Quality Performance Indicators Audit Report

Tumour Area:	Colorectal Cancer
Patients Diagnosed:	1st April 2018 – 31st March 2019
Published Date:	13th January 2021
Clinical Commentary:	North Cancer Colorectal Pathway Board Members

1. Colorectal Cancer in Scotland

Colorectal cancer is the third most common cancer in Scotland with approximately 3,800 cases diagnosed in Scotland in 2017. Over the last decade the incidence rate has decreased by 15% in women and 21% for men. Modifiable risk factors for colorectal cancer are thought to include diet, lack of physical activity and long-term smoking[1]. Relative survival for colorectal cancer is increasing[2].

The table below shows the percentage change in one-year and five-year age-standardised survival rates for patients diagnosed in 1987-1991 compared to those diagnosed in 2007-2011.

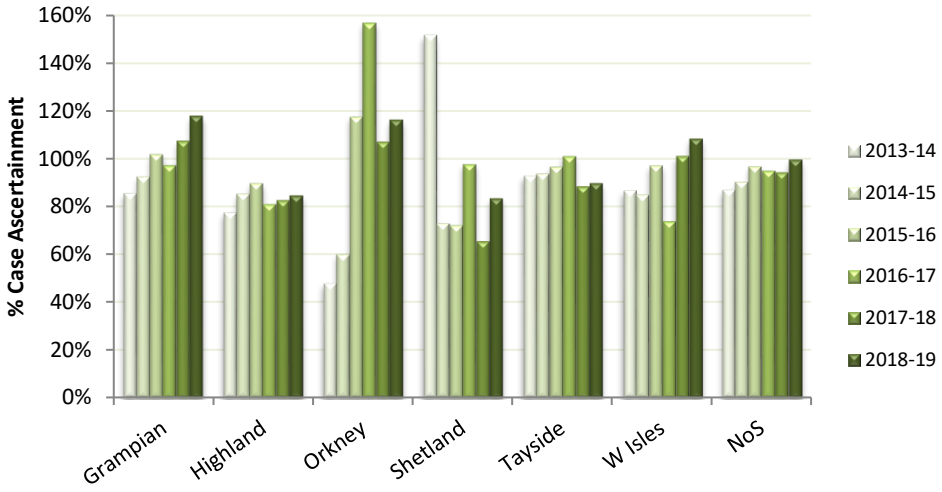
Relative age-standardised survival for colorectal cancer in Scotland at 1 year and 5 years showing percentage change from 1987-1991 to 2007-2011[2].

	Relative survival at 1 year (%)		Relative survival at 5 years (%)	
	2007-2011	% change	2007-2011	% change
Male	78.3%	+ 13.1%	59.9%	+ 19.4%
Female	76.9%	+ 11.9%	59.8%	+ 16.3%

2. Patient Numbers and Case Ascertainment in the North of Scotland

Between 1st April 2018 and 31st March 2019 a total of 937cases of colorectal cancer were diagnosed in the North of Scotland and recorded through audit. Overall case ascertainment was high at 99.5% which indicates excellent data capture through audit. Audit data were considered to be sufficiently complete to allow QPI calculations: the number of instances of data not being recorded was generally very low, however there were a few notable gaps across the region, which will affect the accuracy of QPI results.

The most considerable gap was the absence of data on 'Intent of Surgery' for 85 patients across the North of Scotland, most notably in NHS Grampian. This omission will have affected the results of QPI 5 considerably as well as QPI 1 and 2, although is an improvement on previous years.

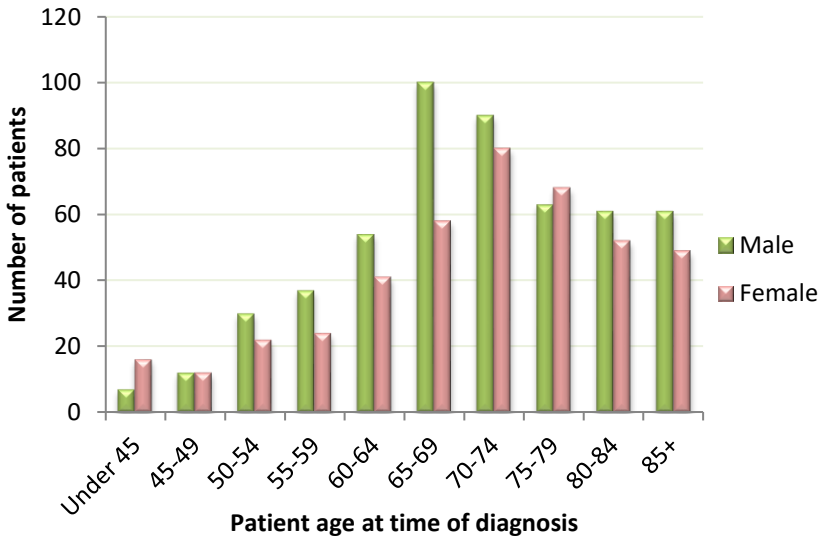


Case ascertainment by NHS Board for patients diagnosed with colorectal cancer in 2013/14 – 2018/19.

	Grampian	Highland	Orkney	Shetland	Tayside	W Isles	NoS
No. of Patients 2018-19	409	173	13	14	307	21	**937**
% of NoS total	43.6%	18.5%	1.4%	1.5%	32.8%	2.2%	**100%**
Mean ISD Cases 2013-17	348	204	11	17	342	19	**942**
% Case ascertainment 2018-19	117.7%	84.6%	116.1%	83.3%	89.7%	108.2%	**99.5%**

3. Age Distribution

The figure below shows the age distribution of patients diagnosed with colorectal cancer in the North of Scotland in 2018-19, with numbers highest in the 65-69 year age bracket for men and 70-74 year age bracket for women.



Age distribution of patients diagnosed with colorectal cancer in the NoS in 2018-19.

4. Performance against Quality Performance Indicators (QPIs)

Definitions for the QPIs reported in this section are published by Health Improvement Scotland[3], while further information on datasets and measurability used are available from Information Services Division[4]. Data for QPIs are presented by NHS Board of diagnosis with the exception of surgical QPIs (QPIs 4, 5, 7, 8, 9 and 10), which are reported by NHS Board of surgery. Please not that where QPI definitions have been amended, results are not compared with those from previous years.

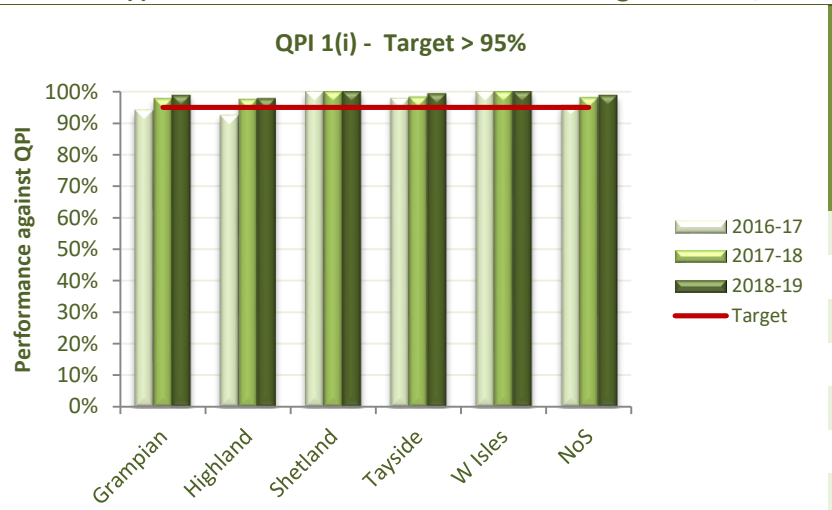
5. Governance and Risk

QPI performance is overseen by the North Cancer Alliance and its constituent groups, with an assessment of clinical risk and action planning undertaken collaboratively and reporting at board and regional level. Actions will be overseen by the Pathway Boards and reported concurrently into the NCA governance groups and the Clinical Governance committees at each North of Scotland health board.

Further information is available **here.**

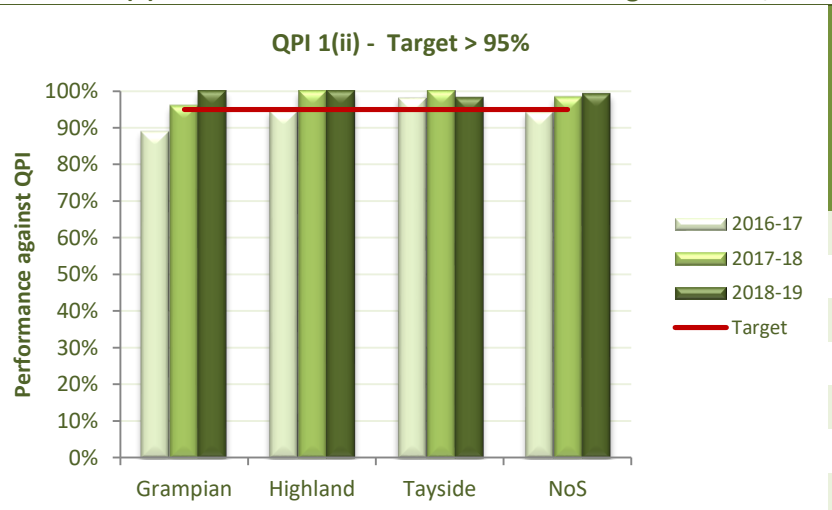
QPI 1	Radiological Diagnosis and Staging
Proportion of patients with colorectal cancer who undergo CT chest, abdomen and pelvis (colorectal cancer) plus MRI pelvis (rectal cancer only) before definitive treatment.	

Specification (i) Patients with colon cancer who undergo CT chest, abdomen and pelvis



	Performance (%)	Numerator	Denominator
Grampian	**98.8%**	162	164
Highland	**97.8%**	87	89
Orkney*	-	-	-
Shetland	**100%**	5	5
Tayside	**99.3%**	137	138
W Isles	**100%**	12	12
NoS	**98.8%**	**407**	**412**

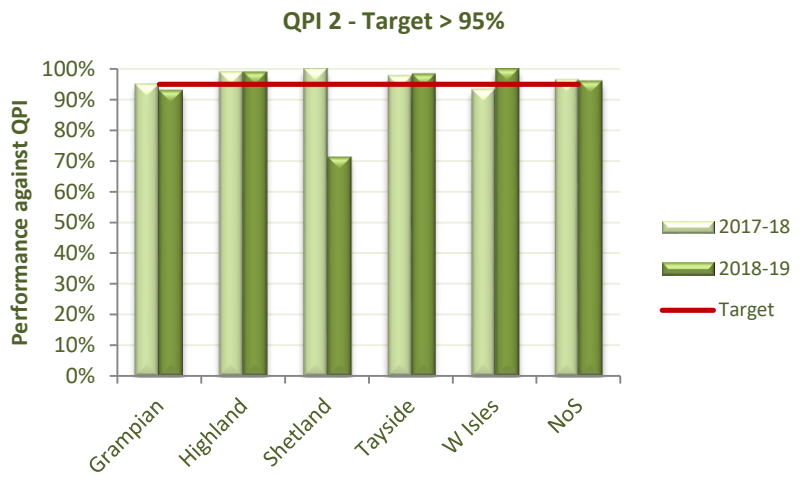
Specification (ii) Patients with rectal cancer who undergo CT chest, abdomen and pelvis and MRI.



	Performance (%)	Numerator	Denominator
Grampian	**100%**	40	40
Highland	**100%**	24	24
Orkney	-	0	0
Shetland*	-	-	-
Tayside	**98.1%**	51	52
W Isles*	-	-	-
NoS	**99.2%**	**120**	**121**

Clinical Commentary	Targets have been met across the three North of Scotland cancer centres.
Actions	No action required
Risk Status	Tolerate

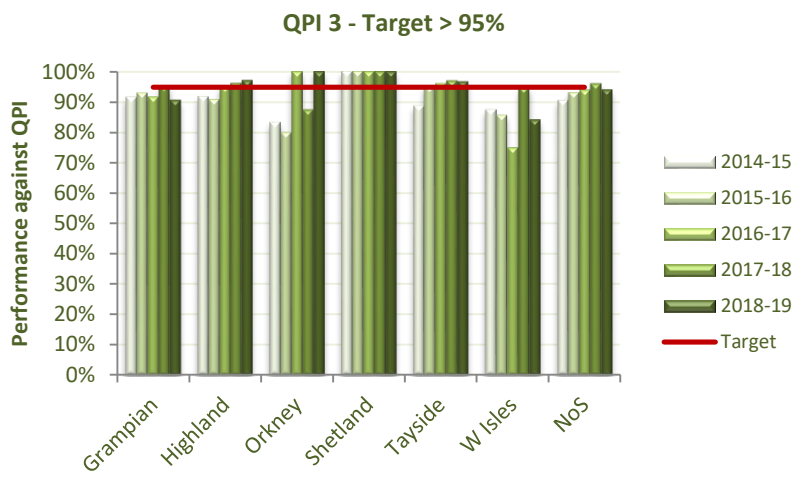
QPI 2	Pre-Operative Imaging of the Colon
Proportion of patients with colorectal cancer who undergo elective surgical resection who have the whole colon visualised by colonoscopy or CT colonography pre-operatively, unless the non-visualised segment of colon is to be removed.	



	Performance (%)	Numerator	Denominator
Grampian	**92.9%**	169	182
Highland	**98.9%**	94	95
Orkney*	-	-	-
Shetland	**71.4%**	5	7
Tayside	**98.3%**	173	176
W Isles	**100%**	14	14
NoS	**96.0%**	**459**	**478**

Clinical Commentary	NHS Grampian and NHS Shetland did not meet this QPI target. In NHS Grampian, this relates to 13 patients not having the whole colon visualised by CT or colonography pre-operatively. This was due to three patients at risk of obstructing or fistulation from CT, two patients were too frail, one patient refused, four patients weren't thought to have colorectal cancer pre-operatively and three patients were fit enough for colonoscopy but did not have it completed (but has been subsequently). Patients having surgery with palliative intent are excluded from this QPI, however, in NHS Grampian surgical intent was not recorded for 36 patients so patients having palliative surgery may have been erroneously included within the performance figures, lowering performance for the board. In NHS Shetland, two patients did not meet this QPI target, this was due to obstructing rectal tumours that had a sigmoidoscopy instead of a colonoscopy.
Actions	1. North of Scotland boards to ensure all clinicians record surgical intent for colorectal cancer patients.
Risk Status	Mitigate

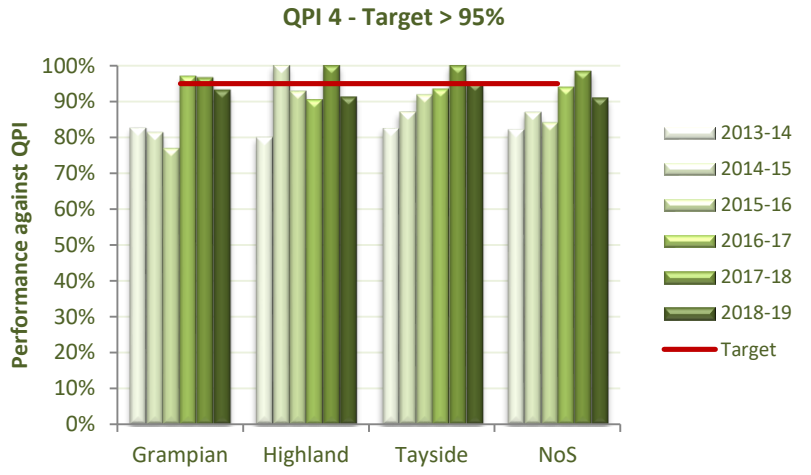
QPI 3	Multi-Disciplinary Team (MDT) Meeting
Proportion of patients with colorectal cancer who are discussed at MDT meeting before definitive treatment.	



	Performance (%)	Numerator	Denominator
Grampian	**90.6%**	269	297
Highland	**97.1%**	136	140
Orkney	**100%**	9	9
Shetland	**100%**	11	11
Tayside	**96.7%**	233	241
W Isles	**84.2%**	16	19
NoS	**94.0%**	**674**	**717**

Clinical Commentary	NHS Grampian and NHS Western Isles failed to meet this QPI target. In NHS Grampian this was due to 26 patients not being discussed at MDT before definitive treatment. Four of these cases were discussed at the Complex Polyp MDT instead of the Colorectal Cancer MDT which is not currently included within the QPI criteria. Four cases did not have a cancer diagnosis before surgery, nine cases were too frail for surgery or oncology intervention, four cases were discussed at alternative MDTs and lastly, four cases were not brought to MDT. In NHS Western Isles, the three cases that were not discussed at MDT were identified for supportive care only.
Actions	1. NCA Colorectal Pathway Board to discuss pathways to remind all members that all patients with a colorectal cancer diagnosis are referred and discussed at MDT before definitive treatment. 2. NCA Colorectal Pathway Board to look at standardising of MDT pathways in the North of Scotland.
Risk Status	Mitigate

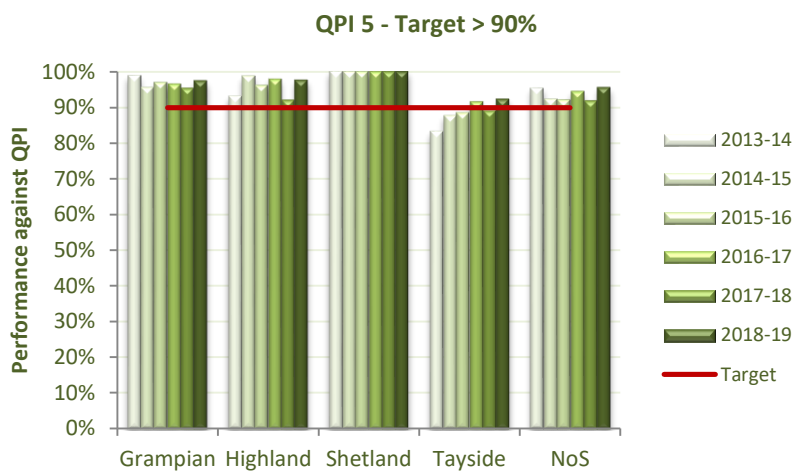
QPI 4	Stoma Care
Proportion of patients with colorectal cancer who undergo elective surgical resection which involves stoma creation who are seen and have their stoma site marked pre-operatively by a nurse with expertise in stoma care.	



	Performance (%)	Numerator	Denominator
Grampian	**93.2%**	68	73
Highland	**91.3%**	21	23
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**95.1%**	39	41
W Isles	-	0	0
NoS	**91.0%**	**131**	**144**

Clinical Commentary	Overall the North of Scotland did not meet this QPI due to a variety of reasons such as unplanned stomas and stomas being marked by an alternative professional. Two patients were not referred to a stoma nurse.
Actions	1. NCA to highlight this QPI to North of Scotland boards for oversight and implementation of required actions for improvement. 2. NCA to facilitate Pathway Board review of nursing capacity in stoma care across the North of Scotland.
Risk Status	Mitigate

QPI 5	Lymph Node Yield
Proportion of patients with colorectal cancer who undergo surgical resection where ≥12 lymph nodes are pathologically examined.	

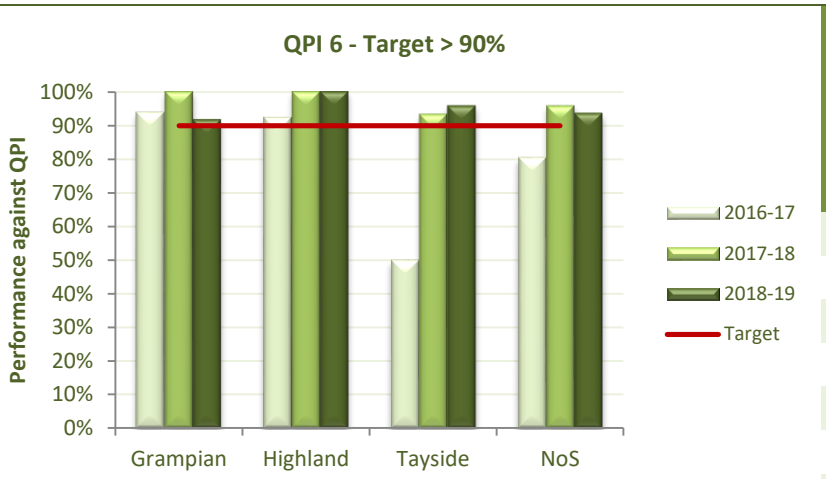


	Performance (%)	Numerator	Denominator
Grampian	**97.4%**	151	155
Highland	**97.6%**	122	125
Orkney	-	0	0
Shetland	**100%**	5	5
Tayside	**92.3%**	168	182
W Isles*	-	-	-
NoS	**95.5%**	**447**	**468**

Clinical Commentary	Target has been met across all North of Scotland boards.
Actions	No action required
Risk Status	Tolerate

QPI 6	Neoadjuvant Therapy

Proportion of patients with locally advanced rectal cancer with threatened or involved circumferential resection margin (CRM) on preoperative MRI who receive neo-adjuvant therapy, designed to facilitate a margin-negative resection, defined as:
(i) Long course chemoradiotherapy;
(ii) Long course radiotherapy;
(iii) Short course radiotherapy with long course intent (delay to surgery); or
(iv) Neo-adjuvant chemotherapy

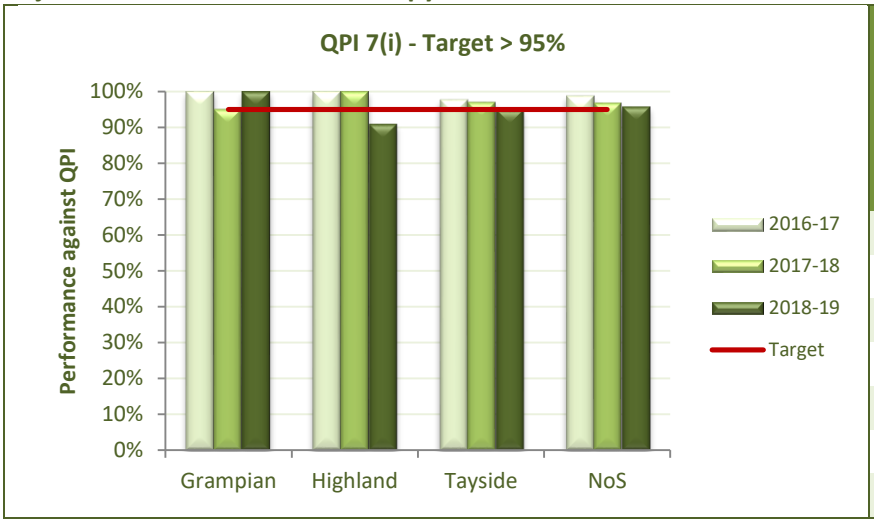


	Performance (%)	Numerator	Denominator
Grampian	**91.7%**	22	24
Highland	**100%**	5	5
Orkney	-	0	0
Shetland*	-	-	-
Tayside	**93.8%**	15	16
W Isles	-	0	0
NoS	**93.6%**	**44**	**47**

Clinical Commentary	Target has been met across all North of Scotland boards.
Actions	No action required
Risk Status	Tolerate

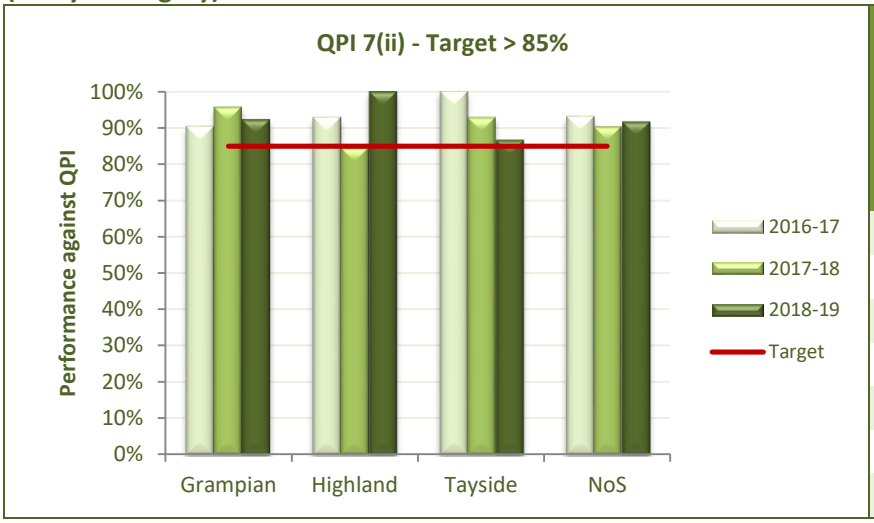
QPI 7	Surgical Margins
Proportion of patients with rectal cancer who undergo surgical resection in which the circumferential margin is clear of tumour.	

Specification (i) Patients undergoing primary surgery, or immediate / early surgery following neo-adjuvant short course radiotherapy



	Performance (%)	Numerator	Denominator
Grampian	**100%**	19	19
Highland	**90.9%**	10	11
Orkney	-	0	0
Shetland	-	0	0
Tayside	**94.9%**	37	39
W Isles	-	0	0
NoS	**95.7%**	**66**	**69**

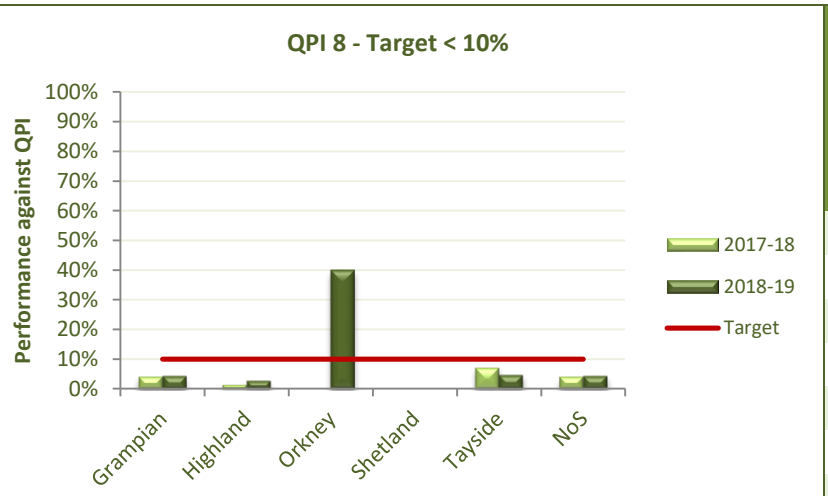
Specification (ii) Patients undergoing surgery following neo-adjuvant chemotherapy, long course chemoradiotherapy, long course radiotherapy or short course radiotherapy with long course intent (delay to surgery).



	Performance (%)	Numerator	Denominator
Grampian	**92.3%**	24	26
Highland	**100%**	6	6
Orkney	-	0	0
Shetland*	-	-	-
Tayside	**86.7%**	13	15
W Isles	-	0	0
NoS	**91.7%**	**44**	**48**

Clinical Commentary	Specification (i) of this QPI was not met by NHS Highland (1 patient) and NHS Tayside (2 patients). Specification (ii) was met by all North of Scotland boards.
Actions	1. NHS Highland and NHS Tayside to audit reasons for not meeting specification (i) of this QPI and return to North Cancer Colorectal Pathway Board.
Risk Status	Mitigate

QPI 8	Re-operation Rates
Proportion of patients who undergo surgical resection for colorectal cancer who return to theatre to deal with complications related to the index procedure (within 30 days of surgery).	

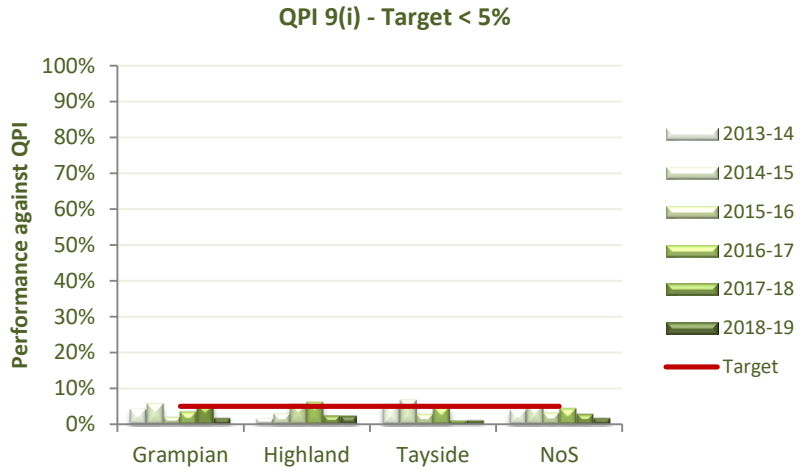


	Performance (%)	Numerator	Denominator
Grampian	**4.5%**	11	245
Highland	**2.9%**	4	139
Orkney	**40.0%**	2	5
Shetland	**0%**	0	5
Tayside	**4.8%**	10	209
W Isles*	-	-	-
NoS	**4.5%**	**27**	**604**

Clinical Commentary	NHS Orkney did not meet this QPI with three patients returning to theatre within 30 days of surgery.
Actions	1. NCA to highlight performance to NoS Boards for assessment of actions required for performance improvement
Risk Status	Escalate

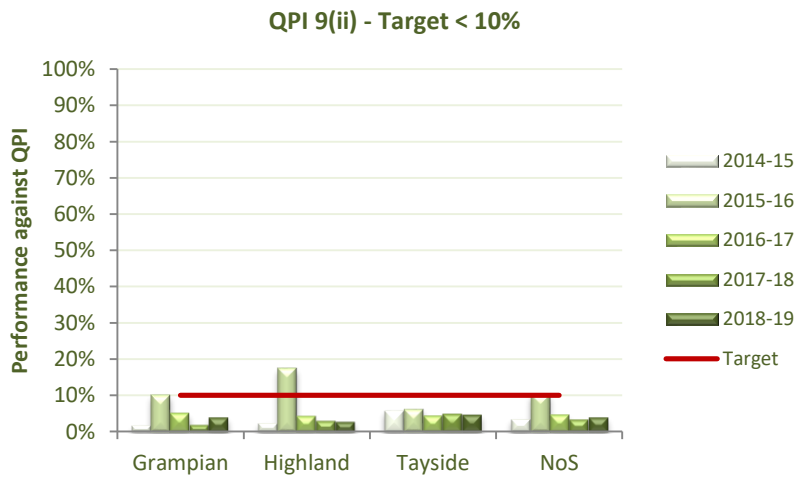
QPI 9	Anastomotic Dehiscence
Proportion of patients who undergo surgical resection for colorectal cancer with anastomotic leak as a post-operative complication.	

Specification (i) Patients undergoing colonic anastomosis



	Performance (%)	Numerator	Denominator
Grampian	**1.7%**	2	115
Highland	**2.2%**	2	89
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**1.1%**	1	88
W Isles*	-	-	-
NoS	**1.7%**	**5**	**299**

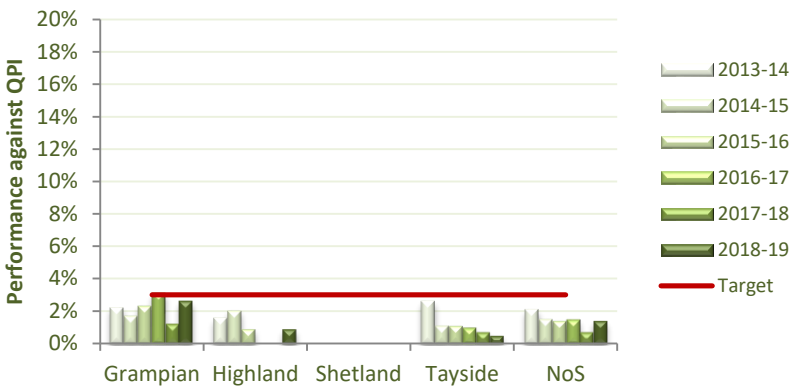
Specification (ii) Patients undergoing rectal anastomosis (including: anterior resection with total mesorectal excision (TME)).



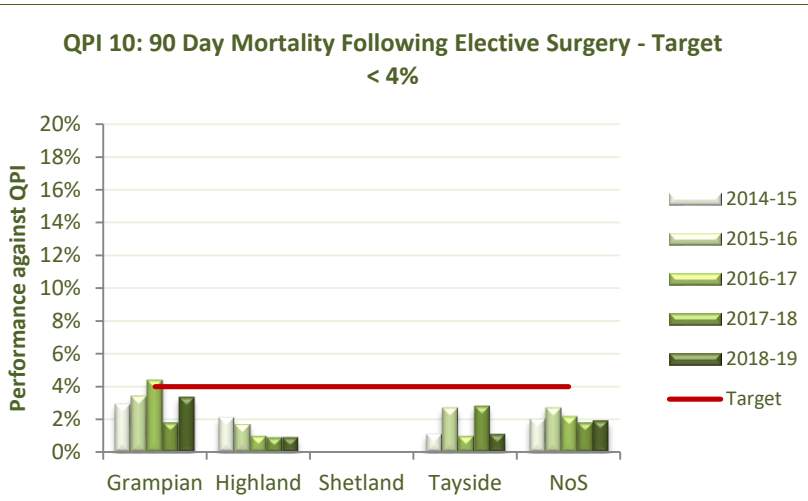
	Performance (%)	Numerator	Denominator
Grampian	**3.8%**	2	52
Highland	**2.7%**	1	37
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**4.5%**	3	67
W Isles	-	0	0
NoS	**3.8%**	**6**	**158**

Clinical Commentary	Targets were met across all North of Scotland boards.
Actions	No action required
Risk Status	Tolerate

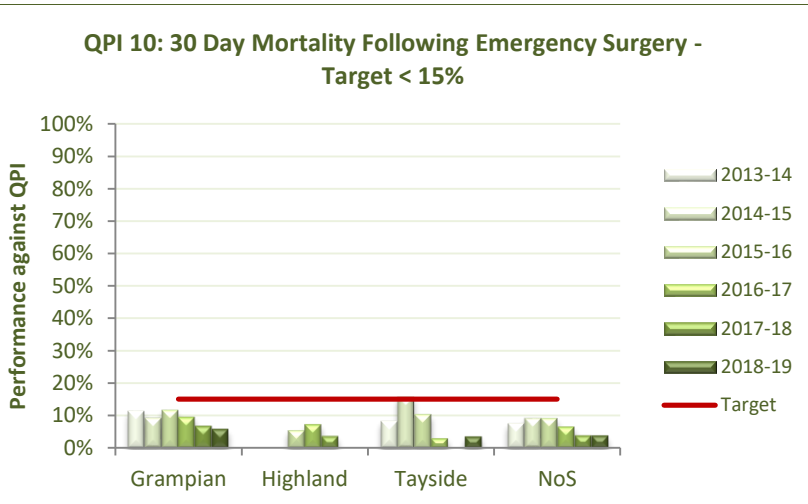
QPI 10	30 and 90 Day Mortality following Surgical Resection
Proportion of patients with colorectal cancer who die within 30 or 90 days of emergency or elective surgical resection.	



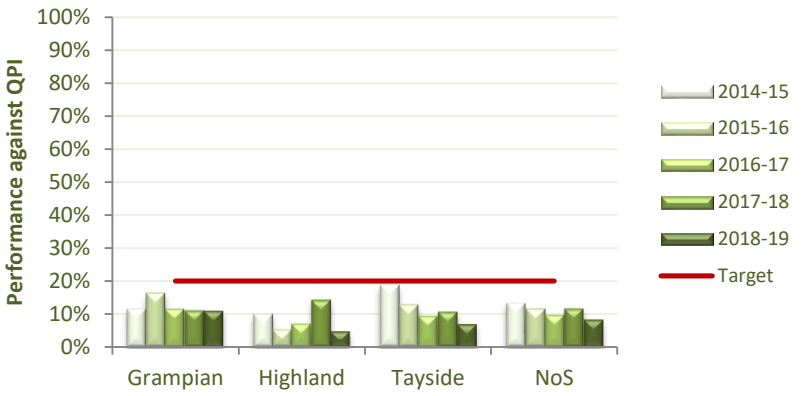
	Performance (%)	Numerator	Denominator
Grampian	**2.6%**	5	191
Highland	**0.9%**	1	116
Orkney*	-	-	-
Shetland	**0%**	0	5
Tayside	**0.5%**	1	185
W Isles*	-	-	-
NoS	**1.4%**	**7**	**500**



	Performance (%)	Numerator	Denominator
Grampian	**3.3%**	6	180
Highland	**0.9%**	1	115
Orkney*	-	-	-
Shetland	**0%**	0	5
Tayside	**1.1%**	2	181
W Isles*	-	-	-
NoS	**1.9%**	**9**	**484**



	Performance (%)	Numerator	Denominator
Grampian	**5.5%**	3	55
Highland	**0%**	0	21
Orkney*	-	-	-
Shetland	-	0	0
Tayside	**3.4%**	1	29
W Isles	-	0	0
NoS	**3.7%**	**4**	**108**

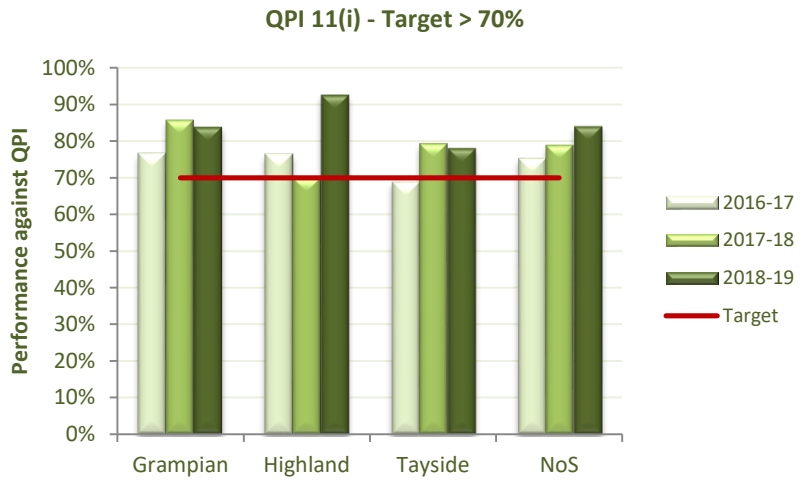


	Performance (%)	Numerator	Denominator
Grampian	**10.9%**	6	55
Highland	**4.8%**	1	21
Orkney*	-	-	-
Shetland	-	0	0
Tayside	**6.9%**	2	29
W Isles	-	0	0
NoS	**8.3%**	**9**	**108**

Clinical Commentary	Target met across all North of Scotland boards.
Actions	No actions required
Risk Status	Manage

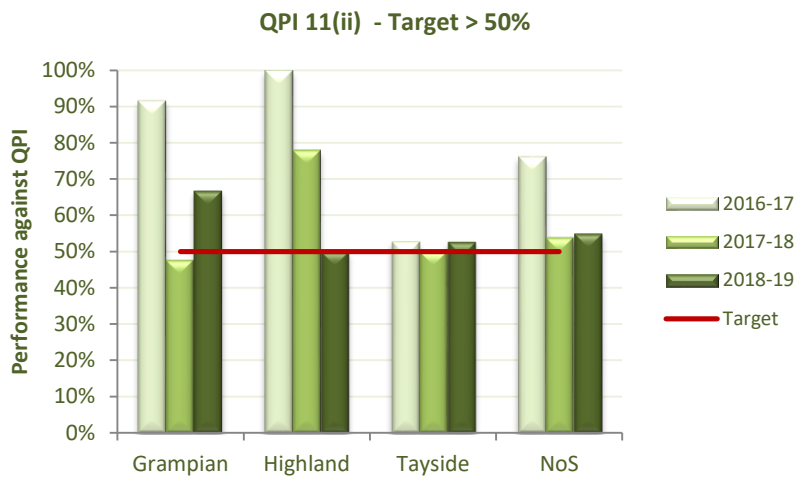
QPI 11	Adjuvant Chemotherapy
Proportion of patients between 50 and 74 years of age at diagnosis with Dukes' C, or high risk Dukes' B, colorectal cancer who receive adjuvant chemotherapy.	

Patients with Dukes' C colorectal cancer



	Performance (%)	Numerator	Denominator
Grampian	**83.9%**	26	31
Highland	**92.6%**	25	27
Orkney*	-	-	-
Shetland	-	0	0
Tayside	**78.1%**	25	32
W Isles*	-	-	-
NoS	**84.0%**	**79**	**94**

Patients with high risk Dukes' B colorectal cancer

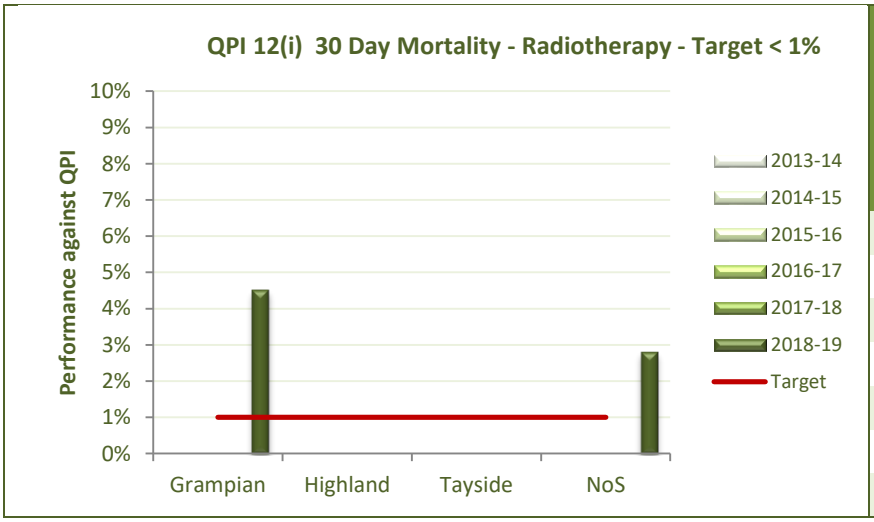


	Performance (%)	Numerator	Denominator
Grampian	**66.7%**	14	21
Highland	**50.0%**	4	8
Orkney*	-	-	-
Shetland	-	0	0
Tayside	**52.6%**	10	19
W Isles*	-	-	-
NoS	**54.9%**	**28**	**51**

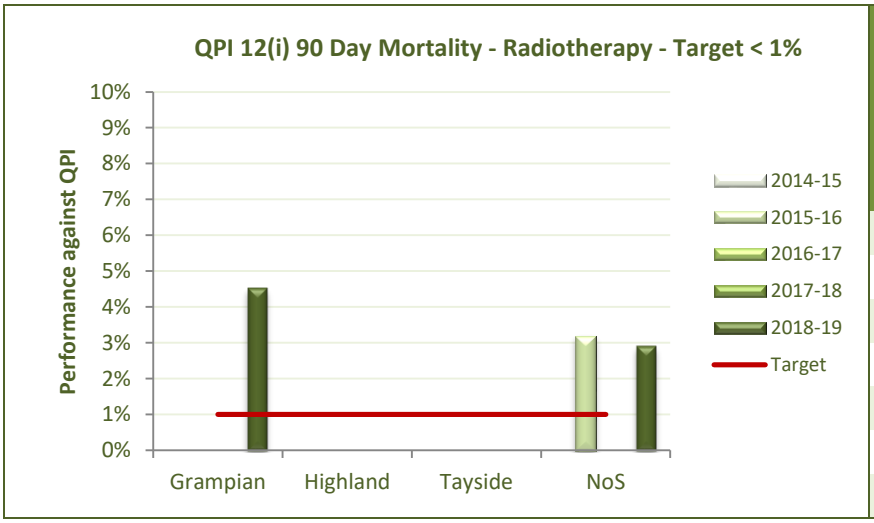
Clinical Commentary	Target met across all North of Scotland boards.
Actions	No action required
Risk Status	Tolerate

QPI 12	30 and 90 Day Mortality Following Chemotherapy or Radiotherapy
Proportion of patients with colorectal cancer who die within 30 or 90 days of chemotherapy or radiotherapy treatment.	

In regards to mortality following SACT, a decision has been taken nationally to move to a new generic QPI (30-day mortality for SACT) applicable across all tumour types. This new QPI will use CEPAS (Chemotherapy ePrescribing and Administration System) data to measure SACT mortality to ensure that the QPI focuses on the prevalent population rather than the incident population. The measurability for this QPI is still under development to ensure consistency across the country and it is anticipated that performance against this measure will be reported in the next audit cycle (the target will be revised from <5% to <10% when it is reported using CEPAS due to the increased clinical cohort who will be receiving appropriate palliative chemotherapy). In the meantime all deaths within 30 days of SACT will continue to be reviewed at NHS Board level.



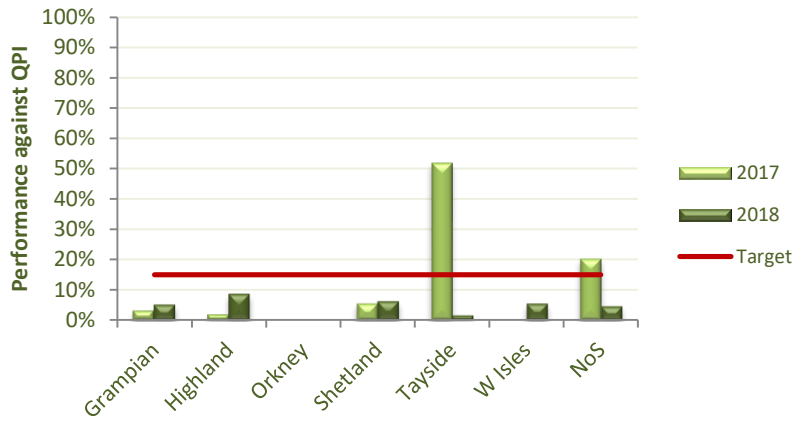
	Performance (%)	Numerator	Denominator
Grampian	**4.5%**	1	22
Highland	**0%**	0	6
Orkney	-	0	0
Shetland	-	0	0
Tayside	**0%**	0	7
W Isles*	-	-	-
NoS	**2.8%**	**1**	**36**



	Performance (%)	Numerator	Denominator
Grampian	**4.5%**	1	22
Highland	**0%**	0	6
Orkney	-	0	0
Shetland	-	0	0
Tayside	**0%**	0	6
W Isles*	-	-	-
NoS	**2.9%**	**1**	**35**

Clinical Commentary	Seven patients across the North of Scotland died within 30 and 90 days of chemotherapy/radiotherapy treatment. These deaths have been reviewed as part of board Morbidity and Mortality reviews and were not linked to the treatment given, but rather the significant burden of disease.
Actions	No actions required
Risk Status	Mitigate

Clinical Trial and Research Study Access QPI
Proportion of patients with colorectal cancer who are consented for a clinical trial / translational research. Data reported for patients enrolled in 2018.



	Performance (%)	Numerator	Denominator
Grampian	**4.9%**	17	348
Highland	**8.3%**	17	204
Orkney	**0%**	0	11
Shetland	**6.0%**	1	17
Tayside	**1.5%**	5	342
W Isles	**5.2%**	1	19
NoS	**4.4%**	**41**	**942**

Clinical Commentary	None of the North of Scotland boards met this QPI target due to the lack of clinical trials available to recruit.
Actions	1. All clinicians should consider opening relevant clinical trials in their tumour areas. When this is not possible patient referrals to other sites for access to clinical trials should be considered.
Risk Status	Tolerate

References

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2. NHS National Services Scotland. Cancer Survival in Scotland, 1987-2011. 2015. https://isdscotland.scot.nhs.uk/Health-Topics/Cancer/Publications/2015-03-03/2015-03-03-CancerSurvival-Report.pdf
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5. https://www.nrhcc.scot/uploads/tinymce/NCA/NCA%20Governance/NCA-GOV-QPI-Process-Explained.pdf
6. North Cancer Alliance: QPI Process Explained (August 2020) https://www.nrhcc.scot/uploads/tinymce/NCA/NCA%20Governance/NCA-GOV-QPI-Process-Explained.pdf

Appendix 1: Clinical Trials and Research studies for colorectal cancer open to recruitment in the North of Scotland in 2018

Trial	Principle Investigator	Patients consented
ADD ASPIRIN	Trevor McGoldrick (NHS Grampian) Douglas Adamson (NHS Tayside) Russell Mullen (NHS Highland)	yes
Aristotle	Leslie Samuel (NHS Highland and NHS Grampian)	yes
BECON CRC Study	Leslie Samuel (NHS Grampian)	yes
FOCUS 4	Leslie Samuel (NHS Highland and NHS Grampian) Sharon Armstrong (NHS Tayside)	yes
Keynote 177: A Phase III Study of Pembrolizumab vs. Chemotherapy in MSI-H or dMMR S	Leslie Samuel (NHS Grampian)	yes
NCRN - 3131: EPOCH TheraSphere in Metastatic Colorectal Carcinoma of the Liver (TS102)	Leslie Samuel (NHS Grampian)	yes
Scottish Colorectal Cancer Genetic Susceptibility study 3 (SOCCS3)	Angus Watson (NHS Highland) Sharon Armstrong (NHS Tayside)	yes
COGS2	Zosia Miedzybrodzka (NHS Grampian) David Goudie (NHS Tayside)	no
FOxTROT	Walter Mmeka (NHS Highland)	no
IMPALA	Leslie Samuel (NHS Grampian)	no
PLATO - PersonaLising Anal cancer radioTherapy dOse	Leslie Samuel (NHS Grampian)	no
STAR-TReC	Ian Sanders (NHS Tayside)	no
TESARO NCRN - 2489	Leslie Samuel (NHS Grampian)	no
TRIGGER	Leslie Samuel (NHS Grampian)	no