North, South East and West of Scotland Cancer Networks

HepatoPancreatoBiliary Cancers National Managed Clinical Network

Audit Report

Report of the 2013 Clinical Audit Data

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Executive Summary

Introduction

The purpose of this report is to present an assessment of performance of HepatoPancreatoBiliary (HPB) Cancer Services relating to patients diagnosed across Scotland during 2013 through clinical audit data. Results are measured against the HPB Cancer Quality Performance Indicators[1] (QPIs) which were implemented for patients diagnosed on or after 1st January 2013.

In 2010, the Scottish Cancer Taskforce established the National Cancer Quality Steering Group (NCQSG) to take forward the development of national QPIs for all cancer types to enable national comparative reporting and drive continuous improvement for patients. In collaboration with the three Regional Cancer Networks and Information Services Division (ISD), the first QPIs were published by Healthcare Improvement Scotland (HIS) in January 2012 and implementation for all cancer types was completed in autumn 2014. Data definitions and measurability criteria to accompany the HPB Cancer QPIs are available from the ISD website[2].

Twelve months of data are measured against the HPB Cancer QPIs and presented within this audit report. There are no annual comparisons as this is the first year of analysis since implementation of the QPI dataset. Future reports will compare clinical audit data in successive years to illustrate trend analysis.

Background

HPB cancers are a rare group of cancers. In 2013 the audit identified 1386 patients diagnosed with a new primary cancer of the liver, pancreas, bile ducts, gallbladder or duodenum in Scotland, of which pancreatic cancer is the largest single group accounting for 636 cases. Survival rates for pancreatic cancer remain poor and it was the sixth most common cause of death from cancer in Scotland in 2013[6]. The incidence of liver cancer is increasing[4] and mortality has significantly increased in both sexes over the past 10 years. Although the percentage frequency of liver cancer remains relatively low at 1.6% of all cancers, it is now the seventh most common cause of death from cancer in Scotland[5].

The table below details the five centres carrying out HPB cancer treatment in Scotland. These are considered the centres for specialist treatment, which includes surgery, chemotherapy and radiotherapy. Patients may receive diagnostic and palliative care in their local hospital where appropriate, however the majority of patients are referred to one of the five centres for specialist management. Additionally, the Scottish Liver Transplant Unit (SLTU), located in the Royal Infirmary of Edinburgh, is responsible for management of all liver transplant cases in Scotland, a treatment which can be indicated for some patients with primary liver cancer.

Centre	Constituent Hospital(s)
Aberdeen	Aberdeen Royal Infirmary (ARI)
Dundee	Ninewells Hospital (NW)
Edinburgh	Royal Infirmary of Edinburgh (RIE - surgery) and Western General Hospital (WGH - oncology)
Glasgow	Glasgow Royal Infirmary (GRI - surgery) and Beatson West of Scotland Cancer Centre (BWoSCC - oncology)
Inverness	Raigmore Hospital

Methodology

The clinical audit data presented in this report was collected by clinical audit staff in each NHS Board in accordance with an agreed dataset and definitions. The data was entered locally into the electronic Cancer Audit Support Environment (eCASE): a secure centralised web-based database. Data relating to patients diagnosed between 1st January 2013 and 31st December 2013 was downloaded from eCASE on 28th August 2014.

Analysis was performed centrally by the West of Scotland Cancer Network (WoSCAN) Information Team and the timescales agreed took into account the patient pathway to ensure that a complete treatment record was available for each case. Initial results of the analysis were provided to local Boards to check for inaccuracies or obvious gaps before final analysis was carried out. Final results were disseminated for NHS Board verification in line with the regional audit governance process, to ensure that the data was an accurate representation of service in each area.

Once all NHS Boards had been given the opportunity to verify their data, further analyses were carried out at a regional and national level to provide an overall assessment of the quality of HPB cancer services in Scotland.

Results

Case ascertainment is a method of estimating whether the number of patient records captured through audit reflects the number expected for that cancer and location. Data were submitted by thirteen of the fourteen Scottish NHS Boards as NHS Orkney had no recorded cases in 2013. Case ascertainment for patients diagnosed in 2013 is 104% across Scotland indicating generally excellent data capture. Overall data quality and completeness has significantly improved over the past 5 years. As HPB services are based around specialist centres, the data are analysed based upon the location of treatment. This can present problems with respect to the data quality where patients have moved between NHS Boards for diagnosis and treatment, especially where the Board of diagnosis and the Board of treatment are not in the same regional area. Continued effort in this area will be required to maintain the level of improvement that has been observed over the preceding five years.

Results for each QPI are shown in detail in the main report and illustrate NHS Board/Regional performance against each target and overall national performance for each performance indicator. Results are presented graphically and the accompanying tabular format also highlights any missing data and its possible effect on any of the measured outcomes.

The summary of results on the following page shows the national percentage performance against each QPI target and performance by NHS Region or treatment centre. Results for QPI 11 are detailed under section 4.2 of the main report.

Summary of QPI Results

1. Hepatocellular Carcinoma (HCC)

		Target	National	Region		
				WoSCAN	SCAN	NOSCAN
QPI 1:	**Diagnosis and Staging of Hepatocellular Carcinoma (HCC)** - Proportion of patients with HCC who have undergone contrast-enhanced CT or MRI and with full information recorded.	90%	14.7%	14.3%	0.0%	38.9%
QPI 2:	**Referral to Scottish Liver Transplant Unit –** Proportion of patients who meet the UK listing criteria referred to the SLTU for consideration of liver transplantation.	90%	75.8%[c]	70.8%[c]	96.4%	42.9%
QPI 3:	**Palliative Treatment for HCC –** Proportion of patients with HCC not suitable for treatment with curative intent that undergo specific treatment with palliative intent (TACE or SACT).	50%	25.5%	31.5%	27.1%	10.2%

		Target	National	Treatment Centre		
				GRI/ WIG BWoSCC	RIE WGH	ARI / NW Raigmore
QPI 4:	**30-day Mortality for HCC Cancers –** Proportion of patients with HCC undergoing disease specific treatment, either curative or palliative, who die within 30 days of definitive treatment.					
	Curative:					
	a) Liver transplant	< 10%	0.0%	NA	0.0%	NA
	b) Resection[a]	< 10%	0.0%	0.0%	0.0%	0.0%
	c) Ablation [a]	< 10%	0.0%	0.0%	0.0%	0.0%
	Palliative:					
	d) TACE [a]	< 10%	1.3%	0.0%	0.0%	25.0%
	e) SACT [a]	< 10%	7.1%	11.1%	0.0%	0.0%

[a] Note that small numbers may apply to some Specialist Centres therefore proportions should be considered within the context of the total numbers detailed within the main report.
[C] Corrected performance for WoSCAN = 75.0% and Scotland = 77.3%. See footnote (c) page 18.

Summary of QPI Results – continued

2. HepatoPancreatoBiliary Cancers (excluding HCC)

				Region		
		Target	National	WoSCAN	SCAN	NOSCAN
QPI 5:	**Radiological Diagnosis –** Proportion of patients with pancreatic, duodenal or biliary tract cancer who undergo contrast-enhanced CT of the chest, abdomen and pelvis.	80%	68.2%	72.1%	68.1%	61.2%
QPI 6:	**Pathological Diagnosis –** Proportion of patients with pancreatic, duodenal or biliary tract cancer undergoing non-surgical treatment who have a cytological or histological diagnosis.	50%	73.6%	84.9%	79.2%	39.3%
QPI 8:	**Resection Rate –** Proportion of patients who undergo resection for pancreatic, distal biliary tract or duodenal cancer.	15%	9.7%	8.2%	9.2%	12.5%

				Treatment Centre		
		Target	National	GRI BWoSCC	RIE WGH	ARI / NW Raigmore
QPI 7:	**Systemic Therapy for Pancreatic Cancer –** Proportion of patients undergoing resection for pancreatic cancer receiving adjuvant chemotherapy.	50%	58.7%	61.1%	58.3%	56.3%
QPI 9:	**Lymph Node Yield –** Proportion of patients with pancreatic cancer who undergo pancreatoduodenectomy where ≥ 15 lymph nodes are resected and pathological examined.	100%	80.0%	93.8%	93.8%	46.2%
QPI 10:	**Mortality after Surgery with Curative Intent –** Proportion of patients undergoing surgical resection with curative intent for pancreatic, duodenal or distal biliary duct cancer who die within 30/90 days.					
	a) 30-day mortality	< 5%	5.8%[d]	8.3%[d]	10.0%	0.0%
	b) 90-day mortality	< 5%	8.7%[e]	12.5%[e]	10.0%	4.0%
QPI 11:	**Volume of Cases per Centre/Surgeon –** Number of pancreatic resections for pancreatic cancer performed by a specialist centre, and surgeon, over a one-year period.					
	Volume of cases per;					ARI: 10
	a) Centre	11	-	21	16	NW: 5 Raig: 3
	b) Surgeon	4	-	See report – pages 34		

[d] Corrected performance for GRI = 8.0% and Scotland = 5.7%. See footnote (d) page 32.
[e] Corrected performance for GRI = 8.0% and Scotland = 7.1%. See footnote (e) page 32/33.

Conclusions and Action Required

The development of national QPIs for HPB cancer has helped drive continuous quality improvement in the care of patients with HPB cancer whilst ensuring that activity at NHS Board/treatment centre level is focussed on those areas that are most important in terms of improving survival and patient experience. In addition, the introduction of QPIs and the associated governance structure will facilitate regular monitoring and reporting of data to ensure equitable care across the country. Results presented in this and previous reports demonstrate that patients with HPB cancer receive an equitable and consistent standard of care across NHS Scotland, however it is evident that many of the QPI targets set have been challenging for NHS Boards to achieve and some variance and a number of areas for improvement have been highlighted.

This audit report has identified areas where data capture must improve to enable more meaningful analysis of performance against QPIs in the coming years, specifically with regards to the number of lesions detected radiologically and Child Pugh score for patients with hepatocellular carcinoma. However case ascertainment and data capture is of a high standard overall and it is evident that many NHS Boards have already initiated changes to improve data recording.

Areas for service improvement have been identified relating to variation in palliative treatment rates, pathological diagnosis, resection rates, surgical outcome and lymph node yield. Some of these issues will feature in Baseline Review discussions for HPB QPIs to evaluate whether difficulties in achieving the QPI targets relate to measurability rather than service issues.

The NMCN will actively take forward national actions identified and NHS Boards are asked to develop local Action/Improvement Plans in response to the findings presented in the report.

Action Required:

QPI 1 – Diagnosis and Staging of HCC

- All NHS Boards to ensure full list of required data fields are recorded by adding these items to MDT referral or summary forms and ensuring consistent recording (see Appendix 1, pg 39).
- NHS AA, NHS Borders and NHS Lanarkshire to review cases where HCC patients underwent CT chest, abdomen and pelvis to ensure data has been correctly recorded and/or patients received appropriate staging investigations.

QPI 2 – Referral to Scottish Liver Transplant Unit

- All NHS Boards must ensure that complete TNM staging data is recorded in order to ensure accurate measurement against QPI 2 ahead of proposed changes to the measurability following HPB Cancer QPI Baseline Review.
- NHSGGC, NHS Borders, NHS D&G, NHS Fife, NHS Lothian and NHS Grampian must ensure that ‘Vascular Invasion’ and ‘Listing Criteria’ fields are complete in order to accurately report against QPI 2.

QPI 3 – Palliative Treatment for HCC

- All NHS Boards to ensure improved data capture with regards to Child Pugh score by adding this item to MDT referral or summary forms and ensuring consistent recording.
- NHS Boards to carry out targeted audit to identify the proportion of patients (from QPI 3 denominator) who had impaired synthetic function and were therefore not suitable for TACE.

Action Required: - continued

QPI 4 – 30-day Mortality for HCC

- Casenote review to be carried out by NHSGGC and NHS Grampian and details to be discussed at annual NMCN Mortality and Morbidity meeting.
- NMCN to initiate discussion with oncology colleagues to determine whether it is appropriate to report 90-day mortality for palliative treatments with TACE or SACT.

QPI 6 – Pathological Diagnosis of Pancreatic, Duodenal and Biliary Tract Cancer

- NHS Highland and NHS Tayside should review cases that did not meet QPI 6 to identify why definitive cytological or histological diagnosis was not achieved for these patients.

QPI 8 – Resection Rate for Pancreatic, Duodenal or Biliary Tract Cancer

- All NHS Boards should contribute to the review of variation in surgical resection rates which will be progressed at the upcoming Mortality and Morbidity meeting.

QPI 9 – Lymph Node Yield (Pancreatic Cancer)

- NHS Grampian to work with histopathology department to improve the number of lymph nodes recovered from specimens and to ensure the use of standard proforma.

QPI 10a/b – 30/90-day Mortality after Treatment with Curative Intent

- Casenote review to be carried out by all centres where mortality was greater than 5% and details to be discussed at the annual NMCN Mortality and Morbidity meeting.

A summary of actions for each NHS Board has been included within the Action Plan templates in Appendix 2.

Completed Action Plans should be returned to WoSCAN within two months of publication of this report.

Progress against these plans will be monitored by the NMCN Advisory Board and any service or clinical issue which the Advisory Board considers not to have been adequately addressed will be escalated to the NHS Board Territorial Lead Cancer Clinician and National Lead Cancer Clinician.

Additionally, progress will be reported to the Regional Cancer Advisory Groups (RCAGs) annually by NHS Board Territorial Lead Cancer Clinicians and NMCN Clinical Lead, as part of the regional audit governance process to enable RCAGs to review and monitor regional improvement.

1. Introduction

The National Managed Clinical Network (NMCN) for HepatoPancreatoBiliary (HPB) Cancers launched in 2005 with the aim of providing quality and equitable care for all patients in Scotland. The purpose of this report is to present an assessment of performance of HPB Cancer Services relating to patients diagnosed across Scotland during 2013 through clinical audit data. These audit data underpin much of the regional and national development/service improvement work of the NMCN and regular reporting of activity and performance is a fundamental requirement of an MCN to assure the quality of care delivered across the country.

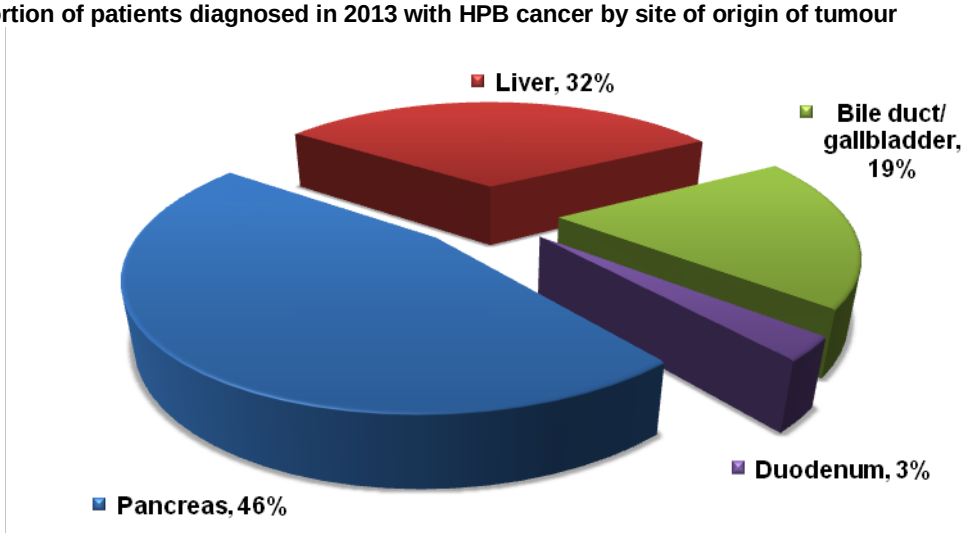
In 2010, the Scottish Cancer Taskforce established the National Cancer Quality Steering Group (NCQSG) to take forward the development of national QPIs for all cancer types to enable national comparative reporting and drive continuous improvement for patients. In collaboration with the three Regional Cancer Networks and Information Services Division (ISD), the first QPIs were published by Healthcare Improvement Scotland (HIS) in January 2012 and implementation for all cancer types was completed in autumn 2014. HPB Cancer QPIs[1] were implemented for patients diagnosed on or after 1st January 2013 and are available on the HIS website. Data definitions and measurability criteria to accompany the HPB Cancer QPIs are available from the ISD website[2].

Twelve months of data are measured against the HPB Cancer QPIs and presented within this report. There are no annual comparisons as this is the first year of analysis since implementation of the QPI dataset. Future reports will compare clinical audit data in successive years to illustrate trend analysis.

2. Background

HPB cancers are a rare group of cancers. In 2013 the audit identified 1386 patients diagnosed with a new primary cancer of the liver, pancreas, bile ducts, gallbladder or duodenum in Scotland. Pancreatic cancer accounts for almost half of all HPB cancer diagnoses (45.9%) and Figure 1 illustrates the proportions of each type of HPB cancer diagnosed in Scotland in 2013. The proportion of patients diagnosed with HPB cancer by site of origin had remained largely unchanged over the past three years from 2010 to 2012. However in 2013 there has been an increase in the proportion of patients diagnosed with liver cancer, from 29.1% in 2012 to 32.2% in 2013, and a decrease in the proportion of patients diagnosed with pancreatic cancer (53.0% in 2012 to 45.9% in 2013).

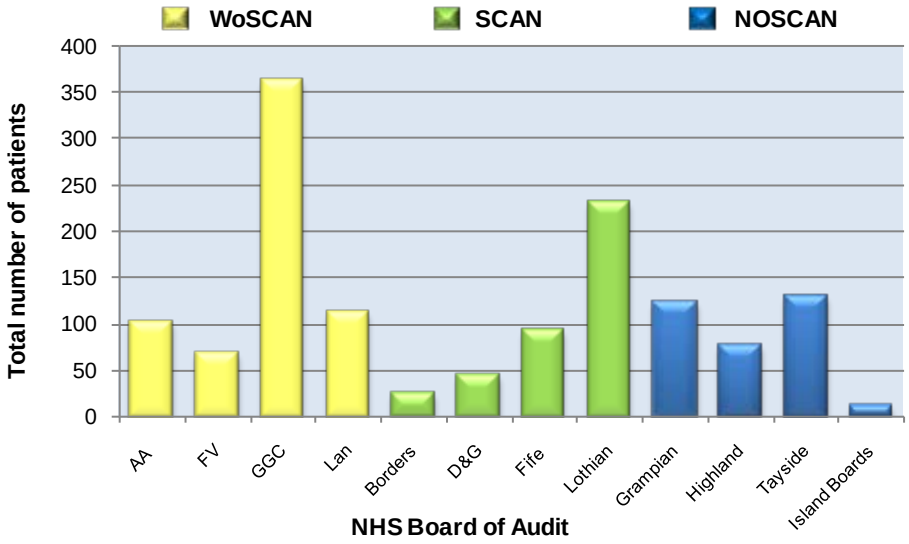
Figure 1: Proportion of patients diagnosed in 2013 with HPB cancer by site of origin of tumour



Site of tumour	Pancreas	Liver	Bile duct/ gallbladder	Duodenum	Total
Number of cases	636	446	266	38	1386

The distribution of the 1386 patients diagnosed in 2013 across the fourteen Scottish NHS Boards is presented in Figure 2. The West of Scotland Cancer Network (WoSCAN) is the most populous area in Scotland and therefore, with 648 patients diagnosed in 2013, is the largest of the three regional Cancer Networks in Scotland. This represents 46.8% of the total number of cases in Scotland. In the South East of Scotland Cancer Network (SCAN) and the North of Scotland Cancer Network (NOSCAN), 395 and 343 patients were diagnosed in 2013 respectively. NHS Greater Glasgow and Clyde diagnosed the greatest number of patients, followed by NHS Lothian. This reflects the population distribution in Scotland where these are the two most populous NHS Boards[3].

Figure 2: Number of patients diagnosed with HPB cancer across Scotland by NHS Board in 2013



WoSCAN	AA	FV	GGC	Lanarkshire	Total
Number of cases	103	68	363	114	648

SCAN	Borders	D&G	Fife	Lothian	Total
Number of cases	25	45	94	231	395

NOSCAN	Grampian	Highland	Tayside	Island Boards[b]	Total
Number of cases	123	77	131	12	343

Table 1 details the five HPB cancer centres in Scotland. These are considered the centres for specialist treatment, which includes surgery, chemotherapy and radiotherapy. Patients may receive diagnostic and palliative care elsewhere, usually in their local hospital, however most patients are referred to one of the five centres for specialist management. Additionally, the Scottish Liver Transplant Unit (SLTU) is located in the Royal Infirmary of Edinburgh where all liver transplant cases in Scotland are referred, this being one of the treatment options in the management of patients with primary liver cancer.

Table 1: Specialist centres for treatment of patients diagnosed with HPB cancer in Scotland

Centre	Constituent Hospital(s)
Aberdeen	Aberdeen Royal Infirmary (ARI)
Dundee	Ninewells Hospital (NW)
Edinburgh	Royal Infirmary of Edinburgh (RIE - surgery) and Western General Hospital (WGH - oncology)
Glasgow	Glasgow Royal Infirmary (GRI - surgery) and Beatson West of Scotland Cancer Centre (BWoSCC - oncology)
Inverness	Raigmore Hospital

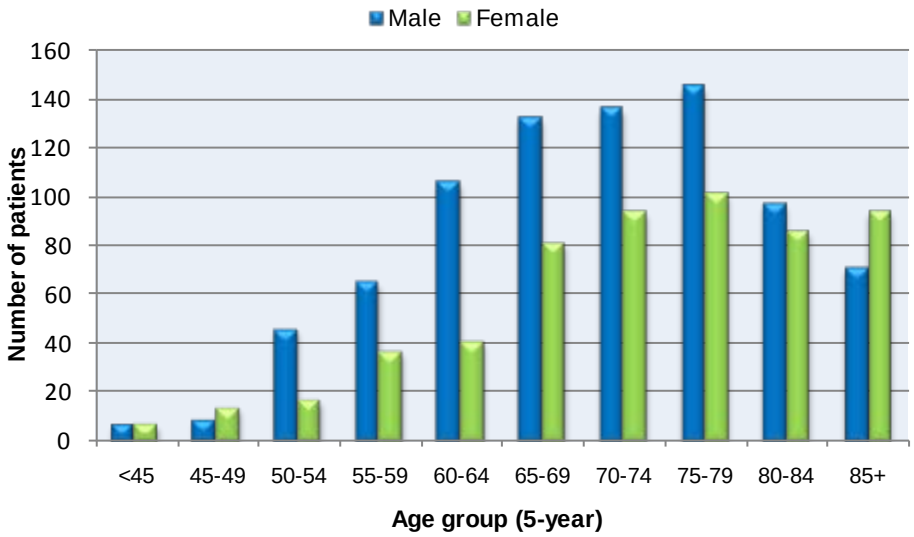
[b] Island NHS Boards include NHS Orkney, NHS Shetland and NHS Western Isles. No patients were diagnosed with HPB cancer within NHS Orkney in 2013.

In Scotland, liver cancer is the thirteenth most common cancer in males and nineteenth in females[4]. The incidence of liver cancer is rising and the last decade has seen the overall incidence of liver cancer increase by 47.2% in Scotland[4]. This rise is particularly reflected in the male population with increases in incidence of 53.4% and 32.4% in males and females respectively in the last decade[4]. The percentage frequency of liver cancer is however relatively low at 1.6% of all cancers types diagnosed[4]. There has been an overall rise in mortality rates for cancer of the liver over the past ten years of 38.8%, showing a statistically significant increase in both males and females[5]. Liver cancer is now ranked as the seventh most common cause of death from cancer in 2013, and the 10-year percentage change in mortality rates show significant increases of 40.7% and 34.8% for males and females respectively[5].

Pancreatic cancer is the eleventh and ninth most common cancer in males and females respectively[6]. The increase in incidence from 2002 to 2012 is significant in both males and females[5] at 14.6% and 13.3% respectively[6]. Whilst pancreatic cancer is relatively rare (accounting for 2.5% of all cancers), it remains the sixth most common cause of death from cancer in Scotland[6]. Pancreatic cancers tend to present at an advanced stage and are less amenable to treatment and, resultantly, survival is poor. There has been a slight improvement in the 1-year relative (age-standardised) survival in the last twenty years however survival rates remain low at 15.9% in males and 18.8% in females[7]. There has been no recorded improvement in 5-year survival for pancreatic cancer over the past two decades and 5-year relative survival is 4.3% in males and 3.6% in females[7].

HPB cancers occur most frequently later in life. Figure 3 illustrates the number of new cases in 2013 by age and sex. The incidence of HPB cancers is higher in males in all but two age groups. As women live longer than men, the total number of cases diagnosed in women aged 85 years or more is greater than for males. Although the majority of cases do occur in older individuals for both sexes, it is noted that a quarter of HPB cancers were diagnosed in individuals under the age of 65 years (25.2%). This proportion is largely unchanged since 2012 when 24.0% of cases diagnosed were in individuals under the age of 65 years.

Figure 3: Number of patients diagnosed with HPB cancer in Scotland in 2013 by age group and sex



	<45	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total
Male	7	9	46	65	106	132	136	145	97	71	814
Female	7	14	17	37	41	81	94	101	86	94	572

3. Methodology

The clinical audit data presented in this report was collected by clinical audit staff in each NHS Board in accordance with an agreed dataset and definitions. The data was recorded manually and entered locally into the electronic Cancer Audit Support Environment (eCASE): a secure centralised web-based database. Data relating to patients diagnosed between 1st January 2013 and 31st December 2013 was downloaded from eCASE at 2200 hrs on 28th August 2014. Cancer audit is a dynamic process with patient data continually being revised and updated as more information becomes available. This means that apparently comparable reports for the same time period and cancer site may produce slightly different figures if extracted at different times.

Analysis was performed centrally by the WoSCAN Information Team on behalf of the National MCN and the timescales agreed took into account the patient pathway to ensure that a complete treatment record was available for each case. Initial results of the analysis were provided to local Boards to check for inaccuracies, inconsistencies or obvious gaps and a subsequent download taken upon which final analysis was carried out. The final data analysis was disseminated for NHS Board verification in line with the regional audit governance process to ensure that the data was an accurate representation of service in each area.

Once all NHS Boards had been given the opportunity to verify their data, further analyses were carried out at a regional and national level to provide an overall assessment of the quality of HPB cancer services in Scotland. These treatment centre-based results were provided to key regional clinicians/ clinical leads for comment ahead of publication.

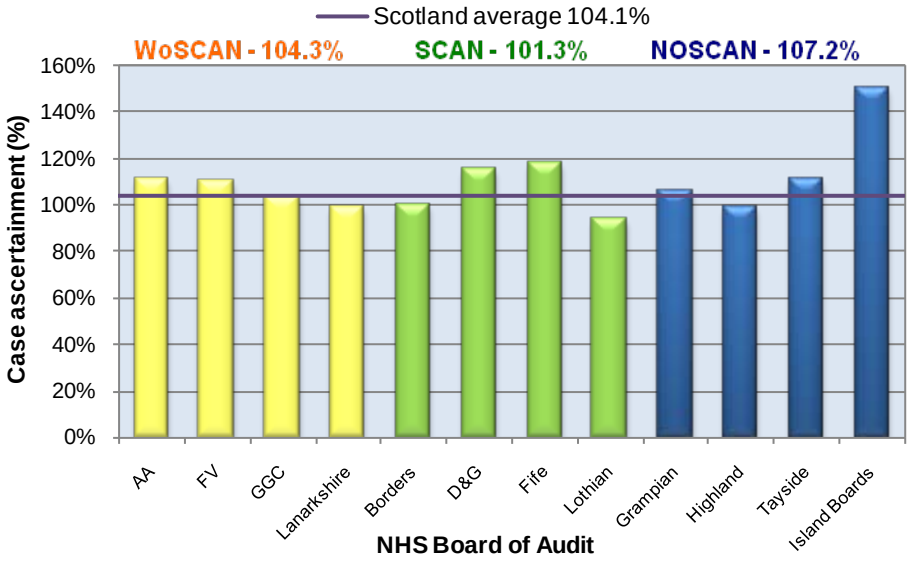
4. Results and Action Required

4.1 Data Quality

Audit data quality can be assessed in the first instance by estimating the proportion of expected patients that have been identified through audit. Case ascertainment is calculated as the number of new cases identified by the audit as a proportion of the number of cases reported by the National Cancer Registry (provided by ISD, National Services Scotland), by NHS Board of diagnosis. Cancer Registry figures were extracted from ACaDMe (Acute Cancer Deaths and Mental Health), a system provided by ISD. Cancer Registry figures are an average of the previous five years' figures to take account of annual fluctuations in incidence within NHS Boards.

Overall case ascertainment for HPB cancer in Scotland is high at 104.1% which indicates excellent data capture through audit. Case ascertainment figures however are provided for guidance and are not an exact measurement as it is not possible to compare directly with the same cohort. Case ascertainment for each NHS Board across Scotland is illustrated in Figure 4 and was over 98% for all Boards in 2013, with the exception of NHS Lothian. However, case ascertainment was also high for NHS Lothian at 93.9%, indicating excellent data capture across all NHS Boards in 2013. This level of data capture aids the interpretation of analysis based on cancer audit data, as more complete data will return more reliable results.

Figure 4: Estimated case ascertainment by location of diagnosis for patients diagnosed in 2013



	AA	FV	GGC	Lan	Borders	D&G	Fife	Lothian	Grampian	Highland	Tayside	Island Boards
Cases from audit	103	68	363	114	25	45	94	231	123	77	131	12
Cancer Reg. cases (average 2008-2012)	93	62	351	115	25	39	80	246	116	78	118	8
Case ascertainment (%)	110.8	109.7	103.4	99.1	100.0	115.4	117.5	93.9	106.0	98.7	111.0	150.0

As HPB services are based around specialist centres, the data are analysed based upon the location of treatment. This has presented problems in the past with regards to the data quality where patients have moved between NHS Boards for diagnosis and treatment. However, the quality and completeness of treatment information has improved over the past 5 years where there is cross-boundary movement, and continued effort in this area is essential to ensure this level of data quality is maintained going forward.

4.2 Performance against Quality Performance Indicators (QPIs)

Results of the analysis of HPB Cancer Quality Performance Indicators (QPIs 1 to 11) are set out in the following sections. Graphs and charts have been provided where this aids interpretation and, where appropriate, numbers have also been included to provide context.

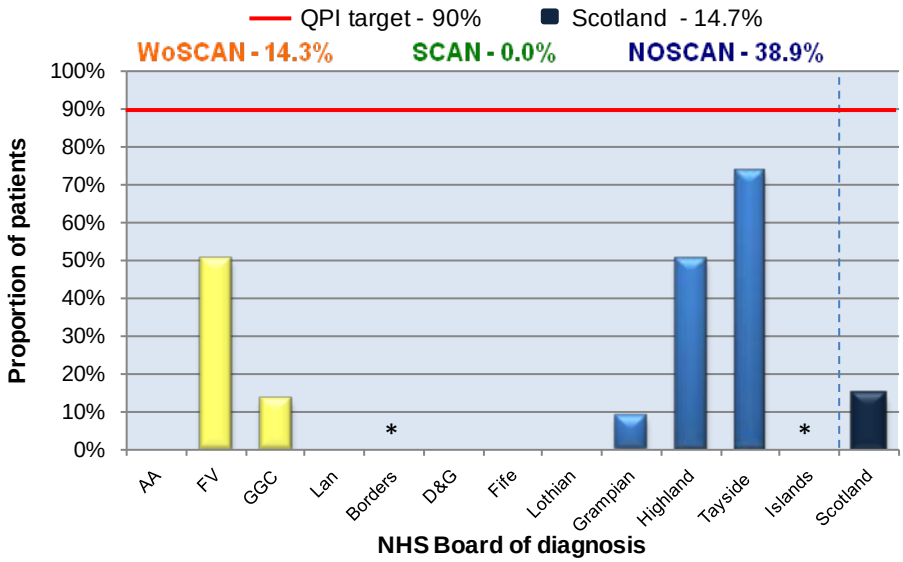
Data (both graphically and in tabular format) are presented by location of diagnosis or treatment, with some criteria given as an overall Regional representation. Specific regional and NHS Board actions have been identified to address issues highlighted through the data analysis.

QPI 1: Diagnosis and Staging of HCC

The management of hepatocellular carcinoma (HCC) is determined by both the stage of HCC and the presence or severity of underlying chronic liver disease[1]. Complete information is required to enable correct management decisions to be made by the multidisciplinary team (MDT), such as the location and number and size of tumours; a full list of the required information is published within the HPB QPI document[1] and Appendix 1 of this report (pg 39). The 90% target set for QPI 1 accounts for the fact that some patients may have significant co-morbidities and therefore may not be fit for investigation and/or treatment[1].

QPI 1:	Patients with Hepatocellular Carcinoma (HCC) should be appropriately diagnosed and staged
Description:	Proportion of patients with HCC who have undergone contrast enhanced computerised tomography (CT) or Magnetic Resonance Imaging (MRI) and with full information recorded
Numerator:	Number of patients with HCC undergoing either: contrast enhanced CT or MRI and with full information recorded (see Appendix 1)
Denominator:	All patients with HCC
Exclusions:	No exclusions
Target:	90%

Figure 5: Proportion of patients diagnosed with HCC in 2013 that have undergone contrast-enhanced CT or MRI with full information recorded, by NHS Board of diagnosis.



* Small numbers. Percentages should be viewed with caution where the denominator is less than 5.

QPI 1	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
AA	0.0%	0	19	0	0.0%	0	0.0%	0
FV	50.0%	9	18	0	0.0%	0	0.0%	0
GGC	13.3%	14	105	0	0.0%	0	0.0%	0
Lan	0.0%	0	19	0	0.0%	0	0.0%	0
WoSCAN	**14.3%**	**23**	**161**	**0**	**0.0%**	**0**	**0.0%**	**0**
Borders	0.0%*	0	4	0	0.0%	0	0.0%	0
D&G	0.0%	0	8	0	0.0%	0	0.0%	0
Fife	0.0%	0	29	0	0.0%	0	0.0%	0
Lothian	0.0%	0	74	0	0.0%	0	0.0%	0
SCAN	**0.0%**	**0**	**115**	**0**	**0.0%**	**0**	**0.0%**	**0**
Grampian	8.6%	3	35	0	0.0%	0	0.0%	0
Highland	50.0%	3	6	0	0.0%	0	0.0%	0
Tayside	73.3%	22	30	0	0.0%	0	0.0%	0
Islands	0.0%*	0	1	0	0.0%	0	0.0%	0
NOSCAN	**38.9%**	**28**	**72**	**0**	**0.0%**	**0**	**0.0%**	**0**
Scotland	**14.7%**	**51**	**348**	**0**	**0.0%**	**0**	**0.0%**	**0**

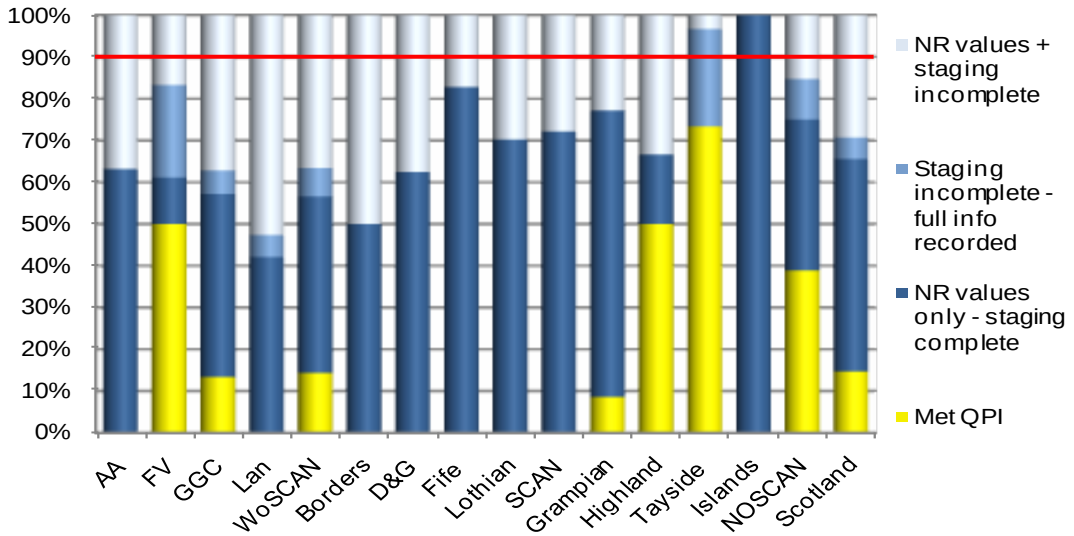
* Small numbers. Percentages should be viewed with caution where the denominator is less than 5.

Twelve of the fourteen NHS Boards across Scotland had patients who were diagnosed with HCC in 2013. NHS Orkney and NHS Western Isles had no recorded cases of HCC. None of the twelve Boards have met the 90% target for QPI 1 and overall performance was low across Scotland at 14.7%. The greatest percentage performance was achieved by NHS Tayside and, at 73.3%, this is considerably higher than most other NHS Boards. Of note, 96.7% of NHS Tayside cases had full information recorded.

Further analysis has been completed to highlight where cases did not meet the QPI criteria as performance was generally low for QPI 1, and three categories have been defined below;

i. Not recorded values only – staging complete
ii. Staging incomplete – full information recorded
iii. Not recorded values and staging incomplete

Figure 6: Proportion of patients that met QPI 1 and categories i), ii) and iii) that did not meet the criteria for QPI 1.



	Met QPI	QPI performance %	i) NR values only - staging complete	ii) Staging incomplete - full info recorded	iii) NR values + staging incomplete	**Total**
AA	0	0.0%	12	0	7	**19**
FV	9	50.0%	2	4	3	**18**
GGC	14	13.3%	46	6	39	**105**
Lan	0	0.0%	8	1	10	**19**
WoSCAN	***23***	***14.3%***	***68***	***11***	***59***	***161***
Borders	0	0.0%*	2	0	2	**4**
D&G	0	0.0%	5	0	3	**8**
Fife	0	0.0%	24	0	5	**29**
Lothian	0	0.0%	52	0	22	**74**
SCAN	***0***	***0.0%***	***83***	***0***	***32***	***115***
Grampian	3	8.6%	24	0	8	**35**
Highland	3	50.0%	1	0	2	**6**
Tayside	22	73.3%	0	7	1	**30**
Islands	0	0.0%*	1	0	0	**1**
NOSCAN	***28***	***38.9%***	***26***	***7***	***11***	***72***
Scotland	**51**	**14.7%**	**177**	**18**	**102**	**348**

* Small numbers. Percentages should be viewed with caution where the denominator is less than 5.

By improving data capture alone (i.e. by ensuring all 10 data fields are completed for each patient), overall Scotland performance in 2013 would improve from 14.7% to 65.5% (228/348). Of the remaining 34.5% of patients that did not have complete staging for HCC, it should be noted that 15 patients underwent CT chest, abdomen and pelvis which would be considered complete staging for pancreatic, duodenal and distal bile duct cancers. NHS Ayrshire & Arran (AA), NHS Borders and NHS Lanarkshire all had patients who underwent CT chest, abdomen and pelvis (SINVEST = 1) and these Boards should review cases to ensure the most appropriate staging investigations were performed.

All twelve Boards provided comments as to why the target for QPI 1 had not been met. In most instances (NHS AA, NHS Greater Glasgow and Clyde (NHSGGC), Lanarkshire, Dumfries & Galloway (D&G), Lothian, Grampian, Highland and Shetland) data recording issues were cited as the main contributing factor, especially with regard to data fields for the number of lesions recorded, vascular invasion and Child Pugh score. Further analysis has been carried out to highlight where missing data has affected performance for QPI 1 and NHS Boards should refer to Appendix 1 to identify where progress in this area is required.

Another issue contributing to the difficulty Boards experienced in meeting the target for QPI 1 was the fact that not all patients are able to undergo contrast-enhanced CT due to renal impairment. NHS Forth Valley (FV), Borders and Tayside have all commented that this has affected performance outcomes. NHS Tayside, which had the highest performance at 73.3%, also commented that “all patients had a CT scan and full TNM staging but not all had a triple phase CT or MRI as per QPI definition. […] not all patients need a triple phase scan to plan management if they have very advanced disease.” This issue was discussed at the HPB Cancer QPI Baseline Review and the group proposed removing the reference to ‘triple phase’ as it was agreed that this is not a necessity in patients who are unsuitable for liver transplant. Proposed changes await ratification by NCQSG.

NHS Fife has commented that the heterogeneous referral base in Fife makes coordinating this target very difficult. It has been highlighted that the appointment of a Fife HPB clinical nurse specialist to act as a central referral point would improve performance in this area however this has not yet been approved.

Action Required:

- All NHS Boards to ensure full list of required data fields are recorded by adding these items to MDT referral or summary forms and ensuring consistent recording (see Appendix 1, pg 39).
- NHS AA, NHS Borders and NHS Lanarkshire to review cases where HCC patients underwent CT chest, abdomen and pelvis to ensure data has been correctly recorded and/or patients received appropriate staging investigations.

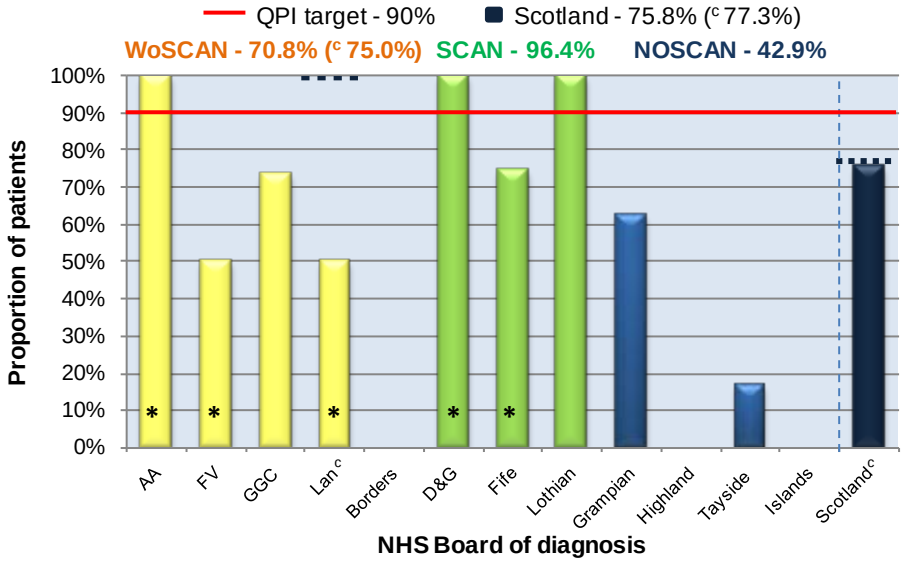
QPI 2: Referral to Scottish Liver Transplant Unit

The Scottish Liver Transplant Unit (SLTU) was established in 1992 at the Royal Infirmary in Edinburgh and is the specialist centre for liver transplantation in Scotland. Liver transplantation is associated with good long term outcome in selected patients with HCC[1]. All patients with early HCC should be considered for liver transplantation and there should be equity of access to liver transplantation across Scotland[1]. The current UK listing criteria are well validated selection criteria based on tumour number and size. Full details are published within the HPB QPI document[1].

QPI 2 states that 90% of patients with HCC meeting the UK listing criteria should be referred to the SLTU for consideration of liver transplantation. The tolerance within this target accounts for cases where referral may not be appropriate due to factors with regard to patient fitness.

QPI 2:	Patients with early HCC should be referred for consideration of liver transplantation
Description:	Proportion of patients with HCC who meet the current UK listing criteria for orthotopic liver transplantation referred to the SLTU for consideration of liver transplantation
Numerator:	Number of patients with HCC meeting the UK listing criteria that are referred to SLTU
Denominator:	All patients with HCC meeting UK listing criteria[1] (as defined by NHS Blood and Transplant (NHSBT))
Exclusions:	• Patients who refuse treatment • Patients with alpha-fetoprotein (AFP) >10,000 kU/L • Patients with evidence of vascular invasion
Target:	90%

Figure 7: Proportion of patients diagnosed with HCC in 2013 who meet the UK listing criteria for orthotopic liver transplantation referred to the SLTU for consideration of liver transplant.



* Small numbers. Percentages should be viewed with caution where the denominator is less than 5.

QPI 2	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
AA	100.0%*	1	1	0	0.0%	0	0.0%	1
FV	50.0%*	1	2	0	0.0%	0	0.0%	0
GGC	73.7%	14	19	0	0.0%	11	57.9%	7
Lan[c]	50.0%*	1	2	0	0.0%	0	0.0%	0
WoSCAN[C]	**70.8%**	**17**	**24**	**0**	**0.0%**	**11**	**45.8%**	**8**
Borders	NA	0	0	0	0.0%	0	0.0%	3
D&G	100.0%*	1	1	0	0.0%	1	100.0%	4
Fife	75.0%*	3	4	0	0.0%	2	50.0%	0
Lothian	100.0%	23	23	0	0.0%	14	60.9%	32
SCAN	**96.4%**	**27**	**28**	**0**	**0.0%**	**17**	**60.7%**	**39**
Grampian	62.5%	5	8	0	0.0%	7	87.5%	2
Highland	NA	0	0	0	0.0%	0	0.0%	0
Tayside	16.7%	1	6	0	0.0%	0	0.0%	0
Islands	NA	0	0	0	0.0%	0	0.0%	0
NOSCAN	**42.9%**	**6**	**14**	**0**	**0.0%**	**7**	**50.0%**	**2**
Scotland[C]	**75.8%**	**50**	**66**	**0**	**0.0%**	**35**	**53.0%**	**49**

* Small numbers. Percentages should be viewed with caution where the denominator is less than 5.

Nine of the fourteen NHS Boards had patients diagnosed with HCC who met the UK listing criteria and were therefore included for measurement against QPI 2. It should be noted that NHS Borders had insufficient information recorded for 3 patients to establish inclusion for measurement against QPI 2. Three of the nine NHS Boards met the 90% target set for QPI 2; NHS AA, NHS D&G and NHS Lothian. It should be noted however that NHS AA and NHS D&G both had a denominator of less than 5 (1 patient in each case) and therefore the 100% performance should be viewed with caution in each incident. NHS FV, NHS Lanarkshire and NHS Fife did not meet the 90% target however these three Boards also had a denominator of less than 5 and results should therefore be interpreted with care.

NHS FV did not comment specifically on individual cases but did comment that low numbers would affect percentage performance for QPI 2. Following local casenote review NHS Lanarkshire commented that both patients were in fact referred to SLTU and the target has therefore been achieved for QPI 2 (2/2 = 100%). NHS Fife has again commented that the appointment of a Fife HPB clinical nurse specialist would improve performance against QPI 2.

NHSGGC, NHS Grampian and NHS Tayside did not meet the 90% target and had percentage performance of 73.7%, 62.5% and 16.7% respectively. Overall percentage performance across Scotland was 75.8% against the 90% target.

NHSGGC has commented that data recording issues with regard to 'Vascular Invasion' and 'UK Listing Criteria' has impacted performance and this has been discussed with the relevant clinicians. Issues have been resolved and data should be complete from mid-2014 onwards. NHS Grampian did not provide any comment as to why the target was not achieved, however further analysis shows that data capture of 'Vascular Invasion' may also have impacted performance for NHS Grampian.

NHS Tayside stated that only one patient out of six was fit enough for referral to SLTU. A 10% tolerance had been included within the QPI target to account for patients who are not fit enough for referral, however evidently NHS Tayside has witnessed a much higher than expected proportion of patients who were not suitable for referral.

[c] NHS Lanarkshire has reviewed cases and reports that 2/2 patients were referred to the SLTU for consideration of liver transplant, resulting in 100% performance for the board. Performance for WoSCAN is therefore 18/24 = 75.0% and performance across Scotland is 51/66 = 77.3%. Dashed line on Figure 7 denotes corrected figures.

Following discussion at HPB Cancer QPI Baseline Review, it has been proposed by the group that measurability for QPI 2 should be updated to exclude patients with an AFP > 1,000 kU/L based on recent evidence from the Liver Advisory Group[8]. It is also proposed that the measurability should be revised to exclude patients with extrahepatic spread to keep in line with current UK listing criteria.

NHS Boards should be aware that, should the revision regarding extrahepatic spread be ratified by the NCQSG as expected, the recording of Tumour, Nodes and Metastases (TNM) data will be essential in order to identify the correct cohort for measurement against QPI 2. Analysis of 2013 data has revealed that 77.3% (51/66) of patients did not have Nodal stage and/or Metastatic stage recorded and therefore exclusions based on extrahepatic spread would not be possible for these patients. Improvement in TNM data capture will therefore be required in order to meet the specifications of the anticipated measurability changes for QPI 2.

Action Required:

- All NHS Boards must ensure that complete TNM staging data is recorded in order to ensure accurate measurement against QPI 2 ahead of proposed changes to the measurability following HPB Cancer QPI Baseline Review.
- NHSGGC, NHS Borders, NHS D&G, NHS Fife, NHS Lothian and NHS Grampian must ensure that 'Vascular Invasion' and 'Listing Criteria' fields are complete in order to accurately report against QPI 2.

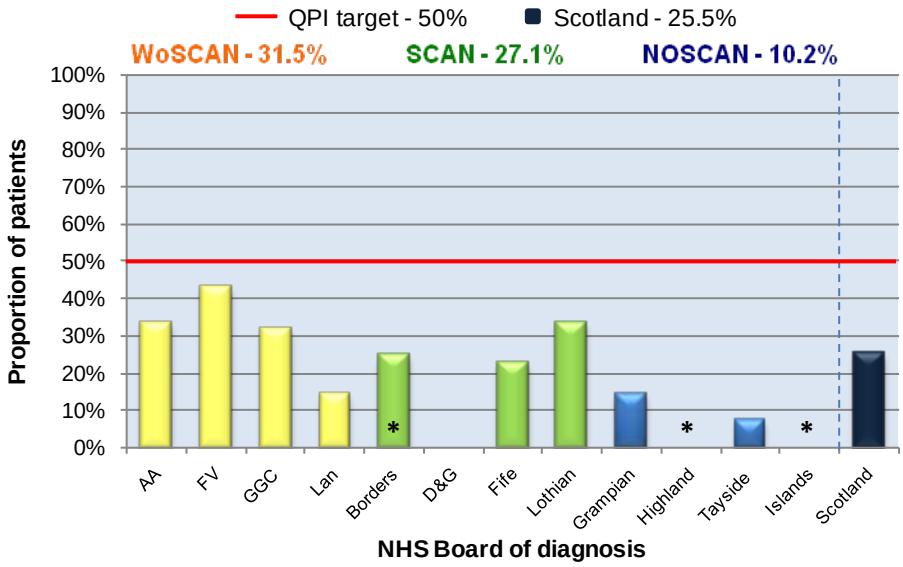
QPI 3: Palliative Treatment for HCC

Trans-arterial chemoembolisation (TACE) and Systemic Anti Cancer Therapy (SACT) are palliative therapies which have been demonstrated to improve survival in patients with HCC and well compensated chronic liver disease that are not suitable for treatments with curative intent[1]. The target within this QPI is set at 50% and accounts for the fact that some patients will have significant co-morbidities or a fitness level which means that TACE or SACT are not appropriate[1].

QPI 3:	Patients with Hepatocellular Carcinoma (HCC) who are not suitable for curative treatment should receive palliative treatment
Description:	Proportion of patients with HCC not suitable for treatment with curative intent (liver transplantation, resection or ablative therapies) that undergo specific treatment with palliative intent (Trans-arterial chemoembolisation (TACE) or Systemic Anti Cancer Therapy (SACT))
Numerator:	Number of patients with HCC not undergoing treatment with curative intent who receive TACE or approved SACT
Denominator:	All patients with HCC not undergoing treatment with curative intent (liver transplantation, resection or ablative therapies)
Exclusions:	• Patients who refuse treatment • Patients with decompensated chronic liver disease (Child's Pugh Grade C)
Target:	50%

Twelve of the fourteen NHS Boards had patients that met the denominator criteria and therefore had percentage performance measured for QPI 3. It should be noted that NHS Borders, NHS Highland and NHS Shetland (Islands) had a denominator of less than 5 and therefore percentage performance should be viewed with caution. It is evident that the target was found to be challenging with none of the twelve Boards meeting the QPI target of 50%. NHS Board performance ranged from 0.0% to 42.9% (NHS FV) and overall performance for Scotland was 25.5%.

Figure 8: Proportion of patients diagnosed with HCC in 2013 not suitable for treatment with curative intent that undergo specific treatment with palliative intent (TACE, SACT) by NHS Board of diagnosis.



* Small numbers. Percentages should be viewed with caution where the denominator is less than 5.

QPI 3	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
AA	33.3%	6	18	0	0.0%	18	100.0%	0
FV	42.9%	6	14	0	0.0%	1	7.1%	0
GGC	32.1%	27	84	2	2.4%	35	41.7%	1
Lan	14.3%	2	14	0	0.0%	9	64.3%	0
WoSCAN	**31.5%**	**41**	**130**	**2**	**1.5%**	**63**	**48.5%**	**1**
Borders	25.0%*	1	4	0	0.0%	3	75.0%	0
D&G	0.0%	0	7	0	0.0%	6	85.7%	0
Fife	23.1%	6	26	0	0.0%	24	92.3%	0
Lothian	33.3%	16	48	0	0.0%	43	89.6%	0
SCAN	**27.1%**	**23**	**85**	**0**	**0.0%**	**76**	**89.4%**	**0**
Grampian	14.3%	4	28	0	0.0%	25	89.3%	0
Highland	0.0%*	0	3	0	0.0%	2	66.6%	0
Tayside	7.4%	2	27	0	0.0%	0	0.0%	0
Islands	0.0%*	0	1	0	0.0%	1	100.0%	0
NOSCAN	**10.2%**	**6**	**59**	**0**	**0.0%**	**28**	**47.5%**	**0**
Scotland	**25.5%**	**70**	**274**	**2**	**0.7%**	**167**	**60.9%**	**1**

* Small numbers. Percentages should be viewed with caution where the denominator is less than 5.

NHS D&G, NHS Grampian and NHS Highland did not provide comments regarding 2013 performance for QPI 3. It should be noted that all three Boards had a high proportion of not recorded values for exclusion criteria and this was due to Child Pugh score not being recorded. With the exception of NHS FV and Tayside, all other Boards also had a high proportion of not recorded values for exclusion as mentioned above and this may, in some instances, affect performance outcomes if patients who should be excluded have been incorrectly included in the denominator for QPI 3. Comparisons between subsequent years' data should therefore be made with caution due to incomplete data.

NHS AA has stated they plan to add Child Pugh score to the MDT referral form in order to improve future data capture.

Although QPI 3 states that patients who refuse treatment are excluded from the denominator, it should be noted that the measurability criteria only excludes patients who have refused surgery or ablative therapy and does not exclude those patients who refuse palliative therapy such as TACE or SACT. This will have impacted on percentage performance for some Boards and NHS FV, NHS Borders and NHS Shetland have specifically commented on this issue. The measurability documents will be updated to accurately exclude patients that refuse treatment with TACE and SACT.

NHS FV had one patient who refused TACE and 7 patients were not fit for palliative treatment. NHS Shetland stated the one patient refused treatment with SACT. NHS Borders stated that two patients declined further intervention and one patient had extensive disease.

NHSGGC and NHS Lothian have commented that Sorafenib (SACT) had only been available as part of clinical trials and not all patients were eligible for trials. This would have affected the proportion of patients that were able to be treated with SACT and therefore the overall performance for QPI 3.

NHS Lothian has also commented that some patients have impaired synthetic function and in these cases it is not possible to perform TACE. This formed part of the discussion at baseline review and it was agreed that it was not possible to identify these patients within the current dataset and therefore not possible to exclude them from the analysis. It was however proposed that lowering the QPI target to 40% would account for patients where synthetic function was not adequate to perform TACE, and this awaits NCQSG endorsement.

NHS Lanarkshire commented that they were unable to meet the target due to patient fitness to tolerate palliative treatment, however did not specifically state the proportion of patients to which this related.

NHS Fife has not commented specifically on cases but states that an HPB CNS would improve performance against QPI 3 by acting as a central referral point.

NHS Tayside has stated that all 27 patients meeting the denominator criteria were considered for TACE and only 2 patients were suitable for treatment. This results in only 7.4% performance against a 50% target and as NHS Tayside had 100% of data recorded for measurement against QPI 3, this result is likely to be an accurate measure of performance. Further review of cases would be helpful to identify groups of patients who were not suitable for treatment and establish whether QPI 3 can be measured more accurately.

Action Required:

- All NHS Boards to ensure improved data capture with regards to Child Pugh score by adding this item to MDT referral or summary forms and ensuring consistent recording.
- NHS Boards to carry out targeted audit to identify the proportion of patients (from QPI 3 denominator) who had impaired synthetic function and were therefore not suitable for TACE.

QPI 4a-e: 30-day Mortality for HCC Cancers (palliative and curative treatments)

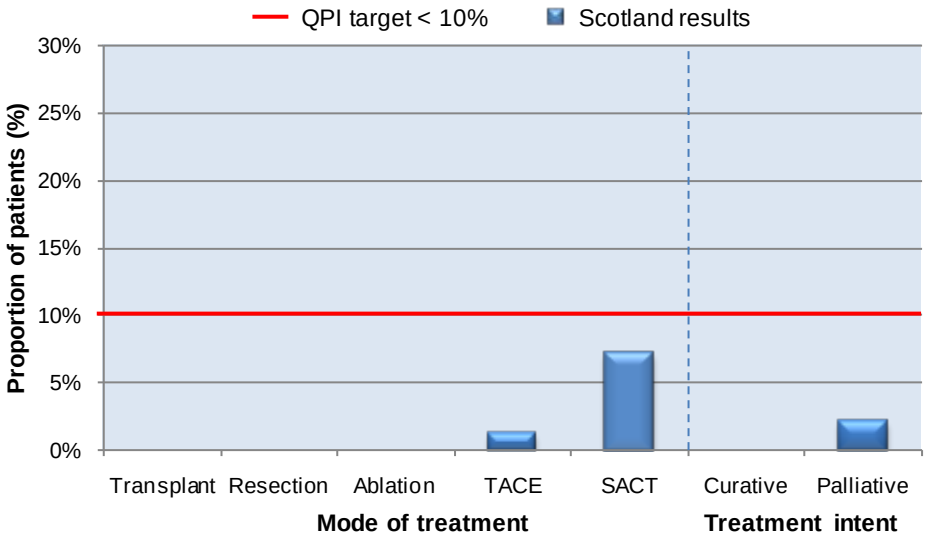
Disease specific interventions for HCC are delivered with either curative (transplant, resection, ablation) or palliative (TACE, SACT) intent. In either case, treatments should be performed safely with low rates of mortality and should not be undertaken in futile situations[1]. Mortality figures by treatment type are presented graphically for Scotland as a whole, and the accompanying table illustrates figures by treatment type for each regional centre. Mortality rates should be less than 10% for both curative and palliative treatments.

QPI 4:	30 day mortality following treatment for Hepatocellular Carcinoma (HCC) with curative (transplant, resection, ablation) or palliative (TACE, SACT) intent
Description:	Proportion of patients with HCC undergoing disease specific treatment, either curative or palliative, who die within 30 days of definitive treatment
Numerator:	Number of patients with HCC undergoing curative or palliative treatment that die within 30 days of definitive treatment
Denominator:	All patients with HCC undergoing:- **Curative:** a) Liver transplant b) Resection c) Ablation **Palliative:** d) TACE e) SACT
Exclusions:	No exclusions
Target:	< 10%

Overall results for Scotland show that the target of <10% mortality has been achieved for all treatment types, both curative and palliative. All curative treatments (transplant, resection and ablation) had mortality rates of 0.0%.

When analysed by treatment centre and treatment type, the mortality rate of <10% has been met in the majority of cases with the exception of two instances. For palliative treatment with TACE, 1 of 2 patients treated in Aberdeen Royal Infirmary died within 30 days of treatment resulting in a 50% mortality rate. The numbers are very low however and therefore percentages cannot accurately describe performance. NHS Grampian did not provide comment for QPI 4d. For palliative treatment with SACT, 1 of 9 patients treated at WIG/BWoSCC died within 30 days of treatment resulting in a mortality rate of 11.1%. Again, numbers are relatively low. NHSGGC did not comment on performance against QPI 4e.

Figure 9: Proportion of patients in Scotland diagnosed with HCC in 2013 undergoing disease-specific treatment that die within 30 days of definitive treatment.



QPI 4	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
a) Liver Transplant								
GRI	NA	0	0	0	0.0%	0	0.0%	1
RIE	0.0%	0	25	0	0.0%	0	0.0%	0
ARI	NA	0	0	0	0.0%	0	0.0%	0
Ninewells	NA	0	0	0	0.0%	0	0.0%	0
Raigmore	NA	0	0	0	0.0%	0	0.0%	0
SCOTLAND	**0.0%**	**0**	**25**	**0**	**0.0%**	**0**	**0.0%**	**1**
b) Liver Resection								
GRI	0.0%*	0	2	0	0.0%	0	0.0%	1
RIE	0.0%	0	17	0	0.0%	0	0.0%	0
ARI	0.0%*	0	2	0	0.0%	0	0.0%	0
Ninewells	0.0%*	0	2	0	0.0%	0	0.0%	0
Raigmore	NA	0	0	0	0.0%	0	0.0%	0
SCOTLAND	**0.0%**	**0**	**23**	**0**	**0.0%**	**0**	**0.0%**	**1**
c) Ablation								
WIG/BWoSCC	0.0%*	0	4	0	0.0%	0	0.0%	0
RIE	0.0%	0	10	0	0.0%	0	0.0%	0
ARI	NA	0	0	0	0.0%	0	0.0%	0
Ninewells	NA	0	0	0	0.0%	0	0.0%	0
Raigmore	0.0%*	0	1	0	0.0%	0	0.0%	0
SCOTLAND	**0.0%**	**0**	**15**	**0**	**0.0%**	**0**	**0.0%**	**0**
d) TACE								
WIG/BWoSCC	0.0%	0	31	0	0.0%	0	0.0%	2
RIE	0.0%	0	42	1	2.4%	0	0.0%	0
ARI	50.0%*	1	2	0	0.0%	0	0.0%	0
Ninewells	0.0%*	0	2	0	0.0%	0	0.0%	0
Raigmore	NA	0	0	0	0.0%	0	0.0%	0
SCOTLAND	**1.3%**	**1**	**77**	**1**	**1.3%**	**0**	**0.0%**	**2**
e) SACT								
WIG/BWoSCC	11.1%	1	9	0	0.0%	0	0.0%	0
WGH/ RIE	0.0%*	0	3	0	0.0%	0	0.0%	0
ARI	0.0%*	0	2	0	0.0%	0	0.0%	0
Ninewells	NA	0	0	0	0.0%	0	0.0%	0
Raigmore	NA	0	0	0	0.0%	0	0.0%	0
SCOTLAND	**7.1%**	**1**	**14**	**0**	**0.0%**	**0**	**0.0%**	**0**

* Small numbers. Percentages should be viewed with caution where the denominator is less than 5.

At baseline review the group proposed that 90-day mortality should also be reported for patients diagnosed with HCC undergoing curative treatments. This is in keeping with mortality reporting for other HPB cancers (pancreatic, duodenal and biliary tract cancers).

It was agreed that further discussion with oncology colleagues would be undertaken to determine whether it was appropriate to measure 90-day mortality for patients diagnosed with HCC undergoing palliative treatments with TACE or SACT.

Action Required:

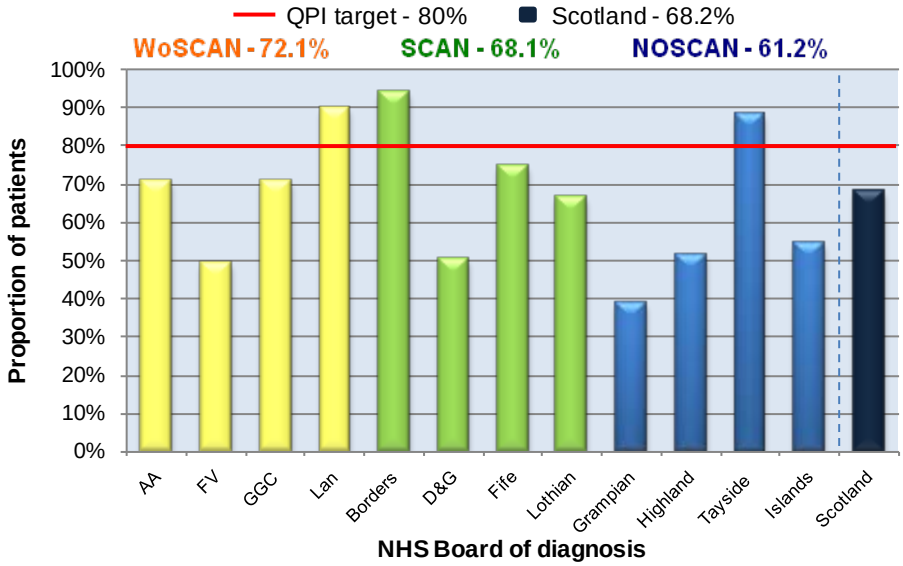
- Casenote review to be carried out by NHSGGC and NHS Grampian and details to be discussed at annual NMCN Mortality and Morbidity meeting.
- NMCN to initiate discussion with oncology colleagues to determine whether it is appropriate to report 90-day mortality for palliative treatments with TACE or SACT.

QPI 5: Radiological Diagnosis of Pancreatic, Duodenal or Biliary Tract Cancer

Accurate staging is important to ensure appropriate treatment is delivered and futile interventions avoided[1]. The primary tumour and its local extent should be defined and the presence or absence of metastatic disease assessed. CT is recommended for the diagnosis of pancreatic cancer as it will accurately delineate tumour size, infiltration, and the presence of metastatic disease[1]. Some patients may present with very advanced disease and may not be fit for investigation and/or treatment and the 80% target accounts for such patients.

QPI 5:	Patients with pancreatic, duodenal or biliary tract cancers should undergo a computerised tomography (CT) of the chest, abdomen and pelvis to evaluate the extent of disease
Description:	Proportion of patients with pancreatic, duodenal or biliary tract cancer who undergo contrast enhanced CT of the chest, abdomen and pelvis
Numerator:	Number of patients with pancreatic, duodenal or biliary tract cancer who undergo contrast enhanced CT of the chest, abdomen and pelvis
Denominator:	All patients with pancreatic, duodenal or biliary tract cancer
Exclusions:	No exclusions
Target:	80%

Figure 10: Proportion of patients diagnosed with pancreatic, duodenal or biliary tract cancer in 2013 that undergo contrast-enhanced CT of the chest, abdomen and pelvis.



Thirteen of fourteen NHS Boards had patients diagnosed with pancreatic, duodenal or biliary cancer in 2013 and therefore had percentage performance measured against QPI 5. NHS Borders, NHS Lanarkshire and NHS Tayside all exceeded the 80% target with percentage performance of 94.1%, 90.0% and 88.2% respectively. Overall performance for Scotland was 68.2%.

NHS AA, NHS FV, NHS Fife, NHS Lothian, NHS Grampian and NHS Highland have all commented that the majority of patients have had CT abdomen/pelvis and further CT imaging of the chest was not indicated in patients where the result would not alter the patient's management (i.e. patients who are inoperable due to extent of disease). NHS FV has also commented that the target does not account for patients with poor renal function who are unable to undergo contrast-enhanced CT. Following discussion at baseline review, the group agreed that reference to 'contrast-enhanced' should be removed from the relevant data item to account for patients who are unable to tolerate IV contrast.

QPI 5	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
AA	70.7%	53	75	0	0.0%	0	0.0%	0
FV	48.9%	23	47	0	0.0%	0	0.0%	0
GGC	70.4%	169	240	0	0.0%	0	0.0%	0
Lan	90.0%	81	90	0	0.0%	0	0.0%	0
WoSCAN	**72.1%**	**326**	**452**	**0**	**0.0%**	**0**	**0.0%**	**0**
Borders	94.1%	16	17	0	0.0%	0	0.0%	0
D&G	50.0%	15	30	0	0.0%	0	0.0%	0
Fife	75.0%	39	52	0	0.0%	0	0.0%	0
Lothian	66.2%	86	130	0	0.0%	0	0.0%	0
SCAN	**68.1%**	**156**	**229**	**0**	**0.0%**	**0**	**0.0%**	**0**
Grampian	38.5%	30	78	0	0.0%	0	0.0%	0
Highland	51.5%	35	68	0	0.0%	0	0.0%	0
Tayside	88.2%	82	93	0	0.0%	0	0.0%	0
Islands	54.5%	6	11	0	0.0%	0	0.0%	0
NOSCAN	**61.2%**	**153**	**250**	**0**	**0.0%**	**0**	**0.0%**	**0**
Scotland	**68.2%**	**635**	**931**	**0**	**0.0%**	**0**	**0.0%**	**0**

NHS Shetland has commented that of the four eligible patients, two had CT abdomen/pelvis, one had CT pancreas and one had CT chest/abdomen which accounts for the 0.0% performance against the 80% target for QPI 5.

NHSGGC stated that some CT scans have been incorrectly coded and therefore not recorded as contrast enhanced. This has been discussed with the Clinical Director for Diagnostics and Imaging and results should be accurate for cases registered after August 2014.

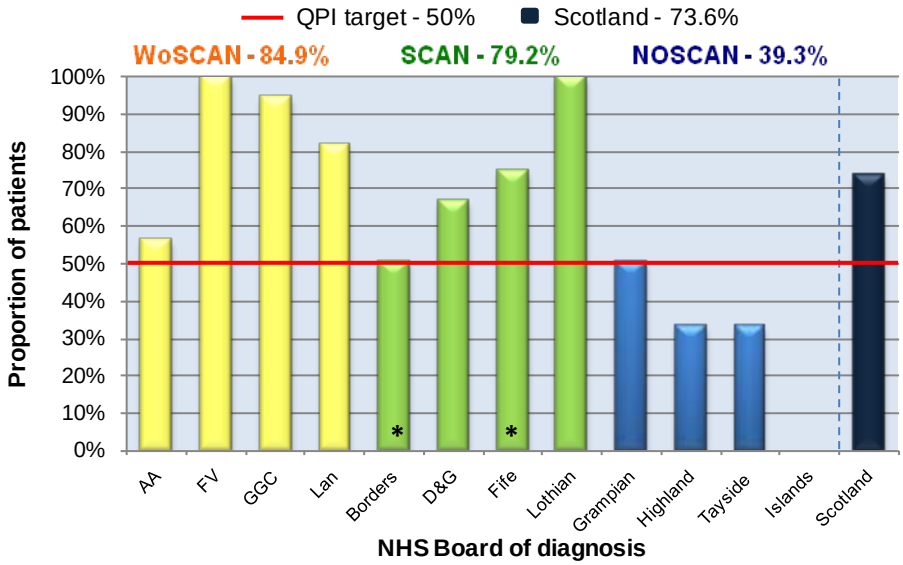
The baseline review group also agreed that for patients receiving supportive care only, it is generally not appropriate to subject these patients to fuller staging scans. It has therefore been proposed that patients receiving supportive care only should be excluded from the denominator.

QPI 6: Pathological Diagnosis of Pancreatic, Duodenal or Biliary Tract Cancer

In patients who are being considered for anti-cancer therapy, definitive cytological or histological diagnosis is essential before chemotherapy to ensure full benefit of any treatment offered[1]. Even when no active treatment is being considered, a definitive diagnosis is valuable in helping to inform patients and carers about the nature of the disease and the likely prognosis[1]. It is not always appropriate, safe or possible to obtain a histological or cytological diagnosis due to the performance status of the patient or advanced nature of the disease and the 50% target reflects this and also factors relating to patient choice.

QPI 6:	Patients with pancreatic, duodenal or biliary tract cancers having non-surgical treatment should have a cytological or histological diagnosis
Description:	Proportion of patients with pancreatic, duodenal or biliary tract cancer undergoing non-surgical treatment who have a cytological or histological diagnosis
Numerator:	Number of patients with pancreatic, duodenal or distal biliary tract cancer undergoing non-surgical treatment who have a histological or cytological diagnosis (e.g. brush cytology, endoscopic or image guided biopsy)
Denominator:	All patients with pancreatic, duodenal or distal biliary tract undergoing non-surgical treatment
Exclusions:	No exclusions
Target:	50%

Figure 11: Proportion of patients diagnosed with pancreatic, duodenal or biliary tract cancer in 2013 undergoing non-surgical treatment that have a cytological or histological diagnosis.



QPI 6	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
AA	56.3%	9	16	0	0.0%	0	0.0%	0
FV	100.0%	8	8	0	0.0%	0	0.0%	0
GGC	94.7%	36	38	0	0.0%	0	0.0%	0
Lan	81.8%	9	11	0	0.0%	0	0.0%	0
WoSCAN	**84.9%**	**62**	**73**	**0**	**0.0%**	**0**	**0.0%**	**0**
Borders	50.0%*	1	2	0	0.0%	0	0.0%	0
D&G	66.7%	6	9	0	0.0%	0	0.0%	0
Fife	75.0%*	3	4	0	0.0%	0	0.0%	0
Lothian	100.0%	9	9	0	0.0%	0	0.0%	0
SCAN	**79.2%**	**19**	**24**	**0**	**0.0%**	**0**	**0.0%**	**0**
Grampian	50.0%	5	10	0	0.0%	0	0.0%	0
Highland	33.3%	3	9	0	0.0%	0	0.0%	0
Tayside	33.3%	3	9	0	0.0%	0	0.0%	0
Islands	NA	0	0	0	0.0%	0	0.0%	0
NOSCAN	**39.3%**	**11**	**28**	**0**	**0.0%**	**0**	**0.0%**	**0**
Scotland	**73.6%**	**92**	**125**	**0**	**0.0%**	**0**	**0.0%**	**0**

* Small numbers. Percentages should be viewed with caution where the denominator is less than 5.

Eleven of the fourteen NHS Boards had patients that the met the denominator criteria and therefore had performance measured against QPI 6. Nine of the eleven Boards met or exceeded the 50% target and performance across Scotland was 73.6% which also exceeded the target. NHS Borders and NHS Fife both met the QPI target but had small numbers and therefore percentages should be viewed with caution.

NHS Highland did not meet the 50% target with a performance of 33.3%. NHS Highland has not commented on cases specifically but has stated that they continue to work towards the target. NHS Tayside also achieved 33.3% against the 50% target and has stated that "brushings and/or biopsies were attempted in those undergoing active treatment."

Action Required:

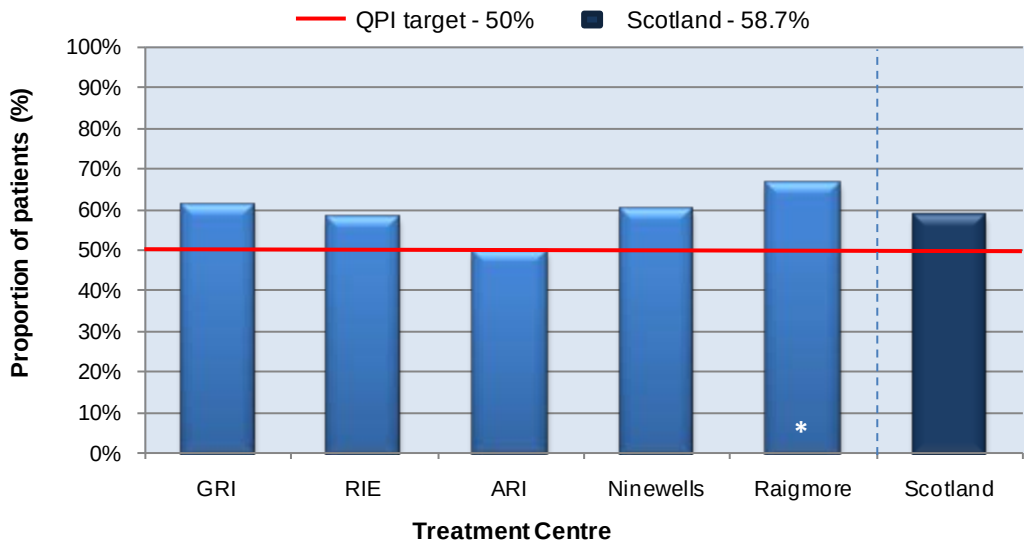
- NHS Highland and NHS Tayside should review cases that did not meet QPI 6 to identify why definitive cytological or histological diagnosis was not achieved for these patients.

QPI 7: Systemic Therapy for Pancreatic Cancer

Adjuvant chemotherapy is the accepted standard of care for patients with pancreatic cancer following surgical resection and is proven to have survival benefit[1]. The 50% target accounts for patients who may have post-operative complications that preclude consideration of adjuvant therapy.

QPI 7:	Patients undergoing resection for pancreatic cancer should receive adjuvant chemotherapy, where appropriate
Description:	Proportion of patients undergoing resection for pancreatic cancer receiving adjuvant chemotherapy
Numerator:	Number of patients undergoing pancreatic cancer resection who receive adjuvant chemotherapy
Denominator:	All patients undergoing resection for pancreatic cancer
Exclusions:	• Patients who die post-operatively (within 60 days of surgery) • Patients who refuse chemotherapy
Target:	50%

Figure 12: Proportion of patients diagnosed with pancreatic cancer in 2013 undergoing surgery that receive adjuvant chemotherapy.



QPI 7	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
GRI	61.1%	11	18	0	0.0%	0	0.0%	0
RIE	58.3%	7	12	0	0.0%	0	0.0%	0
ARI	50.0%	4	8	0	0.0%	0	0.0%	0
Ninewells	60.0%	3	5	0	0.0%	0	0.0%	0
Raigmore	66.7%*	2	3	0	0.0%	0	0.0%	0
SCOTLAND	58.7%	27	46	**0**	**0.0%**	**0**	**0.0%**	**0**

* Small numbers. Percentages should be viewed with caution where the denominator is less than 5.

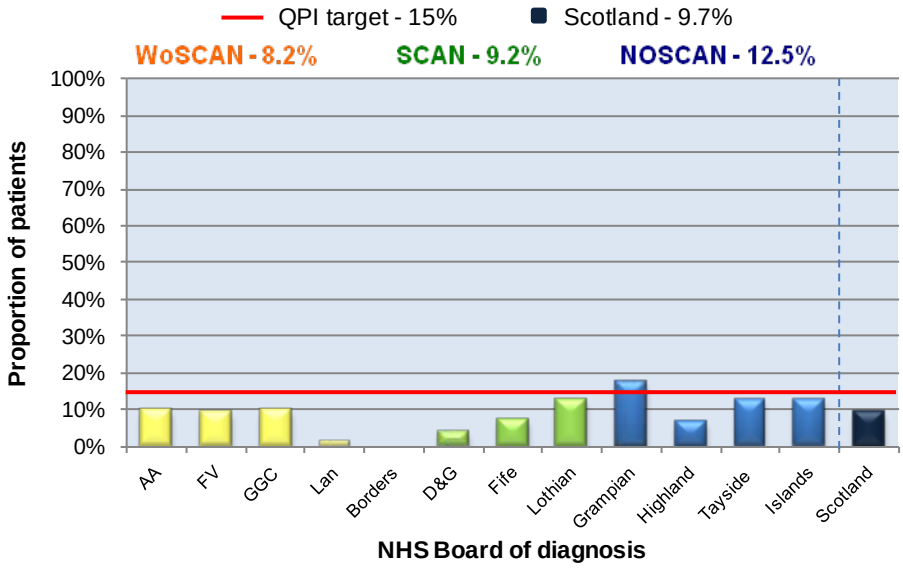
All five treatment centres achieved or exceeded the 50% target set by QPI 7 and overall performance for Scotland was 58.7%. Small numbers were recorded for Raigmore and therefore percentage performance for subsequent years should be compared with caution.

QPI 8: Resection Rate for Pancreatic, Duodenal or Biliary Tract Cancer

Surgical resection is the only potentially curative treatment for pancreatic cancer. Where surgical resection is not carried out, the reason(s) should be clearly documented by the MDT. The 15% target for this QPI takes into consideration patient choice as well as patients who may develop complications during the pre-operative phase. The target recognises that the majority of patients will have advanced disease at presentation and will therefore not be suitable for curative surgery. The NMCN will review variation in surgical resection rates at the upcoming Mortality and Morbidity meeting.

QPI 8:	Patients with localised pancreatic, distal biliary tract or duodenal cancer should have surgical resection
Description:	Proportion of patients who undergo resection for pancreatic, distal biliary tract or duodenal cancer
Numerator:	Number of patients with pancreatic, duodenal or distal biliary tract cancer who undergo resection
Denominator:	All patients with pancreatic, duodenal or distal biliary tract cancer
Exclusions:	No exclusions
Target:	15%

Figure 13: Proportion of patients diagnosed with pancreatic, distal biliary tract or duodenal cancer in 2013 that undergo resection.



Thirteen of the fourteen NHS Boards had patients who were eligible for measurement against QPI 8. Two of the thirteen boards met or exceeded the 15% target; NHS Grampian at 17.7% and NHS Western Isles at 25.0% (1 of 4 patients). It should be noted that NHS Western Isles had small numbers and is included in 'Islands' figures above. The remaining eleven Boards did not meet the 15% target and the overall performance for Scotland was 9.7%.

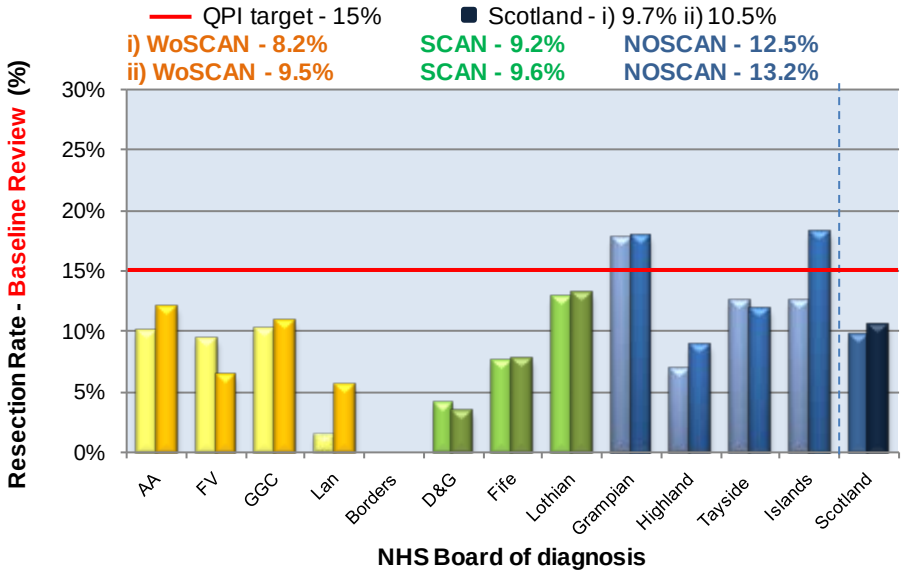
Most NHS Boards have commented that the decision to proceed to surgery is made at the Regional MDT and is not the decision of the referring Board. However, data is presented by NHS Board of diagnosis to emphasise equitable access to treatment across Scotland. NHS Lanarkshire, NHS Borders and NHS Dumfries & Galloway all have notably lower performance at less than 5% which may require further investigation. NHS Lothian has commented that the QPI does not include ampullary cancers and have suggested that this should form part of the discussion at baseline review.

QPI 8	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
AA	10.0%	6	60	0	0.0%	0	0.0%	0
FV	9.4%	3	32	0	0.0%	0	0.0%	0
GGC	10.2%	18	177	0	0.0%	0	0.0%	0
Lan	1.4%	1	71	0	0.0%	0	0.0%	0
WoSCAN	**8.2%**	**28**	**340**	**0**	**0.0%**	**0**	**0.0%**	**0**
Borders	0.0%	0	15	0	0.0%	0	0.0%	0
D&G	4.0%	1	25	0	0.0%	0	0.0%	0
Fife	7.5%	3	40	0	0.0%	0	0.0%	0
Lothian	12.8%	12	94	0	0.0%	0	0.0%	0
SCAN	**9.2%**	**16**	**174**	**0**	**0.0%**	**0**	**0.0%**	**0**
Grampian	17.7%	11	62	0	0.0%	0	0.0%	0
Highland	6.9%	4	58	0	0.0%	0	0.0%	0
Tayside	12.5%	9	72	0	0.0%	0	0.0%	0
Islands	12.5%	1	8	0	0.0%	0	0.0%	0
NOSCAN	**12.5%**	**25**	**200**	**0**	**0.0%**	**0**	**0.0%**	**0**
Scotland	**9.7%**	**69**	**714**	**0**	**0.0%**	**0**	**0.0%**	**0**

It was proposed at baseline review that QPI 8 should be amended to include ampullary cancers in the denominator as these patients undergo the same operative procedure and therefore this would capture all relevant surgical resections. It is not anticipated that this will necessarily affect performance outcomes, as the numerator is expected to change proportionally with the denominator, but rather it will ensure that all surgical QPIs are examining the same cohort of patients. The proposed change in measurability awaits approval by NCQSG.

For illustrative purposes only, Figure 14 shows results for QPI 8 based on i) current measurement and ii) proposed measurement which includes patients diagnosed with ampullary cancer. Overall changes in performance are minimal for most NHS Boards however improvements are more notable in some Boards where the proportion of ampullary cancers undergoing resection must be higher.

Figure 14: Proportion of patients diagnosed with pancreatic, distal biliary tract or duodenal cancer in 2013 that undergo resection i) current measurement ii) proposed measurement including ampullary cancers.



Action Required:

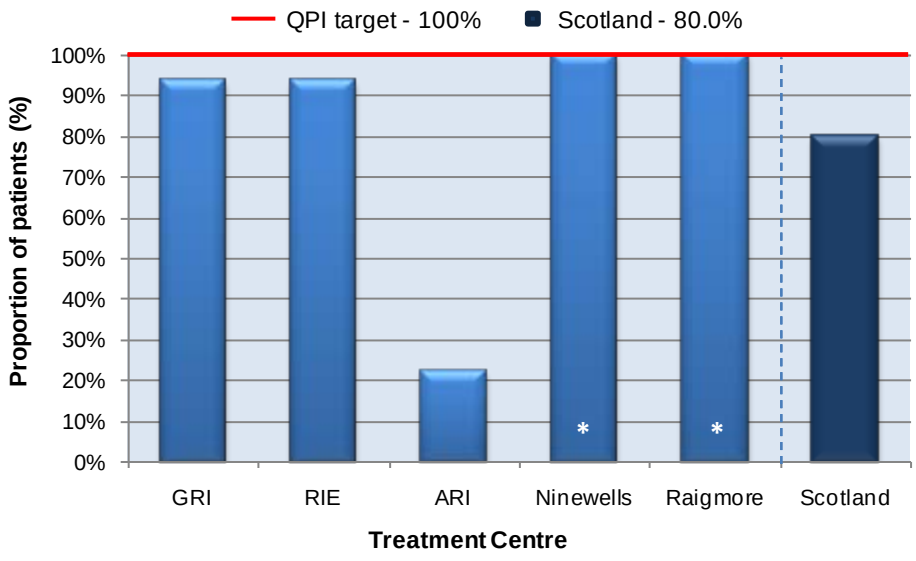
- All NHS Boards should contribute to the review of variation in surgical resection rates which will be progressed at the upcoming Mortality and Morbidity meeting.

QPI 9: Lymph Node Yield (pancreatic cancer)

Adequate lymph node yield is important for accurate staging and is a surrogate marker of adequacy of en bloc cancer resection and diligence of the pathologist[1]. Evidence suggests that pancreatoduodenectomy should yield a minimum of 15 lymph nodes from the principle specimen[1]. Within the measurement of this QPI, pancreatoduodenectomy is being utilised as a proxy measurement for all surgical resection to ensure consistent and comparable measurement across NHS Scotland. The baseline review group proposed that the QPI should be broadened to look at all patients undergoing pancreatoduodenectomy, rather than only patients diagnosed with pancreatic cancer, to ensure consistency between all surgical QPIs. Lymph node yield should be maximised for all patients diagnosed with HPB cancer regardless of site and proposed changes await ratification.

QPI 9:	In patients undergoing surgery for pancreatic cancer the number of lymph nodes examined should be maximised
Description:	Proportion of patients with pancreatic cancer who undergo surgical resection (pancreatoduodenectomy) where ≥15 lymph nodes are resected and pathologically examined
Numerator:	Number of patients with pancreatic cancer who undergo pancreatoduodenectomy where ≥15 lymph nodes are resected and pathologically examined
Denominator:	All patients with pancreatic cancer who undergo pancreatoduodenectomy
Exclusions:	No exclusions
Target:	100%

Figure 15: Proportion of patients diagnosed with pancreatic cancer in 2013 that undergo surgical resection (pancreatoduodenectomy) where ≥ 15 lymph nodes are resected and pathologically examined.



QPI 9	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
GRI	93.8%	15	16	0	0.0%	0	0.0%	0
RIE	93.8%	15	16	0	0.0%	0	0.0%	0
ARI	22.2%	2	9	0	0.0%	0	0.0%	0
Ninewells	100.0%*	2	2	0	0.0%	0	0.0%	0
Raigmore	100.0%*	2	2	0	0.0%	0	0.0%	0
SCOTLAND	80.0%	36	45	**0**	**0.0%**	**0**	**0.0%**	**0**

* Small numbers. Percentages should be viewed with caution where the denominator is less than 5.

Performance against QPI 9 was analysed by treatment centre. Two of the five specialist centres across Scotland met the 100% target set for QPI 9, however in both cases numbers were small and therefore percentages should be interpreted with care. Overall performance for Scotland was 80.0%.

Aberdeen Royal Infirmary did not meet the QPI target and performance was low at 22.2% (2 of 9 patients). NHS Grampian has commented that they will discuss with the histopathology department how to improve the number of lymph nodes that are recovered from specimens.

Glasgow Royal Infirmary and Royal Infirmary Edinburgh both achieved 93.8% against the 100% target which accounted for one patient in each centre that did not meet the QPI criteria. NHSGGC did not comment on QPI 9 and NHS Lothian has stated that they will review the one case where less than 15 lymph nodes were resected and pathologically examined.

Action Required:

- NHS Grampian to work with histopathology department to improve the number of lymph nodes recovered from specimens and to ensure the use of standard proforma.

QPI 10a/b: 30 and 90-day Mortality after Treatment with Curative Intent

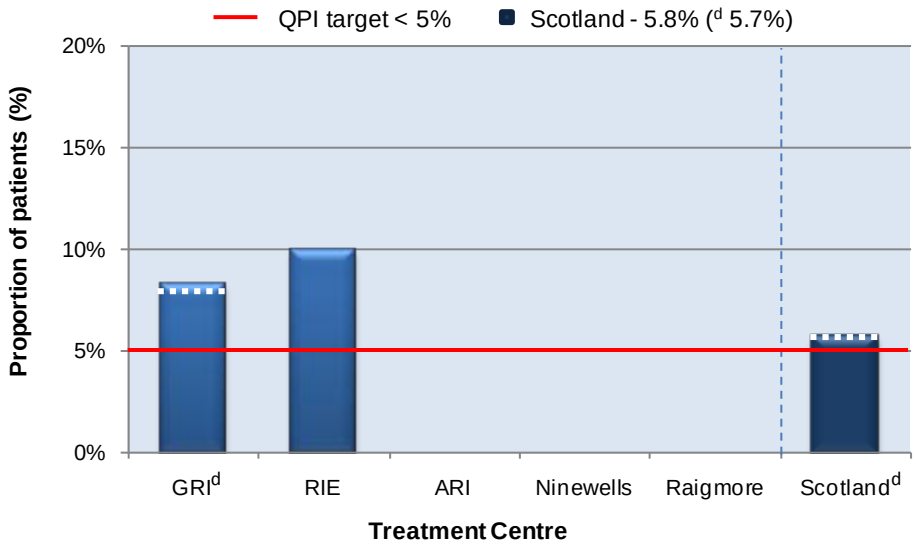
Mortality following resection for HPB cancer has fallen over the past 30 years and in specialist units should be less than 5%[1]. Treatment related mortality is a marker of the quality and safety of the whole service provided by the multidisciplinary team.

QPI 10a/b:	30-day and 90-day mortality after surgery with curative intent for pancreatic, duodenal or distal biliary tract cancer
Description:	Proportion of patients undergoing surgical resection with curative intent for pancreatic, duodenal or distal biliary tract cancer who die within 30 or 90 days
Numerator:	Number of patients with pancreatic, duodenal or distal biliary tract cancer undergoing surgical resection who die within 30 or 90 days of surgery
Denominator:	All patients with pancreatic, duodenal or distal biliary tract cancer undergoing surgical resection
Exclusions:	No exclusions
Target:	< 5%

Three of the five specialist centres met the target of < 5% for QPI 10a. Overall performance for Scotland was 5.8%. GRI and RIE both had two deaths within 30 days of treatment which resulted in mortality rates of 8.3% and 10.0% respectively. NHSGGC has commented that the denominator should be 25 rather than 24 for GRI with a resultant mortality rate of 8.0%; information has been corrected on eCASE. NHS Lothian has not commented on RIE performance against QPI 10a.

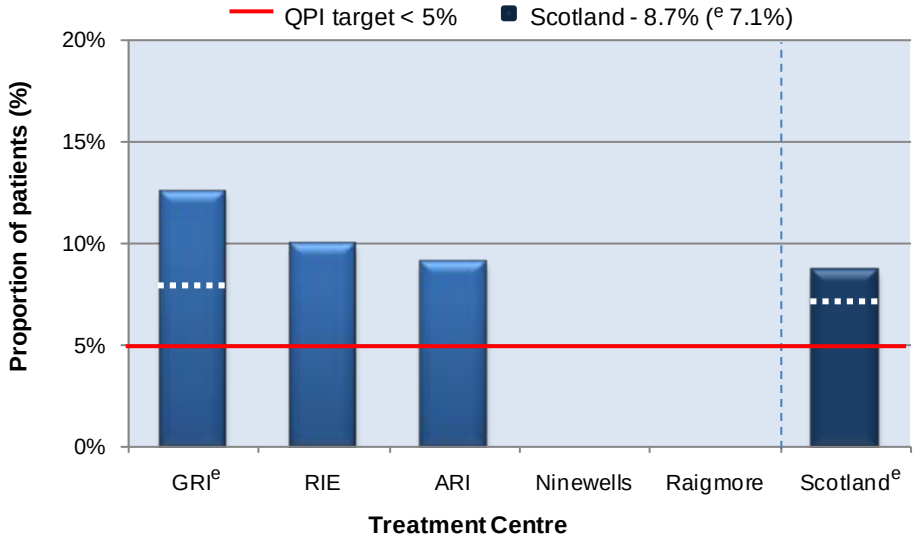
As proposed for all surgical HPB Cancer QPIs (excluding HCC), it was agreed at baseline review that the measurability specification for QPI 10a and 10b should be aligned to include ampullary cancers. The proposed changes await approval by NCQSG.

Figure 16: 10a - Proportion of patients diagnosed with pancreatic, duodenal or distal biliary tract cancer in 2013 undergoing surgical resection that die within 30 days of surgery.



QPI 10a	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
GRI[d]	8.3%	2	24	0	0.0%	0	0.0%	0
RIE	10.0%	2	20	0	0.0%	0	0.0%	0
ARI	0.0%	0	11	0	0.0%	0	0.0%	0
Ninewells	0.0%	0	9	0	0.0%	0	0.0%	0
Raigmore	0.0%	0	5	0	0.0%	0	0.0%	0
SCOTLAND[d]	**5.8%**	**4**	**69**	**0**	**0.0%**	**0**	**0.0%**	**0**

Figure 17: 10b - Proportion of patients diagnosed with pancreatic, duodenal or distal biliary tract cancer in 2013 undergoing surgical resection that die within 90 days of surgery.



[d] NHSGGC has stated that one patient was excluded from the denominator in error and 2013 figures for GRI are therefore 2/25 = 8.0%. This would result in overall Scotland performance of 5.7% (4/70). Dashed line denotes corrected figures.
[e] NHSGGC has stated that one patient was excluded from the denominator in error and the denominator for GRI is therefore 25. One patient had an incorrect date of death recorded and therefore the numerator should be 2. GRI performance for 2013 90-day mortality is therefore 2/25 = 8.0%. Resultantly, performance for Scotland in 2013 is 7.1% (5/70). Dashed line denotes corrected figures.

QPI 10b	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
GRI[e]	12.5%	3	24	0	0.0%	0	0.0%	0
RIE	10.0%	2	20	0	0.0%	0	0.0%	0
ARI	9.1%	1	11	0	0.0%	0	0.0%	0
Ninewells	0.0%	0	9	0	0.0%	0	0.0%	0
Raigmore	0.0%	0	5	0	0.0%	0	0.0%	0
SCOTLAND[e]	**8.7%**	**6**	**69**	**0**	**0.0%**	**0**	**0.0%**	**0**

Two of the five specialist centres met the target of < 5% for QPI 10b. Overall 90-day mortality rate for Scotland was 8.7%. GRI had 3 deaths recorded within 90 days resulting in a mortality rate of 12.5%. However comments from NHSGGC state that figures should be 2 of 25 resulting in an 8.0% 90-day mortality rate and information has been corrected on eCASE to reflect this.

RIE had two deaths within 90 days of treatment which equates to a 10.0% mortality rate. NHS Lothian has not commented on RIE performance against QPI 10b. ARI recorded one death within 90 days which resulted in a 9.1% mortality rate. NHS Grampian did not provide comment on QPI 10b.

Action Required:

- Casenote review to be carried out by all centres where mortality was greater than 5% and details to be discussed at the annual NMCN Mortality and Morbidity meeting.

QPI 11a/b: Volume of Cases per Centre/Surgeon

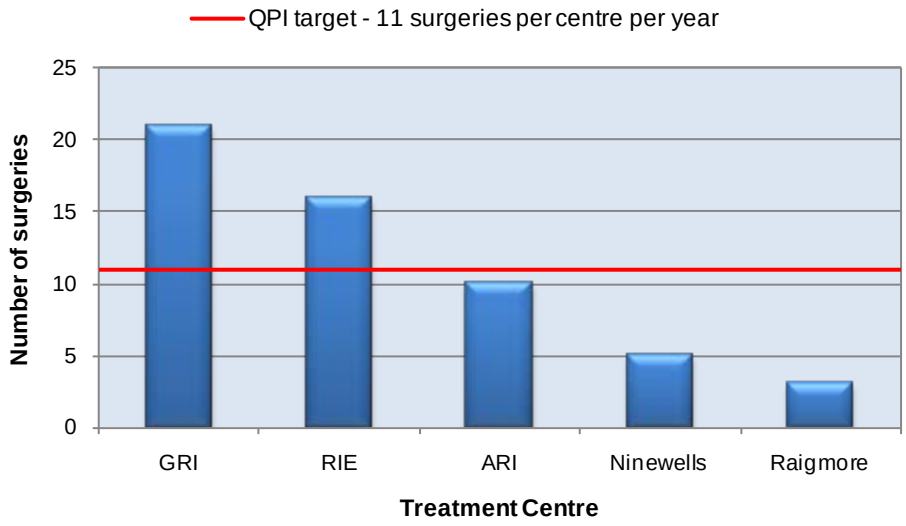
Pancreatic resectional surgery should be performed by surgeons who work in a specialist multidisciplinary team in a specialist centre, with outcomes audited regularly and benchmarked nationally[1]. Surgical resection should be confined to specialist centres to increase resection rates and reduce hospital morbidity and mortality. The literature demonstrates that there is a relationship between increasing surgical volumes for major hepatopancreatobiliary resections and improved patient outcomes (mortality)[1].

QPI 11a/b:	Pancreatic resectional surgery should be performed in hospitals where there is an appropriate annual volume of such cases
Description:	Number of pancreatic resections for pancreatic cancer [ICD 10 – C25*] performed by a specialist centre, and surgeon, over a 1 year period
Target:	a) 11 cases per centre per year b) 4 cases per surgeon per year

Two of the five treatment centres met the QPI target of 11 resections for pancreatic cancer in 2013. NHS Lothian, NHS Highland and NHS Tayside have all commented that the QPI includes only resectional surgery for patients diagnosed with pancreatic cancer and therefore "excludes a significant number of procedures performed for ampullary, distal cholangiocarcinoma and duodenal carcinoma." This formed part of the discussion at baseline review and the group proposed that the denominator should be revised to align with all other surgical QPIs to allow for more meaningful comparisons across indicators thus providing a fuller overview of quality of surgical care. It was however acknowledged that the target is not proportional for QPI 11 and therefore target adjustment may have to be made in order maintain the performance standard originally set by this QPI. All proposed baseline review changes await NCQSG approval at the time of publication.

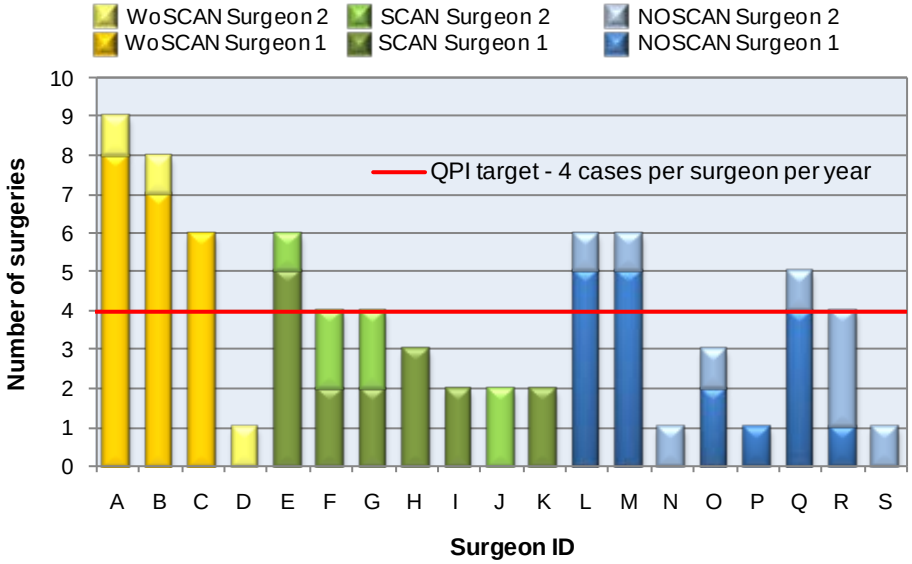
[e] NHSGGC has stated that one patient was excluded from the denominator in error and the denominator for GRI is therefore 25. One patient had an incorrect date of death recorded and therefore the numerator should be 2. GRI performance for 2013 90-day mortality is therefore 2/25 = 8.0%. Resultantly, performance for Scotland in 2013 is 7.1% (5/70).

Figure 18: The number of pancreatic resections for patients diagnosed with pancreatic cancer in 2013 performed in each specialist centre.



QPI 11a	GRI	RIE	ARI	Ninewells	Raigmore	Scotland
Number of cases	21	16	10	5	3	55

Figure 19: The number of pancreatic resections for patients diagnosed with pancreatic cancer in 2013 performed by each specialist surgeon.



QPI 11b	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	TOTAL
N1	8	7	6	0	5	2	2	3	2	0	2	5	5	0	2	1	4	1	0	**55**
N2	1	1	0	1	1	2	2	0	0	2	0	1	1	1	1	0	1	3	1	**19**
TOTAL	**9**	**8**	**6**	**1**	**6**	**4**	**4**	**3**	**2**	**2**	**2**	**6**	**6**	**1**	**3**	**1**	**5**	**4**	**1**	**74**

N1 = Number of surgeries performed as operating surgeon 1
N2 = Number of surgeries performed as operating surgeon 2

Ten out of 19 surgeons met the QPI target of 4 resections for pancreatic cancer per year. As in QPI 11a, comments from NHS Boards are surrounding which procedures should be included for measurement against QPI 11b as it is felt that a number of relevant procedures are not being included, as mentioned above.

5. Conclusions

Analysis of 2013 audit data demonstrates a continual commitment to provide an equitable and consistent standard of care for HPB cancer patients across Scotland. The ongoing improvement in data quality over the past seven years has resulted in accurate baseline data for this first year of analysis of performance against QPIs, from which yearly comparisons of service provision across NHS Scotland can be made. The QPIs included within the report are evidence based, outcome focussed and measurable and were developed by a multidisciplinary group. The results presented illustrate that many of the QPI targets set have been challenging for NHS Boards to achieve and there remains room for further service improvement, however it is encouraging that targets relating to 30-day mortality following curative treatment for HCC and systemic therapy for pancreatic cancer were achieved by all centres.

It is important that QPIs are meaningful and measure outcomes or performance that relate directly to quality of clinical care. The current QPIs have only been implemented recently and it is anticipated that some may require refinement and adjustment. Proposals have been submitted to the NCQSG following discussion at HPB Cancer QPI Baseline Review in January 2015 and await endorsement.

Cancer audit data underpins much of the development and service improvement work of the NMCN and regular reporting of activity and performance is a fundamental requirement of an MCN to assure the quality of care delivered. The Scottish HepatoPancreatoBiliary Cancer NMCN remains committed to improve the quality and completeness of clinical audit data to ensure continued robust performance assessment and the identification of areas for service improvement.

There are a number of actions required as a consequence of this assessment of performance against QPIs. Some of these relate to data quality improvement, specifically in relation to the documentation of information (following CT or MRI) to enable correct management decisions to be made by the multidisciplinary team. Additional actions relating to service provision were identified particularly in relation to variance in palliative treatment rates, pathological diagnosis, resection rates, surgical outcome and lymph node yield.

The NMCN will actively take forward national actions identified and NHS Boards are asked to develop local Action/Improvement Plans in response to the findings presented in the report. A summary of actions for each NHS Board has been included within the Action Plan templates in Appendix 2.

Completed Action Plans should be returned to WoSCAN within two months of publication of this report.

Progress against these plans will be monitored by the NMCN Advisory Board and any service or clinical issue which the Advisory Board considers not to have been adequately addressed will be escalated to the NHS Board Territorial Lead Cancer Clinician and National Lead Cancer Clinician.

Additionally, progress will be reported to the Regional Cancer Advisory Groups (RCAGs) annually by NHS Board Territorial Lead Cancer Clinicians and NMCN Clinical Lead, as part of the WoSCAN audit governance process to enable RCAGs to review and monitor regional improvement.

Acknowledgement

This report has been prepared using clinical audit data provided by each of the fourteen NHS Boards in Scotland. We would like to thank colleagues in the clinical effectiveness departments throughout Scotland for gathering, submitting and verifying these data. We would also like to thank the clinicians, nurses and others involved in the management of HPB cancer for their contribution to the clinical audit process.

Abbreviations

AA	NHS Ayrshire & Arran
ACaDMe	Acute Cancer Deaths and Mental Health
ARI	Aberdeen Royal Infirmary
BWoSCC	Beatson West of Scotland Cancer Centre
CT	Computerised tomography
D&G	NHS Dumfries & Galloway
eCASE	Electronic Cancer Audit Support Environment
FV	NHS Forth Valley
GGC	NHS Greater Glasgow and Clyde
GRI	Glasgow Royal Infirmary
HCC	Hepatocellular Carcinoma
HIS	Healthcare Improvement Scotland
HPB	HepatoPancreatoBiliary
ICD-10	International Classification of Diseases – 10th Revision
ISD	Information Services Division
Lan	NHS Lanarkshire
MCN	Managed Clinical Network
MDT	Multidisciplinary Team
MRI	Magnetic Resonance Imaging
NCQSG	National Cancer Quality Steering Group
NHSBT	NHS Blood and Transplant
NHSGGC	NHS Greater Glasgow and Clyde
NMCN	National Managed Clinical Network
NOSCAN	North of Scotland Cancer Network
NW	Ninewells Hospital
QPI(s)	Quality Performance Indicator(s)
RCAG(s)	Regional Cancer Advisory Group(s)
RIE	Royal Infirmary of Edinburgh
SACT	Systemic Anti-Cancer Therapy
SCAN	South East Scotland Cancer Network
SLTU	Scottish Liver Transplant Unit
TACE	Trans-arterial chemoembolisation
TNM	Tumour, Nodes, Metastases (staging system)
WGH	Western General Hospital
WIG	Western Infirmary Glasgow
WoSCAN	West of Scotland Cancer Network

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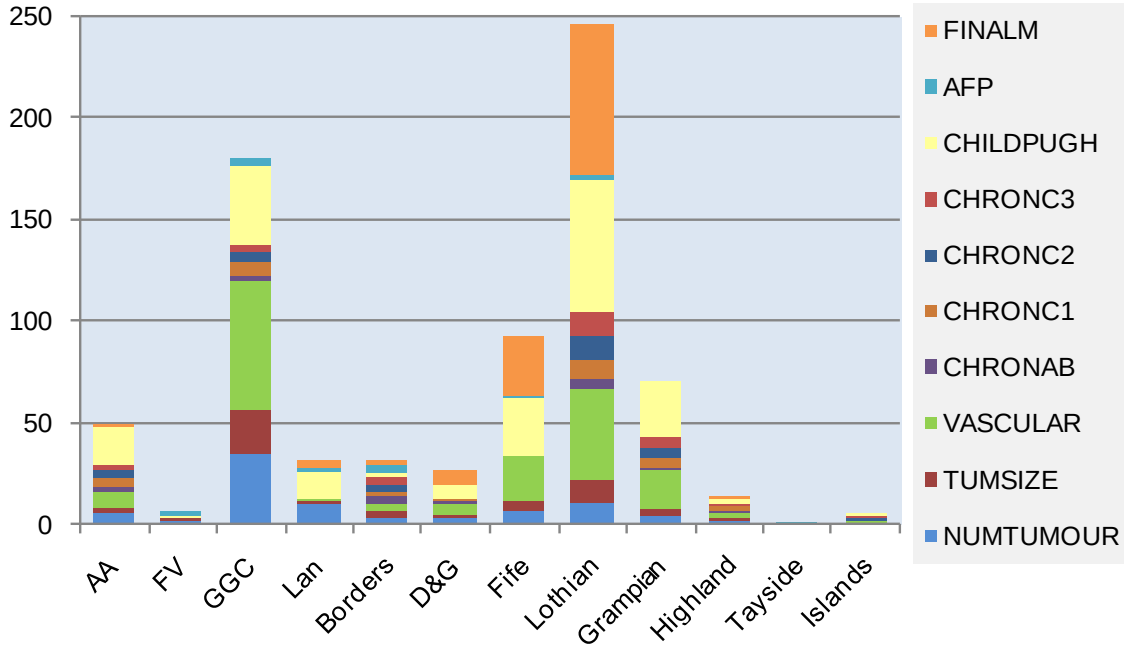
Appendix 1: QPI 1 Diagnosis and Staging of HCC

Missing values – data fields required for QPI 1

Figure A1: Total number of missing values per data field by NHS Board/ Region (all 10 fields must be complete to be defined as 'full information recorded' for QPI 1).



	NUMTUMOUR	TUMSIZE	VASCULAR	CHRONAB	CHRONC1	CHRONC2	CHRONC3	CHILDPUGH	AFP	FINALM	**NHS Board/ Region Total**
AA	6	2	9	2	5	3	3	19	0	1	**50**
FV	2	2	0	0	0	0	0	1	2	0	**7**
GGC	35	22	63	3	7	4	4	39	3	0	**180**
Lan	10	2	1	0	0	0	0	13	2	4	**32**
WoSCAN	***53***	***28***	***73***	***5***	***12***	***7***	***7***	***72***	***7***	***5***	***269***
Borders	4	3	4	3	3	3	3	3	3	3	**32**
D&G	3	2	6	1	1	0	0	7	0	7	**27**
Fife	7	5	22	0	0	0	0	28	2	29	**93**
Lothian	10	12	45	5	9	12	12	64	3	74	**246**
SCAN	***24***	***22***	***77***	***9***	***13***	***15***	***15***	***102***	***8***	***113***	***398***
Grampian	5	3	19	1	5	5	5	28	0	0	**71**
Highland	2	1	3	1	2	1	1	2	0	1	**14**
Tayside	0	0	0	0	0	0	0	0	1	0	**1**
Islands	1	0	1	0	1	1	1	1	0	0	**6**
NOSCAN	***8***	***4***	***23***	***2***	***8***	***7***	***7***	***31***	***1***	***1***	***92***
Scotland	**85**	**54**	**173**	**16**	**33**	**29**	**29**	**205**	**16**	**119**	**759**

Appendix 2: NHS Board Action Plans

A summary of actions for each NHS Board has been included within the following Action Plan templates. Completed Action Plans should be returned to WoSCAN within two months of publication of this report.

Action / Improvement Plan

Area:	NMCN
Action Plan Lead:	Professor S. Wigmore
Date:	17/03/2015

KEY (Status)	
1	**Action fully implemented**
2	**Action agreed but not yet implemented**
3	**No action taken (please state reason)**

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*.
QPI 4	NMCN to initiate discussion with oncology colleagues to determine whether it is appropriate to report 90-day mortality for palliative treatments with TACE or SACT.						

Action / Improvement Plan

Area:	NHS Ayrshire & Arran
Action Plan Lead:	Catherine Sharp
Date:	17/03/2015

KEY (Status)	
1	**Action fully implemented**
2	**Action agreed but not yet implemented**
3	**No action taken (please state reason)**

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*.
QPI 1	All NHS Boards to ensure full list of required data fields are recorded by adding these items to MDT referral or summary forms and ensuring consistent recording (see Appendix 1, pg 39).						
QPI 1	NHS AA to review cases where HCC patients underwent CT chest, abdomen and pelvis to ensure data has been correctly recorded and/or patients received appropriate staging investigations.						
QPI 2	All NHS Boards must ensure that complete TNM staging data is recorded in order to ensure accurate measurement against QPI 2 ahead of proposed changes to the measurability following HPB Cancer QPI Baseline Review.						

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
QPI 3	All NHS Boards to ensure improved data capture with regards to Child Pugh score by adding this item to MDT referral or summary forms and ensuring consistent recording.						
QPI 3	NHS Boards to carry out targeted audit to identify the proportion of patients (from QPI 3 denominator) who had impaired synthetic function and were therefore not suitable for TACE.						
QPI 8	All NHS Boards should contribute to the review of variation in surgical resection rates which will be progressed at the upcoming Mortality and Morbidity meeting.						

Action / Improvement Plan

Area:	NHS Borders
Action Plan Lead:	Annabel Howell
Date:	17/03/2015

KEY (Status)	
1	**Action fully implemented**
2	**Action agreed but not yet implemented**
3	**No action taken (please state reason)**

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*.
QPI 1	All NHS Boards to ensure full list of required data fields are recorded by adding these items to MDT referral or summary forms and ensuring consistent recording (see Appendix 1, pg 39).						
QPI 1	NHS Borders to review cases where HCC patients underwent CT chest, abdomen and pelvis to ensure data has been correctly recorded and/or patients received appropriate staging investigations.						
QPI 2	All NHS Boards must ensure that complete TNM staging data is recorded in order to ensure accurate measurement against QPI 2 ahead of proposed changes to the measurability following HPB Cancer QPI Baseline Review.						

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
QPI 2	NHS Borders must ensure that 'Vascular Invasion' and 'Listing Criteria' fields are complete in order to accurately report against QPI 2.						
QPI 3	All NHS Boards to ensure improved data capture with regards to Child Pugh score by adding this item to MDT referral or summary forms and ensuring consistent recording.						
QPI 3	NHS Boards to carry out targeted audit to identify the proportion of patients (from QPI 3 denominator) who had impaired synthetic function and were therefore not suitable for TACE.						
QPI 8	All NHS Boards should contribute to the review of variation in surgical resection rates which will be progressed at the upcoming Mortality and Morbidity meeting.						

Action / Improvement Plan

Area:	NHS Dumfries & Galloway
Action Plan Lead:	Jeyakumar Apollos
Date:	17/03/2015

KEY (Status)	
1	**Action fully implemented**
2	**Action agreed but not yet implemented**
3	**No action taken (please state reason)**

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*.
QPI 1	All NHS Boards to ensure full list of required data fields are recorded by adding these items to MDT referral or summary forms and ensuring consistent recording (see Appendix 1, pg 39).						
QPI 2	All NHS Boards must ensure that complete TNM staging data is recorded in order to ensure accurate measurement against QPI 2 ahead of proposed changes to the measurability following HPB Cancer QPI Baseline Review.						
QPI 2	NHS Dumfries & Galloway must ensure that 'Vascular Invasion' and 'Listing Criteria' fields are complete in order to accurately report against QPI 2.						

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
QPI 3	All NHS Boards to ensure improved data capture with regards to Child Pugh score by adding this item to MDT referral or summary forms and ensuring consistent recording.						
QPI 3	NHS Boards to carry out targeted audit to identify the proportion of patients (from QPI 3 denominator) who had impaired synthetic function and were therefore not suitable for TACE.						
QPI 8	All NHS Boards should contribute to the review of variation in surgical resection rates which will be progressed at the upcoming Mortality and Morbidity meeting.						

Action / Improvement Plan

Area:	NHS Fife
Action Plan Lead:	Peter Driscoll
Date:	17/03/2015

KEY (Status)	
1	**Action fully implemented**
2	**Action agreed but not yet implemented**
3	**No action taken (please state reason)**

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*.
QPI 1	All NHS Boards to ensure full list of required data fields are recorded by adding these items to MDT referral or summary forms and ensuring consistent recording (see Appendix 1, pg 39).						
QPI 2	All NHS Boards must ensure that complete TNM staging data is recorded in order to ensure accurate measurement against QPI 2 ahead of proposed changes to the measurability following HPB Cancer QPI Baseline Review.						
QPI 2	NHS Fife must ensure that 'Vascular Invasion' and 'Listing Criteria' fields are complete in order to accurately report against QPI 2.						

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
QPI 3	All NHS Boards to ensure improved data capture with regards to Child Pugh score by adding this item to MDT referral or summary forms and ensuring consistent recording.						
QPI 3	NHS Boards to carry out targeted audit to identify the proportion of patients (from QPI 3 denominator) who had impaired synthetic function and were therefore not suitable for TACE.						
QPI 8	All NHS Boards should contribute to the review of variation in surgical resection rates which will be progressed at the upcoming Mortality and Morbidity meeting.						

Action / Improvement Plan

Area:	NHS Forth Valley
Action Plan Lead:	Chris Shearer
Date:	17/03/2015

KEY (Status)	
1	**Action fully implemented**
2	**Action agreed but not yet implemented**
3	**No action taken (please state reason)**

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*.
QPI 1	All NHS Boards to ensure full list of required data fields are recorded by adding these items to MDT referral or summary forms and ensuring consistent recording (see Appendix 1, pg 39).						
QPI 2	All NHS Boards must ensure that complete TNM staging data is recorded in order to ensure accurate measurement against QPI 2 ahead of proposed changes to the measurability following HPB Cancer QPI Baseline Review.						
QPI 3	All NHS Boards to ensure improved data capture with regards to Child Pugh score by adding this item to MDT referral or summary forms and ensuring consistent recording.						

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
QPI 3	NHS Boards to carry out targeted audit to identify the proportion of patients (from QPI 3 denominator) who had impaired synthetic function and were therefore not suitable for TACE.						
QPI 8	All NHS Boards should contribute to the review of variation in surgical resection rates which will be progressed at the upcoming Mortality and Morbidity meeting.						

Action / Improvement Plan

Area:	NHS Grampian
Action Plan Lead:	Irfan Ahmed
Date:	17/03/2015

KEY (Status)	
1	**Action fully implemented**
2	**Action agreed but not yet implemented**
3	**No action taken (please state reason)**

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*.
QPI 1	All NHS Boards to ensure full list of required data fields are recorded by adding these items to MDT referral or summary forms and ensuring consistent recording (see Appendix 1, pg 39).						
QPI 2	All NHS Boards must ensure that complete TNM staging data is recorded in order to ensure accurate measurement against QPI 2 ahead of proposed changes to the measurability following HPB Cancer QPI Baseline Review.						
QPI 2	NHS Grampian must ensure that 'Vascular Invasion' and 'Listing Criteria' fields are complete in order to accurately report against QPI 2.						
QPI 3	All NHS Boards to ensure improved data capture with regards to Child Pugh score						

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	by adding this item to MDT referral or summary forms and ensuring consistent recording.						
QPI 3	NHS Boards to carry out targeted audit to identify the proportion of patients (from QPI 3 denominator) who had impaired synthetic function and were therefore not suitable for TACE.						
QPI 4	Casenote review to be carried out by NHSGGC and details to be discussed at annual NMCN Mortality and Morbidity meeting.						
QPI 8	All NHS Boards should contribute to the review of variation in surgical resection rates which will be progressed at the upcoming Mortality and Morbidity meeting.						
QPI 9	NHS Grampian to work with histopathology department to improve the number of lymph nodes recovered from specimens and to ensure the use of standard proforma.						
QPI 10	Casenote review to be carried out by all centres where mortality was greater than 5% and details to be discussed at the annual NMCN Mortality and Morbidity meeting.						

Action / Improvement Plan

Area:	NHS Greater Glasgow and Clyde
Action Plan Lead:	Euan Dickson
Date:	17/03/2015

KEY (Status)	
1	**Action fully implemented**
2	**Action agreed but not yet implemented**
3	**No action taken (please state reason)**

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*.
QPI 1	All NHS Boards to ensure full list of required data fields are recorded by adding these items to MDT referral or summary forms and ensuring consistent recording (see Appendix 1, pg 39).						
QPI 2	All NHS Boards must ensure that complete TNM staging data is recorded in order to ensure accurate measurement against QPI 2 ahead of proposed changes to the measurability following HPB Cancer QPI Baseline Review.						
QPI 2	NHS GGC must ensure that 'Vascular Invasion' and 'Listing Criteria' fields are complete in order to accurately report against QPI 2.						

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
QPI 3	All NHS Boards to ensure improved data capture with regards to Child Pugh score by adding this item to MDT referral or summary forms and ensuring consistent recording.						
QPI 3	NHS Boards to carry out targeted audit to identify the proportion of patients (from QPI 3 denominator) who had impaired synthetic function and were therefore not suitable for TACE.						
QPI 4	Casenote review to be carried out by NHSGGC and details to be discussed at annual NMCN Mortality and Morbidity meeting.						
QPI 8	All NHS Boards should contribute to the review of variation in surgical resection rates which will be progressed at the upcoming Mortality and Morbidity meeting.						
QPI 10	Casenote review to be carried out by all centres where mortality was greater than 5% and details to be discussed at the annual NMCN Mortality and Morbidity meeting.						

Action / Improvement Plan

Area:	NHS Highland
Action Plan Lead:	Appou Tamijmarane
Date:	17/03/2015

KEY (Status)	
1	**Action fully implemented**
2	**Action agreed but not yet implemented**
3	**No action taken (please state reason)**

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*.
QPI 1	All NHS Boards to ensure full list of required data fields are recorded by adding these items to MDT referral or summary forms and ensuring consistent recording (see Appendix 1, pg 39).						
QPI 2	All NHS Boards must ensure that complete TNM staging data is recorded in order to ensure accurate measurement against QPI 2 ahead of proposed changes to the measurability following HPB Cancer QPI Baseline Review.						
QPI 3	All NHS Boards to ensure improved data capture with regards to Child Pugh score by adding this item to MDT referral or summary forms and ensuring consistent recording.						

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
QPI 3	NHS Boards to carry out targeted audit to identify the proportion of patients (from QPI 3 denominator) who had impaired synthetic function and were therefore not suitable for TACE.						
QPI 6	NHS Highland should review cases that did not meet QPI 6 to identify why definitive cytological or histological diagnosis was not achieved for these patients.						
QPI 8	All NHS Boards should contribute to the review of variation in surgical resection rates which will be progressed at the upcoming Mortality and Morbidity meeting.						

Action / Improvement Plan

Area:	NHS Lanarkshire
Action Plan Lead:	Hakim Ben Younes
Date:	17/03/2015

KEY (Status)	
1	**Action fully implemented**
2	**Action agreed but not yet implemented**
3	**No action taken (please state reason)**

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*.
QPI 1	All NHS Boards to ensure full list of required data fields are recorded by adding these items to MDT referral or summary forms and ensuring consistent recording (see Appendix 1, pg 39).						
QPI 1	NHS Lanarkshire to review cases where HCC patients underwent CT chest, abdomen and pelvis to ensure data has been correctly recorded and/or patients received appropriate staging investigations.						
QPI 2	All NHS Boards must ensure that complete TNM staging data is recorded in order to ensure accurate measurement against QPI 2 ahead of proposed changes to the measurability following HPB Cancer QPI Baseline Review.						

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
QPI 3	All NHS Boards to ensure improved data capture with regards to Child Pugh score by adding this item to MDT referral or summary forms and ensuring consistent recording.						
QPI 3	NHS Boards to carry out targeted audit to identify the proportion of patients (from QPI 3 denominator) who had impaired synthetic function and were therefore not suitable for TACE.						
QPI 8	All NHS Boards should contribute to the review of variation in surgical resection rates which will be progressed at the upcoming Mortality and Morbidity meeting.						

Action / Improvement Plan

Area:	NHS Lothian
Action Plan Lead:	Anya Adair
Date:	17/03/2015

KEY (Status)	
1	**Action fully implemented**
2	**Action agreed but not yet implemented**
3	**No action taken (please state reason)**

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*.
QPI 1	All NHS Boards to ensure full list of required data fields are recorded by adding these items to MDT referral or summary forms and ensuring consistent recording (see Appendix 1, pg 39).						
QPI 2	All NHS Boards must ensure that complete TNM staging data is recorded in order to ensure accurate measurement against QPI 2 ahead of proposed changes to the measurability following HPB Cancer QPI Baseline Review.						
QPI 2	NHS Lothian must ensure that 'Vascular Invasion' and 'Listing Criteria' fields are complete in order to accurately report against QPI 2.						

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
QPI 3	All NHS Boards to ensure improved data capture with regards to Child Pugh score by adding this item to MDT referral or summary forms and ensuring consistent recording.						
QPI 3	NHS Boards to carry out targeted audit to identify the proportion of patients (from QPI 3 denominator) who had impaired synthetic function and were therefore not suitable for TACE.						
QPI 8	All NHS Boards should contribute to the review of variation in surgical resection rates which will be progressed at the upcoming Mortality and Morbidity meeting.						
QPI 10	Casenote review to be carried out by all centres where mortality was greater than 5% and details to be discussed at the annual NMCN Mortality and Morbidity meeting.						

Action / Improvement Plan

Area:	NHS Shetland
Action Plan Lead:	Roger Diggle
Date:	17/03/2015

KEY (Status)	
1	**Action fully implemented**
2	**Action agreed but not yet implemented**
3	**No action taken (please state reason)**

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*.
QPI 1	All NHS Boards to ensure full list of required data fields are recorded by adding these items to MDT referral or summary forms and ensuring consistent recording (see Appendix 1, pg 39).						
QPI 2	All NHS Boards must ensure that complete TNM staging data is recorded in order to ensure accurate measurement against QPI 2 ahead of proposed changes to the measurability following HPB Cancer QPI Baseline Review.						
QPI 3	All NHS Boards to ensure improved data capture with regards to Child Pugh score by adding this item to MDT referral or summary forms and ensuring consistent recording.						

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
QPI 3	NHS Boards to carry out targeted audit to identify the proportion of patients (from QPI 3 denominator) who had impaired synthetic function and were therefore not suitable for TACE.						
QPI 8	All NHS Boards should contribute to the review of variation in surgical resection rates which will be progressed at the upcoming Mortality and Morbidity meeting.						

Action / Improvement Plan

Area:	NHS Tayside
Action Plan Lead:	Iain Tate
Date:	17/03/2015

KEY (Status)	
1	**Action fully implemented**
2	**Action agreed but not yet implemented**
3	**No action taken (please state reason)**

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*.
QPI 1	All NHS Boards to ensure full list of required data fields are recorded by adding these items to MDT referral or summary forms and ensuring consistent recording (see Appendix 1, pg 39).						
QPI 2	All NHS Boards must ensure that complete TNM staging data is recorded in order to ensure accurate measurement against QPI 2 ahead of proposed changes to the measurability following HPB Cancer QPI Baseline Review.						
QPI 3	All NHS Boards to ensure improved data capture with regards to Child Pugh score by adding this item to MDT referral or summary forms and ensuring consistent recording.						

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
QPI 3	NHS Boards to carry out targeted audit to identify the proportion of patients (from QPI 3 denominator) who had impaired synthetic function and were therefore not suitable for TACE.						
QPI 6	NHS Tayside should review cases that did not meet QPI 6 to identify why definitive cytological or histological diagnosis was not achieved for these patients.						
QPI 8	All NHS Boards should contribute to the review of variation in surgical resection rates which will be progressed at the upcoming Mortality and Morbidity meeting.						

Action / Improvement Plan

Area:	NHS Western Isles
Action Plan Lead:	
Date:	17/03/2015

KEY (Status)	
1	**Action fully implemented**
2	**Action agreed but not yet implemented**
3	**No action taken (please state reason)**

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*.
QPI 1	All NHS Boards to ensure full list of required data fields are recorded by adding these items to MDT referral or summary forms and ensuring consistent recording (see Appendix 1, pg 39).						
QPI 2	All NHS Boards must ensure that complete TNM staging data is recorded in order to ensure accurate measurement against QPI 2 ahead of proposed changes to the measurability following HPB Cancer QPI Baseline Review.						
QPI 3	All NHS Boards to ensure improved data capture with regards to Child Pugh score by adding this item to MDT referral or summary forms and ensuring consistent recording.						

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
QPI 3	NHS Boards to carry out targeted audit to identify the proportion of patients (from QPI 3 denominator) who had impaired synthetic function and were therefore not suitable for TACE.						
QPI 8	All NHS Boards should contribute to the review of variation in surgical resection rates which will be progressed at the upcoming Mortality and Morbidity meeting.						