7 COMPLICATIONS, INCIDENT REPORTING AND GOVERNANCE ARRANGEMENTS

Pleural interventions (especially tube drain insertion) are associated with patient safety incidents frequently enough to have been the subject of two national patient safety alerts in 2008 and 2020.[20, 21]

A British Thoracic Society audit showed that 69/111 (62.2%) hospitals reported at least one safety incident relating to pleural procedures (a third of which resulted in severe harm and a fifth in catastrophic harm or death) over a three-year period.[22]

A recent review of patient safety events has shown that harm, including death, as a direct result of complications of chest drain insertion, continues to occur.[23] This evidence supported the rationale for establishing the study.

Local risk management systems are used in hospitals to record and investigate patient safety events. These systems are separate from the electronic patient record. They are searchable using keywords and it should therefore be possible to use them to identify incidents related to a specific procedure such as chest drain insertion.

Since 2024, in England, all of the systems in use are designed to upload data to the Learn from Patient Safety Events (LFPSE) system in real time.[24] Within each organisation, reporting of an individual incident remains largely a voluntary process. However, organisations with a culture that leads to high levels of reporting of safety events (including those with a low level of harm and near misses) have been shown to be safer.[18]

For this study, in order to understand both the number of incidents being reported, and whether there were more opportunities for learning, organisations were asked to provide data on clinical incidents that occurred in patients undergoing a pleural procedure.

Data were provided by 47/122 (38.5%) hospitals about incidents reported in patients undergoing pleural procedures (noting that these were not necessarily events directly related to the procedure). An incident was reported in 1,601/7,747 (20.7%) patients.

Organisational data showed that Datix was the most used risk management system amongst the study participants (124/173; 71.7%) (T7.1).

T7.1 Systems used locally for incident reporting	Number of hospitals	%
Datix (RLDatix/Datix Cloud IQ)	124	71.7
InPhase/Incident Oversight	24	13.9
Ulysses 2000 Ltd	17	9.8
Radar Healthcare (Smartgate Solutions Ltd)	8	4.6
Other	2	1.2
Total	**173**	

Organisational data

The data also suggested that there was a perception that it was not easy to extract data (or to analyse themes or long-term trends in safety events) from the risk management systems used (T7.2).

T7.2 Functions of the learning resource management system	Number of hospitals	%
Can be easily searched to extract data on key fields, e.g. searching 'chest drain'	83	48.0
Can be used to identify long-term trends in patient safety/improvements in care	62	35.8
Allows managers to easily provide feedback to the reporter on actions taken	58	33.5
Automatically uploads or links to national databases to streamline mandatory reporting	36	20.8
Provides automated tools to help investigators identify common themes	26	15.0
Is bi-directionally linked with the electronic patient record, allowing for clinical data (e.g. admission dates) to be extracted	12	6.9
Is linked to other routine clinical information to enrich analysis without increasing the burden	6	3.5
None of these	5	2.9

Organisational data; n=173

There was also limited knowledge of the automated upload function to the LFPSE system (36/173; 20.8%). This may explain why only 42 hospitals were able to provide data on safety events linked to the clinical cases submitted for review.

It may also explain why only 49/173 (28.3%) hospitals (55 unknown) had interrogated their incident reporting data to learn from incidents related to pleural procedures (data not shown). A better understanding of LRMS functions would help to improve how these systems are used locally to learn from incidents.

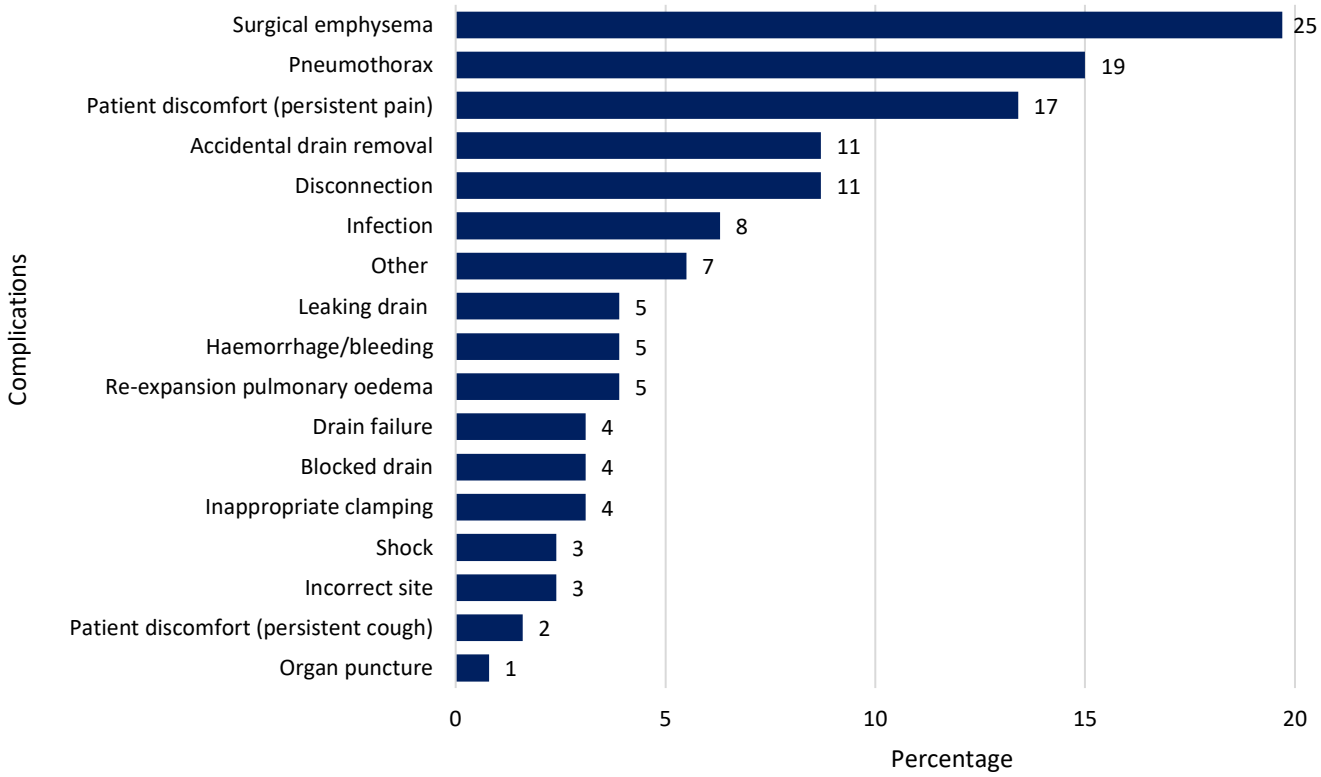
Complications of the pleural procedure

Reviewers identified complications on review of 127/542 (23.4%) patients (T7.3). The reviewers considered that 48/127 (37.8%) complications were reportable as a clinical incident, and of these, 37/48 patients had suffered harm as a result. There was evidence in the case records that only four of these events had been reported. This may reflect an acceptance that some complications are 'acceptable' or 'normal' and could be considered a lost opportunity to learn from these events and reduce future harm to patients. The complications identified were dealt with appropriately in 78/100 cases.

T7.3 Pleural procedure-related complications	Number of patients	%
Yes	127	23.4
No	415	76.6
Subtotal	**542**	
Unknown	21	
Total	**563**	

Case review data

The most common complications identified were surgical emphysema and pneumothorax (F7.1).



F7.1 Complications of the pleural procedure

Case review data, n=127

Opportunities for learning

The reviewers stated that additional learning was possible in 96/423 (22.7%) cases reviewed (unknown in 140). This included choice of procedure, safety processes (such as LocSSIPs), consent, post-procedure care including drain removal, and management of anticoagulants around the time of the procedure. The data on reportable incidents outlined above confirms that there are multiple opportunities being missed to learn from and improve the care of patients treated with a chest drain.

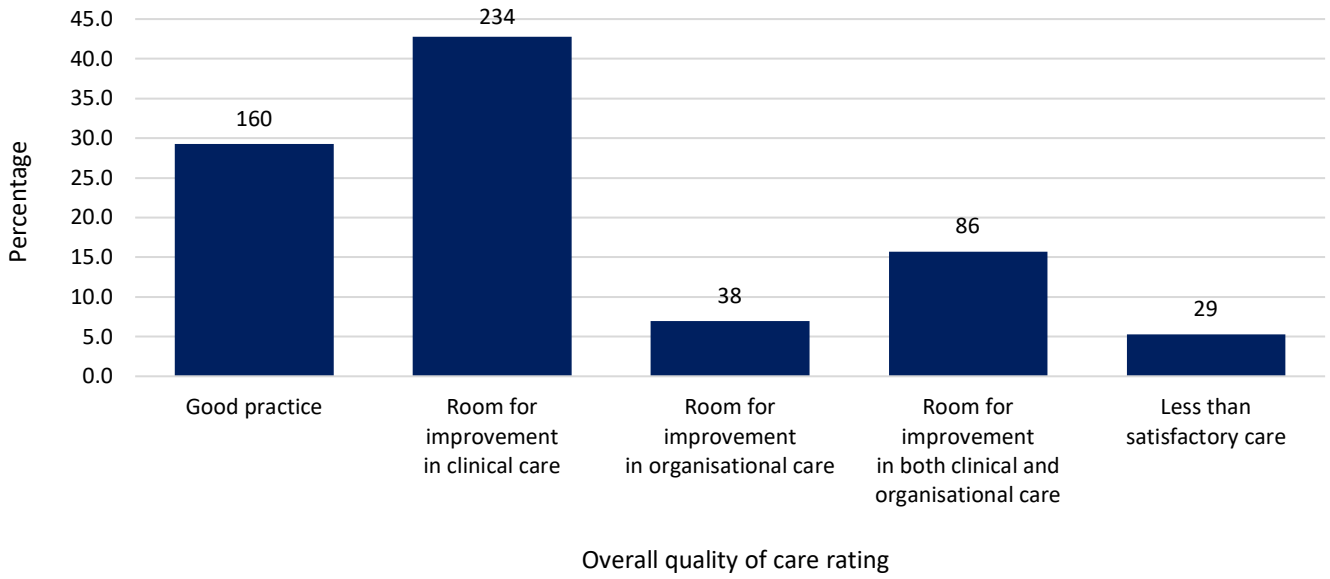
Clinical audit and quality improvement are other approaches that can be used to ensure learning and improvement at a local level. There were 70/153 (45.8%) hospitals that reported a local audit approach. However, free text comments noted that this approach was commonly limited to procedures undertaken by the pleural team and would therefore systematically exclude procedures undertaken out of hours, which were the focus of this review. Added to the perceived challenges in extracting patient safety data from reporting systems, this suggests there is a gap in governance arrangements and surveillance of out of hours pleural procedures that needs closing.

Where local clinical audit was undertaken, it was used to update local training and procedural protocols in 66/70 hospitals, results were fed back to clinicians at 61/70 hospitals, and findings were fed back to hospital leadership and relevant committees in 54/70 hospitals.

There is an opportunity to improve practice by widening the focus of local audit and quality improvement activity to include pleural procedures undertaken in all locations and by all specialties.

Overall quality of care

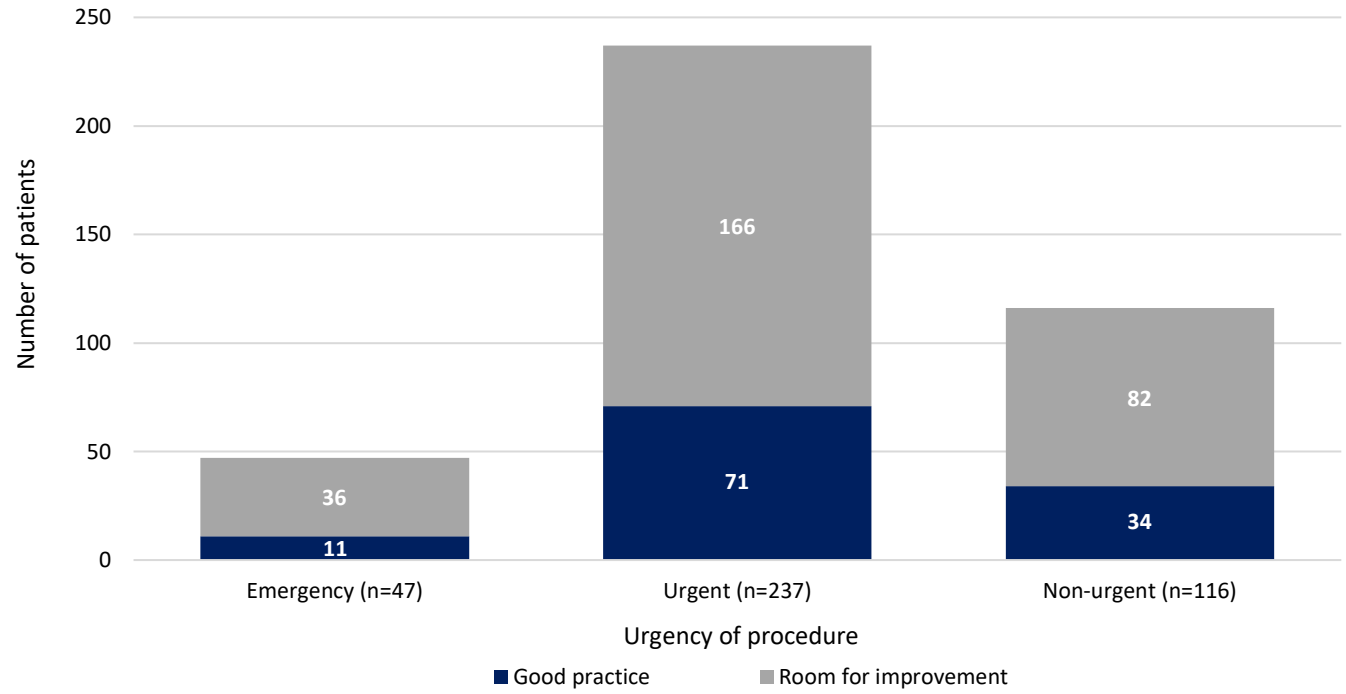
The reviewers rated the overall quality of care as good in 160/547 (29.3%) patients (unknown in 16). There was room for improvement in clinical care in 320/547 (58.5%) patients and in the organisation of care in 124/547 (22.7%). Care was rated as less than satisfactory for 29/547 (5.3%) patients (F7.2).



F7.2 Overall quality of care

Case review data; n=547

Although the urgency of the procedure was recorded in the clinician questionnaire for 400/563 (71.0%) patients, good practice was observed in patients treated with all degrees of urgency. The proportion rated as good practice was: emergency, 11/47 (23.4%); urgent, 71/237 (29.9%) and non-urgent, 34/116 (29.3%) (F7.3).



F7.3 Urgency and overall quality of care

Case review data; n=400