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

December 2016 to November 2017

SUPPLEMENTARY SUMMARY TABLES AND FIGURES

Royal College of Anaesthetists

NIAA National Institute of Academic Anaesthesia

HSRC Health Services Research Centre

Royal College of Surgeons ADVANCING SURGICAL CARE

HQIP Healthcare Quality Improvement Partnership

NELA National Emergency Laparotomy Audit

November 2018

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

December 2016 to November 2017

SUPPLEMENTARY SUMMARY TABLES AND FIGURES

Citation for this Report:
NELA Project Team. Fourth Patient Report of the National Emergency Laparotomy Audit
RCoA London, 2018

Cover: Emergency Laparotomy Team of Maidstone and Tunbridge Wells NHS Trust

The National Emergency Laparotomy Audit (NELA) is commissioned by the Healthcare Quality Improvement Partnership as part of the National Clinical Audit Programme on behalf of NHS England and the Welsh Government.

All enquiries in regard to this document should be addressed to:

The National Emergency Laparotomy Audit, Royal College of Anaesthetists, Churchill House, 35 Red Lion Square, London WC1R 4SG
020 7092 1676 info@nela.org.uk www.nela.org.uk

Design and layout by the Royal College of Anaesthetists

NELA
National Emergency Laparotomy Audit

CONTENTS

NELA National Emergency Laparotomy Audit

20 SUPPLEMENTARY SUMMARY TABLES AND FIGURES

Executive Summary

Table 2.3 Denominator data for each RAG standard

RAG standard	Who should be included	Total number included	Missing/Unknown data	Comments
Preoperative CT report by an in-house consultant radiologist	All patients	23,929	164 (missing whether CT was performed or not) 872 (unknown who reported the scan 216 (missing who reported the scan)	
Risk of death documented preoperatively	All patients	23,929	0	
Arrival in theatre within a timescale appropriate to urgency	All patients with a planned timescale to theatre <18 hours	17,124	6,787	
Preoperative input by a consultant surgeon and a consultant anaesthetist when calculated preoperative P-POSSUM risk of death ≥5%	All patients with a risk of death ≥5%	13,548	0	If missing or unknown, deemed consultant did not have input
Consultant surgeon and consultant anaesthetist both present in theatre when calculated preoperative P-POSSUM risk of death ≥5%	All patients with a risk of death ≥5%	13,548	0	If missing or unknown, deemed consultant did not have input
Consultant surgeon present in theatre when calculated preoperative P-POSSUM risk of death ≥5%	All patients with a risk of death ≥5%	13,548	0	If missing or unknown, deemed consultant did not have input
Consultant anaesthetist present in theatre when calculated preoperative P-POSSUM risk of death ≥5%	All patients with a risk of death ≥5%	13,548	0	If missing or unknown, deemed consultant did not have input
Admission directly to critical care after surgery when postoperative calculated P-POSSUM risk of death >10%	All patients with risk of death >10%	9,210	51	
Assessment by a care for the older person specialist for patients aged 70 years and over	All those over 70	8,302	2,351	

Table 2.4 Comparison of additional key process measures between the First, Second, Third and Fourth NELA Patient Reports

Process Measure		First NELA Patient Report	Second NELA Patient Report	Third NELA Patient Report	Fourth NELA Patient Report
Preoperative consultant involvement as a proportion of all patients	Decision to operate made by a consultant surgeon, and patient reviewed preoperatively by a consultant anaesthetist	61%	58%	57%	83%
	Decision to operate made by a consultant surgeon	76%	75%	77%	95%
	Preoperative review by a consultant anaesthetist	77%	74%	71%	86%
Preoperative consultant involvement as a proportion of patients with a preoperative P-POSSUM risk of death ≥5%	Decision to operate made by a consultant surgeon, and patient reviewed preoperatively by a consultant anaesthetist	62%	59%	58%	86%
	Decision to operate made by a consultant surgeon	75%	74%	76%	95%
	Preoperative review by a consultant anaesthetist	80%	77%	74%	89%
Consultant presence in theatre as a proportion of all patients	Both a consultant surgeon and a consultant anaesthetist present	65%	70%	75%	78%
	Consultant surgeon	85%	87%	89%	90%
	Consultant anaesthetist	74%	78%	82%	84%
Proportion of patients with no preoperative and no intraoperative consultant involvement	All patients	2.7%	2.1%	1.5%	0.3%
	Patients with a preoperative P-POSSUM risk of death ≥5%	2.3%	1.7%	1.1%	0.2%
Proportion of high and highest risk patients who were admitted directly to critical care after surgery	Patients with a postoperative P-POSSUM risk of death 5–10%	58%	62%	63%	63%
	Patients with a postoperative P-POSSUM risk of death >10%	83%	85%	87%	86%

NELA
National Emergency Laparotomy Audit

Risk-adjusted mortality

Table 6.1.4 ONS 30-day and 90-day mortality by patient characteristics

	Number of patients (n(%))	ONS 30-day mortality (%)	ONS 90-day mortality (%)
Age (years)			
18–39	2,684 (11.2)	1.9	2.3
40–49	2,232 (9.3)	3.3	5.1
50–59	3,529 (14.8)	4.5	7.4
60–69	4,831 (20.2)	8.8	12.4
70–79	6,054 (25.3)	12.8	17.0
80–89	4,063 (17.0)	17.1	21.9
≥90	536 (2.2)	18.5	25.2
ASA			
1	2,383 (10.0)	0.6	1.2
2	8,515 (35.6)	2.5	4.2
3	8,625 (36.0)	8.5	13.0
4	3,977 (16.6)	27.2	33.3
5	429 (1.8)	54.8	59.0
Admission type			
Emergency	22,399 (93.6)	9.6	13.1
Elective	1,512 (6.3)	8.0	10.1
Documented risk			
Lower (<5%)	7,625 (31.9)	1.9	3.6
High (5–10%)	4,093 (17.1)	7.3	11.3
Highest (>10%)	6,121 (25.6)	24.4	29.7
Not documented	6,090 (25.5)	5.7	8.6

Table 6.1.5 ONS 30-day and 90-day mortality by operative urgency

Urgency of surgery	Number of patients (n(%))	ONS 30-day mortality (%)	ONS 90-day mortality (%)
<2 hours	2,729 (11.4)	23.3	26.2
2–6 hours	8,952 (37.4)	10.3	13.3
6–18 hours	8,099 (33.9)	6.0	9.3
18–24 hours	4,097 (17.1)	5.5	10.1
Missing	52		

Table 6.1.6 P-POSSUM and NELA risk of death, observed ONS 30-day and 90-day mortality by documented preoperative risk category

Documented preoperative risk category	Patients (n(%))	Median P-POSSUM risk of death within 30 days of surgery (%)	Median NELA risk of death within 30 days of surgery (%)	Observed 30-day mortality based on ONS data (n(%))	Observed 90-day mortality based on ONS data (n(%))
Lower (<5%)	7,625 (31.9)	2.7	1.4	142 (1.9)	275 (3.6)
High (5–10%)	4,093 (17.1)	8.1	6.1	297 (7.3)	464 (11.3)
Highest (>10%)	6,121 (25.6)	28.6	18.6	1,491 (24.4)	1,819 (29.7)
Not documented	6,090 (25.5)	4.5	2.8	348 (5.7)	525 (8.6)

Length of stay

Table 6.2.2 Postoperative length of stay in patients surviving to hospital discharge by patient characteristics

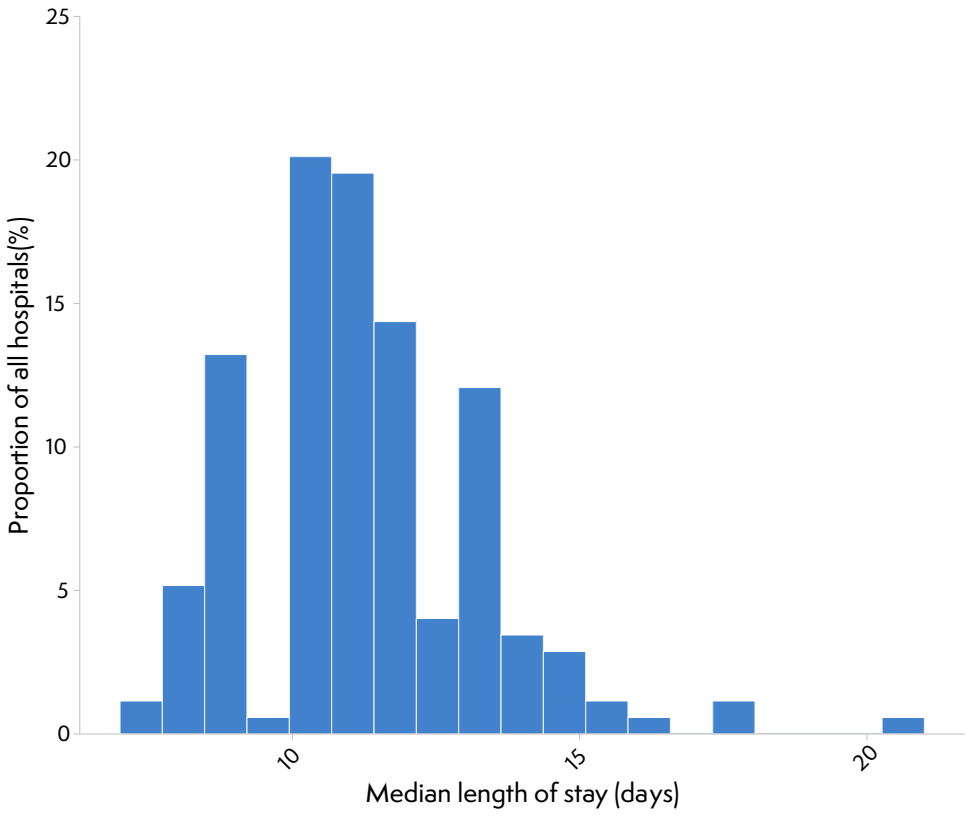
	Number of patients (n)	Median (IQR) postoperative length of stay (days)
Age (years)		
18–39	2,621	8 (5–12)
40–49	2,149	9 (6–14)
50–59	3,331	10 (6–16)
60–69	4,357	11 (7–19)
70–79	5,203	13 (8–22)
80–89	3,280	14 (9–23)
≥90	437	16 (10–25)
ASA		
1	2,365	7 (5–11)
2	8,287	9 (6–14)
3	7,786	13 (8–22)
4	2,768	19 (11–32)
5	172	27 (14–45)
Admission type		
Emergency	20,025	11 (7–19)
Elective	1,338	16 (19–26)
Missing	15	
Documented risk		
Lower (<5%)	7,460	8 (6–14)
High (5–10%)	3,777	13 (8–21)

Highest (>10%)	4,441	18 (11–30)
Not documented	5,700	10 (6–17)
Return to theatre after initial operation		
No return to theatre	19,989	10 (7–18)
One or more returns	1,137	27 (17–44)
Missing	252	

Table 6.2.3 Postoperative length of stay in patients surviving to hospital discharge by operative urgency

Urgency of surgery	Number of patients (n)	Median (IQR) postoperative length of stay (days)
<2 hours	2,011	15 (8–26)
2–6 hours	7,887	11 (7–20)
6–18 hours	7,562	10 (6–17)
18–24 hours	3,871	10 (6–17)
Overall	21,331	11 (7–19)
Missing	47	

Figure 6.2.13 The median length of stay in days by hospital groups



NELA
National Emergency Laparotomy Audit

Residence before and after surgery

Table 6.6.3 Age in years by place of residence prior to admission

Residence prior to admission	Min	Lower Quartile	Median	Upper Quartile	Max
Own Home/ Sheltered	18	53	67	77	102
Nursing Care	18	59.5	76	84	97
Residential Care	18	56	72	83	98
Unknown	18	49	66	76	99

Table 6.6.4 Mean preoperative NELA predicted mortality and P-POSSUM mortality risk by place of residence prior to admission

Residence before admission	Number of patients (n(%)	Mean preoperative NELA risk (%)	Mean preoperative P-POSSUM risk (%)
Own Home/Sheltered	23,003 (96.1)	10.0	15.9
Residential Care	198 (0.8)	16.4	19.6
Nursing Care	166 (0.7)	17.3	19.9
Unknown	541 (2.3)	12.0	19.6

Table 6.6.5 Place of residence prior to admission by patient characteristics

	Place of residence prior to admission			
	Own Home/Sheltered (n(%))	Residential Care (n(%))	Nursing Care (n(%))	Unknown (n(%))
Age				
18–39	2,560 (11.1)	19 (9.6)	17 (10.2)	85 (15.7)
40–49	2,161 (9.4)	13 (6.6)	4 (2.4)	53 (9.8)
50–59	3,412 (14.8)	26 (13.1)	21 (12.7)	66 (12.2)
60–69	4,660 (20.3)	30 (15.2)	21 (12.7)	115 (21.3)
70–79	5,855 (25.5)	39 (19.7)	32 (19.3)	125 (23.1)
80–89	3,861 (16.8)	54 (27.3)	56 (33.7)	88 (16.3)
≥90	494 (2.2)	17 (8.6)	15 (9.0)	9 (1.7)
ASA				
1	2,326 (10.1)	6 (3.0)	4 (2.4)	46 (8.5)
2	8,306 (36.1)	24 (12.1)	16 (9.6)	164 (30.3)
3	8,242 (35.8)	105 (53.0)	78 (47.0)	192 (35.5)
4	3,728 (16.2)	57 (28.8)	58 (34.9)	129 (23.8)
5	401 (1.7)	6 (3.0)	10 (6.0)	10 (1.9)
Urgency				

<2 hours	2,596 (11.3)	27 (13.7)	24 (14.5)	75 (14.0)
2–6 hours	8,615 (37.5)	66 (33.5)	54 (32.5)	210 (39.2)
6–18 hours	7,829 (34.1)	75 (38.1)	61 (36.8)	130 (24.3)
>18 hours	3917 (17.1)	29 (14.7)	27 (16.3)	121 (22.6)
Documented Risk				
Unknown	5,834 (25.4)	45 (22.7)	32 (19.3)	171 (31.6)
Lower (<5%)	7,429 (32.3)	35 (17.7)	37 (22.3)	120 (22.2)
High (5–10%)	3,916 (17.0)	42 (21.2)	27 (16.3)	103 (19.0)
Highest (>10%)	5,824 (25.3)	76 (38.4)	70 (42.2)	147 (27.2)
Preoperative calculated P-POSSUM risk				
Lower (<5%)	9,719 (42.3)	64 (32.3)	51 (30.7)	201 (37.2)
High (5–10%)	4,643 (20.2)	45 (22.7)	33 (19.9)	112 (20.7)
Highest (>10%)	8,641 (37.6)	89 (45.0)	82 (49.4)	228 (42.1)
Postoperative calculated P-POSSUM risk				
Lower (<5%)	9,608 (41.8)	60 (30.3)	48 (28.9)	190 (35.1)
High (5–10%)	4,652 (20.2)	48 (24.2)	38 (22.9)	119 (22.0)
Highest (>10%)	8,743 (38.0)	90 (45.5)	80 (48.2)	232 (42.9)

Table 6.6.6 Discharge destination by patient characteristics

	Discharge Destination				
	Own Home/ Sheltered (n(%))	**Residential Care (n(%))**	**Nursing Care (n(%))**	**Hospital Transfer (n(%))**	**Unknown (n(%))**
Age (years)					
18–39	2,444 (12.9)	14 (4.5)	23 (3.0)	22 (7.2)	117 (3.8)
40–49	2,016 (10.6)	7 (2.3)	26 (3.4)	15 (4.9)	129 (4.1)
50–59	3,070 (16.2)	25 (8.0)	51 (6.6)	36 (11.8)	273 (8.8)
60–69	3,932 (20.8)	45 (14.5)	95 (12.3)	56 (18.4)	606 (19.4)
70–79	4,551 (24.0)	69 (22.2)	228 (29.6)	85 (27.9)	1001 (32.1)
80–89	2,632 (13.9)	125 (40.2)	286 (37.1)	72 (23.6)	882 (28.3)
≥90	308 (1.6)	26 (8.4)	61 (7.9)	19 (6.2)	109 (3.5)
ASA					
1	2,277 (12.0)	7 (2.3)	16 (2.1)	9 (3.0)	39 (8.3)
2	7,778 (41.0)	57 (18.3)	120 (15.6)	52 (17.1)	150 (31.7)
3	6,751 (35.6)	160 (51.5)	347 (45.1)	126 (41.3)	187 (39.5)
4	2,041 (10.8)	82 (26.4)	269 (34.9)	102 (33.4)	90 (19.0)

5	106 (0.6)	5 (1.6)	18 (2.3)	16 (5.3)	7 (1.5)
Urgency					
< 2 hours	1,694 (9.0)	29 (9.3)	88 (11.4)	58 (19.1)	860 (24.0)
2–6 hours	6,936 (36.7)	116 (37.3)	310 (40.3)	132 (43.6)	1,458 (40.7)
6–18 hours	6,841 (36.2)	111 (35.7)	235 (30.5)	72 (23.8)	840 (23.5)
>18 hours	3,443 (18.2)	55 (17.7)	137 (17.8)	41 (13.5)	421 (11.8)
Documented Risk					
Lower (<5%)	7,034 (37.1)	48 (15.4)	100 (13.0)	42 (13.8)	401 (11.2)
High (5–10%)	3,307 (17.5)	78 (25.1)	155 (20.1)	63 (20.7)	490 (13.7)
Highest (>10%)	3,474 (18.3)	123 (39.6)	366 (47.5)	134 (43.9)	2,024 (56.4)
Not Documented	5,138 (27.1)	62 (19.9)	149 (19.4)	66 (21.6)	675 (18.8)
Preoperative calculated P-POSSUM risk					
Lower (<5%)	9,210 (48.6)	84 (27.0)	147 (19.1)	62 (20.3)	536 (14.9)
High (5–10%)	4,008 (21.2)	70 (22.5)	161 (20.9)	68 (22.3)	533 (14.9)
Highest (>10%)	5,735 (30.3)	157 (50.5)	462 (60.0)	175 (57.38)	2,521 (70.22)
Postoperative calculated P-POSSUM risk					
Lower (<5%)	9,106 (48.1)	73 (23.5)	138 (17.9)	66 (21.6)	525 (14.6)
High (5–10%)	4,035 (21.3)	68 (21.9)	178 (23.1)	55 (18.0)	527 (14.7)
Highest (>10%)	5,812 (30.7)	170 (54.7)	454 (59.0)	184 (60.3)	2,538 (70.7)

NELA
National Emergency Laparotomy Audit

Patient and surgical characteristics, admission pathways and patient mortality

Table 7.20 Top ten most frequently recorded main operative procedures at emergency laparotomy

Main operative procedure	Number of patients (n(%))	ONS 30-day mortality (%)	ONS 90-day mortality (%)
Adhesiolysis	3,999 (16.7)	4.7	6.3
Small bowel resection	3,812 (15.9)	10.7	14.1
Colectomy: right (including ileocaecal resection)	3,252 (13.6)	8.1	11.5
Hartmann's procedure	3,093 (12.9)	9.4	11.8
Peptic ulcer – suture or repair of perforation	1,303 (5.5)	10.5	12.7
Colectomy: subtotal or panproctocolectomy	1,241 (5.2)	13.8	15.7
Defunctioning stoma via midline laparotomy	929 (3.9)	13.7	28.6
Colectomy: left (including sigmoid colectomy and anterior resection)	912 (3.8)	7.7	10.2
Drainage of abscess/ collection	583 (2.4)	7.4	10.0
Washout only	553 (2.3)	11.4	14.8

Table 7.21 Characteristics of patients included in this report

Characteristic	Group		Number of patients (n(%))
Gender	Female		12,299 (51.4)
	Male		11,630 (48.6)
Age in years	18–39		2,684 (11.2)
	40–49		2,232 (9.3)
	50–59		3,529 (14.8)
	60–69		4,831 (20.2)
	70–79		6,054 (25.3)
	80–89		4,063 (17.0)
	≥90		536 (2.2)
Hospital admission type	Emergency		22,399 (93.7)
	Elective		1,512 (6.3)
ASA grade	1		2,383 (10.0)
	2		8,515 (35.6)
	3		8,625 (36.0)
	4		3,977 (16.6)
	5		429 (1.8)
Urgency of surgery	<2 hours		2,729 (11.4)
	2–6 hours		8,952 (37.5)
	6–18 hours		8,099 (33.9)
	18–24 hours		4,097 (17.2)
Procedure	Primary procedure		22,028 (92.1)
	Surgery for a complication of a recent procedure		1,901 (7.9)
Preoperative calculated risk of death within 30 days of surgery (P-POSSUM)	<5%	Lower risk	10,381 (43.4)
	5.0–10.0 %	High risk	4,338 (18.1)
	10.1–25.0%	Highest risk	4,396 (18.4)
	25.1–50.0%		2,477 (10.4)
	>50%		2,337 (9.8)

Table 7.22 The proportion of patients who had a preoperative CT scan performed by route of admission

Initial route of admission	Total (n)	Total number of patients who had a preoperative CT scan performed (n(%))	Total number of patients who did not have a preoperative CT scan performed (n(%))	Total number where it is unknown if the patients had a preoperative CT scan performed (n(%))
Emergency Department	16,679	14,833 (88.9)	1,748 (10.5)	98 (0.6)
Acute Surgical Assessment Unit	2,479	2,111 (85.2)	353 (14.2)	15 (0.6)
GP	1,637	1,443 (88.2)	178 (10.9)	16 (1.0)
Outpatient Clinic	706	550 (78.0)	149 (21.1)	7 (1.0)
Hospital Transfer	588	489 (83.2)	87 (14.8)	12 (2.0)
Unknown	1,840	1,415 (76.9)	409 (22.2)	16 (0.9)

Table 7.23 Number of hours to arrival in theatre by route of admission

Initial route of admission	Mean (hours)	Median (Range) (hours)
Emergency Department	73.7	28 (2.3–690)
Acute Surgical Assessment Unit	70.0	29.2 (2.5–635)
GP	93.9	41.8 (3.2–882.6)
Outpatient Clinic	116.6	46.7 (2–765.6)
Hospital Transfer	119.2	26.8 (0.5–1708)

Table 7.24 The proportion of patients who had both consultant surgeon and anaesthetist present in theatre by route of admission

Initial route of admission	Total (n)	Total number of patients who had both consultant surgeon and anaesthetist present in theatre (n(%))	Total number of patients who did not have both consultant surgeon and anaesthetist present in theatre (n(%))
Emergency Department	16,679	12,961 (77.7)	3,718 (22.3)
Acute Surgical Assessment Unit	2,479	1823 (73.4)	656 (26.6)
GP	1,637	1,310 (80.0)	327 (20.0)
Outpatient Clinic	706	594 (84.1)	112 (15.9)
Hospital Transfer	588	481 (81.8)	107 (18.2)
Unknown	1,840	1,501 (81.6)	339 (18.4)

Table 7.25 The proportion of patients who were admitted to critical care postoperative by route of admission

Initial route of admission	Total (n)	Total number of patients who were admitted to critical care postoperative (n(%))	Total number of patients who were not admitted to critical care postoperative (n(%))	Total number where it is unknown if the patients were admitted to critical care postoperative (n(%))
Emergency Department	16,679	10,321 (61.9)	6,314 (37.9)	1 (0.1)
Acute Surgical Assessment Unit	2,479	1,285 (51.8)	1,193 (48.1)	1 (0.0)
GP	1,637	929 (56.8)	706 (43.1)	2 (0.1)
Outpatient Clinic	706	365 (51.7)	340 (48.2)	1 (0.1)
Hospital Transfer	588	426 (72.5)	162 (27.6)	0 (0.0)
Unknown	1,840	1343 (73.0)	494 (26.9)	3 (0.2)

Table 7.26 The proportion of patients by each main surgical procedure who were admitted via the emergency department

Main Procedure	Total number of patients who underwent each procedure (n)	Proportion of patients who underwent each procedure (%)
Adhesiolysis	2,979	17.9
Small bowel resection	2,852	17.1
Hartmann's procedure	2,180	13.1
Colectomy: right (including ileocaecal resection)	2,145	12.9
Peptic ulcer – suture or repair of perforation	1,190	7.1
Colectomy: subtotal or panproctocolectomy	798	4.8
Colectomy: left (including sigmoid colectomy and anterior resection)	613	3.7
Defunctioning stoma via midline laparotomy	511	3.1
Drainage of abcess/collection	377	2.3
Washout only	341	2.0
Exploratory/relook laparotomy only	282	1.7
Repair of intestinal perforation	268	1.6
Large incisional hernia repair with division of adhesions	219	1.3
Colorectal resection – other	202	1.2
Enterotomy	198	1.2
Gastric surgery – other	182	1.1

Reduction of volvulus	169	1.0
Intestinal bypass	152	0.9
Not amenable to surgery	119	0.7
Peptic ulcer – oversew of bleed	111	0.7
Large incisional hernia repair with bowel resection	101	0.6
Gastrectomy: partial or total	75	0.5
Revision of stoma via midline laparotomy	74	0.4
Removal of foreign body	71	0.4
Evacuation of haematoma	70	0.4
Resection of Meckel's diverticulum	68	0.4
Abdominal wall reconstruction	65	0.4
Haemostasis	64	0.4
Laparostomy formation	50	0.3
Repair or revision of anastomosis	44	0.3
Abdominal wall closure following dehiscience	37	0.2
Resection of other intra-abdominal tumour(s)	31	0.2
Stricturoplasty	16	0.1
Debridement	14	0.1
Repair of intestinal fistula	11	0.1

Table 7.27 The proportion of patients by each main surgical procedure who were admitted via an Acute Surgical Assessment Unit

Main Procedure	Total number of patients who underwent each procedure (n)	Proportion of patients who underwent each procedure (%)
Adhesiolysis	445	18.0
Colectomy: right (including ileocaecal resection)	440	17.8
Small bowel resection	378	15.3
Hartmann's procedure	345	13.9
Colectomy: subtotal or panproctocolectomy	127	5.1
Colectomy: left (including sigmoid colectomy and anterior resection)	115	4.6
Defunctioning stoma via midline laparotomy	110	4.4
Washout only	64	2.6
Drainage of abcess/collection	55	2.2
Peptic ulcer – suture or repair of perforation	45	1.8
Colorectal resection – other	35	1.4
Enterotomy	31	1.3
Exploratory/relook laparotomy only	27	1.1
Reduction of volvulus	26	1.1
Large incisional hernia repair with division of adhesions	26	1.1
Intestinal bypass	24	1.0
Revision of stoma via midline laparotomy	22	0.9
Gastric surgery – other	17	0.7
Repair of intestinal perforation	17	0.7
Not amenable to surgery	15	0.6
Gastrectomy: partial or total	12	0.5
Large incisional hernia repair with bowel resection	11	0.4
Resection of Meckel's diverticulum	11	0.4
Laparostomy formation	10	0.4
Abdominal wall reconstruction	10	0.4
Abdominal wall closure following dehiscience	9	0.4
Haemostasis	9	0.4

Evacuation of haematoma	9	0.4
Repair or revision of anastomosis	9	0.4
Peptic ulcer – oversew of bleed	8	0.3
Stricturoplasty	5	0.2
Removal of foreign body	5	0.2
Repair of intestinal fistula	4	0.2
Resection of other intra-abdominal tumour(s)	3	0.1

Table 7.28 The proportion of patients by each main surgical procedure who were admitted via GP

Main Procedure	Total number of patients who underwent each procedure (n)	Proportion of patients who underwent each procedure (%)
Colectomy: right (including ileocaecal resection)	285	17.4
Hartmann's procedure	261	15.9
Adhesiolysis	249	15.2
Small bowel resection	239	14.6
Colectomy: subtotal or panproctocolectomy	109	6.7
Defunctioning stoma via midline laparotomy	80	4.9
Colectomy: left (including sigmoid colectomy and anterior resection)	73	4.5
Drainage of abcess/collection	39	2.4
Colorectal resection – other	32	2.0
Washout only	26	1.6
Peptic ulcer – suture or repair of perforation	23	1.4
Exploratory/relook laparotomy only	23	1.4
Gastric surgery – other	21	1.3
Intestinal bypass	21	1.3
Enterotomy	21	1.3
Large incisional hernia repair with division of adhesions	20	1.2
Repair of intestinal perforation	16	1.0
Not amenable to surgery	13	0.8
Reduction of volvulus	12	0.7
Revision of stoma via midline laparotomy	11	0.7

Abdominal wall closure following dehiscience	8	0.5
Large incisional hernia repair with bowel resection	8	0.5
Gastrectomy: partial or total	8	0.5
Resection of Meckel's diverticulum	7	0.4
Abdominal wall reconstruction	6	0.4
Peptic ulcer – oversew of bleed	5	0.3
Laparostomy formation	5	0.3
Haemostasis	4	0.2
Repair or revision of anastomosis	4	0.2
Resection of other intra-abdominal tumour(s)	2	0.1
Removal of foreign body	2	0.1
Evacuation of haematoma	2	0.1
Debridement	1	0.1
Repair of intestinal fistula	1	0.1

Table 7.29 The proportion of patients by each main surgical procedure who were admitted via outpatient clinic

Main Procedure	Total number of patients who underwent each procedure (n)	Proportion of patients who underwent each procedure (%)
Colectomy: right (including ileocaecal resection)	170	24.1
Colectomy: subtotal or panproctocolectomy	103	14.6
Small bowel resection	81	11.5
Hartmann's procedure	70	9.9
Defunctioning stoma via midline laparotomy	68	9.6
Adhesiolysis	49	6.9
Colectomy: left (including sigmoid colectomy and anterior resection)	37	5.2
Intestinal bypass	25	3.5
Colorectal resection – other	17	2.4
Drainage of abcess/collection	11	1.6
Peptic ulcer – suture or repair of perforation	8	1.1
Revision of stoma via midline laparotomy	7	1.0
Exploratory/relook laparotomy only	6	0.9

Repair of intestinal perforation	6	0.9
Not amenable to surgery	6	0.9
Gatric surgery – other	5	0.7
Washout only	4	0.6
Laparostomy formation	3	0.4
Reduction of volvulus	3	0.4
Evacuation of haematoma	3	0.4
Repair or revision of anastomosis	3	0.4
Peptic ulcer – oversew of bleed	2	0.3
Abdominal wall closure following dehiscience	2	0.3
Haemostasis	2	0.3
Resection of other intra-abdominal tumour(s)	2	0.3
Enterotomy	2	0.3
Large incisional hernia repair with division of adhesions	2	0.3
Gastrectomy: partial or total	2	0.3
Abdominal wall reconstruction	2	0.3
Repair of intestinal fistula	2	0.3
Removal of foreign body	1	0.1
Large incisional hernia repair with bowel resection	1	0.1
Resection of Meckel's diverticulum	1	0.1

Table 7.30 The proportion of patients by each main surgical procedure who were admitted via hospital transfer

Main Procedure	Total number of patients who underwent each procedure (n)	Proportion of patients who underwent each procedure (%)
Small bowel resection	80	13.6
Adhesiolysis	77	13.1
Colectomy: right (including ileocaecal resection)	66	11.2
Hartmann's procedure	51	8.7
Colectomy: subtotal or panproctocolectomy	42	7.1
Defunctioning stoma via midline laparotomy	35	6.0
Gastric surgery – other	32	5.4

Peptic ulcer – suture or repair of perforation	23	3.9
Exploratory/relook laparotomy only	19	3.2
Repair of intestinal perforation	18	3.1
Colectomy: left (including sigmoid colectomy and anterior resection)	16	2.7
Washout only	15	2.6
Reduction of volvulus	12	2.0
Colorectal resection – other	11	1.9
Gastrectomy: partial or total	11	1.9
Peptic ulcer – oversew of bleed	10	1.7
Intestinal bypass	10	1.7
Drainage of abcess/collection	9	1.5
Removal of foreign body	8	1.4
Haemostasis	7	1.2
Repair or revision of anastomosis	5	0.9
Abdominal wall closure following dehiscience	4	0.7
Large incisional hernia repair with division of adhesions	4	0.7
Evacuation of haematoma	4	0.7
Resection of other intra-abdominal tumour(s)	3	0.5
Revision of stoma via midline laparotomy	3	0.5
Enterotomy	3	0.5
Large incisional hernia repair with bowel resection	3	0.5
Not amenable to surgery	3	0.5
Laparostomy formation	1	0.2
Abdominal wall reconstruction	1	0.2
Debridement	1	0.2
Repair of intestinal fistula	1	0.2

Table 7.31 The proportion of patients who had a preoperative CT scan performed by admission specialty

Total number of patients	General Surgery (n(%))	General Medicine (n(%))	Gastroenterology (n(%))	Elderly Care (n(%))	Other (n(%))	Unknown (n(%))
Who had a preoperative CT scan performed (n(%))	2,299 (11.8)	2,210 (87.9)	375 (71.4)	72 (94.7)	936 (85.2)	228 (83.1)
Who did not have a preoperative CT scan performed (n(%))	17,020 (87.5)	294 (11.7)	140 (26.7)	4 (5.3)	145 (13.3)	42 (15.3)
Unknown if they had a preoperative CT scan performed (n(%))	128 (0.7)	11 (0.4)	10 (1.9)	0 (0.0)	11 (1.0)	4 (1.5)
Total (n)	19,447	2,515	525	76	1,092	274

Table 7.32 The proportion of patients who had both consultant surgeon and anaesthetist present in theatre by admission specialty

Total number of patients	General Surgery (n(%))	General Medicine (n(%))	Gastroenterology (n(%))	Elderly Care (n(%))	Other (n(%))	Unknown (n(%))
Who had both consultant surgeon and anaesthetist present in theatre (n(%))	15,008 (77.2)	419 (16.7)	445 (84.8)	55 (72.4)	866 (79.3)	74 (27.0)
Who did not have both consultant surgeon and anaesthetist present in theatre (n(%))	4,439 (22.8)	2,096 (83.3)	80 (15.2)	21 (27.6)	226 (20.7)	200 (73.0)
Total (n)	19,447	2,515	525	76	1,092	274

Table 7.33 The proportion of patients who were admitted to critical care postoperative by admission specialty

Total number of patients	General Surgery (n(%))	General Medicine (n(%))	Gastroenterology (n(%))	Elderly Care (n(%))	Other (n(%))	Unknown (n(%))
Who were admitted to critical care postoperative (n(%))	11,586 (59.6)	1,777 (70.7)	271 (51.6)	55 (72.4)	813 (74.5)	167 (61.0)
Who were not admitted to critical care postoperative (n(%))	7,824 (40.2)	729 (29.0)	254 (48.4)	20 (26.3)	275 (25.2)	107 (39.1)
Unknown if the patients were admitted to critical care postoperative (n(%))	37 (0.2)	9 (0.4)	0 (0.0)	1 (1.3)	4 (0.4)	0 (0.0)
Total (n)	19,447	2,515	525	76	1,092	274

Table 7.34 The proportion of patients who had documented risk performed by route of admission

Total number of patients	General Surgery (n(%))	General Medicine (n(%))	Gastroenterology (n(%))	Elderly Care (n(%))	Other (n(%))	Unknown (n(%))
Who had preoperative documented risk (n(%))	14,463 (74.4)	1,964 (78.1)	366 (69.7)	62 (81.6)	796 (72.9)	188 (68.6)
Who did not have preoperative documented risk (n(%))	4,984 (25.6)	551 (21.9)	159 (30.3)	14 (18.4)	296 (27.1)	86 (31.4)
Total (n)	19,447	2,515	525	76	1,092	274

Table 7.35 The proportion of patients who were admitted via general surgery by each main surgical procedure

Main procedure	Total number of patients who underwent each procedure (n)	Proportion of patients who underwent each procedure (%)
Adhesiolysis	3,437	17.7
Small bowel resection	3,091	15.9
Hartmann's procedure	2,667	13.7
Colectomy: right (including ileocaecal resection)	2,641	13.6
Peptic ulcer – suture or repair of perforation	1,116	5.7
Colectomy: left (including sigmoid colectomy and anterior resection)	792	4.1
Colectomy: subtotal or panproctocolectomy	719	3.7

Defunctioning stoma via midline laparotomy	705	3.6
Drainage of abcess/collection	473	2.4
Washout only	456	2.3
Exploratory/relook laparotomy only	323	1.7
Colorectal resection – other	309	1.6
Repair of intestinal perforation	302	1.6
Large incisional hernia repair with division of adhesions	254	1.3
Reduction of volvulus	212	1.1
Enterotomy	207	1.1
Gastric surgery – other	204	1.1
Intestinal bypass	185	1.0
Repair or revision of anastomosis	144	0.7
Revision of stoma via midline laparotomy	140	0.7
Haemostasis	130	0.7
Not amenable to surgery	127	0.7
Large incisional hernia repair with bowel resection	111	0.6
Evacuation of haematoma	107	0.6
Resection of Meckel's diverticulum	81	0.4
Abdominal wall closure following dehiscience	79	0.4
Gastrectomy: partial or total	78	0.4
Abdominal wall reconstruction	77	0.4
Removal of foreign body	76	0.4
Laparostomy formation	63	0.3
Peptic ulcer – oversew of bleed	44	0.2
Resection of other intra-abdominal tumour(s)	43	0.2
Stricturoplasty	19	0.1
Debridement	19	0.1
Repair of intestinal fistula	16	0.1

Table 7.36 The proportion of patients who were admitted via general medicine by each main surgical procedure

Main procedure	Total number of patients who underwent each procedure (n)	Proportion of patients who underwent each procedure (%)
Small bowel resection	434	17.3
Colectomy: right (including ileocaecal resection)	356	14.2
Adhesiolysis	334	13.3
Colectomy: subtotal or panproctocolectomy	275	10.9
Hartmann's procedure	244	9.7
Peptic ulcer – suture or repair of perforation	132	5.3
Defunctioning stoma via midline laparotomy	107	4.3
Peptic ulcer – oversew of bleed	60	2.4
Colectomy: left (including sigmoid colectomy and anterior resection)	59	2.4
Drainage of abcess/collection	55	2.2
Exploratory/relook laparotomy only	51	2.0
Gastric surgery – other	49	2.0
Washout only	46	1.8
Enterotomy	45	1.8
Intestinal bypass	42	1.7
Colorectal resection – other	32	1.3
Repair of intestinal perforation	32	1.3
Large incisional hernia repair with division of adhesions	29	1.2
Gastrectomy: partial or total	28	1.1
Not amenable to surgery	23	0.9
Reduction of volvulus	19	0.8
Evacuation of haematoma	9	0.4
Haemostasis	8	0.3
Abdominal wall reconstruction	8	0.3
Revision of stoma via midline laparotomy	7	0.3
Removal of foreign body	6	0.2
Large incisional hernia repair with bowel resection	5	0.2
Stricturoplasty	4	0.2

Abdominal wall closure following dehiscience	3	0.1
Laparostomy formation	3	0.1
Resection of Meckel's diverticulum	3	0.1
Repair or revision of anastomosis	3	0.1
Debridement	2	0.1
Resection of other intra-abdominal tumour(s)	1	0.0
Repair of intestinal fistula	1	0.0

Table 7.37 The proportion of patients who were admitted via gastroenterology by each main surgical procedure

Main procedure	Total number of patients who underwent each procedure (n)	Proportion of patients who underwent each procedure (%)
Colectomy: subtotal or panproctocolectomy	183	34.9
Colectomy: right (including ileocaecal resection)	74	14.1
Small bowel resection	71	13.5
Adhesiolysis	30	5.7
Peptic ulcer – oversew of bleed	27	5.1
Gastric surgery – other	20	3.8
Defunctioning stoma via midline laparotomy	18	3.4
Colectomy: left (including sigmoid colectomy and anterior resection)	16	3.1
Hartmann's procedure	14	2.7
Peptic ulcer – suture or repair of perforation	10	1.9
Exploratory/relook laparotomy only	9	1.7
Drainage of abcess/collection	8	1.5
Repair of intestinal perforation	8	1.5
Washout only	7	1.3
Gastrectomy: partial or total	6	1.1
Enterotomy	4	0.8
Colorectal resection – other	3	0.6
Intestinal bypass	3	0.6
Laparostomy formation	2	0.4
Removal of foreign body	2	0.4

Not amenable to surgery	2	0.4
Resection of Meckel's diverticulum	2	0.4
Repair of intestinal fistula	2	0.4
Abdominal wall closure following dehiscience	1	0.2
Resection of other intra-abdominal tumour(s)	1	0.2
Reduction of volvulus	1	0.2
Large incisional hernia repair with bowel resection	1	0.2

Table 7.38 The proportion of patients who were admitted via elderly care by each main surgical procedure

Main procedure	Total number of patients who underwent each procedure (n)	Proportion of patients who underwent each procedure (%)
Small bowel resection	13	17.1
Colectomy: right (including ileocaecal resection)	13	17.1
Hartmann's procedure	13	17.1
Adhesiolysis	10	13.2
Defunctioning stoma via midline laparotomy	6	7.9
Peptic ulcer – suture or repair of perforation	3	4.0
Colectomy: subtotal or panproctocolectomy	3	4.0
Exploratory/relook laparotomy only	3	4.0
Enterotomy	2	2.6
Removal of foreign body	2	2.6
Gastric surgery – other	1	1.3
Colectomy: left (including sigmoid colectomy and anterior resection)	1	1.3
Colorectal resection – other	1	1.3
Laparostomy formation	1	1.3
Repair of intestinal perforation	1	1.3
Large incisional hernia repair with bowel resection	1	1.3
Not amenable to surgery	1	1.3
Resection of Meckel's diverticulum	1	1.3

Table 7.39 The proportion of patients who were admitted via other specialties by each main surgical procedure

Main procedure	Total number of patients who underwent each procedure (n)	Proportion of patients who underwent each procedure (%)
Small bowel resection	157	14.4
Adhesiolysis	143	13.1
Hartmann's procedure	131	12.0
Colectomy: right (including ileocaecal resection)	126	11.5
Defunctioning stoma via midline laparotomy	79	7.2
Exploratory/relook laparotomy only	45	4.1
Colectomy: subtotal or panproctocolectomy	44	4.0
Peptic ulcer – suture or repair of perforation	38	3.5
Washout only	38	3.5
Colectomy: left (including sigmoid colectomy and anterior resection)	37	3.4
Drainage of abcess/collection	36	3.3
Repair of intestinal perforation	32	2.9
Evacuation of haematoma	24	2.2
Gastric surgery – other	20	1.8
Colorectal resection – other	20	1.8
Haemostasis	18	1.7
Abdominal wall closure	12	1.1
Reduction of volvulus	10	0.9
Intestinal bypass	9	0.8
Not amenable to surgery	9	0.8
Repair or revision of anastomosis	9	0.8
Laparostomy formation	7	0.6
Large incisional hernia repair with bowel resection	7	0.6
Peptic ulcer – oversew of bleed	6	0.6
Revision of stoma via midline laparotomy	6	0.6
Abdominal wall reconstruction	6	0.6
Enterotomy	5	0.5
Gastrectomy: partial or total	5	0.5
Removal of foreign body	4	0.4

Resection of other intra-abdominal tumour(s)	2	0.2
Large incisional hernia repair with division of adhesions	2	0.2
Resection of Meckel's diverticulum	2	0.2
Debridement	2	0.2
Repair of intestinal fistula	1	0.1

Risk assessment

Table 8.2 Preoperative calculated P-POSSUM categories by NELA year

Preoperative calculated P-POSSUM risk of death	Year 1 (n(%))	Year 2 (n(%))	Year 3 (n(%))	Year 4 (n(%))
<5%	8,311 (39.6)	9,797 (41.2)	10,846 (42.8)	10,381 (43.4)
5.0–10.0%	3,604 (17.2)	4,151 (17.4)	4,400 (17.4)	4,338 (18.1)
10.1–25.0%	3,936 (18.)	4,520 (19.0)	4,635 (18.3)	4,396 (18.4)
25.1–50.0%	2,584 (12.3)	2,626 (11.0)	2,780 (11.0)	2,477 (10.4)
>50%	2,564 (12.2)	2,704 (11.4)	2,664 (10.5)	2,337 (9.8)

Table 8.3 Preoperative NELA model risk categories by NELA year

Preoperative NELA model risk of death	Year 1 (n(%))	Year 2 (n(%))	Year 3 (n(%))	Year 4 (n(%))
<5%	9,999 (47.6)	11,795 (49.6)	12,832 (50.7)	12,524 (52.3)
5.0–10.0%	3,196 (15.2)	3,560 (15.0)	3,866 (15.3)	3,767 (15.7)
10.1–25.0%	3,805 (18.1)	4,162 (17.5)	4,433 (17.5)	4,212 (17.6)
25.1–50.0%	2,172 (10.3)	2,305 (9.7)	2,367 (9.3)	2,107 (8.8)
>50%	862 (4.1)	859 (4.1)	837 (3.3)	741 (3.1)

Table 8.4 Proportion of patients for whom risk was documented before surgery by patient characteristics

	Total number of patients (n)	Proportion of patients who had risk documented before surgery (%)
Age (years)		
18–39	2,684	67.6
40–49	2,232	69.4
50–59	3,529	72.1
60–69	4,831	74.0
70–79	6,054	76.8
80–89	4,063	80.1
≥90	536	84.3
ASA		
1	2,383	71.3
2	8,515	71.3
3	8,625	73.8
4	3,977	83.3
5	429	89.5
Admission type		
Emergency	22,399	74.8
Elective	1,512	71.0
Missing	18	94.4
Urgency of surgery		
<2 hours	2,729	80.7
2–6 hours	8,952	77.5
6–18 hours	8,099	72.6
18–24 hours	4,097	68.2
Missing	52	48.1

Figure 8.3 Calibration plot of the NELA risk adjustment model. Plot based on Year 1–4 cohort of 87,418 patients, with patients grouped into deciles

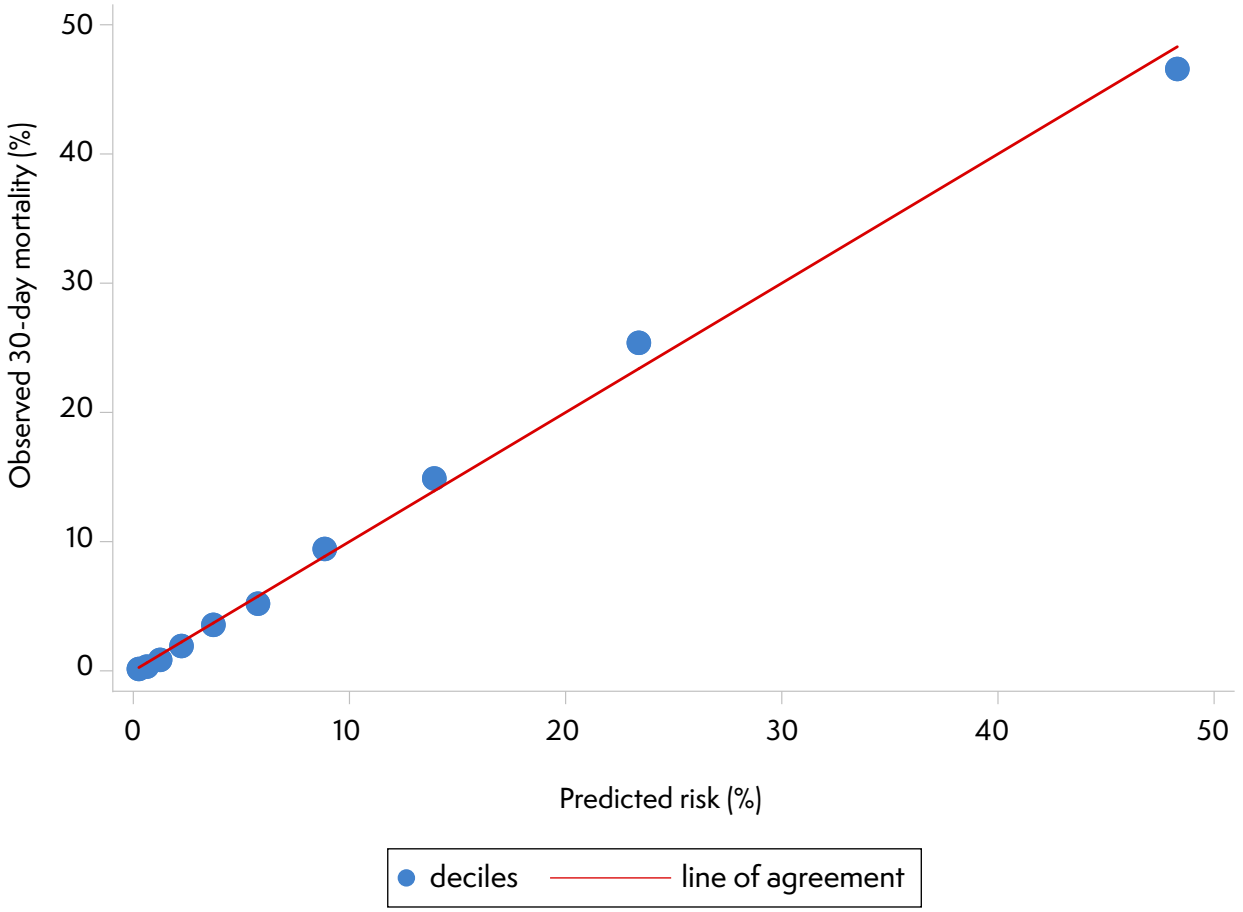


Figure 8.4 Calibration plots comparing the observed ONS 30-day mortality against that predicted by P-POSSUM and the NELA models in deciles of predicted risk, from the year 3 NELA report

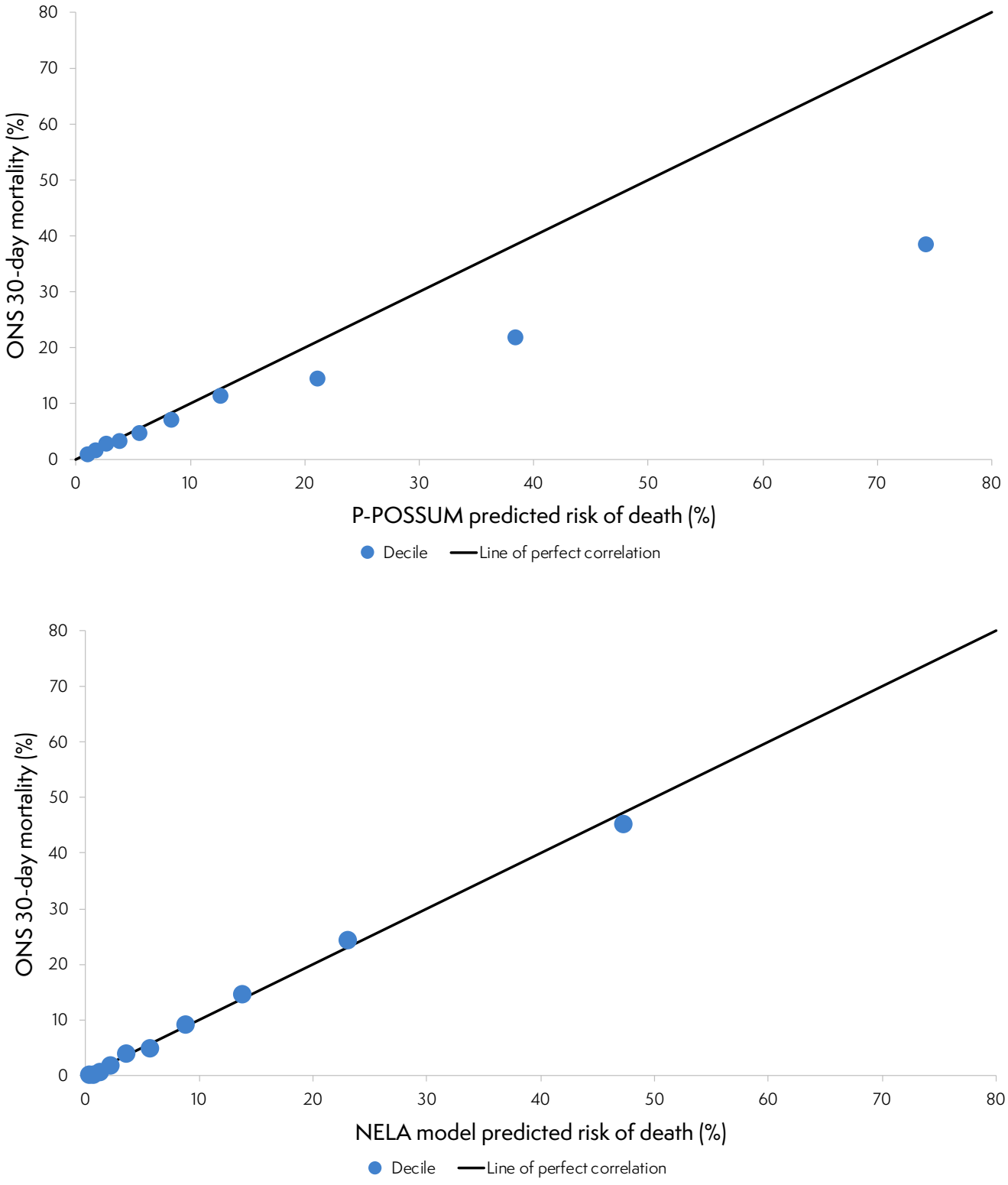
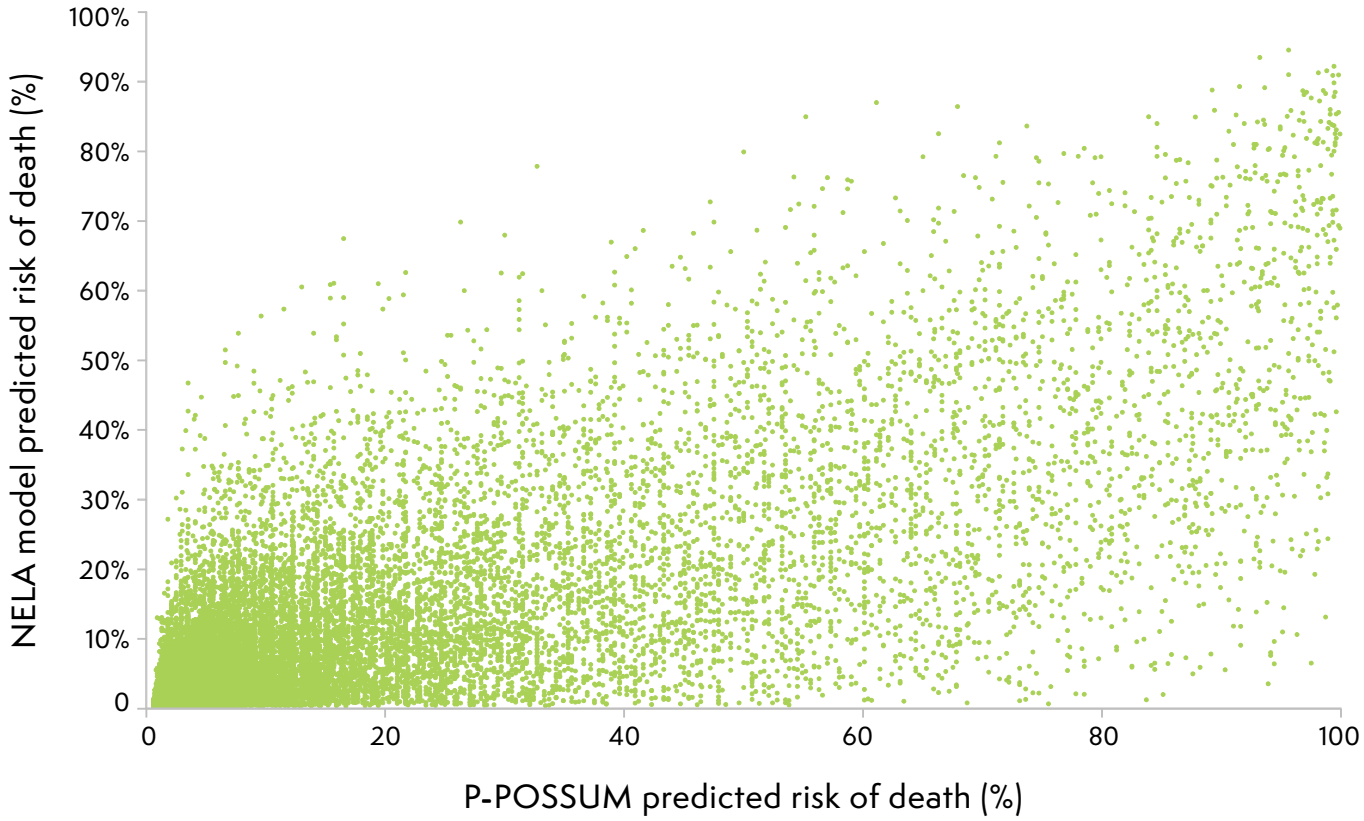


Figure 8.5 Scatter plot comparing predicted risk score generated by P-POSSUM and the NELA risk prediction tool



NELA
National Emergency Laparotomy Audit

Consultant input before surgery

Table 9.1 Preoperative consultant surgeon input by patient characteristics

	Surgeon						
	Total number of patients			Percentage of total number of patients			
	Within group (n)	Unknown (n)	Missing (n)	Consultant in person (%)	Consultant discussion (%)	Consultant total input (%)	Junior review only (%)
Age (years)							
18–39	2,547	98		79.2	19.5	98.7	1.3
40–49	2,109	100		78.4	20.3	98.8	1.2
50–59	3,357	146		78.5	19.7	98.2	1.8
60–69	4,594	176		79.7	19.4	99.1	0.9
70–79	5,778	208		80.0	19.0	99.0	1.0
80–89	3,866	157		80.4	18.5	99.0	1.0
≥90	522	10		80.3	19.0	99.2	0.8
Overall	22,773						
ASA							
1	2,258	111		75.1	23.1	98.1	1.9
2	8,113	317		80.9	18.0	98.8	1.2
3	8,212	314		81.5	17.4	98.9	1.1
4	3,782	137		75.8	23.4	99.2	0.8
5	408	16		74.5	24.8	99.3	0.7
Overall	22,773						
Documented Risk							
Lower (<5%)	7,359	209		81.6	17.4	99.0	1.0
High (5–10%)	3,936	111		79.9	19.1	99.0	1.0
Highest (>10%)	5,881	168		76.7	22.5	99.2	0.8
Not documented	5,597	407		79.7	18.5	98.1	1.9
Overall	22,773						
Preoperative Calculated P-POSSUM risk							
Lower (<5%)	9,554	392		81.9	16.7	98.6	1.4
High (5–10%)	4,579	205		79.9	19.1	99.0	1.0
Highest (>10%)	8,640	298		76.8	22.2	99.0	1.0
Overall	22,773						

Admission Type			18				
Emergency	21,335	847		79.4	19.4	98.8	1.2
Elective	1,421	47		82.1	17.3	99.4	0.6
Overall	22,756						
Urgency			48				
<2h	2,616	90		63.5	34.8	98.3	1.7
2–6h	8,533	343		75.1	23.5	98.6	1.4
6–18h	7,680	342		84.0	15.1	99.0	1.0
>18h	3,915	101		91.4	8.0	99.4	0.6
Overall	22,744						

Table 9.2 Preoperative consultant anaesthetist input by patient characteristics

	Anaesthetist						
	Total number of patients			Percentage of total number of patients			
	Within group (n)	Unknown (n)	Missing (n)	Consultant in person (%)	Consultant discussion (%)	Consultant input total (%)	No consultant input (%)
Age (years)							
18–39	2,467	178		51.8	35.4	87.1	12.9
40–49	2,058	151		55.5	33.2	88.7	11.3
50–59	3,312	191		57.0	33.1	90.1	9.9
60–69	4,511	259		58.9	32.2	91.1	8.9
70–79	5,658	328		61.6	30.7	92.3	7.7
80–89	3,842	181		63.5	29.3	92.8	7.2
≥90	511	21		63.8	28.0	91.8	8.2
Overall	22,359						
ASA							
1	2,209	160		48.4	36.6	84.9	15.1
2	7,919	511		53.9	35.0	88.9	11.1
3	8,066	460		61.3	30.9	92.2	7.8
4	3,749	170		69.7	25.5	95.2	4.8
5	416	8		76.0	21.2	97.1	2.9
Overall	22,359						
Documented Risk							
Lower (<5%)	7,204	364		54.7	35.2	89.9	10.1
High (5–10%)	3,890	157		63.5	30.4	93.9	6.1

Highest (>10%)	5,862	187		69.5	26.2	95.7	4.3
Not documented	5,403	601		50.0	34.4	84.8	15.2
Overall	22,359						
Preoperative Calculated P-POSSUM risk							
Lower (<5%)	9,302	644		53.0	35.0	88.0	12.1
High (5–10%)	4,478	306		58.8	32.3	91.0	9.0
Highest (>10%)	8,579	359		65.9	28.0	94.0	6.0
Overall	22,359						
Admission Type			18				
Emergency	20,939	1,243		58.7	32.1	90.8	9.2
Elective	1,407	61		64.7	27.9	92.6	7.4
Overall	22,346						
Urgency			48				
<2h	2,607	99		62.4	29.8	92.2	7.8
2–6h	8,439	437		58.5	33.0	91.5	8.5
6–18h	7,514	508		58.1	33.0	91.1	8.9
>18h	3,769	247		60.2	28.2	88.3	11.7
Overall	22,329						

Table 9.3 Preoperative consultant intensivist input by patient characteristics

	Intensivist							
	Total number of patients			Percentage of total number of patients				
	Within group (n)	Unknown (n)	Missing (n)	Consultant in person (%)	Consultant discussion (%)	Consultant total input (%)	Junior review (discussion or in person) only (%)	No preoperative input (%)
Age (years)								
18–39	2,437	208		9.9	25.2	35.1	5.4	59.6
40–49	2,034	175		12.1	29.7	41.8	5.4	52.8
50–59	3,207	296		13.4	32.7	46.2	6.6	47.2
60–69	4,373	397		15.4	36.7	52.1	5.9	42.0
70–79	5,486	500		17.5	40.2	57.8	6.9	35.3
80–89	3,685	338		18.1	46.5	64.6	6.7	28.7
≥90	499	33		14.8	49.7	64.5	6.8	28.7
Overall	21,721							
ASA								
1	2,208	161		6.0	21.2	27.0	5.1	67.7
2	7,741	689		8.1	30.0	38.1	5.6	56.4
3	7,711	815		14.8	44.3	59.1	6.7	38.3
4	3,649	270		31.6	47.2	78.8	8.0	13.2
5	412	12		59.0	26.7	85.7	6.3	8.0
Overall	21,721							
Documented Risk								
Lower (<5%)	7,085	483		7.6	29.1	36.3	5.3	58.3
High (5–10%)	3,765	282		15.3	48.0	63.3	6.9	29.9
Highest (>10%)	5,678	371		28.8	49.8	78.3	7.9	13.5
Not documented	5,193	811		10.9	25.9	36.9	5.5	57.7
Overall	21,721							
Preoperative Calculated P-POSSUM risk								
Lower (<5%)	9,118	828		7.1	26.9	34.0	4.3	61.7
High (5–10%)	4,293	491		12.7	38.6	51.4	4.9	41.7
Highest(>10%)	8,310	628		25.2	47.3	72.5	8.2	19.3
Overall	21,721							

Admission Type			18					
Emergency	20,359	1,823		14.4	36.9	53.3	6.3	42.4
Elective	1,347	121		27.0	38.6	65.6	6.3	28.1
Overall	21,706							
Urgency			48					
<2h	2,536	170		28.3	41.8	70.1	11.7	18.2
2–6h	8,191	685		15.7	40.0	55.7	8.1	36.2
6–18h	7,310	712		11.8	35.6	47.4	4.0	48.6
>18h	3,654	362		11.4	29.8	41.3	3.3	55.5
Overall	21,691							

Table 9.4 Preoperative input by consultant surgeon by time of day and day of week of decision to operate

	Surgeon							
	Monday–Friday				Saturday–Sunday			
	Seen in person by consultant (%)	Discussion with consultant but not seen in person (%)	Overall consultant input (%)	Junior input only (%)	Seen in person by consultant (%)	Discussion with consultant but not seen in person (%)	Overall consultant input (%)	Junior input only (%)
0800–1159	92.4	6.4	98.7	0.3	92.3	6.3	98.6	0.2
1200–1759	82.5	14.9	97.4	0.8	74.7	21.8	96.6	1.1
1800–2359	62.8	32.9	95.8	1.7	59.9	36.0	95.9	1.6
0000–0759	58.5	30.2	88.8	2.6	56.9	33.2	90.2	3.0

Table 9.5 Preoperative input by consultant anaesthetist by time of day and day of week of decision to operate

	Anaesthetist							
	Monday–Friday				Saturday–Sunday			
	Seen in person by consultant (%)	Discussion with consultant but not seen in person (%)	Overall consultant input	No anaesthetic consultant input (%)	Seen in person by consultant (%)	Discussion with consultant but not seen in person (%)	Overall consultant input (%)	No anaesthetic consultant input (%)
0800–1159	62.7	26.1	88.8	6.4	52.8	32.7	85.5	10.1
1200–1759	60.6	28.2	88.8	6.6	54.0	31.7	85.7	9.8
1800–2359	52.4	34.2	86.6	9.2	46.7	36.4	83.2	11.4
0000–0759	51.1	30.5	81.6	11.3	41.2	36.6	77.7	13.1

Table 9.6 Preoperative input by consultant intensivist by time of day and day of week of decision to operate

	Intensivist									
	Monday–Friday					Saturday–Sunday				
	Seen in person by consultant (%)	Discussion with consultant but not seen in person (%)	Overall consultant input (%)	Junior input only (%)	No ICU involvement (%)	Seen in person by consultant (%)	Discussion with consultant but not seen in person (%)	Overall consultant input (%)	Junior input only (%)	No ICU involvement (%)
0800–1159	13.0	34.1	47.1	3.2	41.3	12.4	35.8	48.2	4.2	41.5
1200–1759	15.7	35.2	50.9	4.2	37.6	16.2	36.0	52.2	5.1	35.6
1800–2359	14.8	36.1	50.9	9.6	33.3	12.8	36.4	49.1	9.1	34.5
0000–0759	13.2	30.3	43.5	8.2	38.5	11.6	28.6	40.2	11.6	37.4

Radiology

Table 10.6 The proportion of patients who underwent a preoperative CT scan per year of NELA data collection

NELA Dataset	Number of NELA patients (n)	Proportion of patients who underwent a preoperative CT scan (%)
Year 1	20,183	80.0
Year 2	23,138	83.0
Year 3	24,897	85.0
Year 4	23,929	87.0

Table 10.7 Preoperative CT scan reporting by reporting radiologist and day of the week of admission to hospital

Day of the week of admission	Reporting radiologist			Not reported (n(%))	Unknown (n(%))	Missing (n(%))
	Consultant (n(%))	Registrar (n(%))	Outsourced (n(%))			
Monday	2592 (65.0)	237 (5.9)	438 (10.9)	11 (0.3)	138 (3.5)	578 (14.5)
Tuesday	2391 (64.3)	232 (6.2)	382 (10.3)	11 (0.3)	135 (3.6)	568 (15.2)
Wednesday	2310 (64.1)	250 (6.9)	379 (10.5)	9 (0.3)	121 (3.4)	537 (14.9)
Thursday	2304 (64.7)	236 (6.6)	371 (10.4)	12 (0.3)	143 (4.0)	494 (13.9)
Friday	2166 (62.6)	281 (8.1)	385 (11.1)	11 (0.3)	135 (4.0)	480 (13.9)
Saturday	1643 (59.4)	255 (9.2)	438 (15.8)	5 (0.2)	101 (3.7)	326 (11.8)
Sunday	1726 (61.1)	246 (8.7)	425 (15.1)	7 (0.3)	99 (3.5)	321 (11.4)

Table 10.8 Preoperative CT scanning and reporting by patient characteristics

	CT scan performed		CT scan reported						
	Total number of patients (n)	Proportion who had a CT scan before surgery (%)	Total number of patients who had a CT scan (n)	Proportion reported by a consultant radiologist before surgery (%)	Proportion reported by a registrar before surgery (%)	Proportion reported by outsource before surgery (%)	Not reported (%)	Unknown who reported (%)	Missing data to who reported (%)
Age (years)									
18–39	2,684	78.1	2,094	71.5	9.2	13.6	0.4	3.4	1.5
40–49	2,232	84.9	1,897	70.3	10.3	14.1	0.5	3.9	1.0
50–59	3,529	87.5	3,091	71.9	9.2	13.6	0.3	4.3	0.7
60–69	4,831	87.8	4,246	72.6	8.7	12.7	0.3	4.6	1.1
70–79	6,054	89.2	5,400	72.4	7.2	14.4	0.3	4.5	1.2
80–89	4,063	89.2	3,628	75.0	7.3	12.9	0.4	3.6	0.9
≥90	536	90.5	485	75.3	8.0	12.6	0.0	3.3	0.8
ASA									
1	2,383	84.0	2,002	68.3	11.3	14.9	0.5	4.5	0.6
2	8,515	86.9	7,407	74.3	7.7	12.9	0.2	3.9	0.9
3	8,625	88.3	7,620	73.9	7.5	12.8	0.2	4.5	1.0
4	3,977	87.2	3,471	69.3	9.5	15.2	0.5	3.9	1.6
5	429	80.2	344	64.2	11.3	18.0	0.9	4.6	0.9
Admission Type									
Emergency	22,399	87.9	19,693	72.5	8.3	13.9	0.3	4.2	0.9
Elective	1,512	75.0	1,134	74.9	9.4	7.7	0.7	4.0	3.2
Missing	18	77.7	14	85.7	7.1	7.1	0.0	0	0
Documented Risk									
Lower (<5%)	7,625	87.3	6,655	75.9	6.8	12.5	0.2	3.9	0.7
High (5–10%)	4,093	90.6	3,709	74.3	7.2	13.7	0.1	3.7	1.1
Highest (>10%)	6,121	89.1	5,451	68.8	9.6	16.3	0.5	3.7	1.2
Not documented	6,090	82.5	5,026	71.2	9.9	11.7	0.5	5.5	1.3

NELA
National Emergency Laparotomy Audit

Consultant presence in theatre

Table 11.2 Proportion of patients with a calculated preoperative P-POSSUM risk of death ≥5% whose care during surgery was directly supervised by consultant surgeons and consultant anaesthetists by time of day and day of week of arrival in operating theatre

Time of arrival in operating theatre	Total number of patients		Monday–Friday			Saturday–Sunday		
	Monday–Friday (n)	Saturday–Sunday (n)	Both consultants present in theatre (%)	Consultant surgeon present in theatre(%)	Consultant anaesthetist present in theatre(%)	Both consultants present in theatre (%)	Consultant surgeon present in theatre (%)	Consultant anaesthetist present in theatre (%)
0800–1159	2,247	698	88.0	94.0	93.7	83.1	95.0	86.5
1200–1759	4,151	1,358	89.8	94.9	94.5	81.4	94.8	85.4
1800–2359	2,536	959	78.1	90.5	84.9	75.3	89.5	81.2
0000–0759	1,373	512	71.2	87.5	78.4	67.6	86.3	75.2
Overall	10,307	3,527	84.0	92.6	89.9	78.1	91.1	83.0

Table 11.3 Proportion of all patients whose care during surgery was directly supervised by consultant surgeons and consultant anaesthetists by documented preoperative risk category

Presence in theatre	Patients with available data (n)	Documented risk category				Overall (%)
		Lower risk (<5%) (%)	High risk (5–10%) (%)	Highest risk (>10%) (%)	Risk not documented (%)	
Both consultants present in theatre	23,929	73.7	80.9	86.1	73.4	78.0
Consultant surgeon present	23,929	88.5	91.3	93.7	88.4	90.3
Consultant anaesthetist present	23,929	80.6	87.0	91.0	80.7	84.4
Neither consultant present in theatre	23,929	4.6	2.7	1.4	4.4	3.4

Table 11.4 Proportions of all patients whose care during surgery was directly supervised by consultant surgeons and consultant anaesthetists by patient characteristics

	Total number of patients (n)	Proportion of patients			
		Both consultants present in theatre (%)	Consultant surgeon present (%)	Consultant anaesthetist present (%)	Neither consultant present in theatre (%)
Age (years)					
18–39	2,684	72.9	89.5	78.7	4.8
40–49	2,232	76.1	89.2	82.8	4.1
50–59	3,529	76.8	90.8	82.7	3.3
60–69	4,831	78.4	90.9	84.6	2.9
70–79	6,054	79.6	90.7	85.9	3.0
80–89	4,063	80.4	89.7	87.2	3.5
≥90	536	81.3	88.1	89.6	3.7
ASA					
1	2,383	66.5	85.6	74.2	6.7
2	8,515	74.6	89.2	81.2	4.3
3	8,625	80.1	91.0	86.5	2.6
4	3,977	86.3	93.1	91.7	1.5
5	429	90.0	96.5	93.2	0.2
Admission type					
Emergency	22,399	77.6	89.9	84.2	3.5
Elective	1,512	83.7	95.0	86.8	1.9

Table 11.5 Proportion of all patients whose care during surgery was directly supervised by consultant surgeons and consultant anaesthetists by calculated preoperative P-POSSUM risk of death

Risk category by calculated preoperative P-POSSUM risk of death	Total number of patients (n)	Proportion of patients			
		Both consultant present in theatre (%)	Consultant surgeon present (%)	Consultant anaesthetist present (%)	Neither consultant present in theatre (%)
Lower (<5%)	10,381	72.2	87.7	79.6	4.9
High (5–10%)	4,338	79.1	90.6	85.2	3.3
Highest (>10%)	9,210	84.1	93.0	89.4	1.8
Overall	23,929	78.0	90.3	84.4	3.4

Table 11.6 Proportion of all patients whose care during surgery was directly supervised by consultant surgeons and consultant anaesthetists by day of arrival in theatre

Day of arrival in operating theatre	Total number of patients (n)	Proportion of patients			
		Both consultants present in theatre (%)	Consultant surgeon present (%)	Consultant anaesthetist present (%)	Neither consultant present in theatre (%)
Monday	2,990	79.1	90.8	85.4	2.8
Tuesday	3,575	81.4	91.2	87.2	2.9
Wednesday	3,778	81.0	90.3	87.9	2.8
Thursday	3,821	80.7	90.5	86.8	3.3
Friday	3,695	79.3	89.9	86.6	2.8
Saturday	3,128	70.8	88.9	76.8	5.2
Sunday	2,942	71.7	89.9	77.4	4.4
Overall	23,929	78.0	90.3	84.4	3.4

Table 11.7 Proportion of all patients whose care during surgery was directly supervised by consultant surgeons and consultant anaesthetists by time of day and day of week of arrival in operating theatre

Time of arrival in operating theatre	Monday–Friday			Saturday–Sunday		
	Both consultants (%)	Consultant surgeon (%)	Consultant anaesthetist (%)	Both consultants (%)	Consultant surgeon (%)	Consultant anaesthetist (%)
0800–1159	85.0	92.1	91.9	73.5	92.4	78.5
1200–1759	86.8	93.3	92.4	75.6	92.0	81.2
1800–2359	72.0	87.7	79.2	68.4	87.0	74.2
0000–0759	58.9	79.8	66.9	57.2	77.2	66.4
Overall	80.5	90.5	87.1	71.6	89.5	77.3

Timeliness of care for patients with peritonitis and sepsis

Table 12.3 Intervals between key milestones in the care of patients admitted as an emergency who were scheduled for emergency laparotomy within six hours and underwent surgery within 24 hours of admission to hospital for suspected peritonitis: comparisons over time, 2014–2017

	Number of hours from admission to first antibiotics Median (IQR)	Number of hours from admission to arrival in theatre Median (IQR)	Number of hours from decision to operate to arrival in theatre Median (IQR)
2017	3.0 (1.3–5.5)	8.3 (5.5–12.5)	1.8 (1.3–3.0)
2016	3.3 (1.5–6.4)	8.0 (5.3–12.8)	2.0 (1.3–3.0)
2015	3.3 (1.4–6.6)	7.7 (4.8–12.8)	1.9 (1.1–3.0)
2014	3.6 (1.8–7.0)	8.1 (5.0–13.3)	2.0 (1.3–3.5)

Table 12.4 Intervals between key milestones in the care of patients admitted as an emergency who were scheduled for emergency laparotomy within six hours and underwent surgery within 24 hours of admission to hospital for suspected peritonitis

	Number of hours from admission to first antibiotics Median (IQR)	Number of hours from admission to arrival in theatre Median (IQR)	Number of hours from decision to operate to arrival in theatre Median (IQR)
Age (years)			
18–39	3.3 (1.5–5.8)	8.3 (5.2–12.5)	1.8 (1.0–3.0)
40–49	3.2 (1.3–5.4)	8.3 (5.5–12.1)	1.8 (1.3–2.8)
50–59	2.8 (1.3–5.5)	7.3 (5.2–11.5)	1.8 (1.0–2.5)
60–69	3.0 (1.3–5.8)	8.3 (5.6–13.8)	1.8 (1.0–3.0)
70–79	2.6 (1.3–4.8)	8.4 (5.5–13.1)	1.8 (1.3–2.8)
80–89	3.0 (1.3–5.8)	8.5 (6.0–13.0)	2.0 (1.3–3.3)
≥90	2.8 (1.0–6.9)	9.0 (5.1–14.0)	2.3 (1.3–3.3)
ASA			
1	3.0 (1.5–6.4)	8.2 (5.4–11.8)	1.8 (1.0–3.0)
2	3.0 (1.5–5.5)	8.3 (5.7–12.2)	1.8 (1.3–3.0)
3	3.1 (1.3–5.5)	8.5 (5.6–13.5)	2.0 (1.3–3.0)
4	2.4 (1.1–5.1)	8.1 (5.3–13.5)	1.8 (1.0–2.8)
5	2.0 (0.8–3.6)	8.0 (4.9–14.0)	1.8 (1.0–2.5)
Documented Risk			
Lower (<5%)	3.5 (1.7–6.0)	8.8 (5.9–12.5)	2.0 (1.3–3.3)
High (5–10%)	3.0 (1.3–5.6)	8.0 (5.2–13.8)	1.8 (1.0–3.0)
Highest (>10%)	2.5 (1.0–4.9)	7.8 (5.2–12.3)	1.8 (1.0–2.8)
Not documented	3.3 (1.8–5.8)	8.5 (6.0–12.6)	2.0 (1.3–3.5)
Urgency of Surgery			
<2 hours	2.5 (1.1–5.0)	6.5 (4.4–10.3)	1.5 (1.0–2.0)
2–6 hours	3.0 (1.5–5.7)	8.8 (6.0–13.8)	2.0 (1.3–3.3)
Overall	3.0 (1.3–5.5)	8.3 (5.5–12.5)	1.8 (1.3–3.0)

Table 12.5 The incidence of patients with a diagnosis of sepsis suspected at time of admission

Diagnosis of sepsis suspected at time of admission	Number of patients (n(%))
Yes	7,162 (32.3)
No	14,041 (63.4)
Unknown/Missing	944 (4.3)
Total	22,147

Table 12.6 The incidence of patients with a diagnosis of sepsis suspected at time of admission who received antibiotics within 60 minutes of admission time.

Antibiotics given within 60 minutes of admission to patients suspected to have a diagnosis of sepsis at time of admission	Number of patients (n(%))
Yes	1,742 (24.3)
No	5,420 (75.7)
Total	7,162

Table 12.7 The incidence of patients with a diagnosis of sepsis suspected by time of decision to operate.

Diagnosis of sepsis suspected by time of decision to operate	Number of patients (n(%))
Yes	8,498 (38.5)
No	12,774 (57.8)
Unknown/Missing	829 (3.8)
Total	22,101

Table 12.8 The incidence of patients with sepsis suspected by time of decision to operate who received antibiotics within 60 minutes of decision to operate

Antibiotics given within 60 minutes of decision to operate to patients with sepsis suspected by time of decision to operate	Number of patients (n(%))
Yes	6,554 (77.1)
No	1,994 (22.9)
Total	8,498

Timeliness of arrival in theatre

Table 13.1 Proportion of patients who arrived in theatre in a timescale appropriate to their operative urgency category, by time of day and day of week of arrival in an operating theatre. Expedited surgery (>18 hours) has been excluded from this analysis

Time of arrival in operating theatre	Monday–Friday			Saturday–Sunday		
	Surgery required within 2hours (%)	Surgery required within 2–6 hours (%)	Surgery required within 6–18 hours (%)	Surgery required within 2hours (%)	Surgery required within 2–6 hours (%)	Surgery required within 6–18 hours (%)
0800–1159	74.7	81.1	74.6	70.8	83.4	76.7
1200–1759	67.9	86.9	80.0	64.5	86.9	80.1
1800–2359	71.7	88.3	92.3	73.8	83.8	90.2
0000–0759	80.6	90.1	94.6	82.2	92.4	94.0
Overall	73.2	86.7	81.2	72.6	86.0	81.5

Table 13.2 Proportion of patients who arrived in theatre in a timescale appropriate to their operative urgency after the decision was made to perform surgery (or from time of booking if time of decision unavailable). Expedited surgery (>18 hours) has been excluded from this analysis

	Surgery required within 2 hours		Surgery required within 2–6 hours		Surgery required within 6–18 hours		All patients assessed	
	Total number of patients (n)	Proportion of patients who arrived to theatre within timescale (%)	Total number of patients (n)	Proportion of patients who arrived to theatre within timescale (%)	Total number of patients (n)	Proportion of patients who arrived to theatre within timescale (%)	Total number of patients (n)	Proportion of patients who arrived to theatre within timescale (%)
Age (years)								
18–39	240	78.3	848	87.6	717	81.0	1,805	83.8
40–49	250	78.4	733	85.7	599	82.8	1,582	83.4
50–59	376	72.9	1,168	88.7	987	82.2	2,531	83.8
60–69	548	75.2	1,557	85.0	1,388	81.1	3,493	81.9
70–79	640	70.6	1,989	86.7	1,734	81.1	4,363	82.1
80–89	373	69.2	1,373	86.0	1,213	81.5	2,959	82.0
≥90	41	56.1	177	84.8	173	75.7	391	77.8
ASA								
1	157	74.5	851	87.9	724	86.3	1,732	86.0
2	502	73.7	2,529	85.7	2,761	82.4	5,792	83.1
3	662	67.7	2,762	85.7	2,636	78.6	6,060	80.6
4	914	75.0	1,581	88.1	663	81.9	3,158	83.0
5	233	78.5	122	92.6	27	88.9	382	83.8
Admission type								
Emergency	2,190	72.2	7,292	86.3	6,479	81.1	15,961	82.2
Elective	277	79.8	548	89.8	329	85.4	1,154	86.1
Documented risk								
Lower (<5%)	299	69.6	2,287	85.1	2,675	81.6	5,261	82.4
High (5–10%)	338	71.3	1,459	85.5	1,272	81.1	3,069	82.1
Highest (>10%)	1,391	74.1	2,458	89.8	1,146	82.9	4,995	83.8
Not documented	440	73.6	1,641	84.5	1,718	79.9	3,799	81.2

NELA
National Emergency Laparotomy Audit

Critical care

Table 14.2 Proportion of patients admitted directly to a critical care bed after surgery based on calculated postoperative P-POSSUM risk of death. Excludes patients who died in theatre or where there was a decision for palliative care

Risk category by calculated postoperative P-POSSUM risk of death	Total number of patients (n)	Proportion of patients admitted directly to a critical care bed after surgery (%)
Lower (<5%)	10,186	38.1
High (5–10%)	4,283	62.8
Highest (>10%)	8,966	85.6
All patients with risk ≥ 5%	13,249	78.2
Overall	23,435	60.8

Table 14.3 Proportion of patients admitted directly to a critical care bed after surgery based on documented preoperative P-POSSUM risk category. Excludes patients who died in theatre or where there was a decision for palliative care

Documented preoperative P-POSSUM risk category	Total number of patients in this category (n)	Proportion of patients admitted directly to a critical care bed after surgery (%)
Lower (<5%)	6,869	36.5
High (5–10%)	3,834	78.0
Highest (>10%)	5,304	93.1
Not documented	7,423	53.4
Overall	23,430	61.5

Table 14.4 Proportion of patients with a calculated postoperative P-POSSUM risk of death >10% admitted directly to a critical care bed after surgery by time of day and day of week that surgery was commenced. Excludes patients who died in theatre or where there was a decision for palliative care

Time of arrival in operating theatre	Monday–Friday		Saturday–Sunday	
	Total number of patients (n)	Proportion of patients admitted directly to a critical care bed after surgery (%)	Total number of patients (n)	Proportion of patients admitted directly to a critical care bed after surgery (%)
0800–1159	1,408	82.7	433	84.3
1200–1759	2,552	84.7	847	85.7
1800–2359	1,748	90.3	653	88.4
0000–0759	963	90.1	362	92.0
Overall	6,671	86.5	2,295	87.2

Table 14.5 Proportion of all patients admitted directly to a critical care bed after surgery by patient characteristics. Excludes patients who died in theatre or where there was a decision for palliative care

	Total number of patients (n)	Proportion of patients admitted directly to a critical care bed after surgery (%)
Age (years)		
18–39	2,661	40.9
40–49	2,208	48.8
50–59	3,489	54.5
60–69	4,743	62.5
70–79	5,893	68.7
80–89	3,931	75.4
≥90	510	69.8
ASA		
1	2,374	33.6
2	8,460	46.2
3	8,486	70.4
4	3,749	90.0
5	366	97.3
Admission Type		
Emergency	21,935	60.5
Elective	1,482	76.0
Urgency		
<2 hours	2,588	85.6
2–6 hours	8,801	68.4
6–18 hours	7,984	53.6
18–24 hours	4,013	46.4
Missing	49	

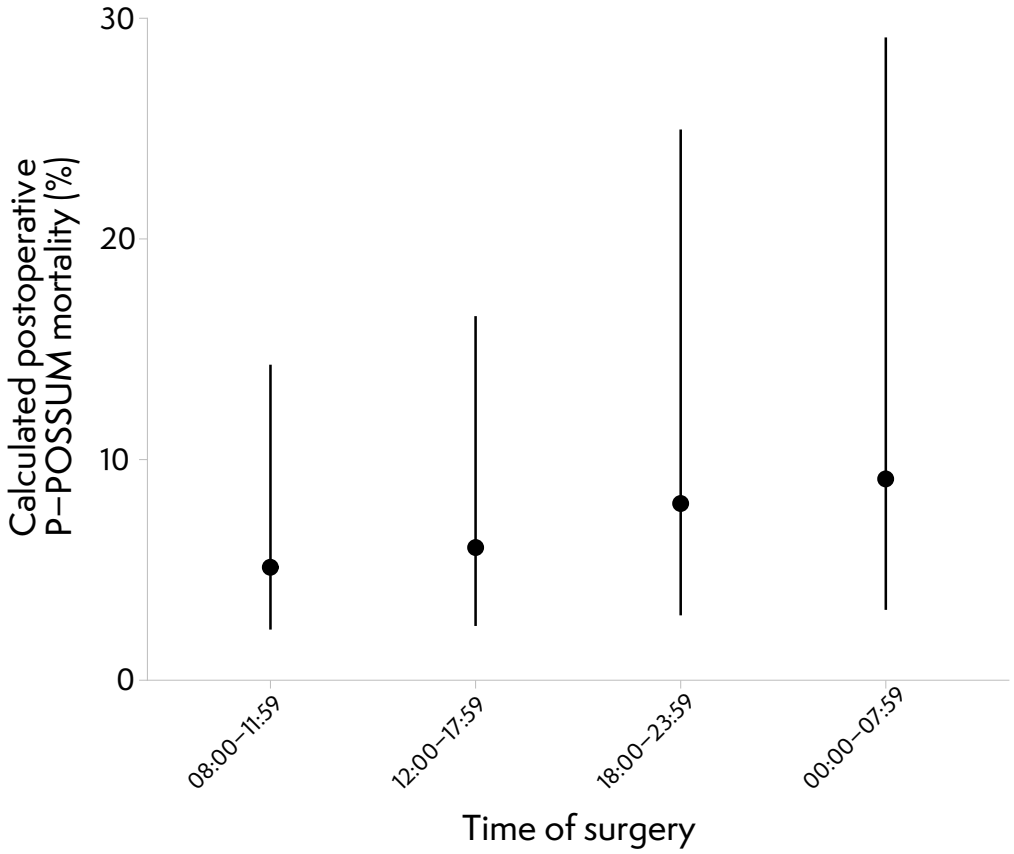
Table 14.6 Proportion of all patients admitted directly to a critical care bed after surgery by time of day and day of week that surgery was commenced. Excludes patients who died in theatre or where there was a decision for palliative care

Time of arrival in operating theatre	Monday–Friday		Saturday–Sunday	
	Total number of patients (n)	Proportion of patients admitted directly to a critical care bed after surgery (%)	Total number of patients (n)	Proportion of patients admitted directly to a critical care bed after surgery (%)
0800–1159	4,237	55.1	1,388	55.8
1200–1759	7,264	59.1	2,343	60.4
1800–2359	3,925	68.4	1,459	67.6
0000–0759	2,071	68.0	748	67.8
Overall	17,497	61.3	5,938	62.0

Table 14.7 Proportion of all patients admitted directly to a critical care bed after surgery by the time that surgery was commenced. Excludes patients who died in theatre or where there was a decision for palliative care

Time of arrival in operating theatre	Total number of patients (n)	Proportion of patients admitted directly to a critical care bed after surgery (%)
0800–1159	5,625	55.2
1200–1759	9,607	59.5
1800–2359	5,384	68.1
0000–0759	2,819	68.0
Overall	23,435	61.5

Figure 14.5 Calculated postoperative P-POSSUM mortality risk by time of arrival in theatre



Care of the elderly patient requiring emergency laparotomy surgery

Table15.2 Postoperative length of stay in patients surviving to hospital discharge by patient age

Age (years)	Number of patients (n)	Median (IQR) postoperative length of stay (days)
18–39	2,596	8 (5–12)
40–49	2,120	9 (6–14)
50–59	3,276	10 (6–16)
60–69	4,274	11 (7–19)
70–79	5,102	13 (8–22)
80–89	3,210	14 (9–23)
≥90	431	16 (10–25)

Table 15.3 Proportion of patients aged 70 years or over who were assessed after surgery by a care of the older person specialist following emergency laparotomy by patient characteristics

	Total number of patients (n)	Proportion of patients assessed after surgery by a care of the older person specialist (%)
ASA		
1	209	17.2
2	2,339	18.7
3	3,730	24.5
4	1,849	25.6
5	175	20.6
Overall	8,302	22.8
Type of admission		
Emergency	7,791	23.1
Elective	505	18.0
Overall	8,296	22.8
Urgency		
<2 hours	928	20.0
2–6 hours	3,092	25.0
6–18 hours	2,899	21.9
18–24 hours	1,373	22.0
Overall	8,292	22.8
Documented risk		
Lower (<5%)	1,776	18.3
High (5–10%)	1747	23.8
Highest (>10%)	2,989	26.2
Not documented	1,790	20.8
Overall	8,302	22.8
Calculated Preoperative P-POSSUM risk		
Lower (<5%)	2,297	18.6
High (5–10%)	1803	24.1
Highest (>10%)	4,202	24.6
Overall	8,302	22.8
Calculated Postoperative P-POSSUM risk		
Lower (<5%)	2,282	19.9
High (5–10%)	1,789	22.9
Highest (>10%)	4,231	24.4
Overall	8,302	22.8

Maximising use of NELA data

Table 16.2.1 Proportions of patients receiving goal directed fluid therapy and method of provision by patient characteristics

	Total Number of patients (n)	Goal Directed Fluid Therapy				
		Not provided (%)	Cardiac Output Monitor (%)	Other (%)	Dynamic Index (%)	Static Index (%)
Age (years)						
18–39	2,684	60.5	0.6	1.7	31.0	6.2
40–49	2,232	53.0	0.3	2.3	34.1	10.4
50–59	3,529	51.2	0.2	2.1	36.8	9.5
60–69	4,831	45.3	0.5	2.3	41.0	10.6
70–79	6,054	43.2	0.5	1.9	42.0	12.3
80–89	4,063	41.7	0.5	2.1	42.0	13.4
≥90	536	46.3	0.2	3.2	37.7	12.7
ASA						
1	2,383	63.0	0.2	2.4	28.9	5.4
2	8,515	54.8	0.4	2.1	35.6	7.1
3	8,625	43.5	0.4	2.0	42.1	11.7
4	3,977	33.0	0.7	2.0	45.1	19.1
5	429	29.6	0.2	3.3	43.1	23.8
Documented Risk						
Low (<5%)	7,625	53.9	0.3	2.2	37.2	6.1
High (5–10%)	4,093	38.8	0.5	2.4	45.7	12.5
Highest (>10%)	6,121	32.5	0.5	2.4	47.4	17.2
Not documented	6,090	60.4	0.4	1.5	28.1	9.4
Total	23,929	47.5	0.4	2.1	39.0	10.9
Admission Type						
Emergency	22,399	47.8	0.4	2.1	38.9	10.8
Elective	1,512	43.2	1.1	2.3	40.3	12.8
Total	23,911	47.5	0.4	2.1	39.0	10.9
Missing	18					

Urgency						
<2 hours	2,729	34.0	0.4	2.2	45.7	17.7
2–6 hours	8,952	45.1	0.3	2.0	41.0	11.4
6–18 hours	8,099	51.2	0.3	2.3	36.6	9.4
18–24 hours	4,097	54.2	0.9	1.8	34.7	8.1
Total	23,877	47.5	0.4	2.1	39.0	10.9
Missing	52					

National Emergency Laparotomy Audit (NELA)
Royal College of Anaesthetists, Churchill House, 35 Red Lion Square, London WC1R 4SG
020 7092 1676 | info@nela.org.uk | www.nela.org.uk
@RCoANews
RoyalCollegeofAnaesthetists

Information correct as at November 2018