

**North, South East and West of  
Scotland Cancer Networks**

**HepatoPancreatoBiliary Cancers  
National Managed Clinical Network**



# **Audit Report**

## **Report of the 2018 Clinical Audit Data**

Ms Anya Adair  
**Consultant Surgeon**  
**NMCN Clinical Lead**

Lindsay Campbell  
**NMCN Manager**

Aishah Hanif  
**Information Analyst**

# Table of Contents

<b>EXECUTIVE SUMMARY</b>	<b>3</b>
<b>1. INTRODUCTION</b>	<b>11</b>
<b>2. BACKGROUND</b>	<b>12</b>
<b>3. METHODOLOGY</b>	<b>15</b>
<b>4. RESULTS AND ACTION REQUIRED</b>	<b>16</b>
4.1 DATA QUALITY	16
4.2 PERFORMANCE AGAINST QUALITY PERFORMANCE INDICATORS (QPIS)	17
QPI 1: MULTI-DISCIPLINARY TEAM (MDT) MEETING	18
QPI 2: DIAGNOSIS AND STAGING OF HCC	21
QPI 3: REFERRAL TO SCOTTISH LIVER TRANSPLANT UNIT	25
QPI 4: PALLIATIVE TREATMENT FOR HCC	28
QPI 5A-E: 30 AND 90 DAY MORTALITY AFTER CURATIVE OR PALLIATIVE TREATMENT FOR HCC	31
QPI 6: RADIOLOGICAL DIAGNOSIS OF PANCREATIC, DUODENAL OR BILIARY TRACT CANCER	36
QPI 7: PATHOLOGICAL DIAGNOSIS OF PANCREATIC, DUODENAL OR BILIARY TRACT CANCER	39
QPI 8: SYSTEMIC THERAPY FOR PANCREATIC CANCER	42
QPI 9: RESECTION RATE FOR PANCREATIC, DUODENAL OR BILIARY TRACT CANCER	44
QPI 10: LYMPH NODE YIELD	47
QPI 11: 30 AND 90-DAY MORTALITY AFTER CURATIVE OR PALLIATIVE TREATMENT FOR PANCREATIC, DUODENAL OR DISTAL BILIARY TRACT CANCER	49
QPI 12A/B: VOLUME OF CASES PER CENTRE/SURGEON	54
QPI 13: CLINICAL TRIALS ACCESS	58
<b>5. CONCLUSIONS</b>	<b>60</b>
<b>ACKNOWLEDGEMENT</b>	<b>62</b>
<b>ABBREVIATIONS</b>	<b>63</b>
<b>REFERENCES</b>	<b>65</b>
<b>APPENDIX I: NHS BOARD ACTION PLANS</b>	<b>66</b>

# 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 2018 through clinical audit data. Results are measured against the HPB Cancer Quality Performance Indicators<sup>1</sup> (QPIs) which were implemented for patients diagnosed on or after 1<sup>st</sup> January 2013.

Twelve months of data were measured against the HPB Cancer QPIs for the sixth consecutive year. Some QPIs have undergone major changes after formal review and so the data for 2018 may not be comparable with data from previous years. Other QPIs have undergone minor changes where data is still comparable. QPI changes will be detailed in the performance section of each QPI. Future reports will continue to compare clinical audit data in successive years to further illustrate trends.

In order to ensure the success of the National Cancer QPIs in driving quality improvement in cancer care across NHS Scotland, QPIs will continue to be assessed for clinical effectiveness and relevance.

## Background

HPB cancers are a rare group of cancers. In 2018, the audit identified 1,423 patients diagnosed with a new primary cancer of the liver, pancreas, bile duct, gallbladder or duodenum in Scotland. Pancreatic cancer accounts for almost half of all HPB cancer diagnoses (44.6%).

Table 1 details the five HPB cancer centres in Scotland. These are considered the centres for specialist treatment, which includes surgery, systemic anti-cancer therapy (SACT) 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: Summary of HPB Cancer treatment provided by specialist centres in Scotland.**

Centre	Constituent Hospital(s)
Aberdeen	Aberdeen Royal Infirmary
Dundee	Ninewells Hospital
Edinburgh	Royal Infirmary of Edinburgh (RIE – surgery, ablation and trans-arterial chemoembolisation (TACE)) and Western General Hospital (WGH – systemic anti-cancer therapy (SACT) and radiotherapy)
Glasgow	Glasgow Royal Infirmary (GRI – surgery and TACE), Gartnavel General Hospital (GGH – ablation), Queen Elizabeth University Hospital (QEUEH – TACE) and Beatson West of Scotland Cancer Centre (BWoSCC – SACT and radiotherapy)
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 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 1<sup>st</sup> January 2018 and 31<sup>st</sup> December 2018 was downloaded from eCASE at 2200 hrs on 14<sup>th</sup> August 2019.

Analysis was performed centrally by the WoSCAN Information Team on behalf of the NMCN 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.

## **Results**

For 2018, the overall case ascertainment for HPB cancer in Scotland is 86.6% which indicates good data capture through audit.

A summary of the HPB Cancer Quality Performance Indicators (QPIs 1 to 13) for the 2018 clinical audit data is presented below, with a more detailed analysis of the results set out in the main report. Data are analysed by location of diagnosis or treatment, and illustrate NHS Board or treatment-centre 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.

Where the number of cases meeting the denominator criteria for any indicator is between one and four, the percentage calculation has not been shown on any associated charts or tables. This is to avoid any unwarranted variation associated with small numbers and to minimise the risk of disclosure. Any charts or tables impacted by this restricted data are denoted with a dash (-). An asterisk (\*) is used to specify a denominator of zero and to distinguish between this and a 0% performance. Any commentary provided by NHS Boards relating to the impacted indicators will however be included as a record of continuous improvement.

Specific regional and NHS Board actions have been identified to address issues highlighted through data analysis.

## Summary of QPI Results

Colour Key		Symbol Key	
	Above QPI target	^	Small numbers in some Boards/Regions - percentage comparisons over a single year should be viewed with caution
	Below QPI target		

Summary of the QPI results by NHS Region of diagnosis for 2018 clinical audit data. A dash (-) denotes restricted data where the denominator is less than 5. An asterisk (\*) denotes data where the denominator is zero.

Quality Performance Indicator (QPI)	Performance by NHS Region of diagnosis					
	QPI target	Year	NCA	SCAN	WoSCAN	Scotland
<b>QPI 1:</b> Patients with newly diagnosed HPB cancer should be discussed by a multidisciplinary team prior to definitive treatment.	<b>95%</b>	2016	91.2%	88.4%	89.2%	89.5%
		2017	93.6%	89.8%	78.6%	85.6%
		2018	91.0%	90.3%	82.2%	86.6%
<b>QPI 2:</b> Patients with Hepatocellular Carcinoma should be appropriately diagnosed and staged. (i) CT or MRI only	<b>90%</b>	2016	94.7%	60.4%	96.4%	85.6%
		2017	97.5%	90.7%	100.0%	96.5%
		2018	96.5%	90.9%	100.0%	96.5%
<b>QPI 2:</b> Patients with Hepatocellular Carcinoma should be appropriately diagnosed and staged. (ii) CT or MRI and full info recorded	<b>90%</b>	2016				
		2017	47.1%	29.9%	81.9%	58.2%
		2018	84.1%	37.3%	84.7%	68.8%
<b>^QPI 3:</b> Patients with early Hepatocellular Carcinoma should be referred for consideration of liver transplantation.	<b>90%</b>	2016	76.9%	100.0%	77.2%	84.8%
		2017	100.0%	100.0%	79.5%	88.5%
		2018	100.0%	100.0%	85.1%	90.7%
<b>^QPI 4:</b> Patients with Hepatocellular Carcinoma who are not suitable for curative treatment should receive palliative treatment.	<b>40%</b>	2016	26.2%	52.5%	38.9%	41.1%
		2017	42.6%	47.2%	47.4%	46.3%
		2018	44.1%	42.0%	48.2%	45.6%
<b>^QPI 6:</b> 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.	<b>80%</b>	2016	82.4%	85.1%	90.5%	86.9%
		2017	86.5%	84.1%	86.5%	85.8%
		2018	88.1%	76.8%	83.6%	83.0%
<b>^QPI 7:</b> Patients with pancreatic, duodenal or biliary tract cancers having non-surgical treatment should have a cytological or histological diagnosis.	<b>75%</b>	2016	68.9%	81.8%	98.8%	87.0%
		2017	60.6%	79.4%	96.3%	84.6%
		2018	82.8%	89.7%	96.6%	91.3%
<b>^QPI 9:</b> Patients with localised pancreatic, distal biliary tract or duodenal cancer should have surgical resection.	<b>15%</b>	2016	8.0%	11.3%	8.6%	9.2%
		2017	9.3%	11.3%	5.4%	8.0%
		2018	12.0%	10.6%	10.8%	11.0%

Quality Performance Indicator (QPI)	Performance by NHS Region of diagnosis					
	QPI target	Year	NCA	SCAN	WoSCAN	Scotland
QPI 13: Patients diagnosed with HPB cancer who are consented for a clinical trial/research study.	15%	2016				
		2017	3.1%	3.6%	6.0%	4.7%
		2018	4.3%	2.3%	7.4%	5.3%

Summary of the QPI results by treatment centre for 2018 clinical audit data. A dash (-) denotes restricted data where the denominator is less than 5. An asterisk (\*) denotes data where the denominator is zero.

Quality Performance Indicator (QPI)	Performance by Treatment Centre								
	QPI target	Year	Aberdeen	Dundee	Inverness	Edinburgh	Glasgow	Other	Scotland
^QPI 5a: 30 day mortality following treatment for Hepatocellular Carcinoma with curative intent. Liver transplant	< 5%	2016	*	*	*	0.0%	*	*	0.0%
		2017	*	*	*	0.0%	*	*	0.0%
		2018	*	*	*	0.0%	*	*	0.0%
^QPI 5a: 90 day mortality following treatment for Hepatocellular Carcinoma with curative intent. Liver transplant	< 7.5%	2016	*	*	*	0.0%	*	*	0.0%
		2017	*	*	*	0.0%	*	*	0.0%
		2018	*	*	*	0.0%	*	*	0.0%
^QPI 5b: 30 day mortality following treatment for Hepatocellular Carcinoma with curative intent. Resection	< 5%	2016	-	*	-	0.0%	-	*	6.3%
		2017	-	*	-	0.0%	*	*	0.0%
		2018	-	*	-	0.0%	*	*	0.0%
^QPI 5b: 90 day mortality following treatment for Hepatocellular Carcinoma with curative intent. Resection	< 7.5%	2016	-	*	-	0.0%	-	*	6.3%
		2017	-	*	-	0.0%	*	*	0.0%
		2018	-	*	-	0.0%	*	*	0.0%
^QPI 5c: 30 day mortality following treatment for Hepatocellular Carcinoma with curative intent. Ablation	< 5%	2016	*	-	*	0.0%	0.0%	*	0.0%
		2017	*	-	*	0.0%	0.0%	*	0.0%
		2018	-	-	*	0.0%	0.0%	*	0.0%
^QPI 5c: 90 day mortality following treatment for Hepatocellular Carcinoma with curative intent. Ablation	< 7.5%	2016	*	-	*	0.0%	0.0%	*	0.0%
		2017	*	-	*	0.0%	0.0%	*	0.0%
		2018	*	-	*	0.0%	4.2%	*	2.4%
^QPI 5d: 30 day mortality following treatment for Hepatocellular Carcinoma with palliative intent. TACE	< 10%	2016	-	0.0%	*	0.0%	0.0%	*	0.0%
		2017	16.7%	0.0%	-	0.0%	3.1%	*	2.4%
		2018	0.0%	-	-	2.8%	2.6%	*	2.4%
^QPI 5e: 30 day mortality following treatment for Hepatocellular Carcinoma with palliative intent. SACT	< 10%	2016	-	-	-	0.0%	3.7%	*	2.5%
		2017	-	-	-	0.0%	4.5%	-	5.4%
		2018	*	-	-	*	10.5%	-	11.5%

Quality Performance Indicator (QPI)	Performance by Treatment Centre								
	QPI target	Year	Aberdeen	Dundee	Inverness	Edinburgh	Glasgow	Other	Scotland
^QPI 8: Patients undergoing resection for pancreatic cancer should receive neo-adjuvant or adjuvant chemotherapy, where appropriate.	50%	2016	-	-	*	70.6%	100.0%	*	75.0%
		2017	50.0%	*	*	75.0%	77.8%	*	70.4%
		2018	66.7%	-	-	80.0%	88.2%	*	83.3%
^QPI 10: In patients undergoing surgery for pancreatic cancer the number of lymph nodes examined should be maximised (Average 15 lymph nodes).	Average of 15 nodes per patient	2016	21	-	-	20	25	*	22
		2017	19	-	-	21	28	*	22
		2018	19	-	18	17	27	*	21
^QPI 11(i): 30-day mortality after treatment with curative intent for pancreatic, duodenal or distal biliary tract cancer. Surgical resection	< 5%	2016	23.1%	-	-	3.7%	0.0%	*	6.0%
		2017	0.0%	-	-	0.0%	0.0%	*	0.0%
		2018	8.3%	-	0.0%	3.4%	6.3%	*	4.8%
^QPI 11(i): 90-day mortality after treatment with curative intent for pancreatic, duodenal or distal biliary tract cancer. Surgical resection	< 7.5%	2016	30.8%	-	-	7.4%	23.8%	*	16.9%
		2017	7.7%	-	-	0.0%	0.0%	*	1.6%
		2018	8.3%	-	0.0%	3.4%	6.7%	*	4.9%
^QPI 11(i): 30-day mortality after treatment with curative intent for pancreatic, duodenal or distal biliary tract cancer. Neoadjuvant chemotherapy	< 5%	2016	-	-	-	*	0.0%	*	0.0%
		2017	-	-	*	*	0.0%	-	6.3%
		2018	-	*	*	*	0.0%	-	0.0%
^QPI 11(i): 90-day mortality after treatment with curative intent for pancreatic, duodenal or distal biliary tract cancer. Neoadjuvant chemotherapy	< 7.5%	2016	-	-	-	*	3.3%	*	5.6%
		2017	-	-	*	*	10.0%	-	18.8%
		2018	-	*	*	*	13.3%	-	10.5%
^QPI 11(i): 30-day mortality after treatment with curative intent for pancreatic, duodenal or distal biliary tract cancer. Adjuvant chemotherapy	< 5%	2016	-	-	*	0.0%	0.0%	-	0.0%
		2017	0.0%	*	-	0.0%	0.0%	0.0%	0.0%
		2018	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%
^QPI 11(i): 90-day mortality after treatment with curative intent for pancreatic, duodenal or distal biliary tract cancer. Adjuvant chemotherapy	< 7.5%	2016	-	-	*	0.0%	20.0%	-	10.3%
		2017	-	*	-	0.0%	0.0%	0.0%	0.0%
		2018	16.7%	-	14.3%	11.1%	4.3%	0.0%	7.4%
^QPI 11(i): 30-day mortality after treatment with curative intent for pancreatic, duodenal or distal biliary tract cancer. Chemoradiotherapy	< 5%	2016	*	-	*	*	0.0%	*	0.0%
		2017	*	*	*	*	0.0%	*	0.0%
		2018	-	*	*	*	0.0%	*	0.0%
^QPI 11(i): 90-day mortality after treatment with curative intent for pancreatic, duodenal or distal biliary tract cancer. Chemoradiotherapy	< 7.5%	2016	*	-	*	*	4.3%	*	3.8%
		2017	*	*	*	*	0.0%	*	0.0%
		2018	-	*	*	*	0.0%	*	0.0%

Quality Performance Indicator (QPI)	Performance by Treatment Centre								
	QPI target	Year	Aberdeen	Dundee	Inverness	Edinburgh	Glasgow	Other	Scotland
^QPI 11(ii): 30-day mortality after treatment with palliative intent for pancreatic, duodenal or distal biliary tract cancer. Palliative chemotherapy	< 10%	2016	15.4%	0.0%	10.0%	8.8%	7.2%	0.0%	7.7%
		2017	12.5%	11.1%	8.3%	0.0%	7.6%	13.6%	7.7%
		2018	25.0%	-	22.2%	13.8%	5.2%	13.6%	10.9%
QPI 12a: Pancreatic resectional surgery should be performed in hospitals where there is an appropriate annual volume of such cases.	11 per centre per year	2016	13	2	2	35	23		
		2017	12	1	4	28	18		
		2018	11	2	9	29	31		
QPI 12b: Pancreatic resectional surgery should be performed in hospitals where there is an appropriate annual volume of such cases.	4 per surgeon per year	2016	2 met 3 not met	0 met 2 not met	0 met 1 not met	5 met 2 not met	3 met 1 not met		
		2017	4 met 0 not met	0 met 2 not met	0 met 2 not met	3 met 5 not met	3 met 1 not met		
		2018	2 met 1 not met	0 met 1 not met	2 met 1 not met	4 met 4 not met	4 met 1 not met		



## Conclusions and Action Required

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.

Analysis of 2018 audit data demonstrates a continual commitment to provide an equitable and consistent standard of care for HPB cancer patients across Scotland. Improvements in data quality and completeness have been observed in recent years facilitating more meaningful data analysis and national comparison to help inform NMCN activity. The results presented illustrate that many of the QPI targets set have been challenging for NHS Boards to achieve, however it is noted that there is improved performance for some QPIs in 2018.

Some variance in performance does exist across the regions and, as per the agreed Regional governance process, each NHS Board was asked to complete a Performance Summary Report, providing a documented response where performance was below the QPI target. NHS Boards provided detailed comments indicating valid clinical reasons, or in some cases patient choice or co-morbidities, have influenced patient management. Remaining actions are summarised below and outlined in the main report under the relevant section.

The MCN 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 I.

### Action Required:

#### ***QPI 1: Multi-Disciplinary Team Meeting***

- All NHS Boards to continue to emphasise the important of patients being discussed at MDT prior to treatment.

#### ***QPI 2: Diagnosis and Staging of HCC***

- NMCN to replicate HCC and colorectal cancer liver metastasis (CRCLM) referral forms in each of the five centres and all Boards to ensure relevant data is captured for this measure.

#### ***QPI 3: Referral to Scottish Liver Transplant Unit***

- NHS Glasgow Greater and Clyde patients should be discussed verbally at the weekly HCC MDT.

#### ***QPI 5: 30 and 90 Day Mortality after Curative or Palliative Treatment for HCC***

- NMCN to coordinate the first national SACT Morbidity and Mortality review for Oncologists.

#### ***QPI 6: Radiological Diagnosis of Pancreatic, Duodenal or Biliary Tract Cancer***

- NMCN to propose an amendment at Formal Review to remove the requirement for CT chest in this group of patients.

#### ***QPI 9: Resection Rate for Pancreatic, Duodenal or Biliary Tract Cancer***

- NMCN to propose that this QPI is archived at Formal Review as it no longer provides meaningful outcome data.

#### ***QPI 11: 30 and 90-day Mortality after Curative or Palliative treatment for Pancreatic, Duodenal or Distal Biliary Tract Cancer***

- NMCN to coordinate the first national SACT Morbidity and Mortality review for Oncologists.

**QPI 12: Volume of Cases per Centre/Surgeon**

- NMCN to explore options for more collaborative working and to consider a review of services across Scotland.

**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 SHPBN and any service or clinical issue which the SHPBN considers not to have been adequately addressed will be escalated to the NHS Board Territorial Lead Cancer Clinician and Regional 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 or Regional Clinical Leads, and nationally on a three-yearly basis to Healthcare Improvement Scotland as part of the governance processes set out in CEL 06 (2012).

# 1. Introduction

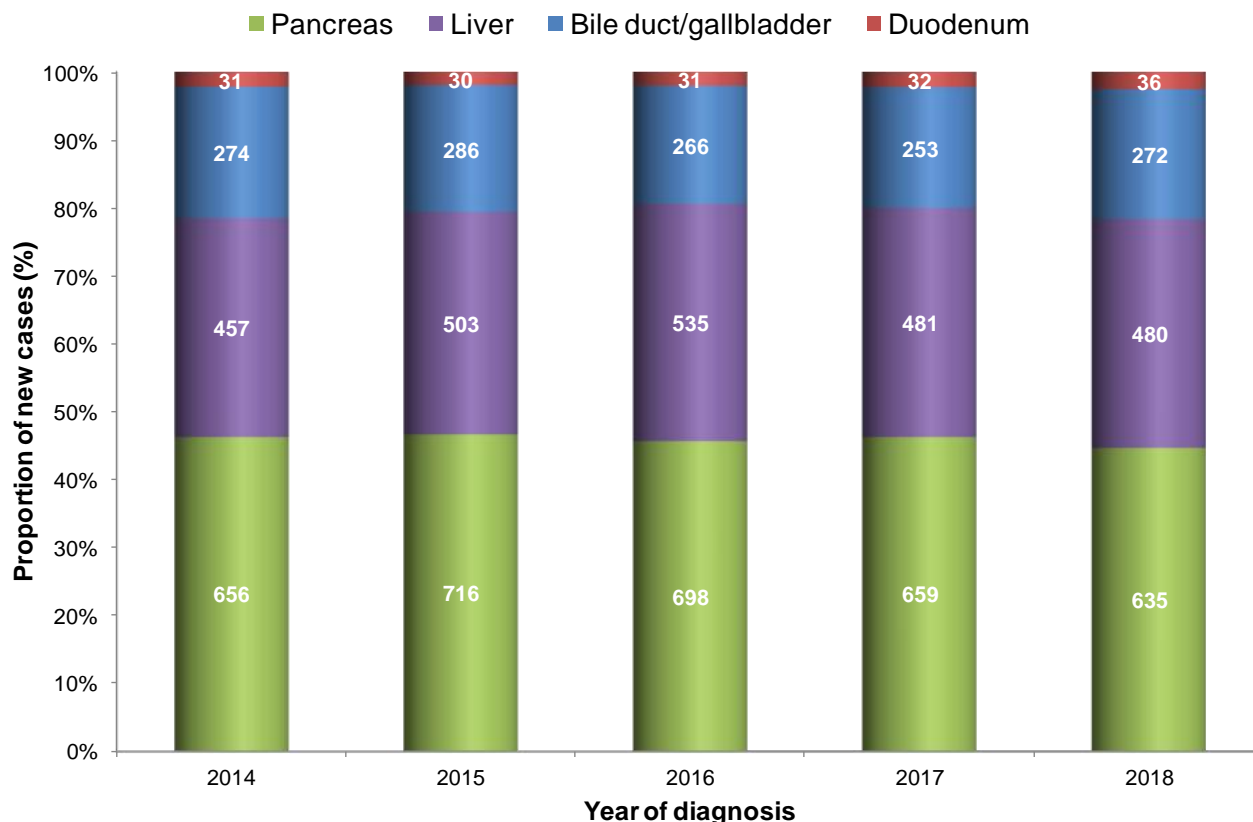
The National Managed Clinical Network (NMCN) for HepatoPancreatoBiliary (HPB) Cancers launched in 2005 with the aim of providing quality and equitable care for all patients in Scotland. The purpose of this report is to present an assessment of performance of HPB Cancer Services relating to patients diagnosed across Scotland during 2018 through clinical audit data and to provide a summary of the three years of analysis after the formal review. These audit data underpin much of the regional and national service improvement and development work of the NMCN. Regular reporting of activity and performance is a fundamental requirement of an NMCN to assure the quality of care delivered across the country.

The National Cancer Quality Steering Group (NCQSG) completed a programme of work to develop national QPIs for all cancer types to enable national comparative reporting and drive continuous improvement for patients in 2014. In collaboration with the NMCN for HPB Cancers and Information Services Division (ISD) the HPB Cancer QPIs<sup>1</sup> were published by Healthcare Improvement Scotland (HIS) in August 2012 and implemented for patients diagnosed on or after 1<sup>st</sup> January 2013. Data definitions and measurability criteria to accompany the HPB Cancer QPIs are available from the ISD website<sup>2</sup>.

Twelve months of data were measured against the HPB Cancer QPIs for the sixth consecutive year. Following reporting of Year 1 data (2013), a process of baseline review was undertaken to ensure QPIs were fit for purpose and truly driving quality improvement in patient care. This review process resulted in measurability changes to some QPIs. Formal review of the HPB Cancer QPIs commenced in October 2016, with the revised QPIs published at the start of 2017. Some QPIs have undergone major changes after formal review and so the data for 2018 may not be comparable with data from previous years. Other QPIs have undergone minor changes where data is still comparable. QPI changes will be detailed in the performance section of each QPI. Future reports will continue to compare clinical audit data in successive years where it is clear and possible to do so, to further illustrate trends.

## 2. Background

HPB cancers are a rare group of cancers. In 2018, the audit identified 1,423 patients diagnosed with a new primary cancer of the liver, pancreas, bile duct, gallbladder or duodenum in Scotland. Pancreatic cancer accounted for almost half of all HPB cancer diagnoses (44.6%). Figure 1 illustrates the proportion of new cases of each HPB cancer type diagnosed in Scotland over the last 5 years.



**Figure 1: Proportion of new cases of each HPB cancer type diagnosed in Scotland from 2014 to 2018. The data labels represent the corresponding number of new cases diagnosed.**

The distribution of the 1,423 patients diagnosed in 2018 across the fourteen Scottish NHS Boards is presented in Figure 2. The West of Scotland Cancer Network (WoSCAN) is the most populous of the three Regional Cancer Networks in Scotland and, with 665 patients diagnosed in WoS in 2018, represents almost half of all HPB cancer diagnoses in Scotland (46.7%). 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 heavily populated NHS Boards<sup>3</sup>.

NCA - 327 (23.0%)    SCAN - 431 (30.3%)    WoSCAN - 665 (46.7%)

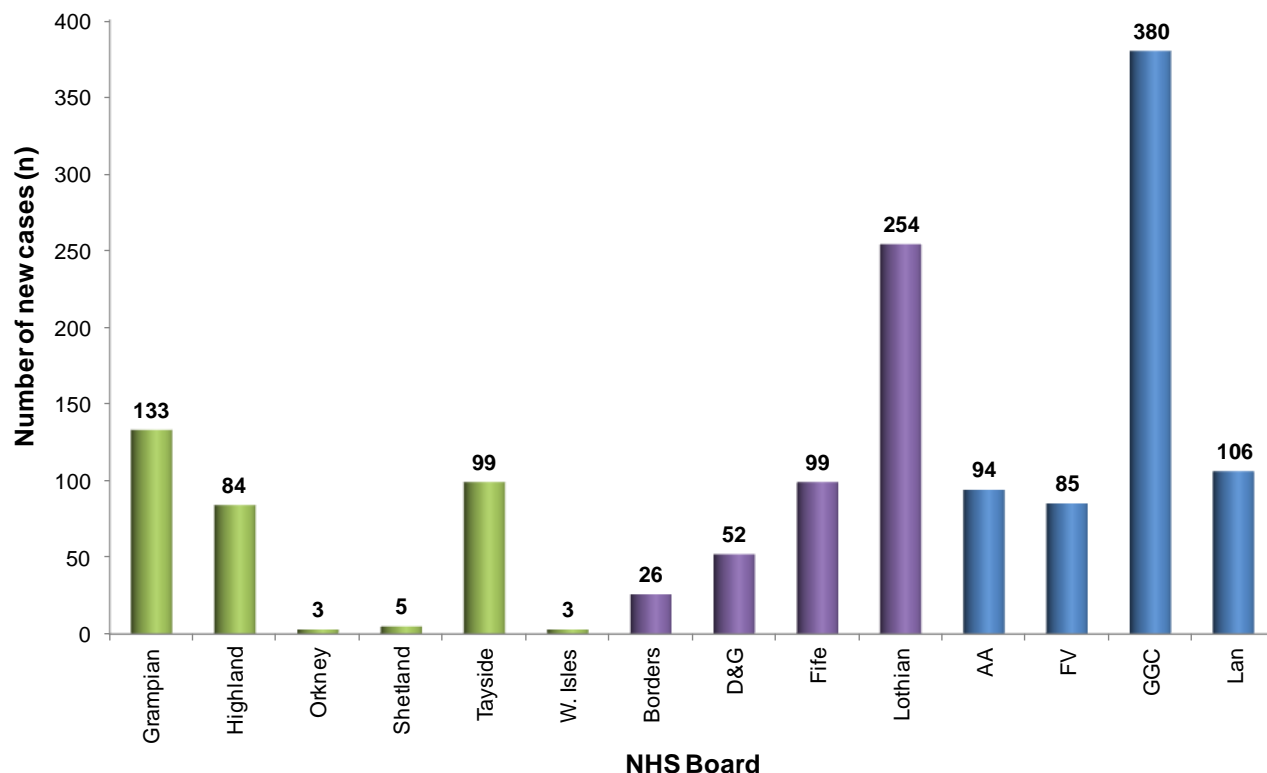


Figure 2: Number of new cases diagnosed with HPB cancer within each NHS Board across Scotland in 2018.

Table 2 details the five HPB cancer centres in Scotland. These are considered the centres for specialist treatment, which includes surgery, systemic anti-cancer therapy (SACT) 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 2: Summary of HPB Cancer treatment provided by specialist centres in Scotland.

Centre	Constituent Hospital(s)
Aberdeen	Aberdeen Royal Infirmary
Dundee	Ninewells Hospital
Edinburgh	Royal Infirmary of Edinburgh (RIE – surgery, ablation and trans-arterial chemoembolisation (TACE)) and Western General Hospital (WGH – systemic anti-cancer therapy (SACT) and radiotherapy)
Glasgow	Glasgow Royal Infirmary (GRI – surgery and TACE), Gartnavel General Hospital (GGH – ablation), Queen Elizabeth University Hospital (QEUIH – TACE) and Beatson West of Scotland Cancer Centre (BWoSCC – SACT and radiotherapy)
Inverness	Raigmore Hospital

In Scotland, liver cancer is the tenth most common cancer in males and nineteenth in females<sup>4</sup>. The incidence of liver cancer is rising and the last decade has seen the overall incidence of liver cancer increase by 50.1% in Scotland<sup>4</sup>, with increases in incidence of 45.7% and 62.8% in males and females respectively<sup>4</sup>. The percentage frequency of liver cancer is however relatively low at 1.9% of all cancer types<sup>4</sup>. There has been an overall rise in mortality rates for cancer of the liver over the past ten years of 58.8%<sup>5</sup>. Liver cancer is now ranked as the seventh most common cause of death from cancer in 2018, and the 10-year percentage change in mortality rates show significant increases of 55.2% and 67.0% for males and females respectively<sup>5</sup>.

Pancreatic cancer is the eleventh most common cancer in males and ninth in females<sup>6</sup>. The incidence of pancreatic cancer is rising and the last decade has seen the overall incidence of pancreatic cancer increase by 2.0% in Scotland<sup>6</sup>, with a reduction of 0.6% in males and an increase of 5.2% in females<sup>6</sup>. 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<sup>6</sup>. Pancreatic cancers tend to present at an advanced stage and are less amenable to treatment. As a result of this, 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 17.7% in males and 17.1% in females<sup>6</sup>. There has been no recorded improvement in 5-year survival for pancreatic cancer over the past two decades and 5-year relative survival is 3.3% in males and 4.5% in females<sup>6</sup>.

HPB cancers occur most frequently later in life. Figure 3 illustrates the number of new cases in 2018 by 5-year age group and sex. There are approximately 5 males diagnosed for every 4 females and the incidence of HPB cancers is higher in males in most 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 approximately a quarter of HPB cancers were diagnosed in individuals under the age of 65 years (23.3%).

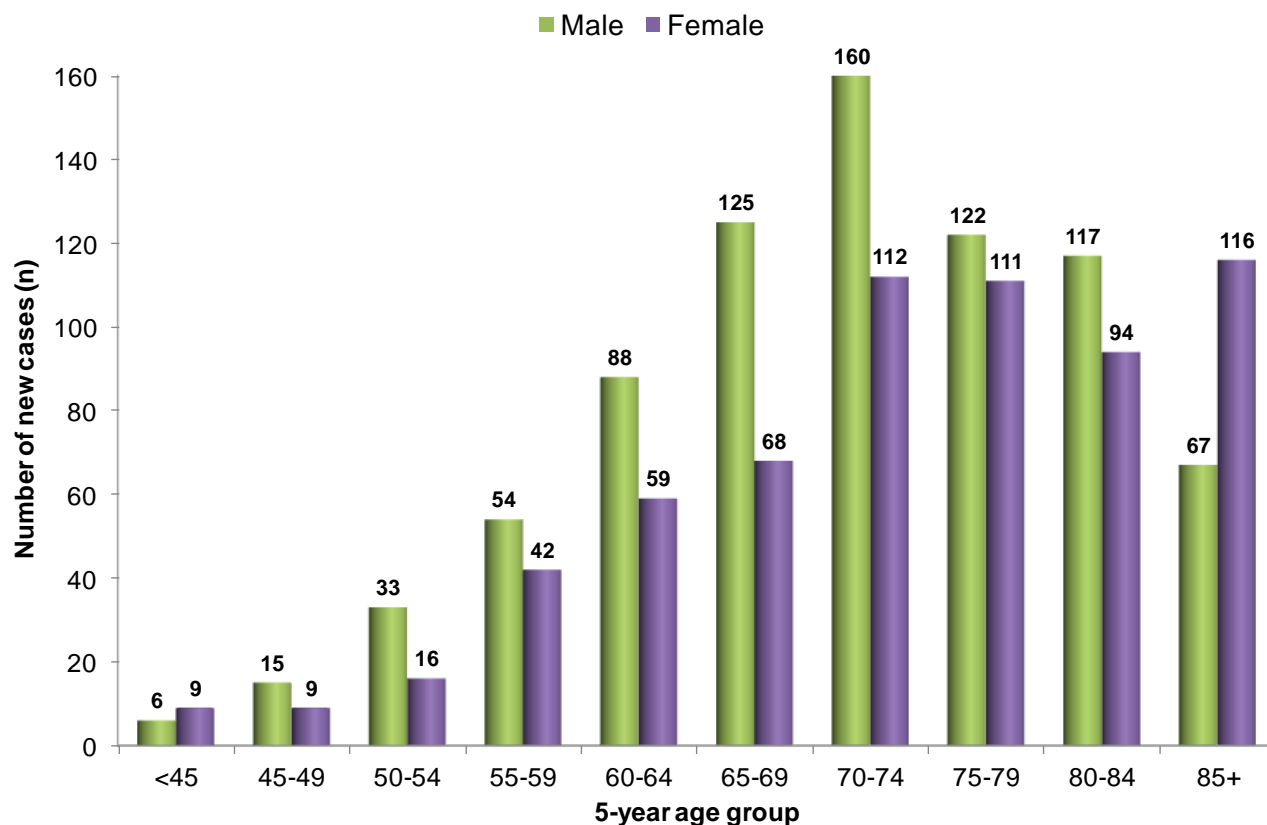


Figure 3: Number of new cases diagnosed with HPB cancer in Scotland in 2018 by age group and sex.

### **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 1<sup>st</sup> January 2018 and 31<sup>st</sup> December 2018 was downloaded from eCASE at 2200 hrs on 14<sup>th</sup> August 2019. 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 NMCN 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 86.6% which indicates good 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. Table 3 details the case ascertainment for the three regions within NHS Scotland in 2018. This level of data capture aids the interpretation of analysis based on cancer audit data, as more complete data will return more reliable results.

**Table 3: Case ascertainment by region, given as a proportion of average number of new cases from Cancer Registry data between 2013 and 2017, for patients diagnosed in 2018.**

	NCA	SCAN	WoSCAN	Scotland
New cases from audit data in 2018	327	431	665	1423
New cases from Cancer Registry data (2013-17)	423	438	783	1644
% Case ascertainment	77.3%	98.4%	84.9%	86.6%

As HPB services are based around specialist centres, some QPIs are analysed based upon the location of treatment rather than the board of diagnosis. Patients often move between NHS Boards for diagnosis and treatment and this requires that robust systems are in place to ensure good data quality and completeness where there is cross-boundary movement. Continued effort in this area is essential to ensure this level of data quality is maintained.



## 4.2 Performance against Quality Performance Indicators (QPIs)

Results of the analysis of HPB Cancer Quality Performance Indicators (QPIs 1 to 13) are set out in the following sections. Data are presented by location of diagnosis or treatment, and illustrate NHS Board or treatment-centre performance against each target and overall national performance for each performance indicator.

Results are presented graphically and the accompanying tables also highlight any missing data and its possible effect on any of the measured outcomes for the current year of analysis. For the majority of QPIs, data for 2016, 2017 and 2018 (post formal review) are shown to allow for a comparison between recent performances.

Where the number of cases meeting the denominator criteria for any indicator is between one and four, the percentage calculation has not been shown on any associated charts or tables. This is to avoid any unwarranted variation associated with small numbers and to minimise the risk of disclosure. Any charts or tables impacted by this restricted data are denoted with a dash (-). An asterisk (\*) is used to specify a denominator of zero and to distinguish between this and a 0% performance. Any commentary provided by NHS Boards relating to the impacted indicators will however be included as a record of continuous improvement.

Specific regional and NHS Board actions have been identified to address issues highlighted through the data analysis.

## QPI 1: Multi-Disciplinary Team (MDT) Meeting

Evidence suggests that patients with cancer who are managed through a multi-disciplinary team (MDT) experience better outcomes and improved satisfaction with care. QPI 1 states that 95% of patients should be discussed at the MDT prior to definitive treatment. The tolerance allows for patients who need urgent treatment<sup>1</sup>.

<b>QPI 1:</b>	Patients with HPB cancer should be discussed by an MDT prior to definitive treatment.
<b>Description:</b>	Proportion of patients with HPB cancer who are discussed at MDT meeting before definitive treatment.
<b>Numerator:</b>	Number of patients with HPB cancer discussed at the MDT before definitive treatment.
<b>Denominator:</b>	All patients with HPB cancer.
<b>Exclusions:</b>	Patients who died before first treatment.
<b>Target:</b>	95%

Figure 4 presents a summary of the results for QPI 1 by NHS Board of diagnosis for the three most recent years of audit data (2016 to 2018). For the 2018 audit data, a more detailed breakdown of the results is shown in Table 4.

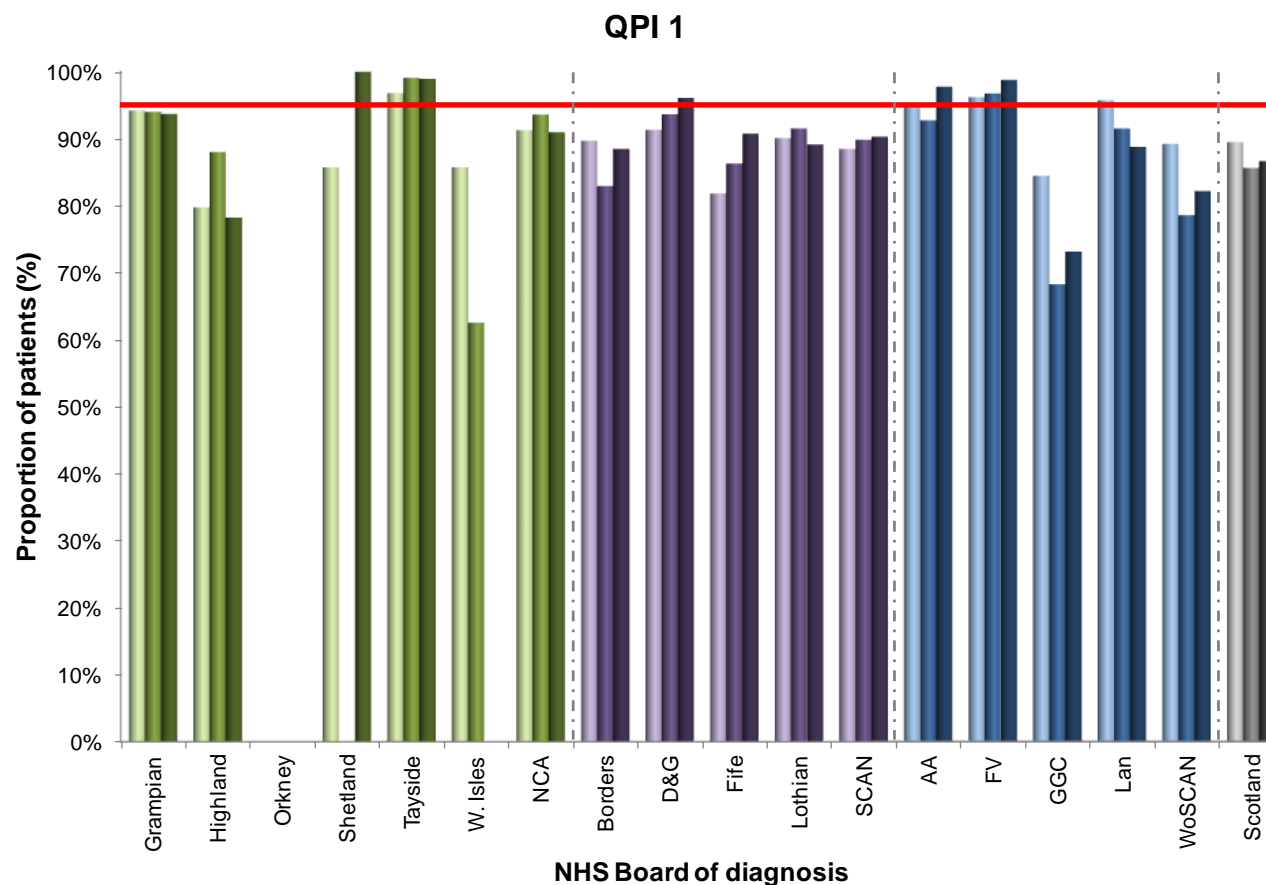


Figure 4: Summary of QPI 1 results, illustrating the proportion of patients diagnosed with HPB cancer who were discussed at MDT meeting before definitive treatment, by NHS Board of diagnosis from 2016 to 2018. The red line represents the QPI target of 95%.

Table 4: Details of QPI 1 results by NHS Board of diagnosis for 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 1 Target: 95%	Grampian	Highland	Orkney	Shetland	Tayside	W. Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	AA	FV	GGC	Lan	WoSCAN	Scotland
2018 (%)	93.7%	78.2%	-	100.0%	98.9%	-	91.0%	88.5%	96.1%	90.7%	89.1%	90.3%	97.8%	98.8%	73.1%	88.8%	82.2%	86.6%
Numerator	119	61	-	5	93	-	282	23	49	88	221	381	87	81	275	87	530	1193
Denominator	127	78	-	5	94	-	310	26	51	97	248	422	89	82	376	98	645	1377
NR numerator	0	0	-	0	0	-	0	0	0	0	4	4	0	0	2	0	2	6
NR exclusions	0	0	-	0	0	-	0	0	0	0	0	0	0	0	2	4	6	6
NR denominator	0	0	-	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0

Five of the fourteen Boards met the 95% target which shows an improvement in the performance on the previous year. Similarly, the overall national performance shows an improvement on the previous year with 86.6% of eligible patients meeting the target. No regions met the target but SCAN and WoSCAN showed improvement on the previous year.

Boards not achieving the target have reviewed cases not meeting the target and provided comments as detailed below. The main reasons cited for patients not being discussed at MDT included urgent treatment required, incidental tumour found at surgery, stent inserted prior to MDT, or patients were for best supportive care from the outset. The MCN is assured by this data that, in the main, all patients undergoing active treatment are discussed and considered by the MDT.

The exclusion of patients undergoing best supportive care or who were stented prior to MDT was considered as part of the national formal review; however the national group agreed to retain the current measurability for this QPI.

**Actions:**

- All NHS Boards to continue to emphasise the importance of patients being discussed at MDT prior to treatment.

## QPI 2: 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<sup>1</sup>. Complete information is required to enable correct management decisions to be made by the multi-disciplinary team (MDT), such as the location, number and size of tumours. A full list of the required information is published within the HPB QPI document<sup>1</sup> and shown in Appendix 1. The 90% target set for QPI 2 accounts for the fact that some patients may have significant co-morbidities and therefore may not be fit for investigation and/or treatment<sup>1</sup>.

<b>QPI 2:</b>	Patients with Hepatocellular Carcinoma (HCC) should be appropriately diagnosed and staged.
<b>Description:</b>	Proportion of patients with HCC who have undergone computerised tomography (CT) or Magnetic Resonance Imaging (MRI) and with full information recorded.
<b>Numerator:</b>	(i) Number of patients with HCC undergoing either CT or MRI. (ii) Number of patients with HCC undergoing either CT or MRI with full information recorded.
<b>Denominator:</b>	All patients with HCC.
<b>Exclusions:</b>	No exclusions.
<b>Target:</b>	90%

QPI 2 underwent changes at formal review and was split into two parts.

Part (i) looks at those undergoing CT or MRI, and a summary of these results for the three most recent years of audit data (2016 to 2018) are presented in Figure 5. For the 2018 audit data, a more detailed breakdown of the data is shown in Table 5.

Part (ii) concerns those undergoing CT or MRI where complete staging information has been recorded. The detail of the information required is shown in Appendix 1 of this document. The change at formal review required the inclusion of a new data field for part (ii) which could not be reported on in 2016 as one full year of data collection is required. As such, Figure 6 presents a summary of QPI 2(ii) results for the two most recent years of audit data (2017-2018). For the 2018 audit data, a more detailed breakdown is shown in Table 6.

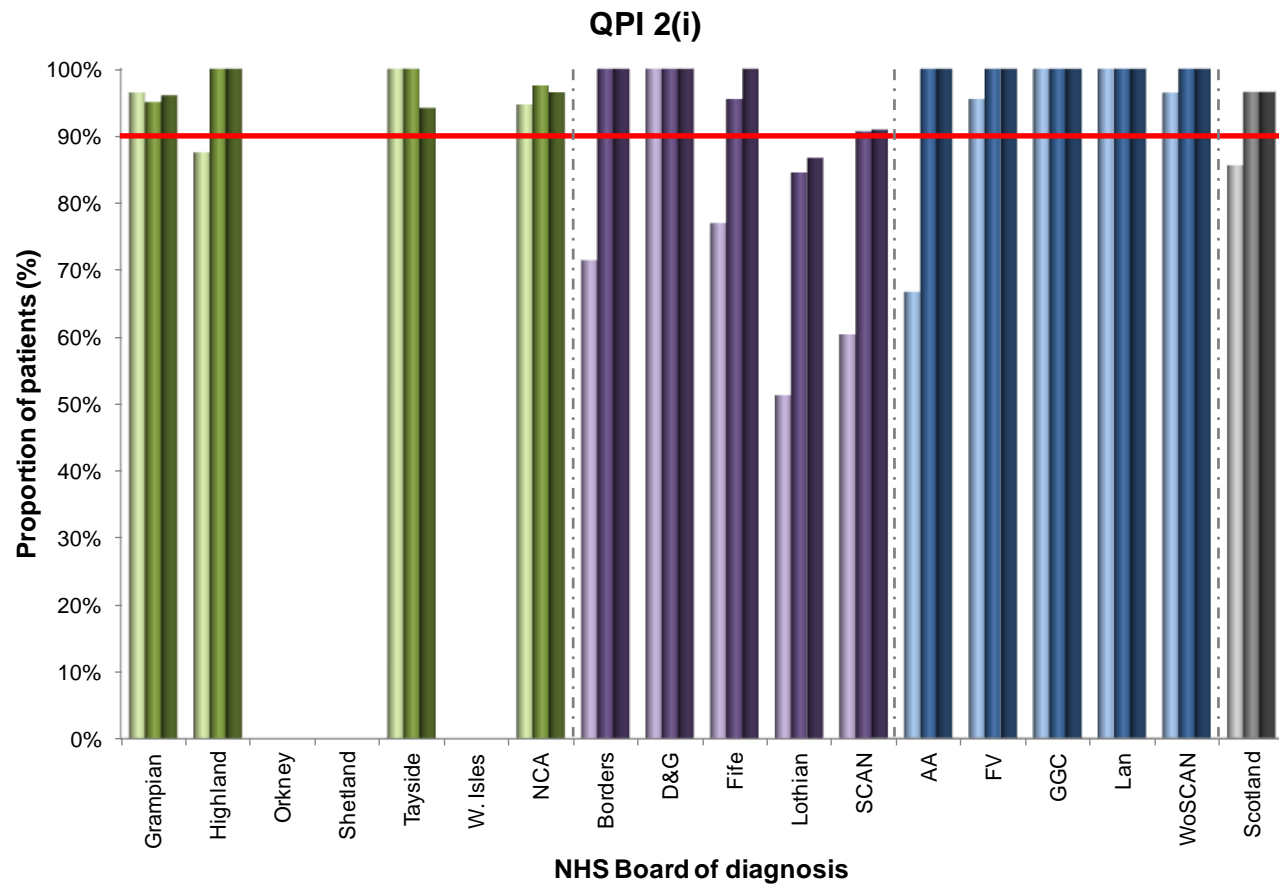


Figure 5: Summary of QPI 2(i) results, illustrating the proportion of patients diagnosed with HCC that have undergone CT or MRI, by NHS Board of diagnosis from 2016 to 2018. The red line represents the QPI target of 90%.

Table 5: Details of QPI 2(i) results by NHS Board of diagnosis for 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 2(i) Target: 90%	Grampian	Highland	Orkney	Shetland	Tayside	W. Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	AA	FV	GGC	Lan	WoSCAN	Scotland
2018 (%)	96.0%	100.0%	*	-	94.1%	*	96.5%	100.0%	100.0%	100.0%	86.7%	90.9%	100.0%	100.0%	100.0%	100.0%	100.0%	96.5%
Numerator	24	13	*	-	16	*	55	5	11	19	65	100	17	15	128	19	179	334
Denominator	25	13	*	-	17	*	57	5	11	19	75	110	17	15	128	19	179	346
NR numerator	0	0	*	-	0	*	0	0	0	0	0	0	0	0	0	0	0	0
NR exclusions	0	0	*	-	0	*	0	0	0	0	0	0	0	0	0	0	0	0
NR denominator	0	0	*	-	0	*	0	0	0	0	0	0	0	0	0	0	0	0

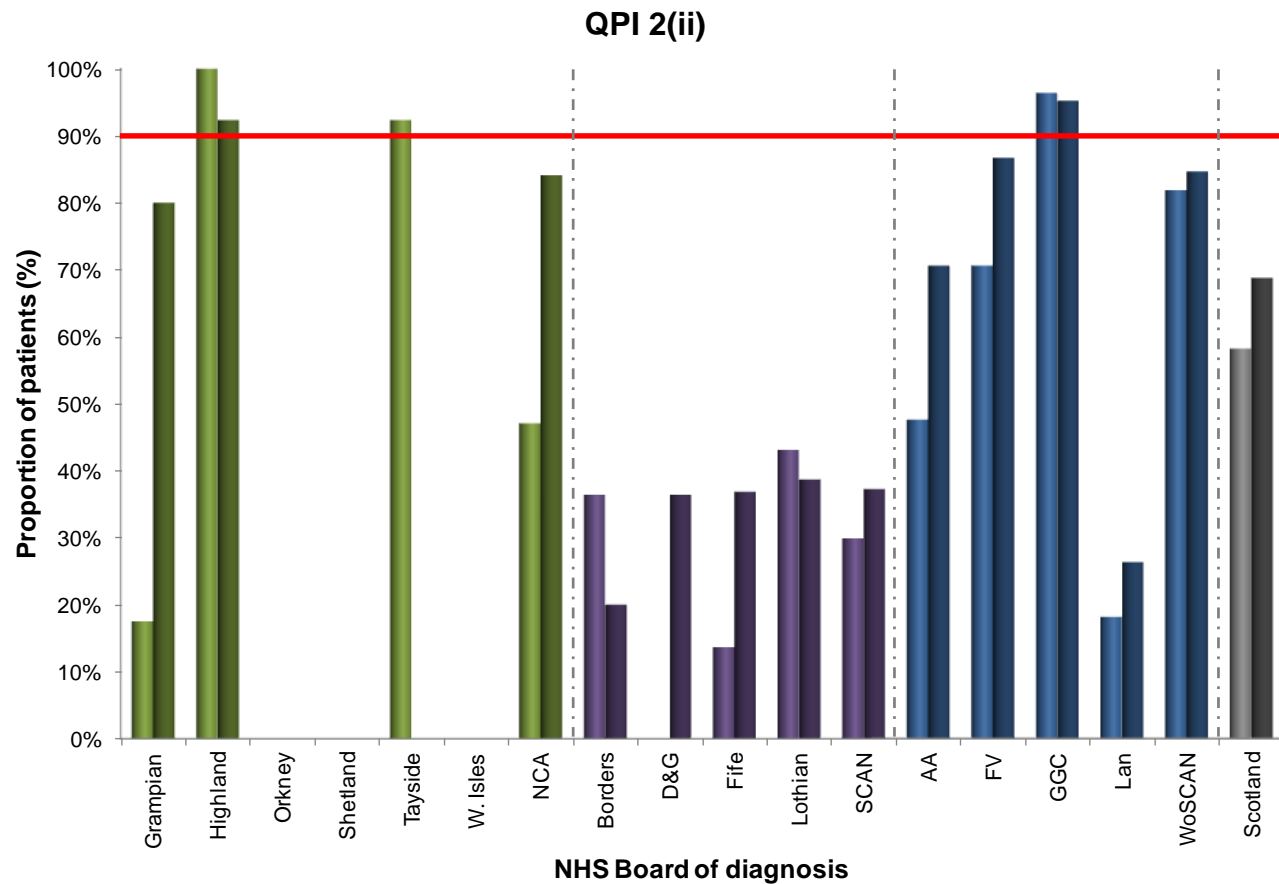


Figure 6: Summary of QPI 2(ii) results, illustrating the proportion of patients diagnosed with HCC that have undergone CT or MRI with information recorded, by NHS Board of diagnosis in 2017 and 2018. The red line represents the QPI target of 90%.

Table 6: Details of QPI 2(ii) results by NHS Board of diagnosis for 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 2(ii) Target: 90%	Grampian	Highland	Orkney	Shetland	Tayside	W. Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	AA	FV	GGC	Lan	WoSCAN	Scotland
2018 (%)	80.0%	92.3%	*	-	-	*	84.1%	20.0%	36.4%	36.8%	38.7%	37.3%	70.6%	86.7%	95.2%	26.3%	84.7%	68.8%
Numerator	20	12	*	-	-	*	37	1	4	7	29	41	12	13	119	5	149	227
Denominator	25	13	*	-	-	*	44	5	11	19	75	110	17	15	125	19	176	330
NR numerator	0	0	*	-	-	*	0	0	0	0	0	0	0	0	0	0	0	0
NR exclusions	0	0	*	-	-	*	0	0	0	0	0	0	0	0	0	0	0	0
NR denominator	0	0	*	-	-	*	0	0	0	0	0	0	0	0	0	0	0	0

The results of QPI 2(i) illustrated that ten of the eleven Boards with data shown met the 90% target. The target was met within all three regions and the national performance was 96.5%.

NHS Lothian provided feedback on cases not meeting the target and stated that the majority of patients did not receive imaging as their tumour was an incidental finding at surgery. The remainder of cases received a CT colongraphy alone due to elderly age and emergency admission.

For QPI 2(ii), NHS Highland and NHS Greater Glasgow and Clyde met the 90% target. No regions met the target. The best performing region was WoSCAN with 84.7%. The national performance was 68.8%, which was an improvement on last year's performance of 58.2%.

Boards not achieving the target have reviewed cases not meeting the QPI criteria and provided comments as detailed below.

NHS Grampian stated that the majority of cases failed due to no recording in the proforma, although the data were collected. It was noted that the Board's performance has improved greatly from the previous year. It is anticipated that the performance should continue to improve over the coming period, following the information being recorded prospectively during MDT discussion.

NHS Lothian commented that with the exception of patients failing due to incidental HCC at surgery, the information missing in order to appropriately diagnose and stage patients included: vascular invasion; chronic liver disease; AFP; Child Pugh score; and lesions and tumour size. The Board anticipates that the introduction of a National MDT proforma and prompts within Lothian Trakcare IT system should aid the recording of data and consequently QPI performance.

NHS Ayrshire and Arran highlighted that the Board's performance has improved from the previous year; however the collection of Child's Pugh score remains a challenge. The Board will continue to remind clinicians to provide the information required for this QPI prior to discussion at the MDT.

NHS Forth Valley's performance fell slightly short of the QPI target, but noted that this was an improvement on last year's figure.

NHS Lanarkshire commented on the reasons for patients failing to meet the QPI. On review of the data, it was found that in all cases the Child's Pugh score and/or vascular invasion was not recorded. The Board was expected to implement a new electronic MDT form, however due to delays it is anticipated that the new form will be released over the coming month. This form addresses the need to record vascular invasion and Child's Pugh scores, and will encourage the MDT to collate the required data, where possible, for this QPI.

**Actions:**

- NMCN to replicate Hepatocellular Carcinoma (HCC) and colorectal cancer liver metastasis (CRCLM) referral forms in each of the five centres and all Boards to ensure relevant data is captured for this measure.



### QPI 3: 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<sup>1</sup>. All patients with early HCC should be considered for liver transplantation and there should be equity of access to liver transplantation across Scotland<sup>1</sup>. 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<sup>1</sup>.

<b>QPI 3:</b>	Patients with early HCC should be referred for consideration of liver transplantation.
<b>Description:</b>	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.
<b>Numerator:</b>	Number of patients with HCC meeting the UK listing criteria that are referred to SLTU.
<b>Denominator:</b>	All patients with HCC meeting UK listing criteria <sup>1</sup> (as defined by NHS Blood and Transplant).
<b>Exclusions:</b>	<ul style="list-style-type: none"><li>• Patients who refuse treatment.</li><li>• Patients with evidence of vascular invasion.</li><li>• Patients with extrahepatic disease.</li></ul>
<b>Target:</b>	90%

Figure 7 presents a summary of the results for QPI 3 by NHS Board of diagnosis for the three most recent years of audit data (2016 to 2018). For the 2018 audit data, a more detailed breakdown of the results is shown in Table 7.

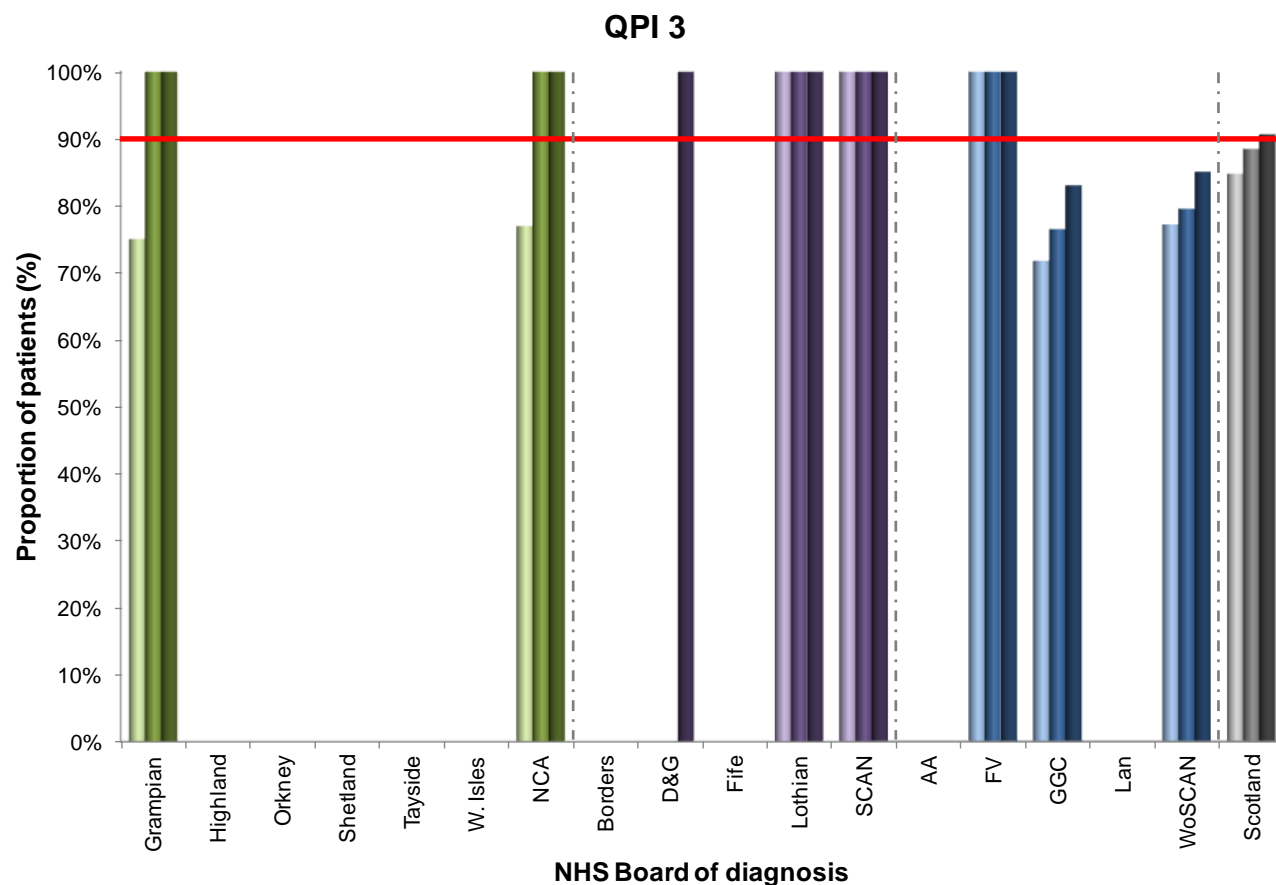


Figure 7: Summary of QPI 3 results, illustrating the proportion of patients diagnosed with HCC that meet the UK listing criteria for orthotopic liver transplantation referred to the SLTU for consideration of liver transplantation, by NHS Board of diagnosis from 2016 to 2018. The red line represents the QPI target of 90%.

Table 7: Details of QPI 3 results by NHS Board of diagnosis for 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 3 Target: 90%	Grampian	Highland	Orkney	Shetland	Tayside	W. Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	AA	FV	GGC	Lan	WoSCAN	Scotland
2018 (%)	100.0%	-	*	-	*	*	100.0%	*	100.0%	-	100.0%	100.0%	-	100.0%	83.0%	-	85.1%	90.7%
Numerator	6	-	*	-	*	*	9	*	5	-	25	31	-	6	44	-	57	97
Denominator	6	-	*	-	*	*	9	*	5	-	25	31	-	6	53	-	67	107
NR numerator	0	-	*	-	*	*	0	*	0	-	0	0	-	0	0	-	0	0
NR exclusions	0	-	*	-	*	*	1	*	4	-	11	15	-	0	3	-	7	23
NR denominator	4	-	*	-	*	*	4	*	1	-	1	2	-	0	2	-	5	11

NCA and SCAN met the 90% target, both with 100%. WoSCAN was short of the target with 85.1%. The overall national performance met the target with 90.7%.

NHS Greater Glasgow and Clyde and NHS Lanarkshire provided feedback on cases not meeting the target. NHS GGC highlighted patient frailty and significant co-morbidities as reasons for not meeting the target.

NHS Lanarkshire failed to meet the target due to a local data recording issue. This has since been resolved and the Board has now met the target. Following a review of the audit data, NHS Lanarkshire will ensure to contact Edinburgh Liver MDT to check for the referral and discussion of patients.

**Actions:**

- NHS Glasgow Greater and Clyde patients should be discussed verbally at the weekly HCC MDT.

## QPI 4: 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<sup>1</sup>. Historically, radiotherapy has not been used widely for the treatment of HCC due to the risk of radiation induced liver damage (RILD). However, recent technological advances in radiotherapy targeting have allowed it to become a viable treatment option for HCC<sup>2</sup>.

The target within this QPI is set at 40% and accounts for the fact that some patients will have significant co-morbidities or a fitness level which means that TACE, SACT or radiotherapy are not appropriate<sup>1</sup>.

<b>QPI 4:</b>	Patients with Hepatocellular Carcinoma (HCC) who are not suitable for curative treatment should receive palliative treatment.
<b>Description:</b>	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), Systemic Anti Cancer Therapy (SACT) or radiotherapy).
<b>Numerator:</b>	Number of patients with HCC not undergoing treatment with curative intent who receive TACE, SACT or radiotherapy.
<b>Denominator:</b>	All patients with HCC not undergoing treatment with curative intent (liver transplantation, resection or ablative therapies).
<b>Exclusions:</b>	<ul style="list-style-type: none"><li>• Patients who refuse treatment.</li><li>• Patients with decompensated chronic liver disease (Child-Pugh Grade C).</li></ul>
<b>Target:</b>	40%

Figure 8 presents a summary of the results for QPI 4 by NHS Board of diagnosis for the three most recent years of audit data (2016 to 2018). For the 2018 audit data, a more detailed breakdown of the results is shown in Table 8.

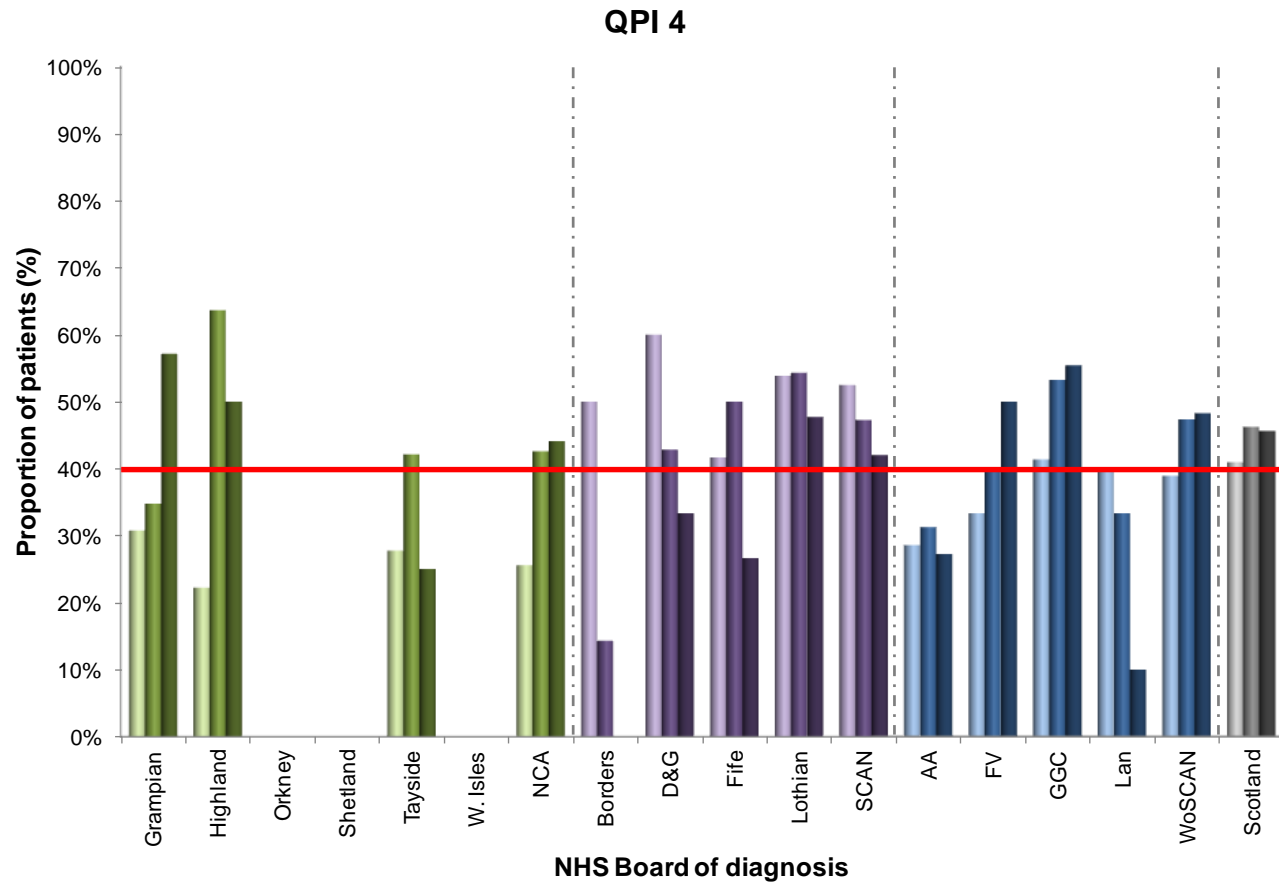


Figure 8: Summary of QPI 4 results, illustrating the proportion of patients diagnosed with HCC not suitable for treatment with curative intent that undergo specific treatment with palliative intent (TACE, SACT and radiotherapy), by NHS Board of diagnosis from 2016 to 2018. The red line represents the QPI target of 40%.

Table 8: Details of QPI 4 results by NHS Board of diagnosis for 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 4 Target: 40%	Grampian	Highland	Orkney	Shetland	Tayside	W. Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	AA	FV	GGC	Lan	WoSCAN	Scotland
2018 (%)	57.1%	50.0%	*	*	25.0%	*	44.1%	-	33.3%	26.7%	47.7%	42.0%	27.3%	50.0%	55.4%	10.0%	48.2%	45.6%
Numerator	8	4	*	*	3	*	15	-	2	4	21	29	3	5	46	1	55	99
Denominator	14	8	*	*	12	*	34	-	6	15	44	69	11	10	83	10	114	217
NR numerator	0	0	*	*	0	*	0	-	0	0	0	0	0	0	0	0	0	0
NR exclusions	1	0	*	*	0	*	1	-	0	10	8	21	4	0	0	8	12	34
NR denominator	0	0	*	*	0	*	0	-	0	0	0	0	2	0	3	0	5	5

Five of the NHS Boards shown met the 40% target. Of the Boards not meeting the target, NHS Tayside, NHS Dumfries and Galloway, NHS Fife, NHS Ayrshire and Arran and NHS Lanarkshire showed a drop in performance compared to last year. All three regions met the target, and the national performance was above the target at 45.6%.

Where Boards have not met the target, cases have been reviewed and the following comments have been provided.

NHS Tayside stated that all patients were appropriately assessed, with patients fit for treatment being referred for treatment.

NHS Ayrshire and Arran commented that patients failing the QPI were not considered fit/suitable for active treatment and therefore received best supportive care.

NHS Lanarkshire highlighted reasons for patients failing to meet the QPI. These included death before treatment, referral to external MDT, and not considered fit for treatment due late presentation of disease and high levels of co-morbidity. The Board stated that it is unlikely this QPI will be met unless efforts are made to improve levels of health and to establish awareness campaigns aimed at encouraging patients to present early at which point treatment can be offered, even if not curative.

## QPI 5a-e: 30 and 90 Day Mortality after Curative or Palliative Treatment for HCC

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<sup>1</sup>.

<b>QPI 5:</b>	30-day and 90-day mortality following treatment for Hepatocellular Carcinoma (HCC) with curative (transplant, resection, ablation) or palliative (TACE, SACT) intent.
<b>Description:</b>	Proportion of patients with HCC undergoing disease specific treatment, either curative or palliative, who die within 30 or 90 days of definitive treatment.
<b>Numerator:</b>	Number of patients with HCC undergoing curative or palliative treatment that die within 30 or 90 days of definitive treatment (90-day mortality measured for curative treatments only).
<b>Denominator:</b>	All patients with HCC undergoing:- <b>Curative:</b> (30 and 90-day mortality) a) Liver transplant b) Resection c) Ablation <b>Palliative:</b> (30-day mortality only) d) TACE e) SACT
<b>Exclusions:</b>	No exclusions
<b>Target:</b>	<b>Curative:</b> 30 days <5% 90 days <7.5% <b>Palliative:</b> 30 days <10%

National mortality figures for 2016 to 2018 are presented graphically by treatment type (Figures 9 to 11) with a more detailed breakdown of the results in an accompanying table (Tables 9 to 11). Figures 9 and 10, and corresponding tables, illustrate the mortality rates for patients receiving treatment with curative intent. For patients receiving palliative treatment, the mortality rates are presented in Figure 11 with additional detail shown in Table 11.

### QPI 5(a-c) – 30 day

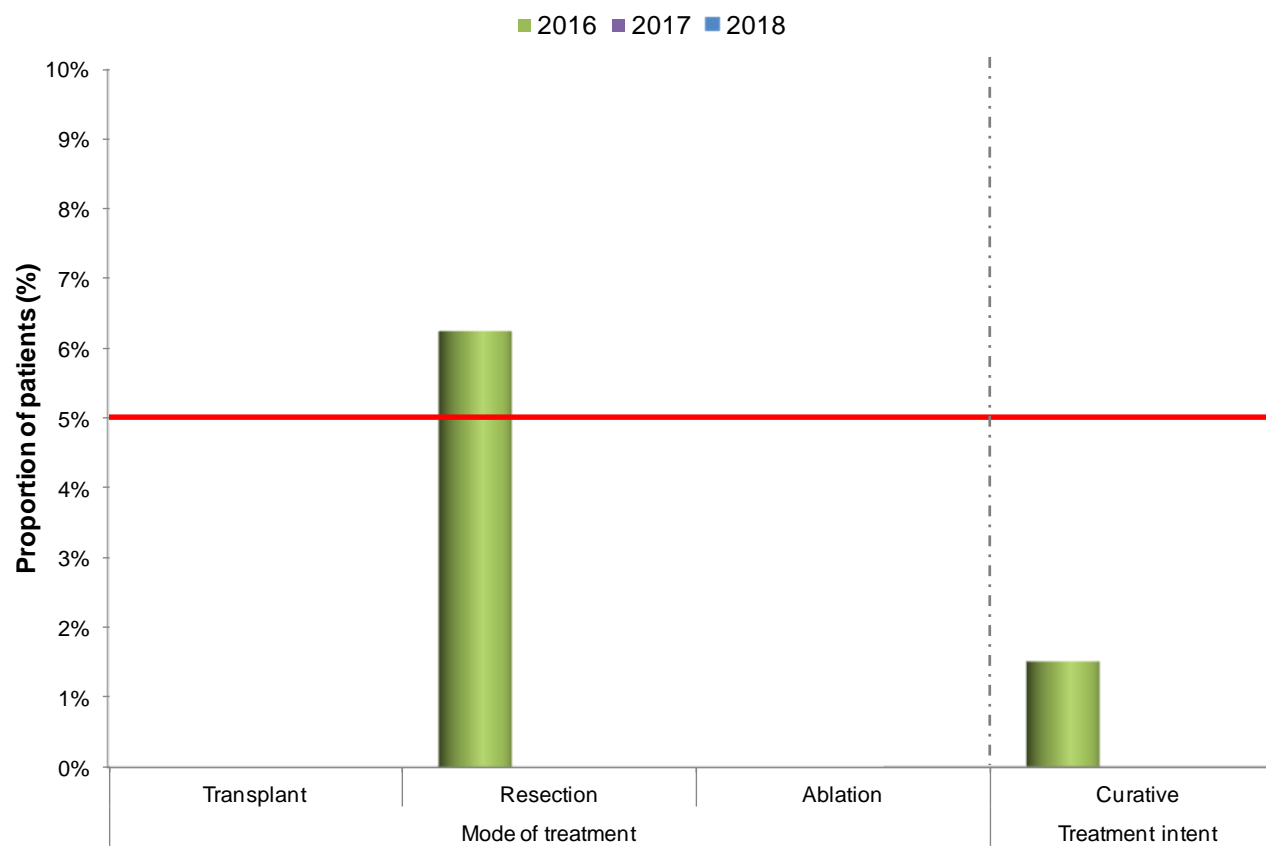


Figure 9: Summary of QPI 5(a-c) results, illustrating the proportion of patients diagnosed with HCC undergoing disease specific curative treatment that die within 30 days of definitive treatment in Scotland from 2016 to 2018. The red line represents the QPI target of <5%.

Table 9: Details of QPI 5(a-c) results for Scotland from 2016 to 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 5 (a-c) – 30 day mortality Target: <5%	Mode of treatment									Treatment intent		
	Transplant			Resection			Ablation			Curative		
	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
Mortality (%)	0.0%	0.0%	0.0%	6.3%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	0.0%	0.0%
Numerator	0	0	0	1	0	0	0	0	0	1	0	0
Denominator	18	22	20	16	13	18	32	24	43	66	59	81
NR numerator	0	0	0	0	0	0	0	0	0	0	0	0
NR exclusions	0	0	0	0	0	0	0	0	0	0	0	0
NR denominator	2	0	0	2	0	0	2	0	0	6	0	0



### QPI 5(a-c) – 90 day

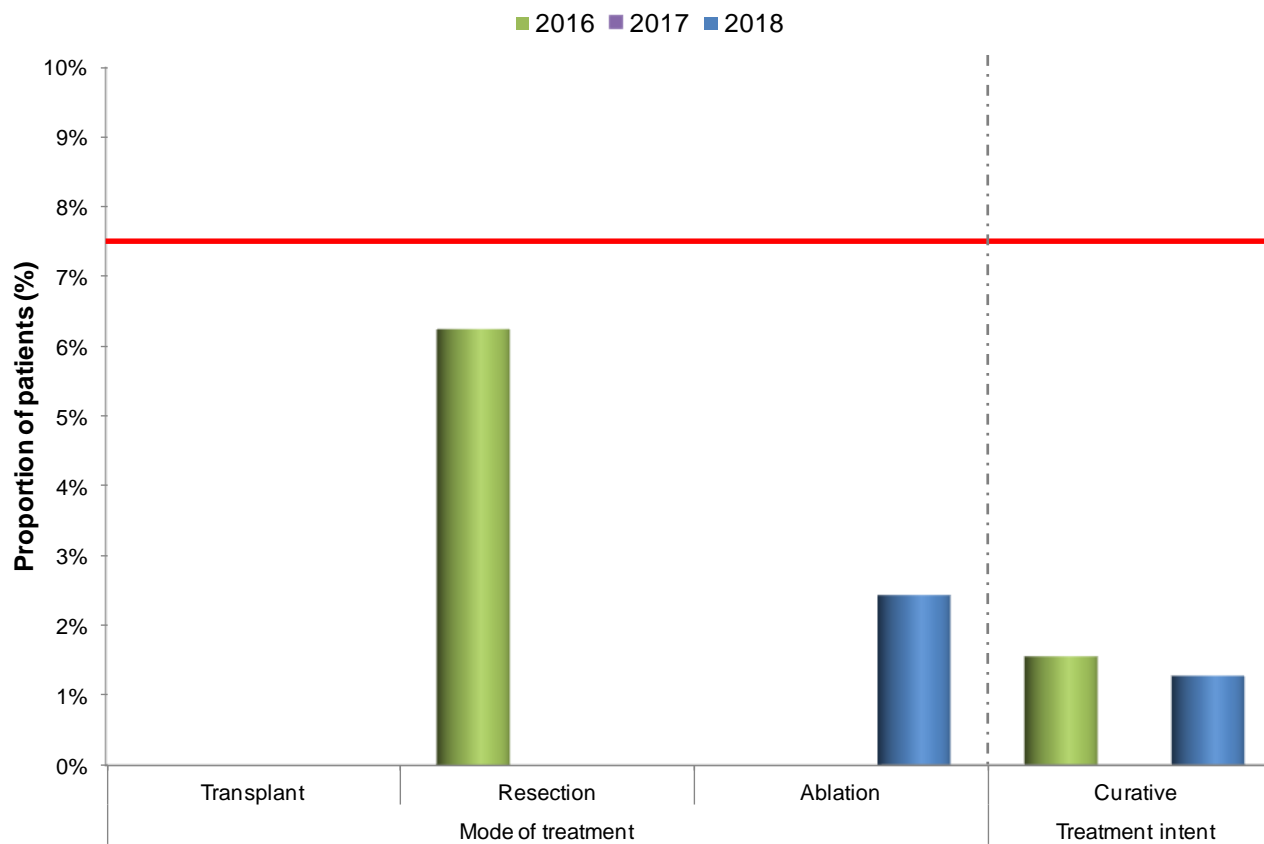


Figure 10: Summary of QPI 5(a-c) results, illustrating the proportion of patients diagnosed with HCC undergoing disease specific curative treatment that die within 90 days of definitive treatment in Scotland from 2016 to 2018. The red line represents the QPI target of <7.5%.

Table 10: Details of QPI 5(a-c) results for Scotland from 2016 to 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 5 (a-c) – 90 day mortality Target: <7.5%	Mode of treatment									Treatment intent		
	Transplant			Resection			Ablation			Curative		
	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
Mortality (%)	0.0%	0.0%	0.0%	6.3%	0.0%	0.0%	0.0%	0.0%	2.4%	1.6%	0.0%	1.3%
Numerator	0	0	0	1	0	0	0	0	1	1	0	1
Denominator	18	21	19	16	13	18	30	24	41	64	58	78
NR numerator	0	0	0	0	0	0	0	0	0	0	0	0
NR exclusions	0	0	0	0	0	0	0	0	0	0	0	0
NR denominator	2	0	0	2	0	0	2	0	0	6	0	0

### QPI 5(d-e) – 30 day

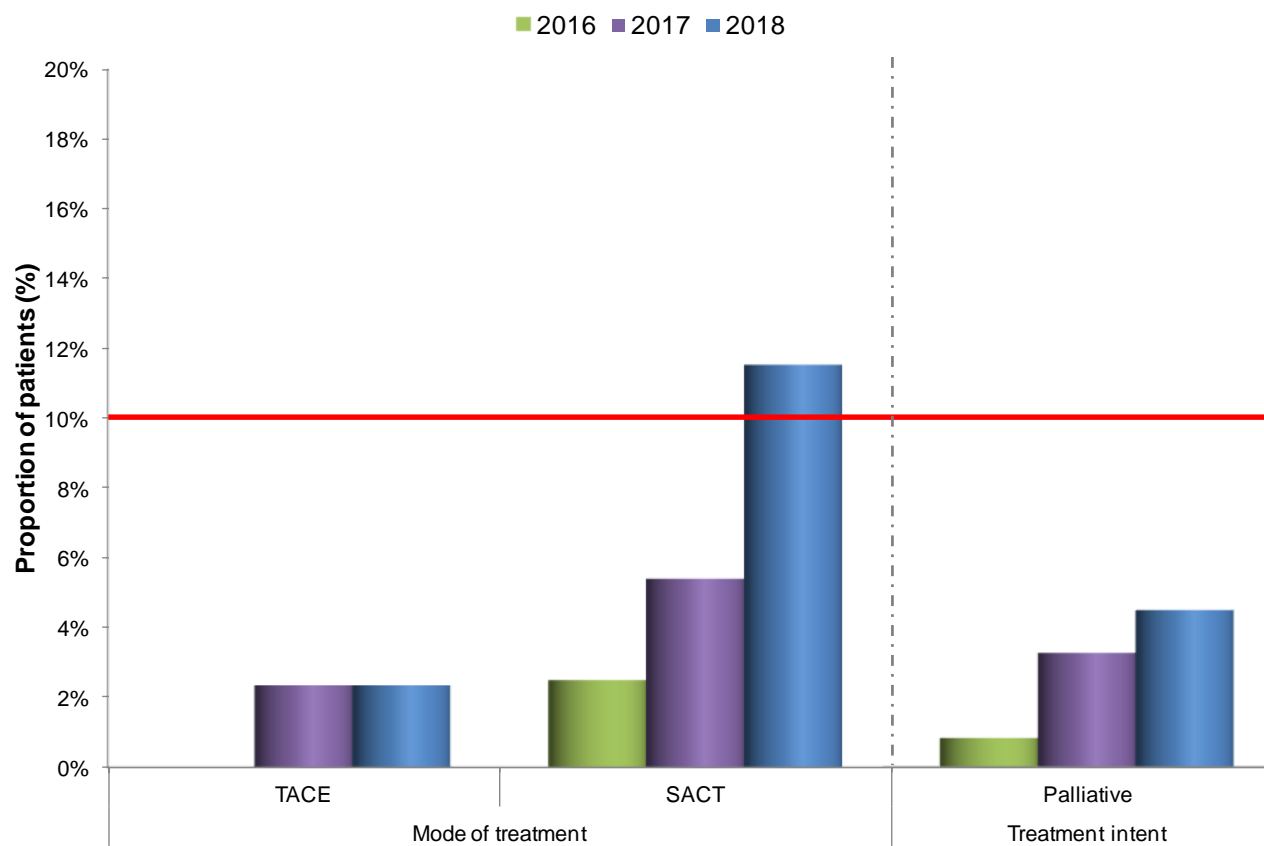


Figure 11: Summary of QPI 5(d-e) results, illustrating the proportion of patients diagnosed with HCC undergoing disease specific palliative treatment that die within 30 days of definitive treatment in Scotland from 2016 to 2018. The red line represents the QPI target of <10%.

Table 11: Details of QPI 5(d-e) results for Scotland from 2016 to 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 5 (d-e) – 30 day mortality Target: <10%	Mode of treatment						Treatment intent		
	TACE			SACT			Palliative		
	2016	2017	2018	2016	2017	2018	2016	2017	2018
Mortality (%)	0.0%	2.4%	2.4%	2.5%	5.4%	11.5%	0.8%	3.3%	4.5%
Numerator	0	2	2	1	2	3	1	4	5
Denominator	79	85	85	40	37	26	119	122	111
NR numerator	0	0	2	0	0	0	0	0	2
NR exclusions	0	0	0	0	0	0	0	0	0
NR denominator	2	0	0	0	0	0	2	0	0

For patients receiving treatment with curative intent (a-c) there were no deaths within 30 days of treatment and 1 death within 90 days of treatment (ablation) in Scotland for 2018. The overall national performance fell well within the QPI target, with each mode of treatment also meeting the target.

There were five cases of mortality within 30 days of treatment with palliative intent. The performance of 4.5% is the highest of all years measured, but falls well within the 10% target. Whilst the performance of TACE was within the target, SACT failed to meet the target of less than 10%.

The three cases of mortality following SACT with palliative intent were reviewed and feedback from NHS Highland and NHS Greater Glasgow and Clyde indicated that synchronous tumours, deterioration in performance status and rapidly progressive disease had contributed to these deaths.

Although each centre reviews mortality on an ongoing basis, the NMCN intends to coordinate a national morbidity and mortality review during 2020.

**Actions:**

- NMCN to coordinate the first national SACT Morbidity and Mortality review for Oncologists.

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

Accurate staging is important to ensure appropriate treatment is delivered and futile interventions avoided<sup>1</sup>. 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<sup>1</sup>. 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.

<b>QPI 6:</b>	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.
<b>Description:</b>	Proportion of patients with pancreatic, duodenal or biliary tract cancer who undergo CT of the chest, abdomen and pelvis.
<b>Numerator:</b>	Number of patients with pancreatic, duodenal or biliary tract cancer who undergo CT of the chest, abdomen and pelvis.
<b>Denominator:</b>	All patients with pancreatic, duodenal or biliary tract cancer.
<b>Exclusions:</b>	Patients undergoing supportive care only.
<b>Target:</b>	80%

Figure 12 presents a summary of the results for QPI 6 by NHS Board of diagnosis for the three most recent years of audit data (2016 to 2018). For the 2018 audit data, a more detailed breakdown of the results is shown in Table 12.

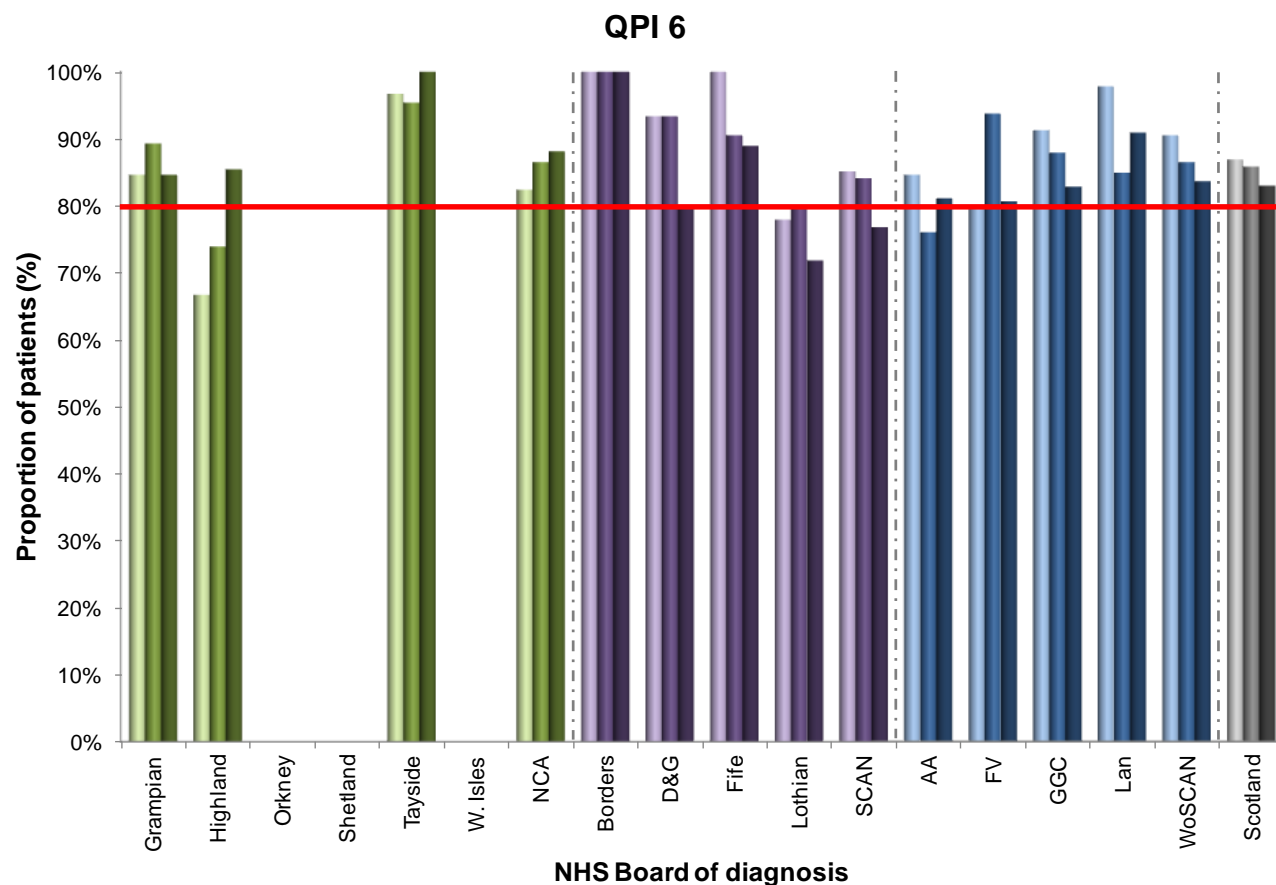


Figure 12: Summary of QPI 6 results, illustrating the proportion of patients diagnosed with pancreatic, duodenal or biliary tract cancer that underwent CT of the chest, abdomen and pelvis, by NHS Board of diagnosis from 2016 to 2018. The red line represents the QPI target of 80%.

Table 12: Details of QPI 6 results by NHS Board of diagnosis for 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 6 Target: 80%	Grampian	Highland	Orkney	Shetland	Tayside	W. Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	AA	FV	GGC	Lan	WoSCAN	Scotland
2018 (%)	84.6%	85.4%	-	-	100.0%	-	88.1%	100.0%	80.0%	88.9%	71.8%	76.8%	81.1%	80.6%	82.8%	90.9%	83.6%	83.0%
Numerator	55	41	-	-	32	-	133	8	8	24	79	119	30	25	130	40	225	477
Denominator	65	48	-	-	32	-	151	8	10	27	110	155	37	31	157	44	269	575
NR numerator	0	0	-	-	0	-	0	0	0	0	0	0	0	0	0	0	0	0
NR exclusions	0	0	-	-	0	-	0	0	0	0	0	0	0	0	0	0	0	0
NR denominator	0	0	-	-	0	-	0	0	0	0	0	0	0	0	0	0	0	0

Ten out of the eleven Boards shown met the 80% target, with NHS Lothian not meeting the target. From a regional perspective, NCA and WoSCAN met the target. The national performance was above the target with 83.0%.

NHS Lothian commented that the majority of patients not meeting the target had a CT chest/abdomen or CT abdomen/pelvis. Additional concomitant reasons included patients receiving a stent, Whipples operation, surgical resection or chemotherapy and patients not wishing to receive any treatment.

**Actions:**

- NMCN to propose an amendment at Formal Review to remove the requirement for CT chest in this group of patients.

## QPI 7: 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<sup>1</sup>. 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<sup>1</sup>. 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 75% target reflects this and also factors relating to patient choice.

<b>QPI 7:</b>	Patients with pancreatic, duodenal or biliary tract cancers having non-surgical treatment should have a cytological or histological diagnosis
<b>Description:</b>	Proportion of patients with pancreatic, duodenal or biliary tract cancer undergoing non-surgical treatment who have a cytological or histological diagnosis
<b>Numerator:</b>	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)
<b>Denominator:</b>	All patients with pancreatic, duodenal or distal biliary tract undergoing non-surgical treatment
<b>Exclusions:</b>	No exclusions
<b>Target:</b>	75%

Figure 13 presents a summary of the results for QPI 7 by NHS Board of diagnosis for the three most recent years of audit data (2016 to 2018). For the 2018 audit data, a more detailed breakdown of the results is shown in Table 13.

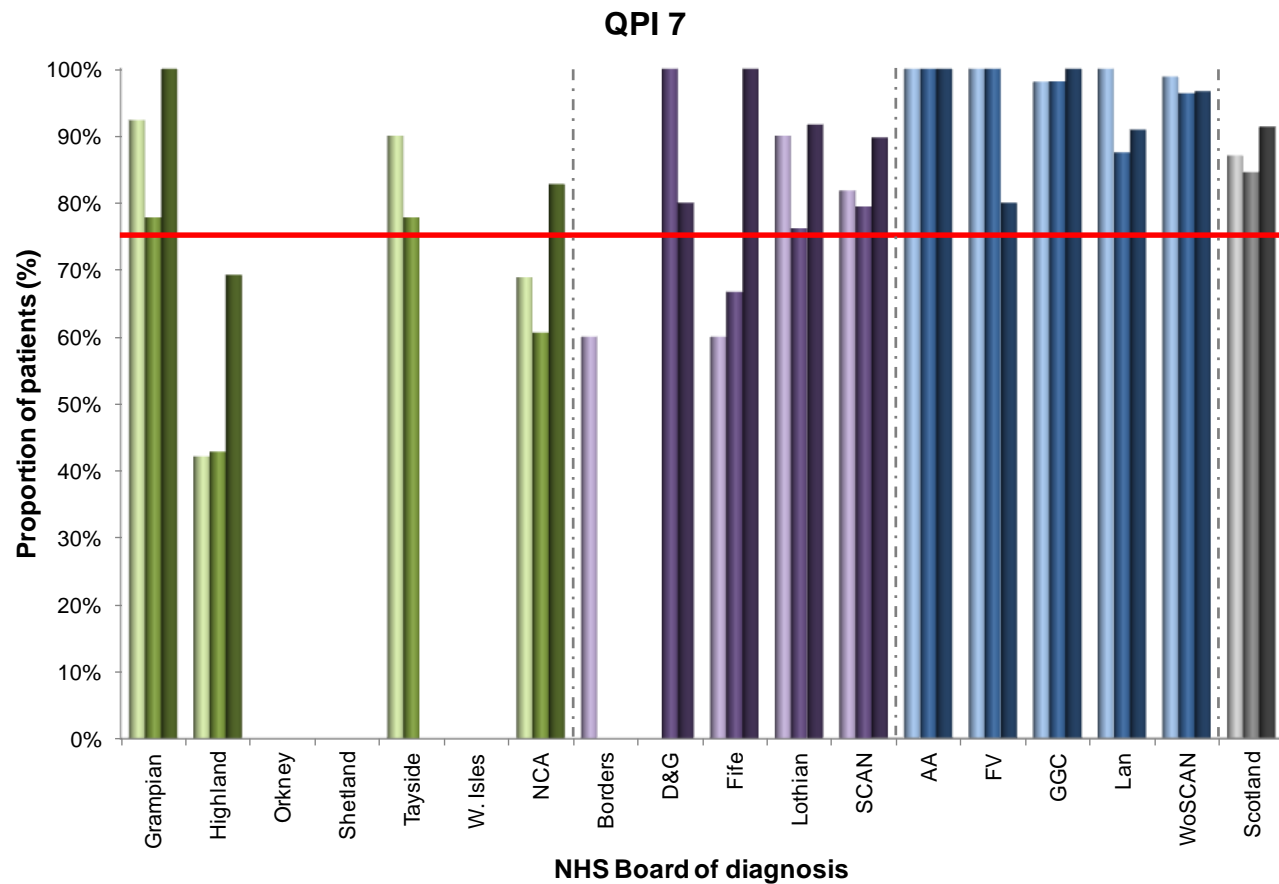


Figure 13: Summary of QPI 7 results, illustrating the proportion of patients diagnosed with pancreatic, duodenal or biliary tract cancer undergoing non-surgical treatments that have a cytological or histological diagnosis, by NHS Board of diagnosis from 2016 to 2018. The red line represents the QPI target of 75%.

Table 13: Details of QPI 7 results by NHS Board of diagnosis for 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 7 Target: 75%	Grampian	Highland	Orkney	Shetland	Tayside	W. Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	AA	FV	GGC	Lan	WoSCAN	Scotland
<b>2018 (%)</b>	100.0%	69.2%	*	-	-	-	82.8%	-	80.0%	100.0%	91.7%	89.7%	100.0%	80.0%	100.0%	90.9%	96.6%	91.3%
<b>Numerator</b>	9	9	*	-	-	-	24	-	4	7	22	35	6	4	37	10	57	116
<b>Denominator</b>	9	13	*	-	-	-	29	-	5	7	24	39	6	5	37	11	59	127
<b>NR numerator</b>	0	0	*	-	-	-	0	-	0	0	0	0	0	0	0	0	0	0
<b>NR exclusions</b>	0	0	*	-	-	-	0	-	0	0	0	0	0	0	0	0	0	0
<b>NR denominator</b>	0	0	*	-	-	-	0	-	0	0	0	0	0	0	0	1	1	1



Of the nine Boards with data displayed for 2018, eight Boards met the 75% target. NHS Highland were short of the target with 69.2%, but showed an improvement on last year's performance. However, small numbers for some Boards mean that comparisons between Boards should be made with caution. All three regions met the target. The overall national performance was above the target at 91.3%.

NHS Highland stated that all patients not meeting the target had a FNA or biopsy performed. Only one patient who failed the target had a sample that was suspicious of cancer. The remainder had inadequate samples. NHS Highland has recently moved from EUS FNA (Endoscopic Ultrasound-guided Fine Needle Aspiration) to EUS FNB (Endoscopic Ultrasound-guided Fine Needle Biopsy) in order to improve the diagnostic yield from samples.

NHS Western Isles provided feedback on the case not meeting the target. In this case, the diagnosis was made on imaging alone.

## QPI 8: 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<sup>1</sup>. The 50% target accounts for patients who may have post-operative complications that preclude consideration of adjuvant therapy.

<b>QPI 8:</b>	Patients undergoing resection for pancreatic cancer should receive neo-adjuvant or adjuvant chemotherapy, where appropriate
<b>Description:</b>	Proportion of patients undergoing resection for pancreatic cancer receiving neo-adjuvant or adjuvant chemotherapy
<b>Numerator:</b>	Number of patients undergoing pancreatic cancer resection who receive neo-adjuvant or adjuvant chemotherapy
<b>Denominator:</b>	All patients undergoing resection for pancreatic cancer
<b>Exclusions:</b>	<ul style="list-style-type: none"><li>• Patients who die post-operatively (within 60 days of surgery)</li><li>• Patients who refuse chemotherapy</li></ul>
<b>Target:</b>	<b>50%</b>

Figure 14 presents a summary of the results for QPI 8 by treatment centre for the three most recent years of audit data (2016 to 2018). For the 2018 audit data, a more detailed breakdown of the results is shown in Table 14.

Aberdeen (66.7%), Edinburgh (80.0%) and Glasgow (88.2%) centres all met the 50% target. There were no patients from Inverness or Dundee centres who met the QPI denominator. The overall national performance improved from 70.4%, in 2017, to 83.3%. However, small numbers for some treatment centres mean that a comparison of results should be made with caution.

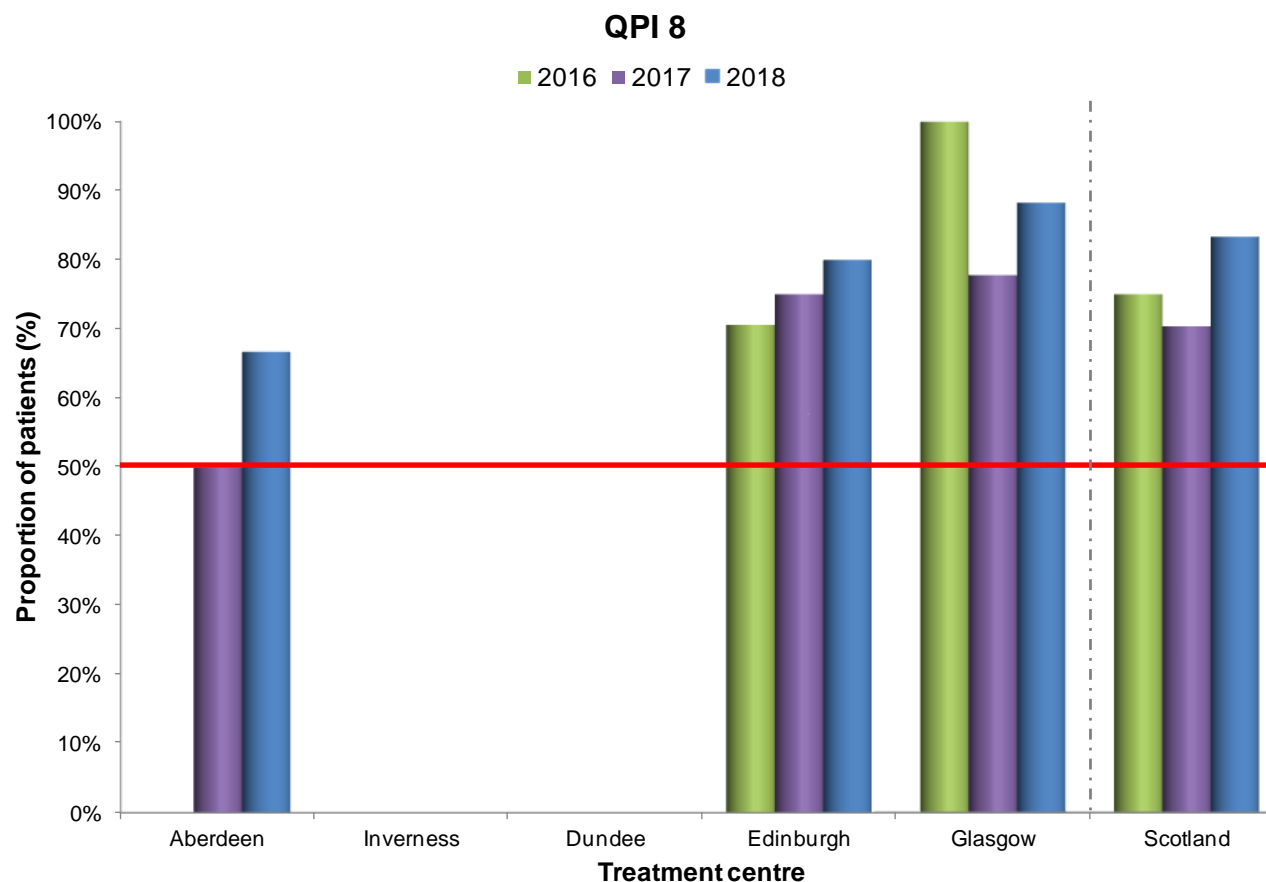


Figure 14: Summary of QPI 8 results, illustrating the proportion of patients undergoing resection for pancreatic cancer receiving neo-adjuvant or adjuvant chemotherapy, by treatment centre from 2016 to 2018. The red line represents the QPI target of 50%.

Table 14: Details of QPI 8 results by treatment centre for 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 8 Target: 50%	Aberdeen	Inverness	Dundee	Edinburgh	Glasgow	Scotland
2018 (%)	66.7%	-	-	80.0%	88.2%	83.3%
Numerator	4	-	-	12	15	35
Denominator	6	-	-	15	17	42
NR numerator	0	-	-	0	0	0
NR exclusions	0	-	-	0	0	0
NR denominator	0	-	-	0	0	0

## QPI 9: 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<sup>1</sup>. 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.

<b>QPI 9:</b>	Patients with pancreatic, distal biliary tract or duodenal cancer should have surgical resection.
<b>Description:</b>	Proportion of patients who undergo resection for pancreatic, distal biliary tract or duodenal cancer.
<b>Numerator:</b>	Number of patients with pancreatic, duodenal or distal biliary tract cancer who undergo resection.
<b>Denominator:</b>	All patients with pancreatic, duodenal or distal biliary tract cancer.
<b>Exclusions:</b>	No exclusions.
<b>Target:</b>	15%

Figure 15 presents a summary of the results for QPI 9 by NHS Board of diagnosis for the three most recent years of audit data (2016 to 2018). For the 2018 audit data, a more detailed breakdown of the results is shown in Table 15.

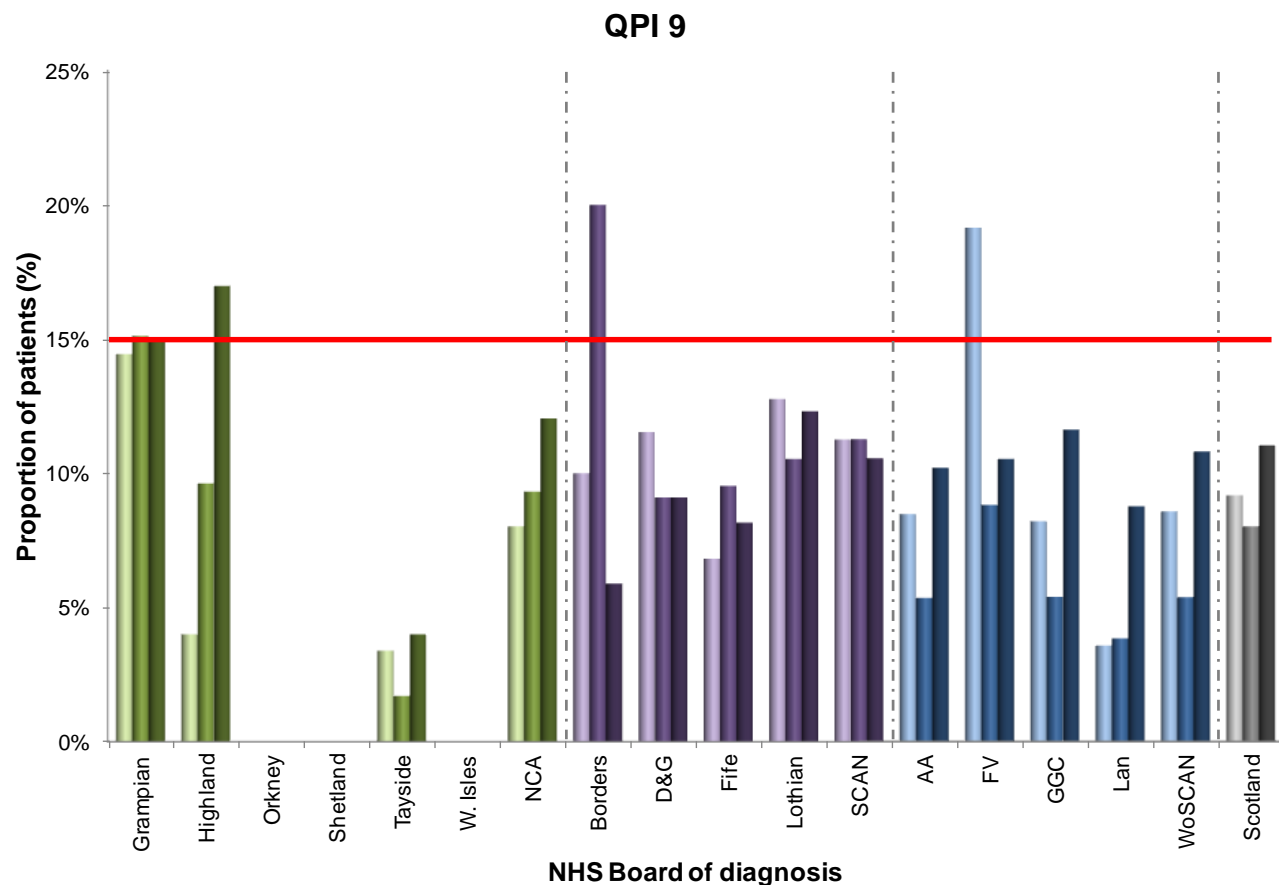


Figure 15: Summary of QPI 9 results, illustrating the proportion of patients diagnosed with pancreatic, distal biliary tract or duodenal cancer that undergo resection, by NHS Board of diagnosis from 2016 to 2018. The red line represents the QPI target of 15%.

Table 15: Details of QPI 9 results by NHS Board of diagnosis for 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 9 Target: 15%	Grampian	Highland	Orkney	Shetland	Tayside	W. Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	AA	FV	GGC	Lan	WoSCAN	Scotland
<b>2018 (%)</b>	15.0%	17.0%	-	-	4.0%	-	12.0%	5.9%	9.1%	8.2%	12.3%	10.6%	10.2%	10.5%	11.6%	8.8%	10.8%	11.0%
<b>Numerator</b>	12	9	-	-	2	-	23	1	2	4	16	23	5	6	23	5	39	85
<b>Denominator</b>	80	53	-	-	50	-	191	17	22	49	130	218	49	57	198	57	361	770
<b>NR numerator</b>	0	0	-	-	0	-	0	0	0	0	0	0	0	0	0	1	1	1
<b>NR exclusions</b>	0	0	-	-	0	-	0	0	0	0	0	0	0	0	0	0	0	0
<b>NR denominator</b>	0	0	-	-	0	-	0	0	0	0	0	0	0	0	0	0	0	0

The target for this QPI continues to be challenging for all Boards to achieve. NHS Grampian and NHS Highlands were the only Boards, of the eleven shown, to meet the 15% target with 15.0% and 17.0% respectively. No regions met the target. The overall national performance improved from 8.0%, in 2017, to 11.0%.

Boards not meeting the target have reviewed cases and provided feedback. The general feeling from Boards is that the target of this QPI is aspirational.

NHS Tayside commented that all fit and radiologically resectable patients are considered for surgery.

NHS Orkney highlighted reasons for patients failing to meet the QPI. These included patients being unfit for surgery due to locally advanced disease and refusing treatment following diagnosis.

NHS Western Isles stated no surgical resections were carried out in 2018.

NHS Lothian provided feedback on the patients failing to meet the QPI. The majority of patients received best supportive care. Additional reasons included patients refusing treatment or receiving palliative treatment with some having a stent fitted. A small number of patients were reported to have died before receiving treatment or received bypass surgery.

NHS Ayrshire and Arran commented that the decision for surgery lies with the Glasgow MDT or the Edinburgh MDT. Similarly NHS Forth Valley stated that all potential candidates are referred to the Edinburgh MDT for decision on treatment.

NHS Greater Glasgow and Clyde highlighted reasons for falling short of this QPI. These included stage of presentation, and in particular patient factors such as performance status and co-morbidity. The Board also commented that they endeavour to prehabilitate and address modifiable risk factors in an effort to increase the number of patients for whom surgery may be a viable option.

NHS Lanarkshire provided feedback on their performance. Where patients were not referred to the Glasgow MDT or Edinburgh MDT for decision on treatment, the Board stated that all patients were either diagnosed with locally advanced or metastatic disease on presentation or unfit for major surgery. These patients were either for best supportive care or referred to oncology for consideration of palliative treatment. The Board highlighted that due to the late presentation of disease and high levels of co-morbidity, improvement in levels of health and the establishment of awareness campaigns aimed at encouraging patients to present early, where cure is achievable, is required in order to meet this QPI.

**Actions:**

- NMCN to propose that this QPI is archived at Formal Review as it no longer provides meaningful outcome data.

## QPI 10: Lymph Node Yield

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<sup>1</sup>. Evidence suggests that pancreatoduodenectomy should yield a minimum of 15 lymph nodes from the principal specimen<sup>1</sup>.

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. The denominator was therefore updated to include duodenal and distal biliary tract cancers.

<b>QPI 10:</b>	In patients undergoing surgery for pancreatic, duodenal or distal biliary tract cancer the number of lymph nodes examined should be maximised.
<b>Description:</b>	Average number of lymph nodes resected and pathologically examined for patients with pancreatic, duodenal or biliary tract cancer who undergo pancreatoduodenectomy performed by a specialist centre, over a 1 year period.
<b>Numerator:</b>	Total number of lymph nodes resected and pathologically examined for all patients with pancreatic, duodenal or distal biliary tract cancer who undergo pancreatoduodenectomy.
<b>Denominator:</b>	All patients with pancreatic, duodenal or distal biliary tract cancer who undergo pancreatoduodenectomy (no exclusions).
<b>Exclusions:</b>	No exclusions.
<b>Target:</b>	Average of 15 nodes per patient per centre.

Figure 16 presents a summary of the results for QPI 10 by treatment centre for the three most recent years of audit data (2016 to 2018). For the 2018 audit data, a more detailed breakdown of the results is shown in Table 16.

All shown centres met the target of a 15 node average. The average number of nodes resected remains the same for Aberdeen. For Edinburgh and Glasgow, there was a reduction in performance compared to last year. There was slight reduction in the average number of nodes resected nationally from 22, in 2017, to 21.

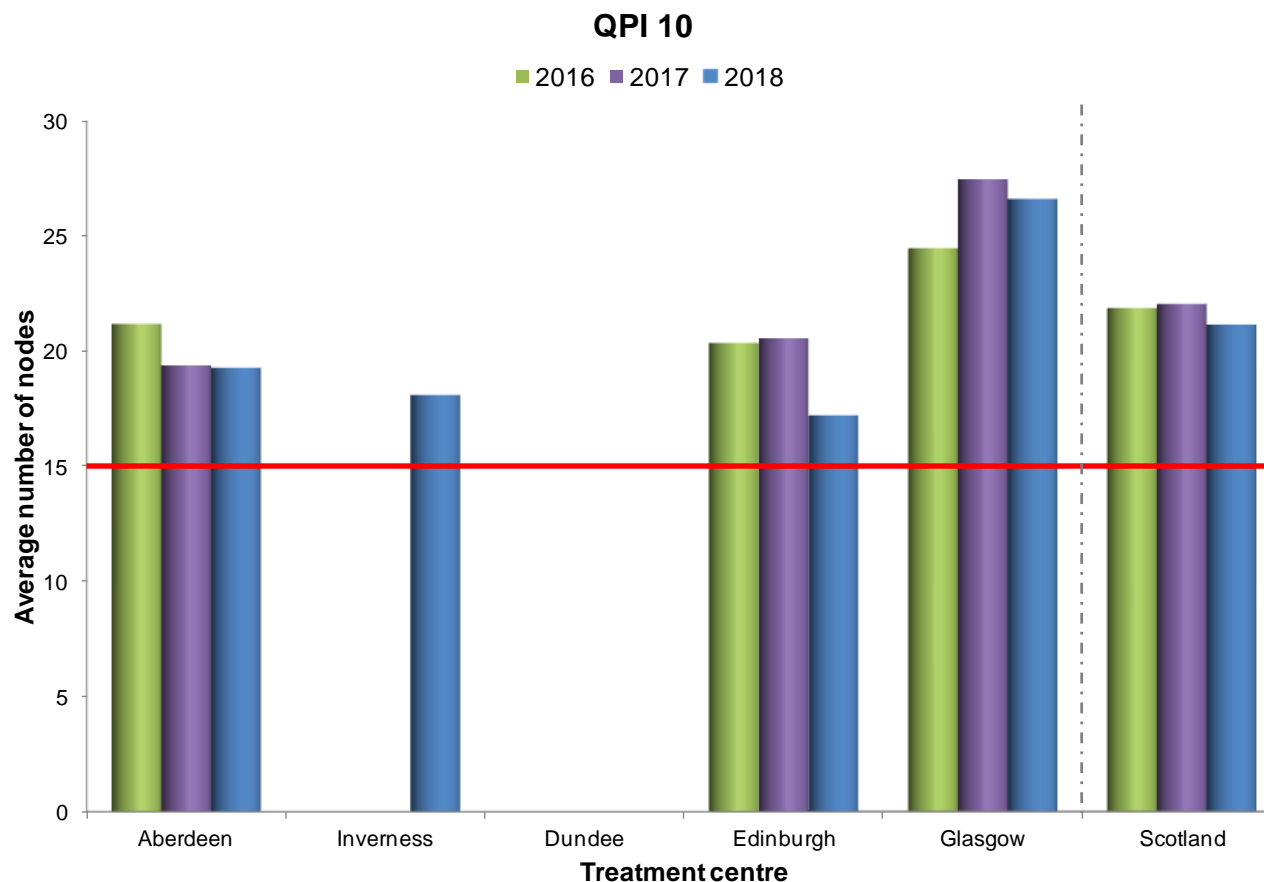


Figure 16: Summary of QPI 10 results, illustrating the average number of lymph nodes resected per patient per centre, by treatment centre from 2016 to 2018. The red line represents the QPI target of an average 15 of lymph nodes per patient per centre.

Table 16: Details of QPI 10 results by treatment centre for 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 10 Target: average of 15 lymph nodes	Aberdeen	Inverness	Dundee	Edinburgh	Glasgow	Scotland
2018 (average)	19	18	-	17	27	21
Numerator	193	163	-	448	666	1524
Denominator	10	9	-	26	25	72
NR exclusions	0	0	-	0	0	0
NR denominator	0	0	-	0	0	0



## QPI 11: 30 and 90-day Mortality after Curative or Palliative treatment for Pancreatic, Duodenal or Distal Biliary Tract Cancer

Mortality following resection for HPB cancer has fallen over the past 30 years and in specialist units should be less than 5%<sup>1</sup>. Treatment related mortality is a marker of the quality and safety of the whole service provided by the multidisciplinary team. This QPI was been updated at formal review to incorporate both curative and palliative therapies, and the target for 90 day mortality (curative) increased to <7.5%.

<b>QPI 11a/b:</b>	30-day and 90-day mortality following treatment for pancreatic, duodenal or distal biliary tract cancer with either curative or palliative intent.
<b>Description:</b>	Proportion of patients with pancreatic, duodenal or distal biliary tract cancer who die within 30/90 days of definitive treatment with either curative or palliative intent.
<b>Numerator:</b>	<ul style="list-style-type: none"> <li>(i) Number of patients with pancreatic, duodenal or distal biliary tract cancer who receive curative treatment that die within 30 or 90 days of treatment.</li> <li>(ii) Number of patients with pancreatic, duodenal or distal biliary tract cancer who receive palliative treatment that die within 30 days of treatment.</li> </ul>
<b>Denominator:</b>	<ul style="list-style-type: none"> <li>(i) All patients with pancreatic, duodenal or distal biliary tract cancer who receive curative treatment.</li> <li>(ii) All patients with pancreatic, duodenal or distal biliary tract cancer who receive palliative treatment.</li> </ul>
<b>Exclusions:</b>	No exclusions.
<b>Target:</b>	<p><b>Curative:</b> 30 days &lt;5% 90 days &lt;7.5%</p> <p><b>Palliative:</b> 30 days &lt;10%</p>

National mortality figures for 2016 to 2018 are presented below.

Figures 9 and 10, and corresponding Tables 9 and 10, illustrate the mortality rates for patients receiving treatment with curative intent. The mortality rates are presented at a national level according to the mode of treatment.

For patients receiving palliative treatment, the mortality rates are presented by treatment centre in Figure 11, with additional detail shown in Table 11.

### QPI 11(i) – 30 day

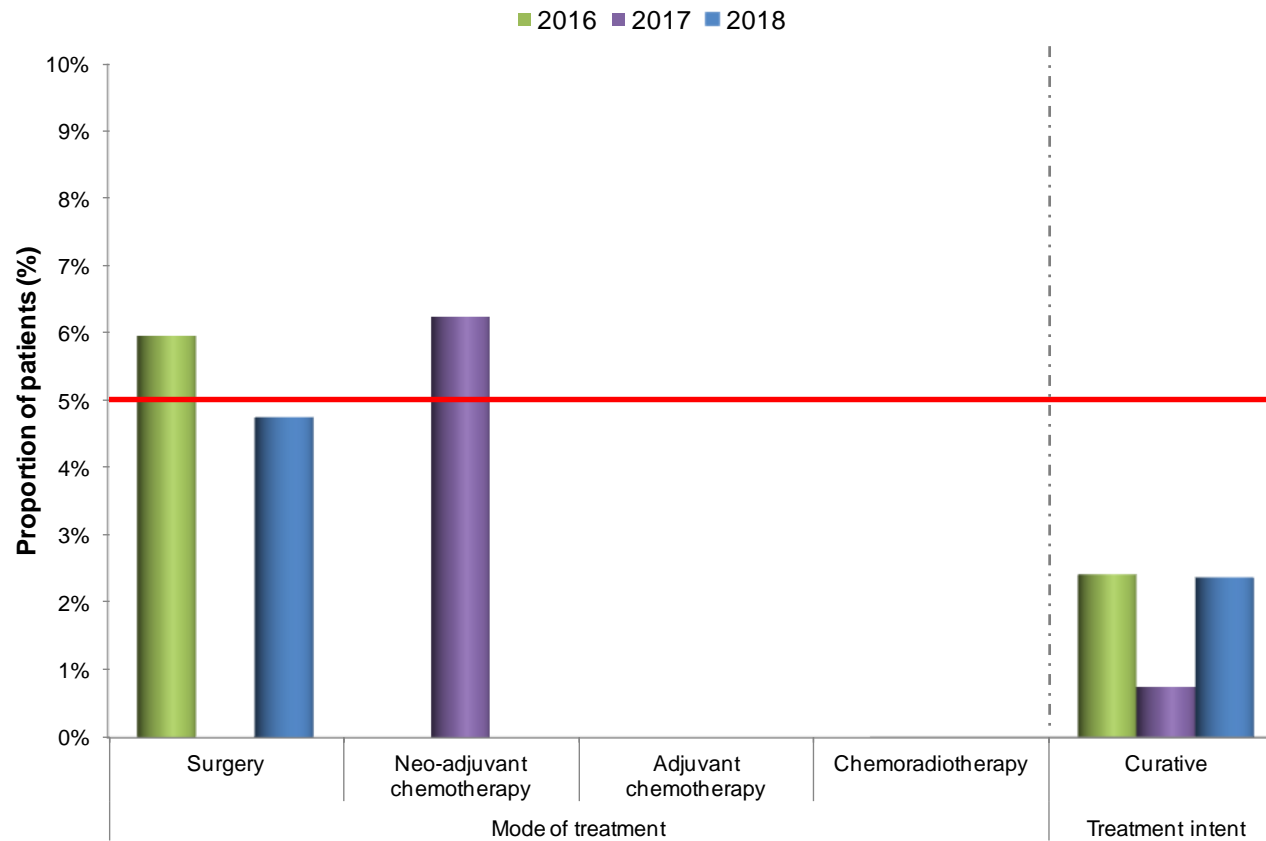


Figure 17: Summary of QPI 11(i) results, of patients diagnosed with pancreatic, duodenal or distal biliary tract cancer that die within 30 days of receiving definitive treatment with curative intent, from 2016 to 2018. The red line represents the QPI target of <5%.

Table 17: Details of QPI 11(i) results for Scotland from 2016 to 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 11(i) – 30 day mortality Target: <5%	Mode of treatment												Treatment intent		
	Surgery			Neo-adjuvant chemotherapy			Adjuvant chemotherapy			Chemoradiotherapy			Curative		
	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
Mortality (%)	6.0%	0.0%	4.8%	0.0%	6.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	0.8%	2.4%
Numerator	4	0	4	0	1	0	0	0	0	0	0	0	4	1	4
Denominator	67	64	84	36	16	20	31	39	56	31	14	8	165	133	168
NR numerator	0	0	0	0	0	0	1	1	4	0	0	0	1	1	4
NR exclusions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NR denominator	1	0	0	2	2	0	5	1	1	2	2	1	10	5	2

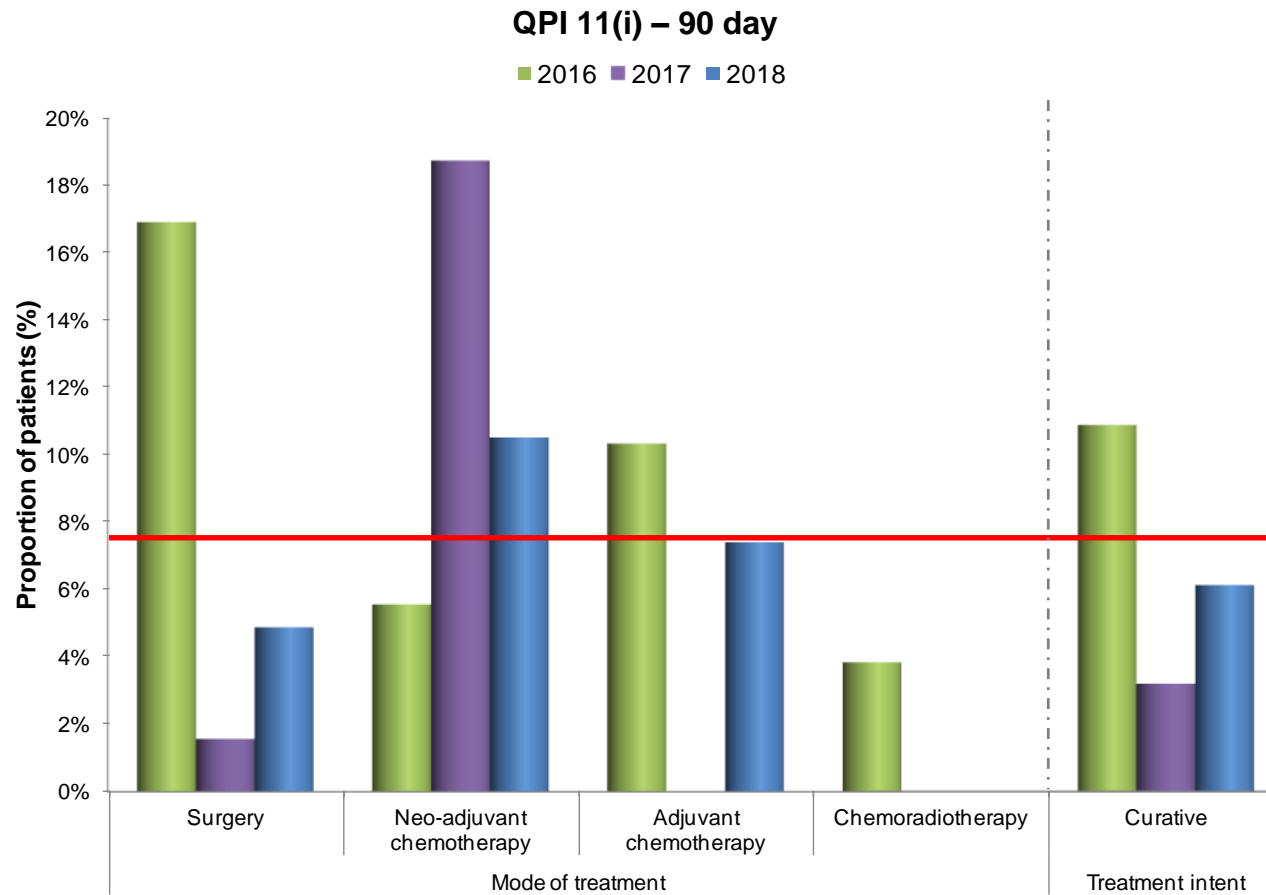


Figure 18: Summary of QPI 11(i) results, of patients diagnosed with pancreatic, duodenal or distal biliary tract cancer that die within 90 days of receiving definitive treatment with curative intent, from 2016 to 2018. The red line represents the QPI target of <7.5%.

Table 18: Details of QPI 11(i) results for Scotland from 2016 to 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 11(i) – 90 day mortality Target: <7.5%	Mode of treatment												Treatment intent		
	Surgery			Neo-adjuvant chemotherapy			Adjuvant chemotherapy			Chemoradiotherapy			Curative		
	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
Mortality (%)	16.9%	1.6%	4.9%	5.6%	18.8%	10.5%	10.3%	0.0%	7.4%	3.8%	0.0%	0.0%	10.9%	3.2%	6.1%
Numerator	11	1	4	2	3	2	3	0	4	1	0	0	17	4	10
Denominator	65	64	82	36	16	19	29	32	54	26	13	8	156	125	163
NR numerator	0	0	0	0	0	0	1	1	4	0	0	0	1	1	4
NR exclusions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NR denominator	1	0	0	2	2	0	5	1	1	2	2	1	10	5	2

### QPI 11(ii) – 30 day

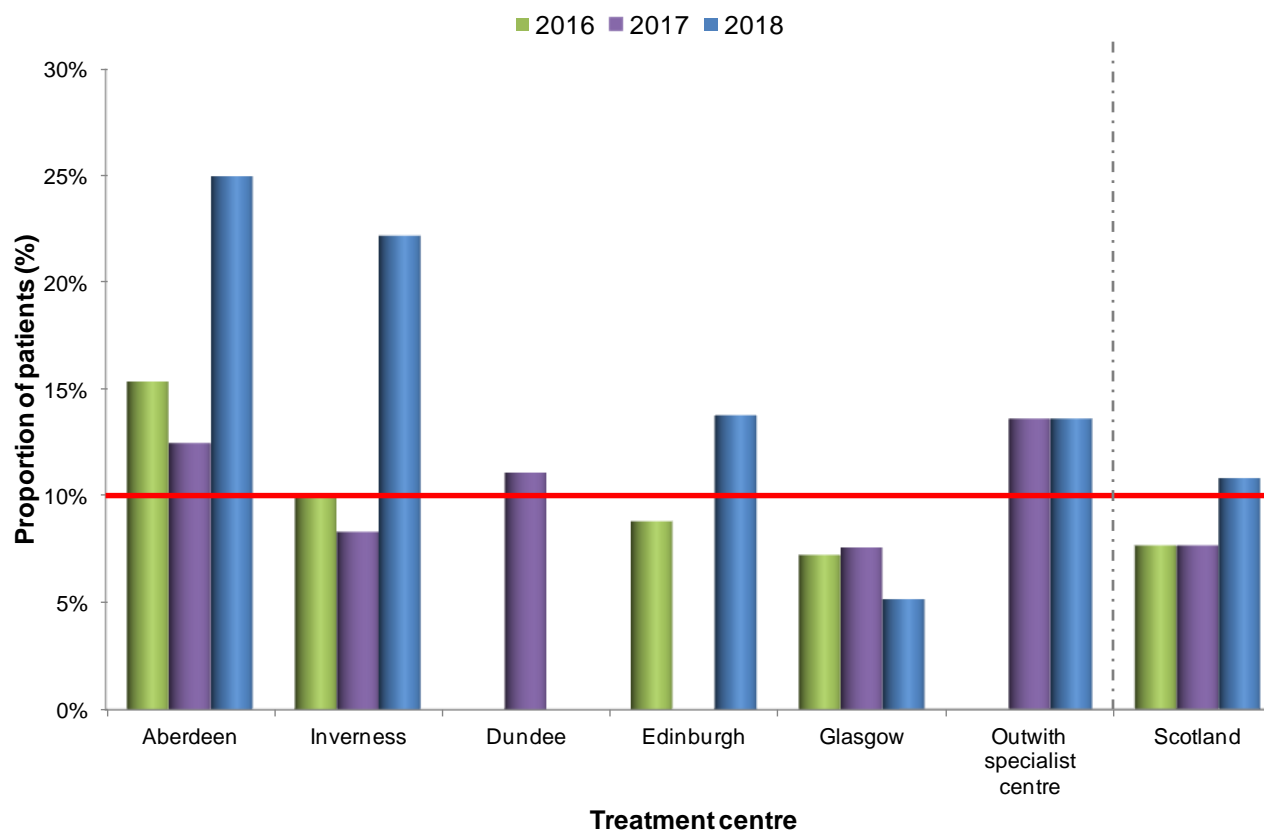


Figure 19: Summary of QPI 11(ii) results, of patients diagnosed with pancreatic, duodenal or distal biliary tract cancer that die within 30 days of receiving definitive treatment with palliative intent, from 2016 to 2018. The red line represents the QPI target of <10%.

Table 19: Details of QPI 11(ii) results by treatment centre for 2018. A dash (-) denotes a denominator of less than five. An asterisk (\*) denotes a denominator of zero.

QPI 11(ii) – 30 day mortality Target: <10%	Aberdeen	Inverness	Dundee	Edinburgh	Glasgow	Outwith specialist centre	Scotland
Mortality (%)	25.0%	22.2%	-	13.8%	5.2%	13.6%	10.9%
Numerator	2	2	-	4	3	3	14
Denominator	8	9	-	29	58	22	129
NR numerator	0	0	-	0	3	0	3
NR exclusions	0	0	-	0	0	0	0
NR denominator	0	0	-	0	1	0	1

In terms of mortality within the first 30 days following treatment with curative intent, there were no cases of mortality for neo-adjuvant chemotherapy, adjuvant chemotherapy and chemoradiotherapy in 2018. There were four cases of mortality within 30 days of surgery, giving a performance of 4.8% which falls within the QPI target. The national 30 day mortality rate for curative treatments was 2.4%. Whilst the performance was well within the QPI target, this illustrated a reduction in performance from 2017.

Boards have reviewed cases not meeting the target and raised no issues.

NHS Grampian highlighted the issue with small denominators and suggested considering the performance of this QPI as an average over a 3 year period.

NHS Greater Glasgow and Clyde highlighted an improvement on previous year's performance, stating that changes have been made following previous experience to address higher than expected mortality rates. The Board commented that the presence of a national approach to centralising small denominator surgery would help to improve the outcome of this QPI.

In terms of mortality within 90 days after treatment with curative intent the performance of surgery, adjuvant chemotherapy and chemoradiotherapy fell within the QPI target of 7.5%. For neo-adjuvant chemotherapy, the performance improved from 18.8% in 2017 to 10.5% in 2018, however this was still outwith the target range. It should be noted that this is a smaller cohort of patients and large variations in performance can arise from small changes in numbers. Although the national 90 day mortality rate for curative treatment worsened from 3.2% in 2017 to 6.1% in 2018, resulting in an increase in mortality cases of 4 to 10 respectively, the performance meets the QPI target.

Boards have reviewed cases not meeting the target and raised no issues.

NHS Grampian ensured that adequate staging of patients is undertaken however, unexpected early recurrence following treatment is in some cases unavoidable.

NHS Highland highlighted an issue with the staging of patients resulting in treatment with palliative intent at the time of commencement, rather than with curative intent. The Board will continue to ensure the correct staging of patients.

QPI 11 (ii) reflects the 30 day mortality following treatment with palliative intent. Of the centres shown in Figure 19, only Glasgow met the QPI target of 10%. It should be noted that Aberdeen and Inverness capture a smaller cohort of patients therefore large variations in performance can arise from small changes in numbers. There were 22 patients treated at non-specialised centres, which remains consistent with 2017. The national 30 day mortality rate for palliative treatment fell short of the target at 10.9%.

Boards have reviewed cases not meeting the target and raised no issues.

**Actions:**

- NMCN to coordinate the first national SACT Morbidity and Mortality review for Oncologists.

## QPI 12a/b: Volume of Cases per Centre/Surgeon

HPB 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<sup>1</sup>. 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 HPB resections and improved patient outcomes (mortality)<sup>1</sup>.

<b>QPI 12a/b:</b>	HPB resectional surgery should be performed in hospitals where there is an appropriate annual volume of such cases.
<b>Description:</b>	Number of surgical resections for pancreatic, duodenal or distal biliary tract cancer performed by a specialist centre (a), and surgeon (b), over a 1 year period.
<b>Target:</b>	a) Minimum of 11 cases per centre in a one year period. b) Minimum of 4 procedures per surgeon in a one year period.

QPI 12 is split into two parts.

Part (a) assesses the number of cases per centre in a one year period. A summary of these results, by treatment centre, for the three most recent years of audit data (2016 to 2018) are presented in Figure 20. A more detailed breakdown of the data is shown in Table 20.

Part (b) examines the number of procedures per surgeon in a one year period. Figure 21 presents a summary of QPI 12(b) results, by surgeon ID, for the three most recent years of audit data (2016 to 2018), with a more detailed breakdown shown in Table 21.

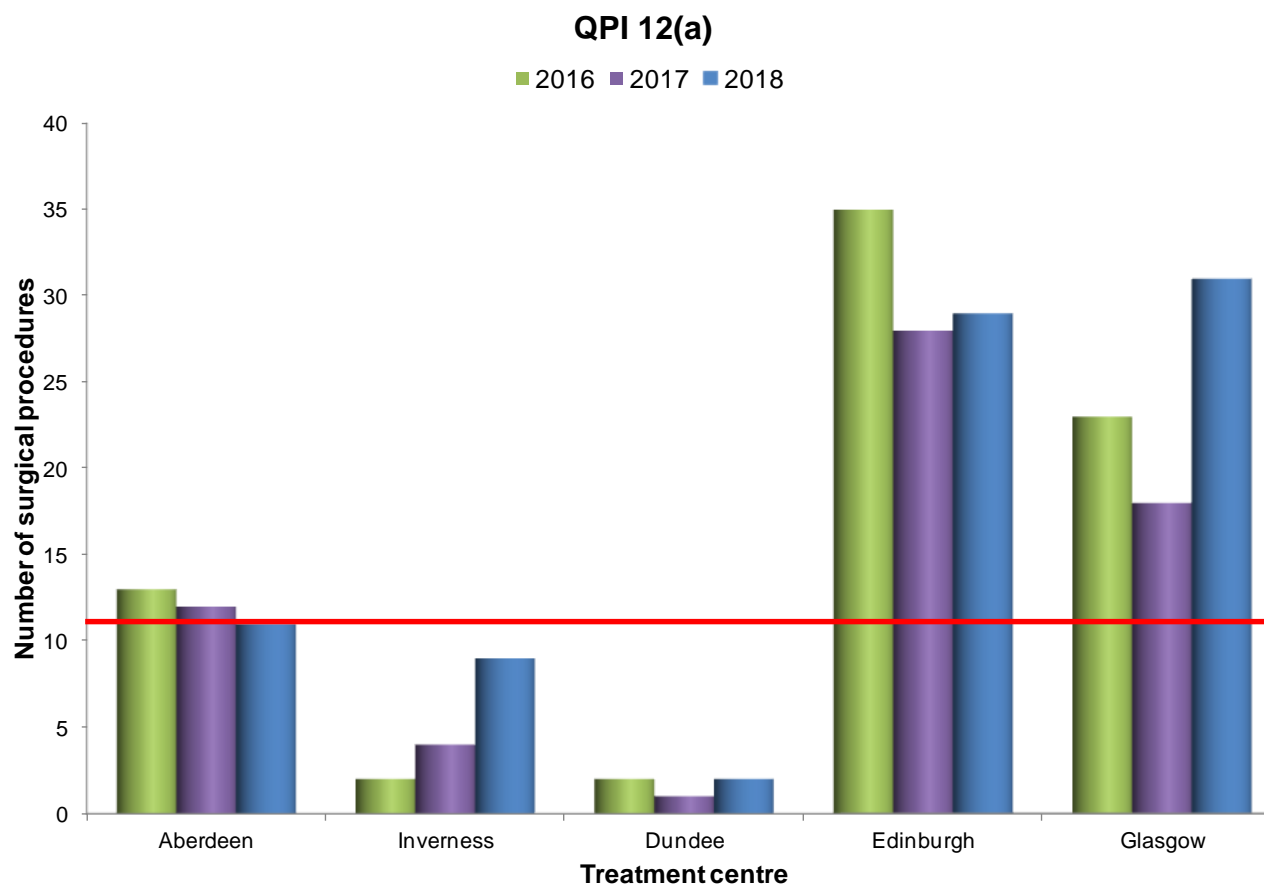


Figure 20: Summary of QPI 12(a) results, illustrating the number of surgical resections performed by a specialist centre over a one year period, by treatment centre from 2016 to 2018. The red line represents the QPI target of a minimum of 11 cases per centre in a one year period.

Table 20: Details of QPI 12(a) results by treatment centre from 2016 to 2018.

QPI 12(a) Target: minimum of 11 cases per centre in a one year period	Aberdeen	Inverness	Dundee	Edinburgh	Glasgow	Scotland
2016	13	2	2	35	23	75
2017	12	4	1	28	18	63
2018	11	9	2	29	31	82

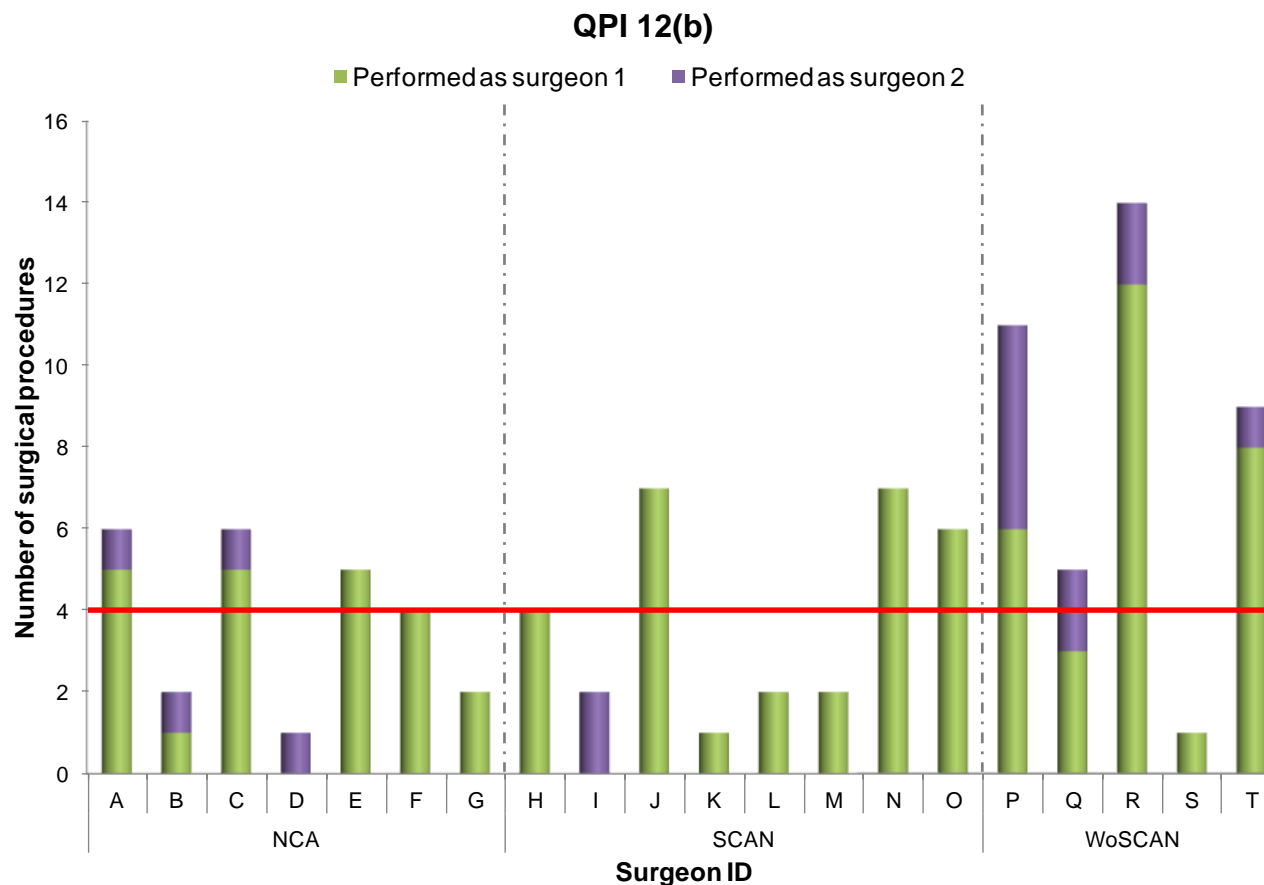


Figure 21: Summary of QPI 12(b) results, illustrating the number of surgical resections performed by a surgeon (as surgeon 1 or surgeon 2) over a one year period, by surgeon ID in 2018. The red line represents the QPI target of a minimum of 4 procedures per surgeon in a one year period.

QPI 12(b) Target: minimum of 4 procedures per surgeon in a one year period	NCA							SCAN								WoSCAN				
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
Performed as surgeon 1	5	1	5	0	5	4	2	4	0	7	1	2	2	7	6	6	3	12	1	8
Performed as surgeon 2	1	1	1	1	0	0	0	0	2	0	0	0	0	0	0	5	2	2	0	1
<b>Total</b>	<b>6</b>	<b>2</b>	<b>6</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>7</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>7</b>	<b>6</b>	<b>11</b>	<b>5</b>	<b>14</b>	<b>1</b>	<b>9</b>



For QPI 12(a), Aberdeen, Edinburgh and Glasgow centres met the target of 11 procedures. Inverness and Dundee were short of the target with 4 and 1 respectively. The trend indicates an increase in the national volume of surgical procedures for pancreatic, duodenal and biliary tract cancer.

Boards not meeting the target have reviewed cases and provided feedback.

NHS Highland commented that the size of centre remains unchanged over the past several years. In response to the QPI results, the Board is developing regional working across the North of Scotland and the topic will continue to be an area of active review.

Although the clinical audit data states that 2 procedures were performed at the Dundee centre, NHS Tayside commented that 5 pancreatectomies were performed in 2018. Additionally, 4 patients were referred to Edinburgh for surgery. The Board highlighted that the practice of referral of patients to Edinburgh was no longer active.

In terms of QPI 12(b), 12 out of 20 surgeons nationally met the target of 4 procedures per surgeon in a one year period. In NCA, 4 out of 7 surgeons met the target. In SCAN, 4 out of 8 surgeons met the target. In WoSCAN, 4 out of 5 surgeons met the target.

Boards not meeting the target have reviewed cases and provided feedback.

NHS Grampian stated that a new colleague was given the opportunity to develop their experience, resulting in senior colleagues reducing their procedures to facilitate. Going forward, the Board will implement the standard of dual operating.

NHS Highland commented that the performance is related to a vascular surgeon who assisted with a vein reconstruction and does not routinely perform pancreatectomies. The Board highlighted that the 2 pancreatic resectional surgeons at the centre both met the QPI.

As with QPI 12(a), NHS Tayside stated that the surgeons performed 5 cases with each surgeon dual operating for all pancreatic resections.

NHS Lothian provided reasons for surgeons failing to meet the QPI. These included 2 new surgeons to the centre, 1 surgeon on sabbatical and 1 surgeon no longer performing pancreatectomies. The Board highlighted that the performance was due to the transitional period in workforce.

NHS Greater Glasgow and Clyde noted that one surgeon relocated from Glasgow to England, and was therefore not in post for a full audit year.

**Actions:**

- NMCN to explore options for more collaborative working and to consider a review of services across Scotland.

## QPI 13: Clinical Trials Access

Clinical trials are necessary to demonstrate the efficacy of new therapies and other interventions. Evidence suggests improved patient outcomes when hospitals are actively recruiting patients into clinical trials. Clinicians are therefore encouraged to enter patients into well designed trials and to collect long term follow up data<sup>8</sup>.

The clinical trials QPI is measured utilising Scottish Cancer Research Network (SCRN) data and ISD incidence data, as is the methodology currently utilised by the Chief Scientist Office (CSO) and the National Cancer Research Institute (NCRI). The principal benefit of this approach is that this data is already collected utilising a robust mechanism<sup>9</sup>.

<b>QPI 13:</b>	All patients should be considered for participation in available clinical trials/research studies, wherever eligible.
<b>Description:</b>	Proportion of patients diagnosed with HPB cancer who are consented for a clinical trial/research study.
<b>Numerator:</b>	Number of patients diagnosed with HPB cancer consented for a clinical trial/research study.
<b>Denominator:</b>	All patients diagnosed with HPB cancer.
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>No exclusions</li> </ul>
<b>Target:</b>	15%

Following formal review the Clinical Trials Access QPI was updated to measure the number of patients consented for participation in a clinical trial rather than only those who are enrolled. There are a number of patients who undergo screening but do not proceed to enrolment for various reasons, e.g. they do not have the mutation required for entry on to the trial.

Table 22 presents a summary of the results for QPI 13 by region for 2018. The denominator for this QPI is identified by using a 5-year average of Scottish Cancer Registry data.

**Table 21: Details of QPI 13, illustrating the proportion of patients consented for clinical trials for HPB cancer, by NHS Board of diagnosis in 2018. The denominator represents the 5 year average of ISD incidence data for all HPB cancer in between 2013 and 2017.**

QPI 13 Target: 15%	NCA	SCAN	WoSCAN	Scotland
% (2018)	4.3%	2.3%	7.4%	5.3%
Numerator	18	10	58	86
Denominator	423	428	783	1634

No regions met the 15% target for patients consented for clinical trials. The overall national performance was 5.3%.

A list of active HPB clinical trials in 2018 is shown below.

- A Phase 1/1b Study of Paclitaxel in Combination with BOS172722, a Monopolar Spindle 1 Kinase Inhibitor, in Patients with Advanced Nonhaematologic Malignancies
- ACELARATE
- Artist 1
- BGB-A317-208: BGB-A317 in Hepatocellular Unresectable Carcinoma
- ECMC EXPLOR BIOMARKER
- ESPAC-4: European Study Group for Pancreatic Cancer - Trial 4
- ESPAC-5F: European Study Group for Pancreatic Cancer - Trial 5F
- FAK-PD1 v1
- FIGHT-202
- MEDIVIR MIV-818-101/201
- NCRN - 3131: EPOCH TheraSphere in Metastatic Colorectal Carcinoma of the Liver (TS102)
- NUC-3373 in Advanced Solid Tumours (NuTide: 301)
- PHITT
- PIONEER
- PrecisionPanc
- PRIMUS 001
- SCALOP-2: Systemic therapy and Chemoradiation in Advanced LOcalised Pancreatic cancer - 2
- The MENAC Trial
- TOFFEE Trial
- Tumour immunology; Biomarker analysis of a variety of tumour types, development of cell based assays representative of tumour microenvironment and histological tumour analysis

The PRECISION-PANC programme which includes the PRIMUS group of treatment trials is led from the WoSCAN and this is an exciting and potentially ground breaking development for patients with pancreatic disease. It is hoped that recruitment to both current PRIMUS trials and future PRIMUS trials, currently in development, will continue to build on this success and this will be indicated by increase in recruitment figures.

The NMCN distributes a 6 monthly newsletter which contains a list of clinical trials available in each of the five centres.

## 5. Conclusions

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.

Analysis of 2018 audit data demonstrates a continual commitment to provide an equitable and consistent standard of care for HPB cancer patients across Scotland. Improvements in data quality and completeness have been observed in recent years facilitating more meaningful data analysis and national comparison to help inform NMCN activity. The results presented illustrate that many of the QPI targets set have been challenging for NHS Boards to achieve, however it is noted that there is improved performance for some QPIs in 2018.

Some variance in performance does exist across the regions and, as per the agreed Regional governance process, each NHS Board was asked to complete a Performance Summary Report, providing a documented response where performance was below the QPI target. NHS Boards provided detailed comments indicating valid clinical reasons, or in some cases patient choice or co-morbidities, have influenced patient management. Remaining actions are summarised below and outlined in the main report under the relevant section.

The MCN 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 I.

### Action Required:

#### ***QPI 1: Multi-Disciplinary Team Meeting***

- All NHS Boards to continue to emphasise the important of patients being discussed at MDT prior to treatment.

#### ***QPI 2: Diagnosis and Staging of HCC***

- NMCN to replicate HCC and colorectal cancer liver metastasis (CRCLM) referral forms in each of the five centres and all Boards to ensure relevant data is captured for this measure.

#### ***QPI 3: Referral to Scottish Liver Transplant Unit***

- NHS Glasgow Greater and Clyde patients should be discussed verbally at the weekly HCC MDT.

#### ***QPI 5: 30 and 90 Day Mortality after Curative or Palliative Treatment for HCC***

- NMCN to coordinate the first national SACT Morbidity and Mortality review for Oncologists.

#### ***QPI 6: Radiological Diagnosis of Pancreatic, Duodenal or Biliary Tract Cancer***

- NMCN to propose an amendment at Formal Review to remove the requirement for CT chest in this group of patients.

#### ***QPI 9: Resection Rate for Pancreatic, Duodenal or Biliary Tract Cancer***

- NMCN to propose that this QPI is archived at Formal Review as it no longer provides meaningful outcome data.

***QPI 11: 30 and 90-day Mortality after Curative or Palliative treatment for Pancreatic, Duodenal or Distal Biliary Tract Cancer***

- NMCN to coordinate the first national SACT Morbidity and Mortality review for Oncologists.

***QPI 12: Volume of Cases per Centre/Surgeon***

- NMCN to explore options for more collaborative working and to consider a review of services across Scotland.

**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 SHPBN and any service or clinical issue which the SHPBN 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, and nationally on a three-yearly basis to Healthcare Improvement Scotland as part of the governance processes set out in CEL 06 (2012).

## **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

<b>AA</b>	NHS Ayrshire & Arran
<b>ACaDMe</b>	Acute Cancer Deaths and Mental Health
<b>ARI</b>	Aberdeen Royal Infirmary
<b>BWoSCC</b>	Beatson West of Scotland Cancer Centre
<b>CBD</b>	Common Bile Duct
<b>CEL(-06)</b>	Chief Executive Letter (-06)
<b>CT</b>	Computerised tomography
<b>D&amp;G</b>	NHS Dumfries & Galloway
<b>eCASE</b>	Electronic Cancer Audit Support Environment
<b>FV</b>	NHS Forth Valley
<b>GGC</b>	NHS Greater Glasgow and Clyde
<b>GGH</b>	Gartnavel General Hospital
<b>GRI</b>	Glasgow Royal Infirmary
<b>HCC</b>	Hepatocellular Carcinoma
<b>HIS</b>	Healthcare Improvement Scotland
<b>HPB</b>	HepatoPancreatoBiliary
<b>ISD</b>	Information Services Division
<b>Lan</b>	NHS Lanarkshire
<b>MCN</b>	Managed Clinical Network
<b>MDT</b>	Multidisciplinary Team
<b>M&amp;M</b>	Morbidity and Mortality
<b>MRI</b>	Magnetic Resonance Imaging
<b>NCQSG</b>	National Cancer Quality Steering Group
<b>NHSBT</b>	NHS Blood and Transplant
<b>NHSGGC</b>	NHS Greater Glasgow and Clyde
<b>NMCN</b>	National Managed Clinical Network
<b>NCA</b>	North Cancer Alliance
<b>QEUH</b>	Queen Elizabeth University Hospital
<b>QPI(s)</b>	Quality Performance Indicator(s)
<b>RCAG(s)</b>	Regional Cancer Advisory Group(s)
<b>RIE</b>	Royal Infirmary of Edinburgh
<b>SACT</b>	Systemic Anti-Cancer Therapy
<b>SCAN</b>	South East Scotland Cancer Network
<b>SHPBN</b>	Scottish Hepatopancreatobiliary Network
<b>SLTU</b>	Scottish Liver Transplant Unit
<b>TACE</b>	Trans-arterial chemoembolisation

<b>TNM</b>	Tumour, Nodes, Metastases (staging system)
<b>WGH</b>	Western General Hospital
<b>WoSCAN</b>	West of Scotland Cancer Network



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## Appendix I: 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

<b>Area:</b>	Aberdeen Centre/ NHS Grampian, NHS Orkney and NHS Shetland
<b>Action Plan Lead:</b>	
<b>Date:</b>	

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

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	<i>Ensure actions mirror those detailed in Audit Report.</i>	<i>Detail specific actions that will be taken by the NHS Board.</i>	<i>Insert date</i>	<i>Insert date</i>	<i>Insert name of responsible lead for each specific action.</i>	<i>Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.</i>	<i>Insert No. from key above.</i>
<b>1</b>	All NHS Boards to continue to emphasise the important of patients being discussed at MDT prior to treatment.						

## Action / Improvement Plan

<b>Area:</b>	Inverness Centre/ NHS Highland and NHS Western Isles
<b>Action Plan Lead:</b>	
<b>Date:</b>	

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

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	<i>Ensure actions mirror those detailed in Audit Report.</i>	<i>Detail specific actions that will be taken by the NHS Board.</i>	<i>Insert date</i>	<i>Insert date</i>	<i>Insert name of responsible lead for each specific action.</i>	<i>Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.</i>	<i>Insert No. from key above.</i>
<b>1</b>	All NHS Boards to continue to emphasise the important of patients being discussed at MDT prior to treatment.						

## Action / Improvement Plan

<b>Area:</b>	Dundee Centre/ NHS Tayside
<b>Action Plan Lead:</b>	
<b>Date:</b>	

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

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	<i>Ensure actions mirror those detailed in Audit Report.</i>	<i>Detail specific actions that will be taken by the NHS Board.</i>	<i>Insert date</i>	<i>Insert date</i>	<i>Insert name of responsible lead for each specific action.</i>	<i>Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.</i>	<i>Insert No. from key above.</i>
<b>1</b>	All NHS Boards to continue to emphasise the important of patients being discussed at MDT prior to treatment.						

## Action / Improvement Plan

<b>Area:</b>	Edinburgh Centre/ NHS Borders, NHS Dumfries & Galloway, NHS Fife, NHS Forth Valley and NHS Lothian
<b>Action Plan Lead:</b>	
<b>Date:</b>	

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

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	<i>Ensure actions mirror those detailed in Audit Report.</i>	<i>Detail specific actions that will be taken by the NHS Board.</i>	<i>Insert date</i>	<i>Insert date</i>	<i>Insert name of responsible lead for each specific action.</i>	<i>Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.</i>	<i>Insert No. from key above.</i>
<b>1</b>	All NHS Boards to continue to emphasise the important of patients being discussed at MDT prior to treatment.						

## Action / Improvement Plan

<b>Area:</b>	Glasgow Centre/ NHS Ayrshire & Arran, NHS Greater Glasgow & Clyde, NHS Lanarkshire
<b>Action Plan Lead:</b>	
<b>Date:</b>	

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

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	<i>Ensure actions mirror those detailed in Audit Report.</i>	<i>Detail specific actions that will be taken by the NHS Board.</i>	<i>Insert date</i>	<i>Insert date</i>	<i>Insert name of responsible lead for each specific action.</i>	<i>Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.</i>	<i>Insert No. from key above.</i>
<b>1</b>	All NHS Boards to continue to emphasise the important of patients being discussed at MDT prior to treatment.						
<b>3</b>	NHS Glasgow Greater and Clyde patients should be discussed verbally at the weekly HCC MDT.						

## Action / Improvement Plan

Area:	HPB NMCN
Action Plan Lead:	
Date:	

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			
	<i>Ensure actions mirror those detailed in Audit Report.</i>	<i>Detail specific actions that will be taken by the NHS Board.</i>	<i>Insert date</i>	<i>Insert date</i>	<i>Insert name of responsible lead for each specific action.</i>	<i>Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.</i>	<i>Insert No. from key above.</i>
2	NMCN to replicate HCC and colorectal cancer liver metastasis (CRCLM) referral forms in each of the five centres and all Boards to ensure relevant data is captured for this measure.						
5	NMCN to coordinate the first national SACT Morbidity and Mortality review for Oncologists.						
6	NMCN to propose an amendment at Formal Review to remove the requirement for CT chest in this group of patients.						
9	NMCN to propose that this QPI is archived at Formal Review as it no longer provides meaningful outcome data.						
11	NMCN to organise first SACT Morbidity and Mortality review for Oncologists.						
12	NMCN to explore options for more collaborative working and to consider a review of services across Scotland.						

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