgeon on the same day post-operatively in every case where an unexpected overnight stay occurred.

Implementing change
We disseminated the audit findings and implemented several changes to local practice primarily by enhancing communication flow. This was achieved by presentations at the departmental Clinical Governance meetings and the Daycase Unit’s nursing staff meeting. The schedulers were also requested to send peri-operative information to patients with their operation invitation letters. The following actions were promoted;
- Routine post-operative surgical review to ensure discharge home where appropriate
- Real-time bleep numbers on operation notes for nursing staff to contact team with any concerns or changes to the plan
- Nursing staff to check with surgical team before requesting an inpatient bed
- All patients to receive the written peri-operative information

Table 1: Primary reasons for unplanned overnight stays in patients planned for day case operations

<table>
<thead>
<tr>
<th>Primary reason for unplanned stay</th>
<th>%Audit</th>
<th>%Re-audit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Urinary retention</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Abdominal drain</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Bile leak</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Conversion to open/technically difficult</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Bronchospasm, AE NSTEMI</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Unknown</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>7</td>
</tr>
</tbody>
</table>

Re-audit
After a 5 week period to implement changes a 16 week re-audit was undertaken. 54 laparoscopic cholecystectomies were planned with 38/54 (70.4%) planned daycases. There were no significant differences between any demographic parameters between patients in data collection periods 1 and 2. 31/38 (81.6%) planned daycases were discharged the same day and of the 16 patients planned to stay overnight, 5 went home the same day making the overall rate 66.7% (36/54) meeting the 64% target (see Table 2).

Table 2: Primary and re-audit results

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Primary Audit (54 patients)</th>
<th>Re-audit (54 patients)</th>
<th>Sig Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates (16 weeks)</td>
<td>03.11.2014 – 20.02.2015</td>
<td>30.03.2015 – 16.07.2015</td>
<td></td>
</tr>
<tr>
<td>Mean, age (range)</td>
<td>45.8 (23-70) years</td>
<td>47.6 (22-80) years</td>
<td></td>
</tr>
<tr>
<td>Female : male caselod</td>
<td>74.1 : 25.9 %</td>
<td>75.3 : 24.1 %</td>
<td></td>
</tr>
<tr>
<td>% (number) booked as day case</td>
<td>75.9% (41/54)</td>
<td>70.4% (38/54)</td>
<td></td>
</tr>
<tr>
<td>% (number) successful day case</td>
<td>70.7% (29/41)</td>
<td>81.6% (31/38)</td>
<td><strong>p &lt; 0.02</strong></td>
</tr>
<tr>
<td>Overall lap cholecys surgery rate</td>
<td>53.7% (29/54)</td>
<td>66.7% (36/54)</td>
<td><strong>p &lt; 0.01</strong></td>
</tr>
</tbody>
</table>

Conclusions
Our results demonstrate that a statistically significant improvement in our unit’s performance of daycase laparoscopic cholecystectomies was achieved with simple interventions – which can be continued ... and patients, bed status and budgets have all benefitted.
Inexpensive measures such as discussions with nurses, better patient information and increased surgical team presence have the potential to reduce patient anxiety, reduce beds and yield significant financial benefits. Surgical teams, nurses and patients should all be aware of the pre-operative plan for either daycase or inpatient stay. Indications for unexpected overnight stays are often multi-factorial and we do not always know who is making the decision or whether clinical input is sought in the decision-making process. This study is also limited by its small size.
Laparoscopic cholecystectomy daycase rates both locally and nationally still have room for improvement to optimise efficiency and cost savings particularly if we are to achieve the NHS Plan’s target of 75% of all elective operations to be done as daycase.