Fourth Patient Report of the National Emergency Laparotomy Audit (NELA)

December 2016 to November 2017

EXECUTIVE SUMMARY

RCoA
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NIAA National Institute of Academic Anaesthesia
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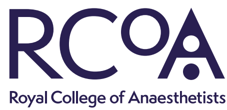
NELA
National Emergency Laparotomy Audit

November 2018



Fourth Patient Report of the National Emergency Laparotomy Audit (NELA)

December 2016 to November 2017

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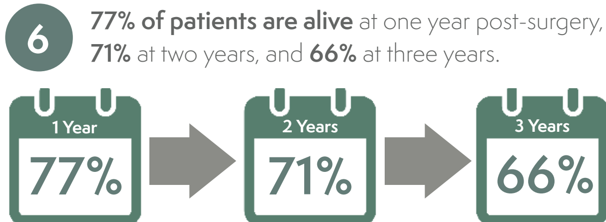
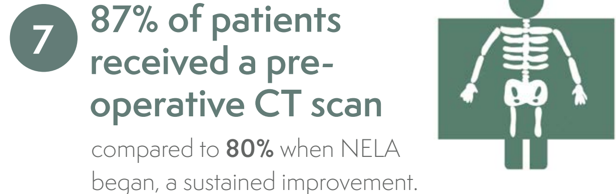
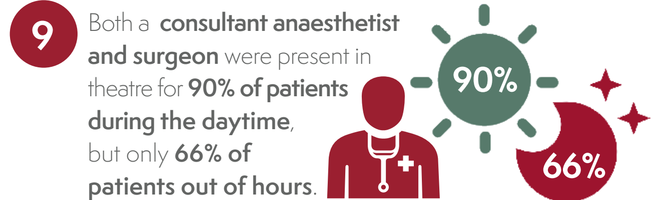
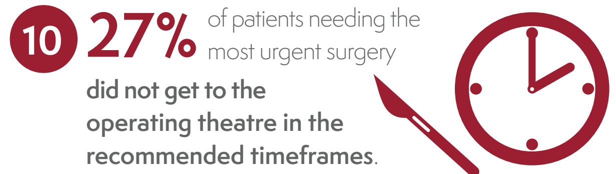
An emergency laparotomy (emergency bowel surgery) is a surgical operation for patients, often with severe abdominal pain, to find the cause of the problem and treat it. General anaesthetic is used and usually an incision made to gain access to the abdomen. Emergency bowel surgery can be carried out to clear a bowel obstruction, close a bowel perforation and stop bleeding in the abdomen, or to treat complications of previous surgery. It is one of the most risky types of emergency operation.

These results are from 2016-17, the 4th year of the National Emergency Laparotomy Audit.









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This Report was prepared by members of the National Emergency Laparotomy Audit Project Team on behalf of the Royal College of Anaesthetists. The members of the team were

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The NELA project team and Board would like to thank the Royal College of Radiologists and The Sepsis Trust for their contributions to the report.

The NELA Project Team and Board would also like to thank the members of the NELA Clinical Reference Group for helping to shape the dataset and Report.

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1 FOREWORD

Each year almost 30,000 laparotomies are performed across England and Wales. Many of these patients are at high risk of death or serious complications, and all of them warrant highly skilled teams, trained to look after them, delivering high-quality, safe, and effective care at every moment of their hospital stay.

Patients who undergo emergency laparotomy will meet many different healthcare specialists during their time in hospital, from the nurses triaging them in the emergency department, to the junior doctors clerking them on the surgical admissions unit, to the consultant anaesthetists assessing them before their surgery.

But there is also a team of dedicated staff who they will rarely have the opportunity to meet in person, including consultant radiologists and their teams who provide expert interpretation and clinical reports of their CT scans, and the operating theatre team that take care of them while they are asleep. This team includes not only anaesthetists and surgeons, but also a number of other professionals without whom emergency surgery could not be done – radiographers, operating department practitioners, anaesthetic nurses, scrub nurses, recovery nurses, healthcare assistants, and theatre porters. Each member of this wider multidisciplinary team has a fundamental role in making sure their patients have the best possible care. The patient is at the centre of their work, and it is this that drives and inspires them.

The National Emergency Laparotomy Audit not only provides the data to allow clinical teams to assess and benchmark their care against national standards, but also actively encourages teams to use their own data to drive local quality improvement (QI). NELA aims to raise awareness of QI methodology to support this, for example, by sharing learning resources on the NELA website and running a series of regional workshops in England and Wales for the multidisciplinary teams working with emergency laparotomy patients. QI is everyone's business, including the 'unsung heroes' behind the scenes. Through NELA, theatre teams have been empowered to lead and support changes, and this has been key in improving the care we can provide for our patients. This regional engagement will grow with the development of emergency laparotomy collaboratives, led by the Academic Health Science Networks (AHSNs) throughout England and Public Health Wales in 2018–2019. It is also anticipated that the introduction of radiology NELA leads at hospitals, who will work as part of this team, will bring further improvements, and lay the foundations for increasing collaboration with other specialties such as emergency medicine and with community practitioners such as GPs.

In the meantime, this means that our patients and their families can be reassured that, once they leave the more familiar environment of a hospital ward to come to the operating theatre for their emergency laparotomy surgery, they will be looked after in as caring and compassionate a manner while they are asleep as when they are awake on the wards, safe in the knowledge that all members of the theatre team from anaesthetists to scrub nurses, and operating department practitioners to surgeons, are working together to make sure patients receive the highest quality care and to contribute to the best possible patient outcomes.

NELA teams of St James's University Hospital, Leeds,
University College London Hospital, Queen Elizabeth Hospital, Birmingham
and Maidstone & Tunbridge Wells Hospital

November 2018

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2 EXECUTIVE SUMMARY

Overview

1 This is the fourth Patient Report of the National Emergency Laparotomy Audit (NELA), commissioned by the Healthcare Quality Improvement Partnership, which is an ongoing clinical audit of adult patients having emergency bowel surgery. This 'state of the nation' report which is funded by NHS England and the Welsh Government, presents information about the care received by 23,929 patients (22,173 located in England and 1,756 in Wales) who had surgery between 1 December 2016 and 30 November 2017. This represents around 83% of all patients that underwent this surgery in 179 hospitals.

2 Many of the outcomes, standards and ratings are publicly reported on an annual basis on the MyNHS website and are used by the Care Quality Commission (CQC) for hospital inspections. NELA is a mandatory clinical audit for NHS England Quality Accounts.

3 NELA is committed to supporting clinical teams and managers to apply quality improvement methods to improve care for patients undergoing emergency laparotomy.

Key points at a glance

Patient outcomes

4 30-day postoperative mortality has improved from 11.8% when the audit started in 2013, to 9.5%, representing around 700 lives now saved each year in comparison with 2013.

5 One hospital was identified as having unexpectedly high risk-adjusted mortality rates.

6 Longer-term patient survival is reported for the first time. Overall mortality rates were 23% at 1-year after surgery, 29% at 2 years, and 34% at 3 years following surgery, but were substantially higher in high risk groups.

7 Average length of stay has fallen further to 15.6 days. This fall from 19.2 days in Year 1 represents an annual saving to acute hospitals of £34million.[†]

8 6.3% of all emergency laparotomy patients had their surgery for a complication of a recent elective procedure within the same admission, 6.0% of all emergency laparotomy patients had an unplanned return to theatre after initial emergency laparotomy and 3.4% of patients had an unplanned admission to critical care, with variation seen between hospitals.

Patient care

9 NELA allows hospitals to quality-assure their service by comparing care against published standards that cover the timeliness of care, delivery of care according to assessment of risk, and seniority of the clinician involved. The standards reflect the multidisciplinary involvement in the care pathway, which potentially includes input from emergency departments, acute admissions units, radiology, surgery, anaesthesia, operating theatres, critical care, and elderly care. It is essential that these multidisciplinary areas collaborate to improve care.

10 The proportions of all patients receiving care that met key standards of care are summarised in Figure 2.1, and the proportion of hospitals that met key standards of care are shown in Figure 2.2. The degree to which these standards were met varied between hospitals.

11 Detailed comparative data for individual hospitals are presented throughout the main report. Individual annual and quarterly hospital reports can be downloaded here.

12 Improvement has been seen in the following areas:

a 75% of patients now receive an assessment of risk (up from 71% last year, and 56% in Year 1)

b 95% of patients had input from a consultant surgeon and 86% had input from a consultant anaesthetist prior to surgery

c consultant presence during surgery is at its highest level since the audit commenced; for high and highest risk patients, a consultant surgeon is present during surgery 92% of the time, a consultant anaesthetist 88%, and both consultants 83% of the time

d 87% of highest risk patients are admitted to critical care following surgery.

[†]Based on 30,000 patients annually with an excess hospital bed day cost of £313/day (page 5).

13 There are some areas that have shown little improvement over four years. We are calling for urgent action to address these areas:

a only a quarter of patients suspected of sepsis on admission received antibiotics within the recommended 60 minutes

b more patients are now receiving a CT scan before surgery. Of those that had a CT scan, preoperative reporting by an in-house consultant was 73% (64% of all emergency laparotomy patients). This year's report also presents new information on accuracy of reporting of CT scans for emergency laparotomy. This varied between hospitals from 100% to 78%

c the proportion of patients arriving in the operating theatre within appropriate timeframes has remained static at 82% (almost unchanged since Year 1). Of greater concern is that the figure for the most urgent patients (requiring surgery within two hours) has fallen from 76% to 73%

d while intraoperative consultant presence is at its highest level overall, out-of-hours presence remains lower. This is particularly concerning given that a greater proportion of high risk and highest risk patients have surgery between 6.00pm and 8.00am

e emergency laparotomy remains a procedure that is associated with increasing age, but only 23% of patients aged over 70 received elderly care input

f the data quality for some hospitals remains relatively poor and this is likely to hinder attempts to improve care. Some hospitals were able to provide data on timeliness of interventions for only 23% of their patients.

New developments

14 For Year 4, we developed new areas of NELA data collection, which we present in this report. These include:

a the specialty under which patients were admitted, allowing us to comment on whether this was associated with differences in the care patients subsequently received

b information on a patient's place of residence before surgery, and discharge destination, providing some assessment of changes to short term dependency

c greater information on preoperative consultant input by surgeons, anaesthetists and intensive care doctors.

15 For the first time, NELA data is being published at AHSN level in England and for Public Health Wales, as well as at hospital and national levels. Such AHSN reporting will inform collaborative working by hospitals to improve care in their region, by sharing best practice.

16 We have changed the way in which we make recommendations. These are grouped into overarching themes, with accompanying actions for different audiences, against which we have set suggested timeframes by which these actions should be completed.

17 The Royal College of Surgeons 2011 document *The Higher Risk General Surgical Patient*[1] document is being reviewed in 2018, and it is anticipated that this may lead to updated standards on the way high risk patients are defined. This report has been able to include an overview of the implications of possible changes, especially with regard to admission to critical care.

18 There is a proposal to introduce an emergency laparotomy Best Practice Tariff (BPT) in 2019. The BPT draft proposal will require providers to develop and implement a multidisciplinary pathway for patients potentially undergoing an emergency laparotomy. The proposed metrics cover consultant presence in theatre and admission to critical care for high risk patients.

19 We are producing a 'how to …' guide to help providers establish patient support groups in their area for patients undergoing emergency surgery.

20 For Year 5, additional questions have been included on:

a assessment of frailty

b presence of learning disability among patients

c planned and unplanned returns to theatre.

Maximising the value of NELA data

21 NELA makes data readily available to local clinicians, managers, and commissioners to support quality improvement activity, so that changes to the service can be monitored in an ongoing fashion to facilitate improvements in care.

22 We publish freely available quarterly reports showing hospital progress and performance against the national picture, to reduce the timescale for reporting, and to facilitate regular local data feedback.

23 Clinicians and audit staff can download their hospital's full dataset on demand, as an Excel spreadsheet for easy analysis and monitoring of trends in outcomes and performance.

24 Real-time dashboards are available that show the latest hospital data and enable local teams to see both temporal trends and the relationship between local and national performance. NELA will continue to develop these dashboards in collaboration with local clinicians.

25 NELA has started to produce 'Excellence and Exception' reports that allow clinicians to easily identify patients in whom all standards were met, and patients who died where standards were not met. This allows clinicians to easily review notes describing patient journeys that highlight good practice or areas for improvement. Such reports can be used to enhance hospital clinical governance and local mortality monitoring activities and to implement Learning from Deaths, and support work on the National Mortality Case Record Review programme.

26 NELA is collaborating closely with three *Getting it Right First Time (GIRFT)* initiatives for general surgery, anaesthesia and perioperative medicine, and intensive and critical care. GIRFT teams are using NELA data and reports in their 'deep dive' hospital visits, to improve understanding of care delivery at a local level. We have produced guidance to facilitate local leads in accessing and presenting their NELA data for their GIRFT 'deep dive' visit.

27 NELA ran eight regional workshops for multidisciplinary teams working on emergency laparotomy related care, to share best practice, QI methodology, and better use of NELA data for improvement. The presentations and resources from these workshops are freely available on the NELA website.

28 NELA is collaborating with the Academic Health Science Networks in England, and Public Health Wales, to work alongside the Emergency Laparotomy Collaborative. These breakthrough collaboratives will help support clinicians to work with local colleagues in their networks to share best practice and improve patient care.

29 NELA data has been linked with data from the National Bowel Cancer Audit, and the Intensive Care National Audit and Research Centre (ICNARC) casemix programme. Analysis of these linked datasets will provide a greater understanding of patients undergoing emergency laparotomy who have bowel cancer, and patients who are admitted to intensive care. These findings will appear as separate publications.

30 We continue to collaborate with other professional organisations and researchers on projects such as:

   a development of Patient-Reported Outcome Measures (PROMs) for patients undergoing emergency laparotomy

   b additional analyses of cohorts of patients with different diseases who undergo emergency laparotomy

   c supporting research into new treatments and technologies that might benefit patients undergoing emergency laparotomy.

Figure 2.1 Proportion of all emergency laparotomy patients in Year 4, who had surgery between December 2016 and November 2017, meeting key standards

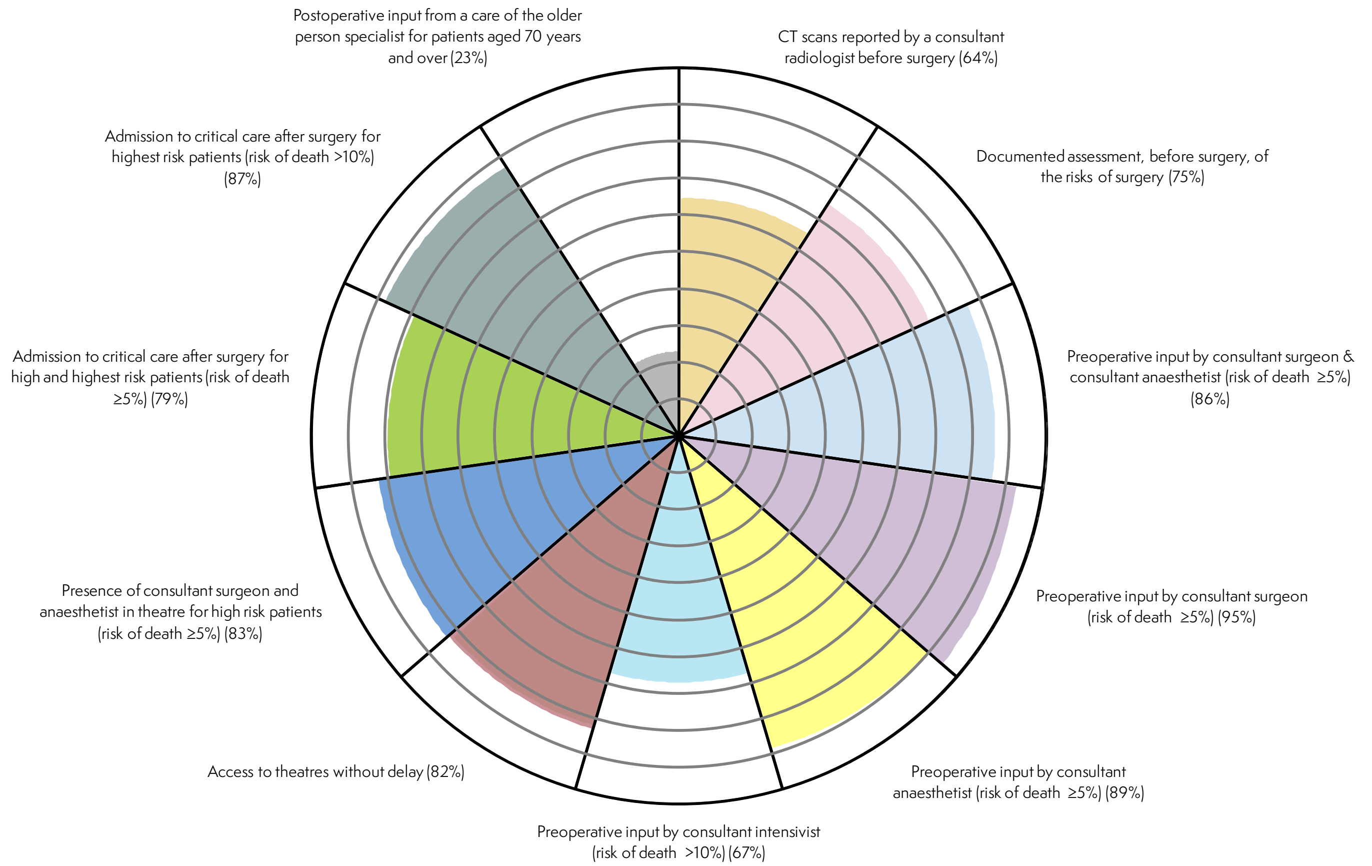

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Figure 2.2 Proportion of *hospitals* in Year 4 meeting key standards

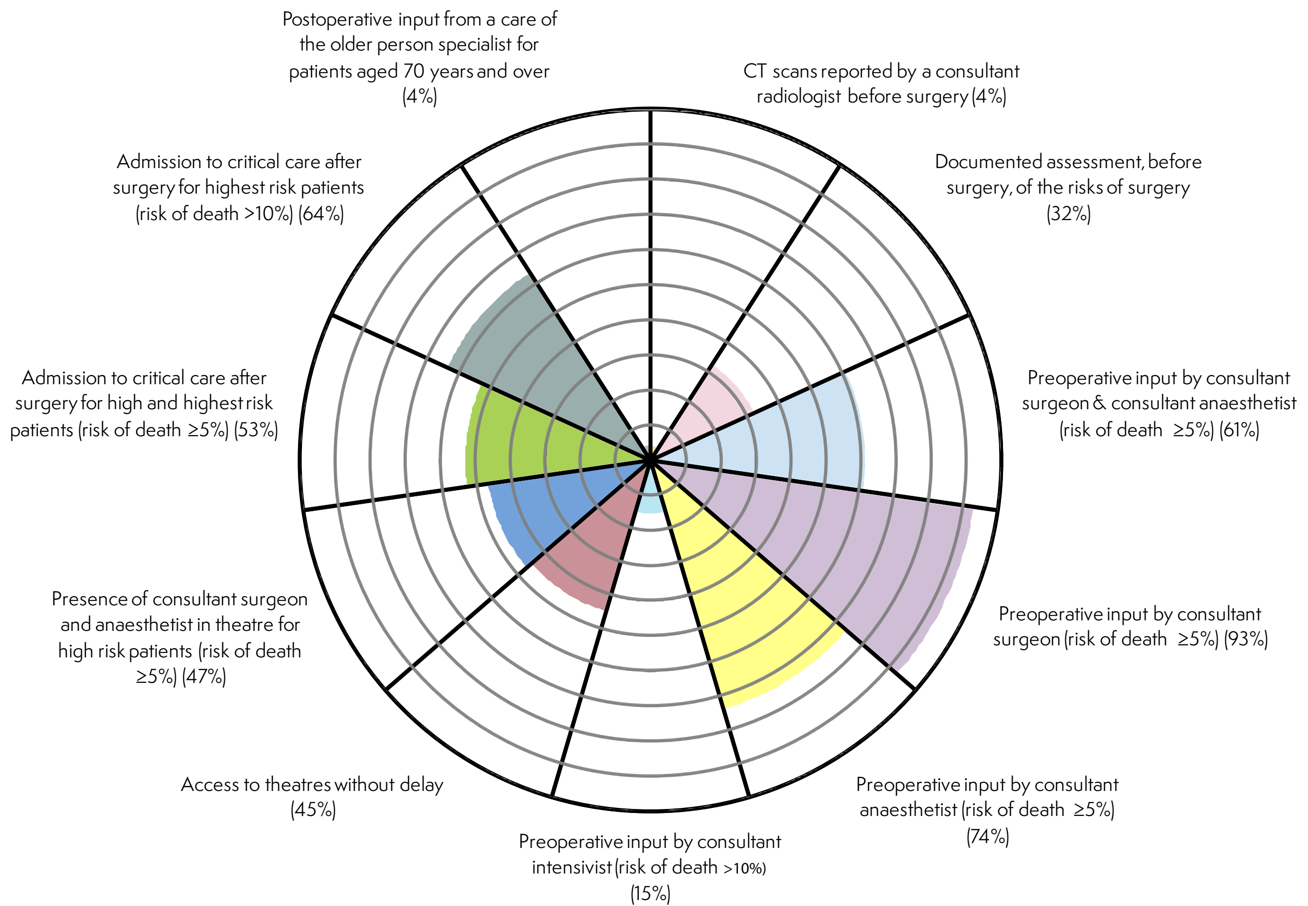

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Table 2.1 Comparison of the number of hospitals rated Green* in the NELA Patient Reports for each key standard (only hospitals with at least 10 eligible cases for each standard are included)

*** To describe how well hospitals are meeting standards, NELA uses a RAG-rating system (red-amber-green). In Years 1–3, a Green rating equates to the standard being achieved for ≥80% of patients. In Year 4, this has been raised to ≥85% for all standards except 'admission to critical care when risk ≥5%' (no RAG standard) and 'assessment by specialist in the care of the older person' (kept at ≥80%). Figures for ≥80% thresholds for Year 4 are presented in brackets for comparison**

	Year 1	Y1%	Year 2	Y2%	Year 3	Y3%	Year 4	Y4%
CT scan reported before surgery	New data for Year 4 therefore previous years not shown						7	4%
Risk of death documented preoperatively	24	13%	39	22%	57	32%	56 (82)	32% (47%)
Arrival in theatre within a timescale appropriate to urgency	97	55%	119	67%	133	76%	77 (124)	45% (72%)
Preoperative input by consultant surgeon and anaesthetist where risk of death is ≥ 5% (P-POSSUM)	New data for Year 4 therefore previous years not shown						105	61%
Preoperative input by consultant surgeon where risk of death is ≥ 5% (P-POSSUM)	New data for Year 4 therefore previous years not shown						160	93%
Preoperative input by consultant anaesthetist where risk of death is ≥ 5% (P-POSSUM)	New data for Year 4 therefore previous years not shown						127	74%
Preoperative input by consultant intensivist where risk of death is >10% (P-POSSUM)	New data for Year 4 therefore previous years not shown						26	15%
Consultant surgeon and anaesthetist both present in theatre when risk ≥ 5% (P-POSSUM)	61	34%	76	43%	104	59%	80 (107)	47% (62%)
Consultant surgeon present in theatre when risk ≥ 5% (P-POSSUM)	146	82%	152	86%	157	89%	149 (158)	87% (92%)
Consultant anaesthetist present in theatre when risk ≥ 5% (P-POSSUM)	86	48%	104	59%	129	73%	114 (131)	66% (76%)
Admission to critical care when risk ≥ 5% (P-POSSUM)	76	43%	92	52%	96	55%	91	53%
Admission to critical care when risk >10% (P-POSSUM)	117	66%	129	75%	135	78%	109 (128)	64% (75%)
Assessment by specialist in the care of the older person for patients aged 70 and over	2	1%	3	2%	5	3%	7	4%

Table 2.2 Summary of standards, process measures, mean Years 1–4 performance, performance over time and hospital level performance

Key standard	Process measure	First NELA Patient Report (Dec 13 – Nov 14)	Second NELA Patient Report (Dec 14 – Nov 15)	Third NELA Patient Report (Dec 15 – Nov 16)	Fourth NELA Patient Report (Dec 16 – Nov 17)	Trend over time	Hospital level performance over time Horizontal axis: range of hospitals Vertical axis: proportion of patients in each hospital who received that standard of care
Hospitals which admit patients as emergencies must have access to both conventional radiology and CT scanning 24 hours per day, with immediate reporting	Proportion of all emergency laparotomy patients who received a preoperative CT report by an in-house consultant radiologist				64%		
An assessment of mortality risk should be made explicit to the patient and recorded clearly on the consent form and in the medical record	Proportion of patients in whom a risk assessment was documented preoperatively	56%	64%	71%	75%		
	Proportion of patients with a calculated preoperative P-POSSUM risk of death ≥5% who had input from a consultant surgeon prior to surgery				95%		

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Key standard	Process measure	First NELA Patient Report (Dec 13 – Nov 14)	Second NELA Patient Report (Dec 14 – Nov 15)	Third NELA Patient Report (Dec 15 – Nov 16)	Fourth NELA Patient Report (Dec 16 – Nov 17)	Trend over time	Hospital level performance over time Horizontal axis: range of hospitals Vertical axis: proportion of patients in each hospital who received that standard of care
	Proportion of patients with a calculated preoperative P-POSSUM risk of death ≥5% who had input from a consultant anaesthetist prior to surgery				89%		
	Proportion of patients with a calculated preoperative P-POSSUM risk of death >10% who had input from a consultant intensivist prior to surgery				67%		
Each higher risk case (predicted mortality ≥5%) should have the active input of consultant surgeon and consultant anaesthetist.	Proportion of patients with a calculated preoperative P-POSSUM risk of death ≥5% for whom a consultant surgeon was present in theatre	87%	89%	91%	92%		

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Key standard	Process measure	First NELA Patient Report (Dec 13 – Nov 14)	Second NELA Patient Report (Dec 14 – Nov 15)	Third NELA Patient Report (Dec 15 – Nov 16)	Fourth NELA Patient Report (Dec 16 – Nov 17)	Trend over time	Hospital level performance over time Horizontal axis: range of hospitals Vertical axis: proportion of patients in each hospital who received that standard of care
	Proportion of patients with a calculated preoperative P-POSSUM risk of death ≥5% for whom a consultant anaesthetist was present in theatre	77%	82%	86%	88%		
	Proportion of patients with a calculated preoperative P-POSSUM risk of death ≥5% for whom both consultants were present in theatre	70%	74%	79%	83%		
Trusts should ensure emergency theatre access matches need and ensure prioritisation of access is given to emergency surgical patients ahead of elective patients whenever necessary as significant delays are common and affect outcomes	Proportion of patients arriving in theatre within a time appropriate for the urgency of surgery	78%	82%	83%	82%		

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Key standard	Process measure	First NELA Patient Report (Dec 13 – Nov 14)	Second NELA Patient Report (Dec 14 – Nov 15)	Third NELA Patient Report (Dec 15 – Nov 16)	Fourth NELA Patient Report (Dec 16 – Nov 17)	Trend over time	Hospital level performance over time Horizontal axis: range of hospitals Vertical axis: proportion of patients in each hospital who received that standard of care
All high risk patients should be considered for critical care and as a minimum, patients with an estimated risk of death of >10% should be admitted to a critical care location	Proportion of patients with a postoperative P-POSSUM risk of death >10% who were directly admitted to critical care postoperatively.	83%	86%	87%	87%		
	Proportion of patients with a postoperative P-POSSUM risk of death ≥5% who were directly admitted to critical care postoperatively.	76%	79%	80%	79%		Hospital level data not reported. Not currently a defined standard
Each patient aged over the age of 70 should have multidisciplinary input that includes early involvement of Medicine for the Care of Older People	Proportion of patients aged 70 years or over who were assessed by a care of the older person specialist	15%	17%	19%	23%		

3 RECOMMENDATIONS

It is clear from the NELA data presented in this report that there remain some crucial areas of care which must be improved if all patients undergoing emergency laparotomy are to receive the right care, by the right people, at the right time. In this 4th report there are six key themes which cover the standards against which NELA measures delivery of care for patients undergoing emergency laparotomy. For each theme there are associated actions allocated to specific owners; all are underpinned by the principles of quality improvement being specific, using measurable data from NELA, and are intended to be achievable tasks that are relevant and realistic to teams and patients within the defined time frame.

The six key NELA themes are:

1. improving outcomes and reducing complications
2. ensuring all patients receive an assessment of their risk of death
3. delivering care within agreed timeframes for all patients
4. enabling consultant input in the perioperative period for all high risk patients
5. effective multidisciplinary working
6. supporting quality improvement.

As in previous years, we have targeted the actions to those best placed to deliver them:

- the NELA Project Team
- Royal Colleges and other professional stakeholders
- commissioners, hospital CEO/MDs
- clinical directors and leadership teams
- NELA local leads
- multidisciplinary clinical teams
- patients, families and public.

Some actions are applicable to more than one area.

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	Detailed Action and Owner	Timeframe
1 Improving outcomes and reducing complications		
Maximising the value of NELA data		
1.1	**Provider Executive Boards and Medical Directors:** review NELA annual and quarterly reports and changes in performance as a regular standing agenda item at Executive level (at least quarterly)	Commence from next Executive meeting (by January 2019 at the latest)
1.2	**Medical Directors, Clinical Directors, local NELA leads, Multidisciplinary clinical teams:** ensure NELA outcome data (mortality, length of stay, unplanned returns to theatre and critical care and mortality) and processes of care are presented and reviewed at regular multidisciplinary governance meetings. These meetings should consider current performance and change over time, identify gaps in care and areas of good care, and develop appropriate action plans	Commence from next governance meeting (by January 2019 at the latest)
1.3	**Medical Directors, Clinical Directors, local NELA leads:** collaborate to understand how local NELA data can inform and align with other hospital improvement programmes, such as *Getting it Right First Time (GIRFT)*, Surviving Sepsis, The Deteriorating Patient, National Emergency Warning Score, and hospital flow workstreams	Develop collaboration plan by January 2019, with integration of data flows by April 2019
1.4	**Medical Directors, Trust Medical Examiners, Clinical Directors:** integrate review of patient deaths into Trust Mortality reviews and the National Mortality Case Record Review programme	Commence from next governance meeting (by January 2019 at the latest)
1.5	**NELA:** collaborate with improvement initiatives, such as *Getting it Right First Time (GIRFT)*, Surviving Sepsis, The Deteriorating Patient, and the National Emergency Warning Score, to understand how NELA data can support these initiatives at national level	Immediate
1.6	**NELA:** develop report templates (such as the Excellence and Exception report), dashboards and other reporting tools to support local teams and executive boards understand their provision of care and share best practice	Immediate
Clinical pathways		
1.7	**Medical Directors, Clinical Directors, local NELA leads, Multidisciplinary clinical teams:** develop and agree pathways of care that apply from admission to discharge to ensure a consistent approach to care throughout the perioperative stay. Pathways should define timelines for delivery of care, diagnosis, referral and escalation pathways, seniority of clinicians, and expectations of team members	Pathways to be in place by April 2019 in anticipation of Best Practice Tariff
1.8	**NELA:** work with professional stakeholders and hospitals to define and share best practice on pathways of care for patients undergoing emergency laparotomy	December 2018

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Clinical care		
1.9	**Multidisciplinary clinical teams**: ensure appropriate and timely discharge planning before stepping down patients to the ward and be alert to signs of deterioration once discharged to the ward. There should be clear referral pathways for early escalation to senior clinicians of patients who are deteriorating or failing to progress. Teams should regularly review the timeliness of referrals to ensure appropriate escalation occurs promptly. Teams should ensure safe ward staffing levels exist before discharge, especially out-of-hours	Pathways to be in place by April 2019 in anticipation of Best Practice Tariff
2 Ensuring all patients receive an assessment of their risks associated with surgery that is documented in the medical record, communicated to members of the multidisciplinary team, and used to inform clinical decision-making		
2.1	**Medical Directors and Clinical Directors:** develop policies that define allocation of resources (consultant delivered care and admission to critical care) according to a patient's risk	January 2019
2.2	**Clinical Directors, NELA leads, Multidisciplinary clinical teams:** develop and agree multidisciplinary pathways that ensure all patients receive a documented preoperative assessment of risk based on objective risk scoring and senior clinical judgement. This risk assessment should guide allocation of resources and subsequent delivery of care (recommendation 2.1). Where patients do not have a preoperative risk assessed and documented, they should be treated as if they are high risk patients and receive the appropriate standards of care for high risk (>5%) patients. Patients should only be treated as low risk if the multidisciplinary team agrees and documents that they can be considered low risk on the basis of clear and agreed clinical evidence	Pathways to be in place by April 2019 in anticipation of Best Practice Tariff
2.3	**Clinical Directors, local NELA leads, Multidisciplinary clinical teams:** ensure that risk assessment is based on a combination of both clinical and formal objective assessment (in particular using the NELA risk assessment tool which is more accurate than other methods for NHS patients undergoing emergency laparotomy). Risk assessment is done to facilitate the planning of care and communication and its limitations for an individual patient should always be considered. This risk assessment should be used as part of the consent process and to enable shared decision-making for high risk patients. A risk score can be easily calculated using the standalone NELA webtool and NELA risk app	January 2019
2.4	**Local NELA leads, Multidisciplinary clinical teams:** ensure that risk assessment information is communicated between all members of the multidisciplinary clinical team, including operating theatre staff, to aid joint understanding of a patient's risk and planning of care	January 2019
2.5	**Clinical Directors, College Tutors, local NELA leads:** promote the use of the NELA risk calculator (using webtool or NELA risk app) at junior doctor induction	Commence at next Junior Doctor induction
2.6	**NELA:** continue to analyse and assess the performance of the NELA risk prediction tool. Continue to promote the importance of combining clinical judgement with objective calculation of risk as part of clinical decision-making. Continue to provide NELA risk assessment tool on website and app	Ongoing

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2.7	**Patients, families and public:** expect to be clearly informed of their own individual risks associated with their surgery, as part of the shared decision-making approach to consenting for surgery, unless they have expressed the wish not to discuss this	Ongoing
3 Delivering care within agreed timeframes for all patients		
Sepsis and peritonitis		
3.1	**Provider Executive Boards, Medical Directors:** ensure a Health Board/Trust-wide approach to identify patients with sepsis, that ensures antibiotics are given within 60 minutes of recognition of sepsis	January 2019
3.2	**Medical Directors, Clinical Directors, local NELA leads:** Use local NELA data to inform the hospital's Surviving Sepsis campaign	January 2019
3.3	**Clinical Directors, local NELA leads, Multidisciplinary clinical teams:** develop and agree multidisciplinary pathways for the management of sepsis and/or peritonitis to include patients who are admitted under non-surgical specialities. These should also ensure administration of antibiotics within 60 minutes of recognition of sepsis and appropriately rapid source control	Pathways to be in place by April 2019 in anticipation of Best Practice Tariff
3.4	**Clinical Directors, local NELA leads, Multidisciplinary clinical teams:** audit and review peritonitis cases to assess own performance and pathways, benchmarking performance against national recognised sepsis pathway	January 2019
3.5	**Clinical Directors, College Tutors, local NELA leads**: present emergency laparotomy pathways and their links with sepsis at new staff inductions (both senior and junior, surgeons, anaesthetists, ED, radiology, relevant allied healthcare professionals including nurses and operating department practitioners), and add as a standing item agenda for surgeon and anaesthetist MDT meetings	Pathways to be in place by April 2019 in anticipation of Best Practice Tariff
3.6	**NELA:** develop report templates to support local teams and executive boards understand their performance on treatment of sepsis	December 2018
Theatre capacity		
3.7	**Commissioners, Provider Executive Boards and Medical Directors:** review adequacy of theatre capacity based on estimation of emergency surgical caseload, and work to address any shortfall. Capacity needs to be sufficient to allow patients to receive surgery within defined timeframes. The area that needs particular attention is those requiring surgery within two hours. Improvement teams should use QI methodology such as process mapping to understand where change is required	January 2019
3.8	**Medical Directors and Clinical Directors:** develop policies that define the timeline to surgery, prioritise emergency cases according to risk and surgical urgency, and deferral of elective work if theatre space is unavailable to meet clinical urgency	Policies to be in place by April 2019 in anticipation of Best Practice Tariff
3.9	**Clinical Directors, local NELA leads, Multidisciplinary clinical teams:** develop and agree pathways to facilitate arrival of patients in theatre within appropriate timeframes, which define the roles of all team members and when they should be involved.	Pathways to be in place by April 2019 in anticipation of Best Practice Tariff

3.10	**Patients, families and public:** patients and their carers can expect care to follow a defined pathway, which should include care based on appropriate timeframes for access to decision makers, diagnostics, operating theatres and therapies. Patients and their carers may request the details of their pathway timeframes to help them advocate for the best care	April 2019
The deteriorating patient		
3.11	**Clinical Directors, local NELA leads, Multidisciplinary clinical teams:** develop and agree pathways to promptly identify deteriorating patients and subsequent referral to senior decision makers in pre- and postoperative periods. This will also include those admitted under non-surgical specialties	Pathways to be in place by April 2019 in anticipation of Best Practice Tariff
3.12	**Medical Directors, Clinical Directors, local NELA leads:** collaborate with hospital leads for The Deteriorating Patient and National Emergency Warning Score workstreams to ensure a uniform approach	January 2019
4 Enabling consultant input in the perioperative period for all high risk patients		
4.1	**Commissioners, Provider Executive Boards and Medical Directors:** Review adequacy of consultant staffing based on estimation of emergency surgical caseload and work to address any shortfall. Capacity must to be sufficient to allow high risk patients to receive care directly delivered and supervised by consultant surgeons and consultant anaesthetists	January 2019
4.2	**Clinical Directors from Surgery, Anaesthesia:** Review adequacy of job plans, rotas and staffing to ensure delivery of an uninterrupted consultant delivered service, 24 hours a day, seven days a week. There should be consultant presence for high risk patients regardless of urgency of surgery, time of day or day of week of surgery	January 2019
4.3	**Clinical Directors, local NELA leads, Multidisciplinary clinical teams:** develop and agree pathways of care for patients undergoing emergency laparotomy which are tailored to the hospital service and structure. Pathways must ensure consultants are informed, involved and lead in the care of patients undergoing emergency laparotomy throughout the care pathway. These should include escalation pathways for deteriorating patients and high risk patients such that they receive timely perioperative input into decision-making and clinical care by consultant surgeons, anaesthetists and intensivists. This should also cover the postoperative period to ensure the recognition, evaluation and management of complications which may result in unplanned return to theatre, or unplanned admission to critical care	Pathways to be in place by April 2019 in anticipation of Best Practice Tariff
4.4	**NELA:** further publicise the Excellence and Exception report which identifies up high risk patients where all standards were met, and those where standards were not met	Immediate

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5 Effective Multidisciplinary Working		
Radiology		
5.1	**Commissioners, Provider Executive Boards and Medical Directors:** scope requirements to deliver a radiology service that provides a reported CT within a timeframe that does not delay surgery, has low discrepancy rates, and provides opportunity for meaningful senior discussion between the surgery and radiology. The NELA data suggests that an in-house consultant service provides the lowest discrepancy rate. Consideration should be given to developing local networked solutions for 24/7 consultant radiologist reporting to overcome high vacancy rates in the specialty as reported by the Royal College of Radiologists	April 2019
5.2	**Radiology and Surgery Clinical Directors, Chief CT Radiographer, local NELA leads, Multidisciplinary clinical teams:** develop and agree pathways to facilitate rapid access to reported CT scanning	Pathways to be in place by April 2019 in anticipation of Best Practice Tariff
5.3	**Radiology and Surgery Clinical Directors, clinicians:** ensure that all acute abdominal CT discrepancies are reviewed and discussed by surgery and radiology within their clinical governance programme. All discrepancy cases should be anonymised and referred to the Radiology Events and Learning Meetings following discussion between the relevant clinical teams. For most Trusts, this will be required for 1–2 scans per month	Commence from next governance meeting (by January 2019 at the latest)
5.4	**NELA, Royal College of Radiology:** develop report template to highlight patients with CT discrepancy that can be used to support radiology clinical governance programmes	April 2019
5.5	**NELA, Royal College of Radiology:** Collaborate to support the introduction of NELA Radiology leads in each hospital to facilitate improvements in the quality of local services including quality of data collection on discrepancy rates and accuracy of reporting of acute abdominal CT examinations	Immediate
Critical Care		
5.6	**Commissioners, Provider Executive Boards and Medical Directors:** review adequacy of critical care bed capacity, based on estimation of high risk patients and emergency surgical caseload, and work to address any shortfall. Capacity needs to be sufficient to admit all high risk patients (predicted mortality ≥5%) and minimise premature discharge from critical care	January 2019
5.7	**Clinical Directors from Surgery, Anaesthesia and Intensive Care, local NELA leads, Multidisciplinary clinical teams:** develop and agree multidisciplinary care pathways that include clear guidance for the clinical team as to when patients should be admitted to critical care	Pathways to be in place by April 2019 in anticipation of Best Practice Tariff
5.8	**Multidisciplinary clinical teams:** ensure that NELA data on admissions to critical care and unplanned admissions to critical care are reviewed at regular multidisciplinary governance meetings, and accompanied by actions plans to improve care	Commence from next governance meeting (by January 2019 at the latest)
5.9	**NELA:** work with other stakeholders to clarify wording around standards for admission to critical care	Anticipated that clarifications will be published by the end of 2018

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5.10	**NELA, ICNARC:** work to analyse linked NELA-ICNARC database to better understand provision of care to patients undergoing emergency laparotomy	Themed report to be published in 2019
Elderly Care		
5.11	**Commissioners, Provider Executive Boards and Medical Directors:** scope requirements for Elderly Care input into patients undergoing emergency laparotomy, based on estimation of emergency surgical caseload, and work to address any shortfall	April 2019
5.12	**Clinical Directors from Elderly Care, Surgery, Anaesthesia, Intensive, local NELA leads, Multidisciplinary clinical teams:** develop and agree multidisciplinary care pathways that define when input from Elderly Care should be sought	Pathways to be in place by April 2019 in anticipation of Best Practice Tariff
5.13	**Local NELA leads, multidisciplinary clinical teams:** Ensure patients over the age of 70 have frailty, nutritional status, cognitive function and functional impairment assessed to inform decision-making and highlight those that may benefit from perioperative input by Elderly Care teams. Ensure these are embedded in clinical pathways	Pathways to be in place by April 2019 in anticipation of Best Practice Tariff
5.14	**Multidisciplinary clinical teams:** ensure that NELA data on input by Elderly Care teams is reviewed at regular multidisciplinary governance meetings	Commence from next governance meeting (by January 2019 at the latest)
5.15	**NELA:** share information on hospitals who perform well for Elderly Care input	December 2018
5.16	**NELA:** collaborate with the British Geriatric Society to raise awareness of emergency laparotomy in older people	April 2019
6 Supporting Quality Improvement		
6.1	**Royal Colleges, Postgraduate schools, College Tutors, ACRP panels:** ensure that participation in QI projects such as NELA are supported and recognised for progression in training	April 2019
6.2	**Executive Boards, Medical Directors, Clinical Directors:** Ensure infrastructure and links are in place for NELA leads to access help and support from hospital improvement or transformation teams to implement change. Ensure that time (study leave) for NELA leads and multidisciplinary teams is available (guided by appraisal) to attend workshops and training in QI methodology	April 2019
6.3	**NELA local leads/multidisciplinary clinical teams:** participate in regional and national quality improvement workshops, to improve understanding of QI methodology, share ideas and collaborate with other NELA teams	By 2019 as AHSN workshops are rolled out
6.4	**Clinical Directors, local NELA leads:** ensure job planned time and resources are available for NELA leads to carry out all expected duties, guided by the NELA local clinical lead job description	Immediate, for confirmation by NELA leads next job plan review
6.5	**NELA:** work with AHSNs to support collaborative regional working to improve emergency laparotomy care	Immediate
6.6	**Patients, families and public:** Join in with hospital projects to improve care pathways if possible, to ensure there is strong patient and public representation in the design and implementation of improvement initiatives	April 2019

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Information correct as at November 2018