

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

**HepatoPancreatoBiliary Cancers
National Managed Clinical Network**



Audit Report

Report of the 2020 Clinical Audit Data

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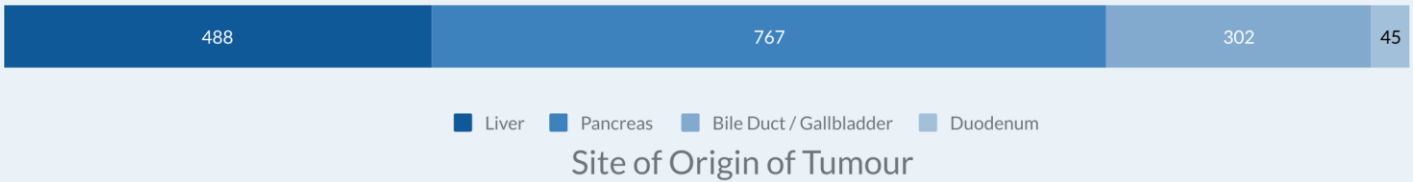
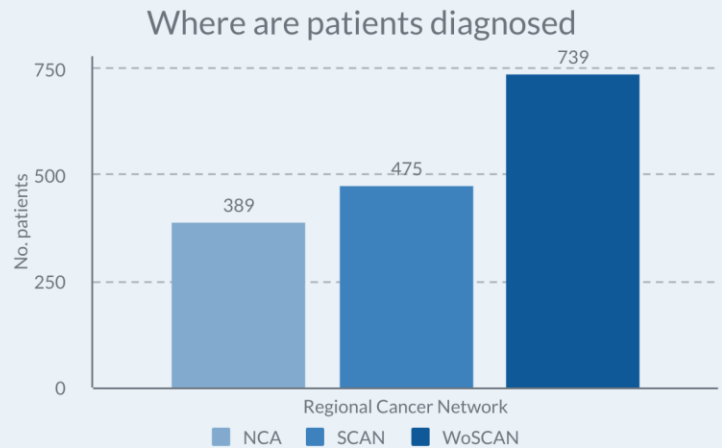
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HPB Cancer QPI Overview

Patients diagnosed Jan - Dec 2020

Number of patients	1603
Median Age	73
Gender of patients:	
Male	58%
Female	42%



Performance (%)

Target
Performance
2020

QPI 1: MDT meeting

95%
93%

QPI 2: Diagnosis and Staging of HCC

(i) 90% (ii) 90% (iii) 90%
97% 72% 59%

QPI 3: Referral to Scottish Liver Transplant Unit

90%
88%

QPI 4: Palliative Treatment for HCC

40%
41%

QPI 5: 30 Day Mortality after Curative Treatment for HCC

(i) <5% (ii) <5% (iii) <5%
14% 0% 0%

QPI 5: 90 Day Mortality after Curative Treatment for HCC

(i) <7.5% (ii) <7.5% (iii) <7.5%
17% 0% 3%

QPI 5: 30 Day Mortality after Palliative TACE for HCC

<10%
1%

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

95%
97%

QPI 7: Pathological Diagnosis of Pancreatic, Duodenal or Biliary Tract Cancer

90%
91%

QPI 10: Lymph Node Yield

15
22

QPI 11: 30 & 90 Day Mortality following Resection for Pancreatic, Duodenal or Biliary Tract Cancer

30 <5% 90 <7.5%
4% 8%

QPI 12: Volume of Cases per Centre / Surgeon

(i) 11 (ii) 4
4 of 5 centres 11 of 23 surgeons

QPI 13: Clinical Trial and Research Study Access

15%
8%

QPI 15: Access to Oncology Services for Inoperable Pancreatic, Duodenal or Biliary Tract Cancer

50%
26%

QPI 16: Key Worker

95%
42%

QPI 17: 30 Day Mortality following treatment for Colorectal Cancer Liver Metastases

(i) <5% (ii) <5%
1% 3%

QPI 17: 90 Day Mortality following treatment for Colorectal Cancer Liver Metastases

(i) <7.5% (ii) <7.5%
6% 3%

Key Achievements:

- Service was maintained in nearly all areas measured throughout the COVID-19 pandemic.

Areas for Improvement:

- Timely access to oncology services and a key worker for patients across Scotland.

Executive Summary

Introduction

This report contains an assessment of performance of HepatoPancreatoBiliary (HPB) Cancer Services relating to patients diagnosed across Scotland during 2020.

In order to ensure the success of the Cancer Quality Performance Indicators (QPIs) in driving quality improvement in cancer care, QPIs will continue to be assessed for clinical effectiveness and relevance. Formal reviews of the HPB cancer QPIs took place in 2017 and 2020. These clinically led reviews aim to identify potential refinements to the current QPIs and involve key clinicians from each of the Regional Cancer Networks. All amendments made in the 2020 review are reported within this report for the first time, including new QPIs relating to oncology services (QPI 15) and key workers (QPI 16).

Results

A summary of the HPB cancer QPI performance for the 2020 audit period 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.

Summary of performance against HPB QPIs

Colour Key	
	Above QPI target
	Below QPI target
	No comparable measure from previous year
-	No patients / less than 5 patients included in denominator

Quality Performance Indicator (QPI)	Performance by NHS Board					
	Target	Year	NoS	SCAN	WoSCAN	Scotland
QPI 1: Proportion of patients with HPB cancer who are discussed at MDT meeting before definitive treatment.	95%	2020	94.6%	94.0%	90.8%	92.7%
		2019	93.2%	90.8%	89.3%	90.7%
		2018	91.0%	90.3%	82.2%	86.6%
QPI 2(i) Proportion of patients with HCC who have undergone computerised tomography (CT) or Magnetic Resonance Imaging (MRI).	90%	2020	100%	91.5%	98.4%	96.6%
		2019	97.5%	95.9%	99.0%	97.8%
		2018	96.5%	90.9%	100%	96.5%
QPI 2 (ii) Proportion of patients with HCC who have undergone computerised tomography (CT) or Magnetic Resonance Imaging (MRI) with full information recorded.	90%	2020	78.1%	57.5%	77.6%	71.7%
		2019	78.8%	36.9%	81.2%	67.3%
		2018	84.1%	37.3%	84.7%	68.8%
QPI 2 (iii) Proportion of patients with HCC who have undergone computerised tomography (CT) or Magnetic Resonance Imaging (MRI) who are assigned a BCLC Score.	90%	2020	73.4%	20.8%	76.0%	58.9%
		2019				
		2018				
*QPI 3: 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.	90%	2020	100%	100%	78.2%	87.8%
		2019	100%	97%	84.3%	89.2%
		2018	100%	100%	85.1%	90.7%
*QPI 4: Proportion of patients with HCC not suitable for treatment with curative intent that undergo specific treatment with palliative intent (TACE, SACT or radiotherapy).	40%	2020	44.9%	45.1%	38.2%	41.4%
		2019	42.6%	33.3%	43.3%	40.1%
		2018	44.1%	42.0%	48.2%	45.6%
*†QPI 5a: Proportion of patients with HCC undergoing disease specific treatment who die within 30 days of liver transplant.	< 5%	2020	-	14.3%	-	14.3%
		2019	-	0%	-	0%
		2018	-	0%	-	0%

Quality Performance Indicator (QPI)	QPI target	Year	NoS	SCAN	WoSCAN	Scotland
*†QPI 5a: Proportion of patients with HCC undergoing disease specific treatment who die within 90 days of liver transplant.	< 7.5%	2020	-	16.7%	-	16.7%
		2019	-	0%	-	0%
		2018	-	0%	-	0%
*†QPI 5b: Proportion of patients with HCC undergoing disease specific treatment who die within 30 days of resection.	< 5%	2020	-	0%	-	0%
		2019	0%	0%	-	0%
		2018	0%	0%	-	0%
*†QPI 5b: Proportion of patients with HCC undergoing disease specific treatment who die within 90 days of resection.	< 7.5%	2020	-	0%	-	0.0%
		2019	20.0%	0%	-	5.3%
		2018	0%	0%	-	0%
*†QPI 5c: Proportion of patients with HCC undergoing disease specific treatment who die within 30 days of ablation.	< 5%	2020	-	0%	0%	0%
		2019	-	0%	0%	0%
		2018	0%	0%	0%	0%
*†QPI 5c: Proportion of patients with HCC undergoing disease specific treatment who die within 90 days of definitive treatment ablation.	< 7.5%	2020	-	5%	0.0%	2.7%
		2019	-	0%	3.3%	2.0%
		2018	0%	0%	4.2%	2.4%
*†QPI 5d: Proportion of patients with HCC undergoing disease specific treatment who die within 30 days of TACE.	< 10%	2020	9.1%	0%	0%	1.2%
		2019	7.7%	0%	0%	1.1%
		2018	0%	2.8%	2.6%	2.4%
QPI 6: Proportion of patients with pancreatic, duodenal or biliary tract cancer who undergo CT of the abdomen prior to first treatment.	95%	2020	94.7%	96.8%	98.5%	97.0%
		2019				
		2018				
*QPI 7: Proportion of patients with pancreatic, duodenal or biliary tract cancers undergoing non-surgical treatment who have a cytological or histological diagnosis.	90%	2020	93.6%	88.6%	90.0%	90.8%
	75%	2019	81.0%	85.2%	98.8%	93.4%
		2018	82.8%	89.7%	96.6%	91.3%

Quality Performance Indicator (QPI)	QPI target	Year	NoS	SCAN	WoSCAN	Scotland
*†QPI 10: Average number of lymph nodes resected and pathologically examined per patient with pancreatic, duodenal or distal biliary tract cancer who undergo pancreatoduodenectomy performed by a specialist centre over a 1 year period.	Average of 15 nodes per patient	2020	20	21	24	22
		2019	21	22	24	23
		2018	20	17	27	21
*†QPI 11(i): 30-day mortality after surgical resection for pancreatic, duodenal or distal biliary tract cancer.	< 5%	2019	9.7%	4.5%	0%	4.3%
		2018	4.3%	3.4%	6.3%	4.8%
		2017	0%	0%	0%	0%
*†QPI 11(i): 90-day mortality after surgical resection for pancreatic, duodenal or distal biliary tract cancer.	< 7.5%	2020	9.7%	4.5%	7.7%	7.6%
		2019	16.0%	2.9%	0.0%	5.2%
		2018	4.3%	3%	7%	4.9%
*†QPI 12a: Number of surgical resections for pancreatic, duodenal or distal biliary tract cancer performed by a specialist centre over a 1 year period.	11 per centre per year	2020	2 met 1 not met	22	39	4 met 1 not met
		2019	1 met 2 not met	34	37	3 met 2 not met
		2018	1 met 2 not met	29	31	3 met 2 not met
*†QPI 12b: Number of surgical resections for pancreatic, duodenal or distal biliary tract cancer performed by each surgeon over a 1 year period.	4 per surgeon per year	2020	3 met 5 not met	3 met 6 not met	5 met 1 not met	11 met 12 not met
		2019	4 met 5 not met	6 met 3 not met	4 met 1 not met	14 met 9 not met
		2018	4 met 3 not met	4 met 4 not met	4 met 1 not met	12 met 8 not met
QPI 13: Proportion of patients diagnosed with HPB cancer who are consented for a clinical trial / research study	15%	2020	4.2%	6.2%	11.2%	8.1%
		2019	5.0%	1.6%	14.7%	8.7%
		2018	4.3%	2.3%	7.4%	5.3%
QPI 15: Proportion of patients with pancreatic, duodenal or biliary tract cancer not undergoing surgery who are seen by an oncologist (or offered an oncology clinic appointment) within 6 weeks of initial diagnostic CT scan.	50%	2020	29.0%	34.4%	18.7%	25.6%
		2019				
		2018				

Quality Performance Indicator (QPI)	QPI target	Year	NoS	SCAN	WoSCAN	Scotland
QPI 16: Proportion of patients with HCC who have an identified key worker at the time of referral to the MDT.	95%	2020	86.6%	44.3%	24.6%	42.1%
		2019				
		2018				
*†QPI 17a: Proportion of patients with CRLM undergoing curative treatment (resection) who die within 30 days of treatment	< 5%	2020	0.0%	1.9%	-	1.4%
		2019	0.0%	0.0%	-	0.0%
		2018				
*†QPI 17b: Proportion of patients with CRLM undergoing curative treatment (resection) who die within 90 days of treatment	< 7.5%	2020	0.0%	7.7%	-	5.6%
		2019	3.2%	0.0%	-	1.1%
		2018				
*†QPI 17a: Proportion of patients with CRLM undergoing curative treatment (ablation) who die within 30 days of treatment	< 5%	2020	0.0%	10.0%	0.0%	3.4%
		2019	0.0%	0.0%	0.0%	0.0%
		2018				
*†QPI 17b: Proportion of patients with CRLM undergoing curative treatment (ablation) who die within 90 days of treatment	< 7.5%	2019	0.0%	10.0%	0.0%	3.4%
		2019	0.0%	0.0%	0.0%	0.0%
		2018				

**Small numbers in some Boards/Regions - percentage comparisons over a single year should be viewed with caution.*

† QPIs reported by Board of surgery / Non-surgical treatment

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 (SHPBN) 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.

We continue to reach the target across many of the QPIs each year which is credit to all the teams for their hard work in developing a consistent service for our patients across the country despite the challenges of the COVID pandemic. It is encouraging to see a significant improvement in some of the QPIs that we have consistently struggled with, for example for QPI 2 (ii) (recording of full information following imaging for HCC patients); although not yet reaching the target the results are promising.

This is the first year new measures 2(iii) (recording of BLCL score), QPI 15 (access to oncological services) and QPI 16 (key worker) have been reported. As expected this has identified variation across the country and understandably there will be some initial issues around recording. Over the next few years we hope to address this and improve.

We recognise that some QPIs continue to be challenging for some units, such as QPI 12 (surgical volumes). This has been acknowledged, discussed at the SHPBN National M&M meeting and methods to address this are being considered.

The Network continues to work collaboratively with a multidisciplinary approach to meet the QPI targets, and provide the highest quality of care to all our HPB cancer patients across Scotland.

Action Required:

- All NHS Boards to ensure that each patient not discussed at MDT before definitive treatment is individually reviewed.
- Glasgow centre joint leads to write to the Chief of Medicine in NHSGGC to remind clinicians to refer all patients to the MDT upon diagnosis, even if just for registration purposes.
- NHS Highland to communicate with emergency receiving teams across medical and surgical disciplines the need to refer patients to the MDT, even if the patient is not wishing to receive treatment.
- NMCN to monitor performance against QPI 2(ii) following implementation of the Scottish Government funded improvement project to coordinate HPB cancer patient care.
- NHS Glasgow Greater and Clyde to ensure all patients meeting the criteria for liver transplant will be discussed with the SLTU at the joint WoS HCC MDT and where there is agreement that patients are not suitable for formal referral to the SEoS HPB MDT this will be documented in the MDT outcome.
- All surgical centres to ensure that surgeons undertake an adequate number of surgical procedures each year.
- NMCN, in conjunction with NHS Boards, to review the referral pathway for oncology intervention to ensure that all patients requiring oncology review or treatment are offered a timely oncology clinic appointment.

- NHSGGC to determine how the role of the key worker will be resourced and supported across the Board supporting, where appropriate, the progression of already developed business cases for CNSs.
- NHS Lothian to explore additional resource to secure CNS support for all HCC patients.
- NHS A&A, NHS Borders, NHS Fife, NHS Grampian and NHS Lanarkshire to ensure timely referral of all HCC patients to CNSs.

NHS Boards are asked to develop local Action/Improvement Plans in response to the findings presented in the report. **Completed Action Plans should be returned to WoSCAN within two months of publication of this report.**

Please note actions have been categorised into groupings (for example surgery, oncology, pathology or data capture) for internal management purposes to allow regional trends to be identified and co-ordinate regional actions across multiple tumour groups where appropriate.

Progress against these plans will be monitored by the MCN Advisory Board and any service or clinical issue which the Advisory Board considers not to have been adequately addressed will be escalated to the NHS Board Territorial Lead Cancer Clinician and Regional Lead Cancer Clinician. Additionally, progress will be reported annually to the Regional Cancer Advisory Group (RCAG) by NHS Board Territorial Lead Cancer Clinicians and MCN 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).

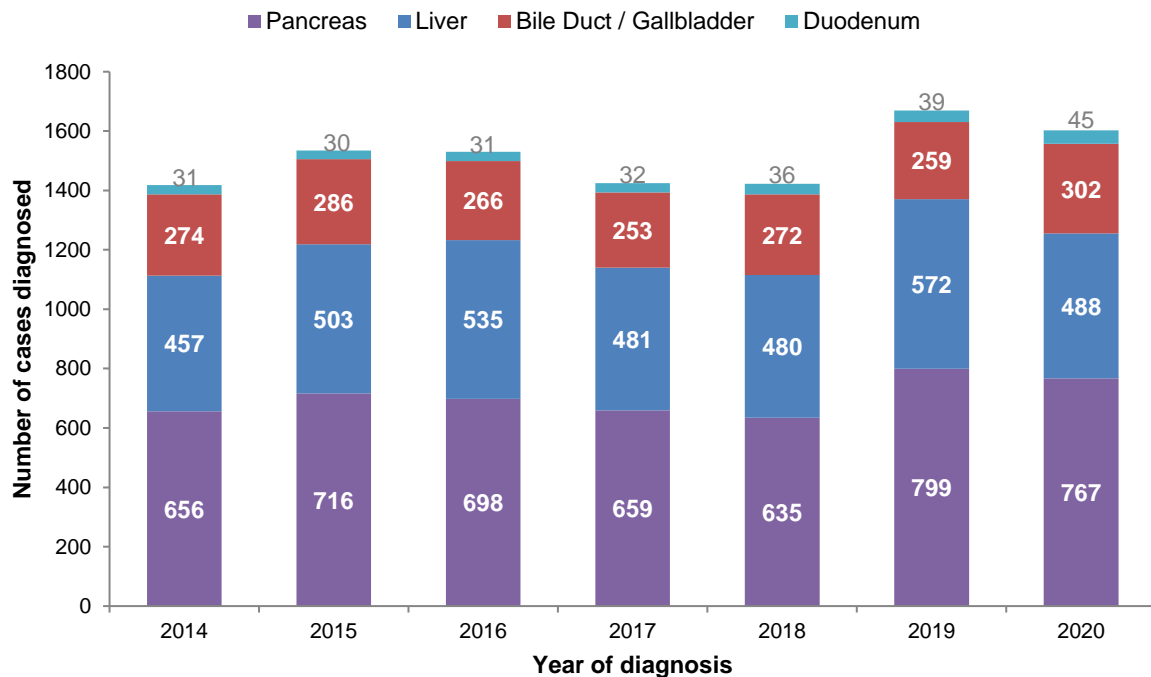
1. Introduction

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 2020 through clinical audit data and to provide a summary of performance against the HPB cancer Quality Performance Indicators (QPIs). Regular reporting of activity and performance is a fundamental requirement of an NMCN to assure the quality of care delivered across the country and these audit data underpin much of the regional and national service improvement and development work of the network.

In order to ensure the success of the National Cancer QPIs in driving quality improvement in cancer care across NHS Scotland it is critical that the QPIs continue to be clinically relevant and focus on areas which will result in improvements to the quality of patient care. A programme of formal reviews of all QPIs was implemented whereby all tumour specific QPIs were reviewed following three years of comparative reporting. Formal reviews of the HPB cancer QPIs were undertaken in 2017 and 2020, with the revised QPIs (v4.0) published in May 2020¹. Performance reported within this report was measured against v4.0 of the HPB cancer QPIs¹, the first time that all of the amendments have been reported, including new QPIs relating to oncology services (QPI 15) and key workers (QPI 16).

2. Background

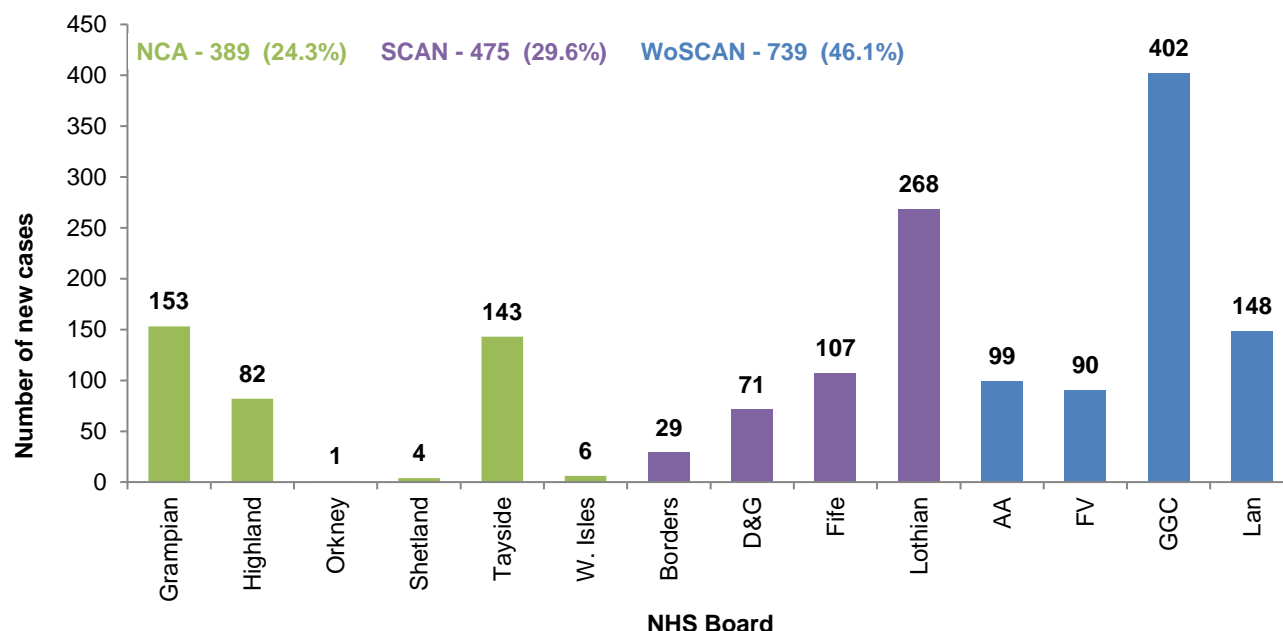
HPB cancers are a rare group of cancers. In 2020, the audit identified 1,603 patients diagnosed with a new primary cancer of the liver, pancreas, bile duct, gallbladder or duodenum in Scotland. Pancreatic cancer accounted for almost half of all HPB cancer diagnoses (48.5%). The figure below illustrates the proportion of new cases of each HPB cancer type diagnosed in Scotland over the last seven years.



Numbers of new cases of each HPB cancer type diagnosed in Scotland from 2014 to 2020. The data labels represent the corresponding number of new cases diagnosed.

The distribution of the 1,603 patients diagnosed in 2020 across the fourteen Scottish NHS Boards is presented below. The West of Scotland Cancer Network (WoSCAN) is the most populous of the three

Regional Cancer Networks in Scotland and, with 739 patients diagnosed in WoS in 2020, represents almost half of all HPB cancer diagnoses in Scotland (46.1%). 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 Boards².



Number of new cases diagnosed with HPB cancer within each NHS Board across Scotland in 2020.

The table below details the five HPB cancer centres in Scotland. These are considered the centres for specialist treatment, which includes surgery, interventional radiology (ablation and trans-arterial chemoembolisation (TACE)) and systemic anti-cancer therapy (SACT). 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.

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 (QEUH – TACE) and Beatson West of Scotland Cancer Centre (BWoSCC – SACT and radiotherapy)
Inverness	Raigmore Hospital

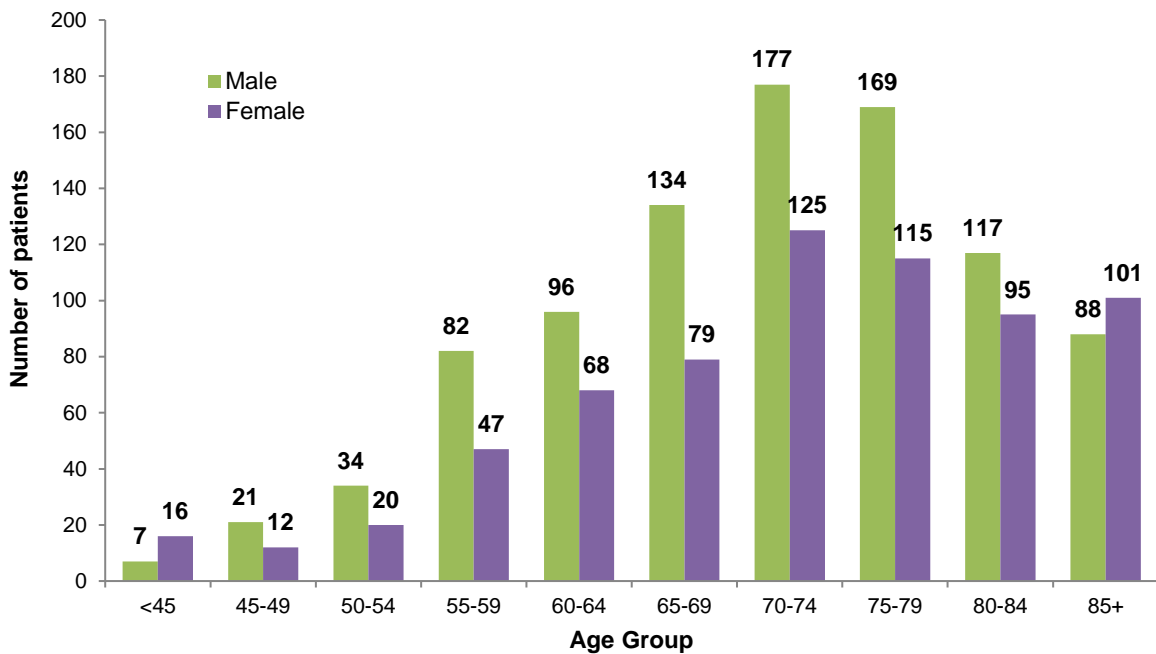
* NB as well as patients diagnosed in SCAN, patients diagnosed in NHS Forth Valley (WoSCAN) are also referred to the Edinburgh HPB MDT

In Scotland, liver cancer is the eleventh most common cancer in males and sixteenth in females³. The incidence of liver cancer is rising and the last decade has seen the increases in incidence of 24.4% and 44.0% in males and females respectively³. The percentage frequency of liver cancer is however relatively low at 1.9% of all cancer types³. Liver cancer was ranked as the seventh most common cause

of death from cancer in 2019, and the 10-year percentage change in mortality rates show significant increases of 42.8% and 49.1% for males and females respectively.

Pancreatic cancer is the tenth most common cancer in males and seventh in females³. The incidence of pancreatic cancer is rising and the last decade has seen the overall incidence of pancreatic cancer increase by 1.8% in Scotland³. Whilst pancreatic cancer is relatively rare (accounting for 2.8% of all cancers), it remains the sixth most common cause of death from cancer in Scotland³. 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 an improvement in the 1-year (Net age-standardised) survival in the last twenty years however survival rates remain low at 25.4% in males and 15.5% in females for patients diagnosed in 2013-2017; 5-year net relative survival is 5.9% in males and 4.5% in females⁴.

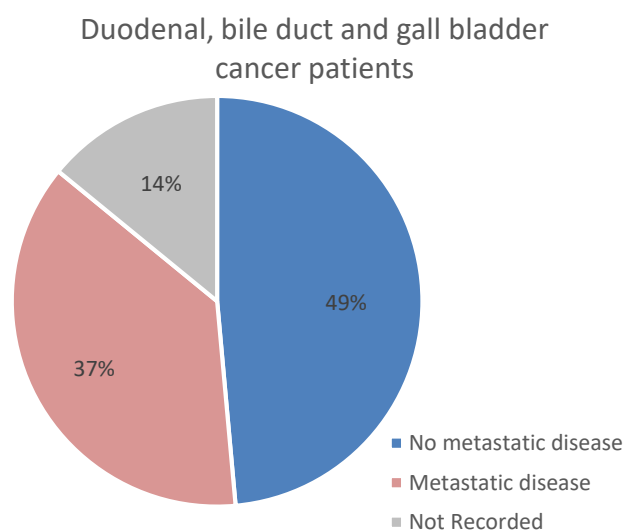
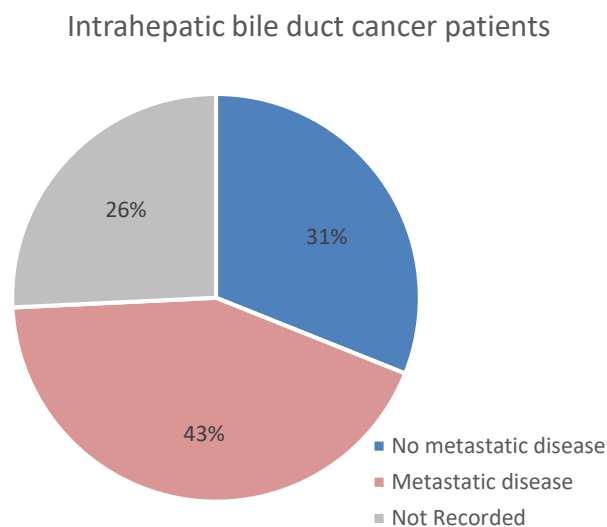
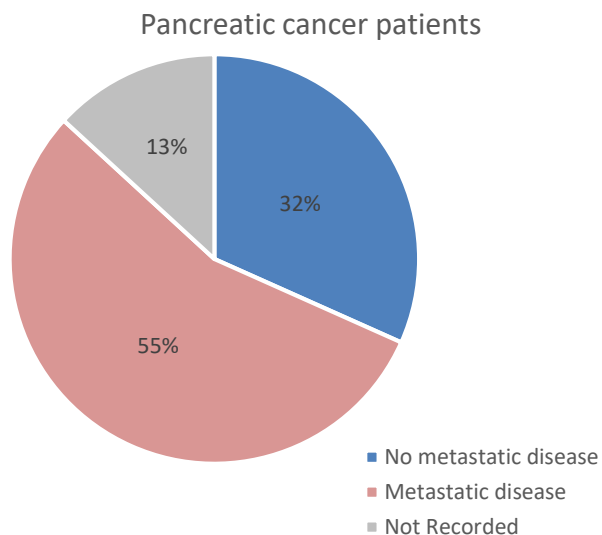
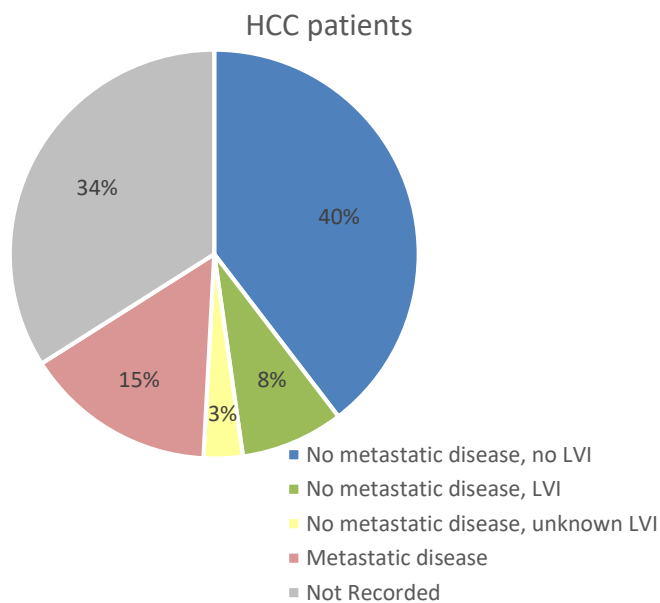
HPB cancers occur most frequently later in life. The figure below illustrates the number of new cases in 2020 by age group and sex. There are more than 4 males diagnosed for every 3 females and the incidence of HPB cancers is higher in males in most age groups. As women live longer than men, the total 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 (25.1%).



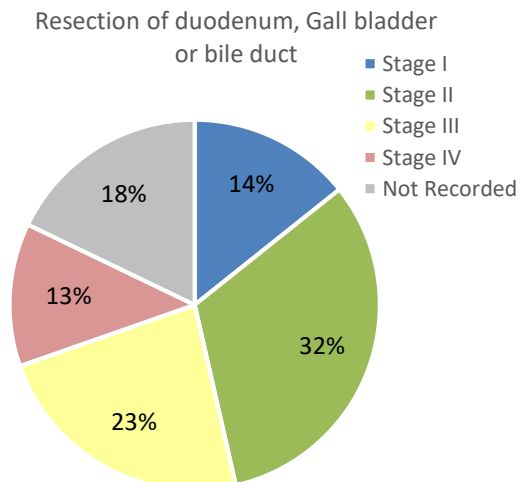
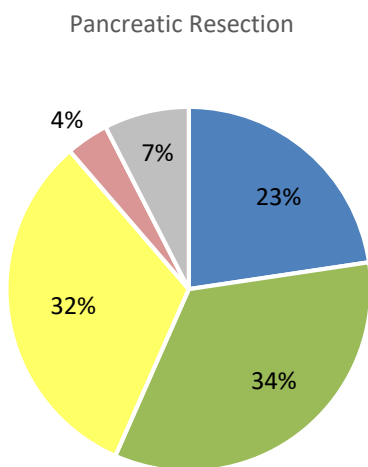
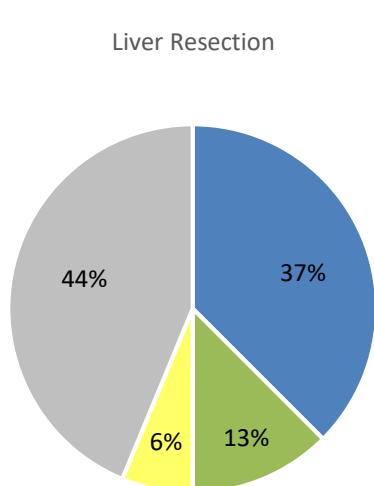
Number of new cases diagnosed with HPB cancer in Scotland in 20 by age group and sex.

Stage

Proportion of patients that had metastatic disease is shown in the charts below; for HCC information on lymphovascular invasion is also included where available.

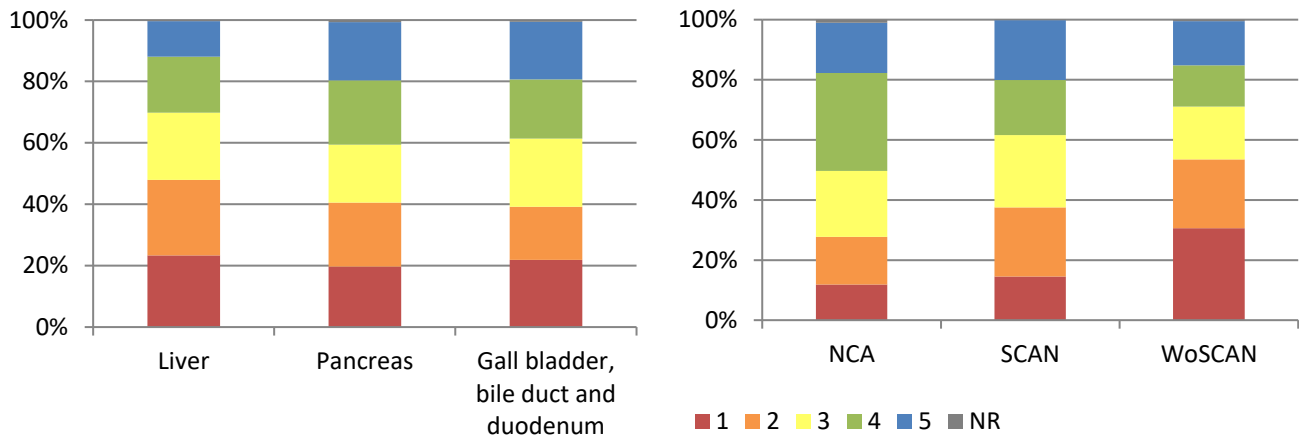


TNM staging for those patients that had surgical resection is shown below.



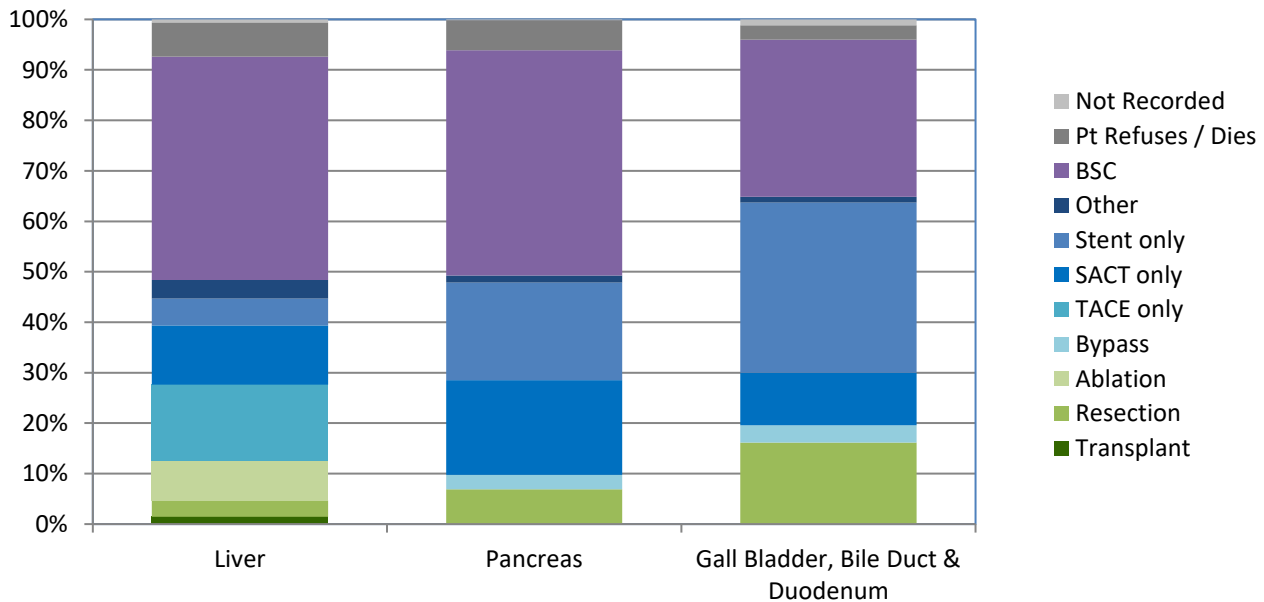
Deprivation

The figures below shows the Scottish Index of Multiple Deprivation (SIMD) 2020 quintiles for patients diagnosed with HPB cancer comparing site of disease and region of diagnosis; with 1 equating to the most deprived postcodes and 5 equating to the least deprived.



Treatment

Figure 5 shows the type of treatment HPB cancer patients receive across Scotland during their first episode of care following diagnosis. Overall 11% of all patients received treatment with curative intent (transplant, resection or ablation), 42% received palliative treatment while a further 47% received no active treatment.



3. Methodology

Further detail on the audit and analysis methodology and data quality is available in the meta data within appendix 1.

4. Results and Action Required

Results for each QPI are shown in detail in the following sections. Data are presented by location of diagnosis and illustrate NHS Board or treatment centre performance against each target and overall regional performance for each performance indicator.

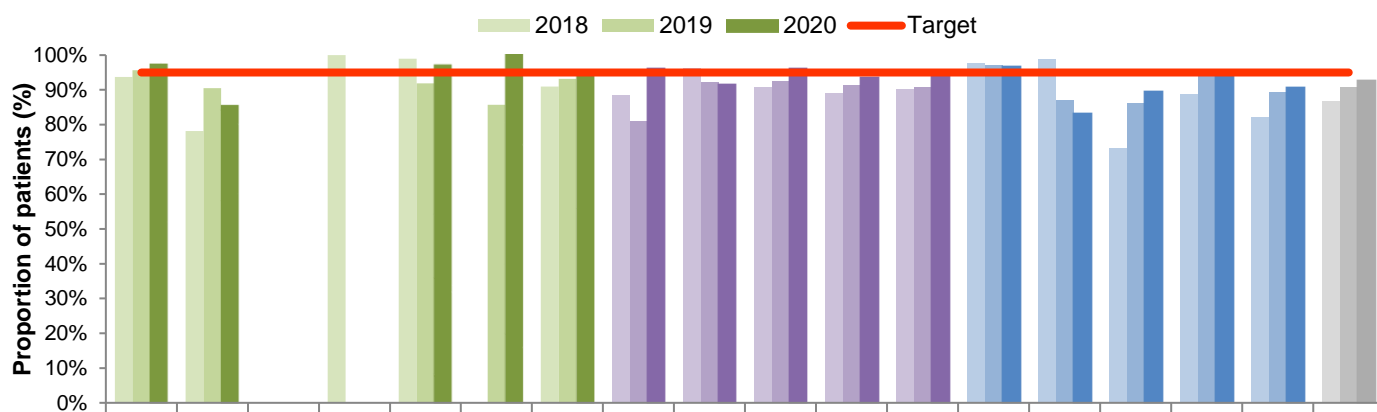
Data are presented by location of diagnosis or treatment. Where the number of cases meeting the denominator criteria for any indicator is between one and four, the percentage calculation has not been shown on any associated charts or tables. This is to avoid any unwarranted variation associated with small numbers and to minimise the risk of disclosure. Any tables impacted by this restricted data are denoted with a dash (*). An asterisk (-) is used to specify a denominator of zero. 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. The tolerance allows for patients who need urgent treatment¹.

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

The figure below shows a summary of the results for QPI 1 by NHS Board of diagnosis for the three most recent years of audit data (2018 to 2020). For patients diagnosed in 2020 a more detailed breakdown of the results is shown in the table underneath.



2020 data	Grampian	Highland	Orkney	Shetland	Tayside	W Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	A&A	Forth Valley	GGC	Lanarkshire	WoSCAN	Scotland
Numerator	144	69	*	*	130	6	353	26	65	98	249	438	91	70	355	127	643	1434
Denominator	148	81	*	*	134	6	373	27	71	102	266	466	94	84	396	134	708	1547
Performance (%)	97.3	85.2	*	*	97.0	100	94.6	96.3	91.5	96.1	93.6	94.0	96.8	83.3	89.6	94.8	90.8	92.7

Eight of the fourteen NHS Boards met the 95% target; however the target not being met at a national level nor by any individual region. The overall national performance shows an improvement in each of the last two years with 92.7% of patients being discussed at MDT before definitive treatment.

NHS Boards not achieving the target have reviewed patients not discussed at MDT before definitive treatment; the main reason for patients not meeting the QPI was that patients were considered to be for supportive care only and either did not require MDT discussion or had stent insertion to relieve symptoms prior to MDT discussions. Within NHS Forth Valley the majority of patients not meeting this

QPI had stents inserted prior to MDT discussions to prevent unnecessary distress prior to surgery, while in NHSGGS and NHS Highland most patients not meeting the QPI were not discussed at MDT. In NHSGGC clinical review of patients indicated that care provided was the same as the MDT would have recommended as all patients were unsuitable for active treatment due to the advanced nature of either their malignancy, liver disease or had significant co-morbidities. Additional patients did not meet the QPI due to dying shortly after diagnosis, HPB cancer being an incidental finding following surgery or patients requiring emergency treatment prior to MDT discussion. Similarly, review of patients not meeting the QPI in NHS Highland indicated these were largely patients that were not suitable for, or declined, active treatment; it was noted that three quarters of these patients were emergency admissions.

The MCN is assured by these data that, in the main, patients undergoing active treatment are discussed and considered by the MDT, however ongoing clinical review of individual patients not meeting this QPI is required to ensure that patients are appropriately discussed at MDT. While performance in NHSGGC has improved in recent years the board is continuing to work with clinicians to further improve performance in this area and encourage all clinicians to refer all patients to the MDT upon diagnosis, even where it is just for registration purposes. Similarly, NHS Highland will communicate with emergency receiving teams across medical and surgical disciplines the need to refer patients to the MDT, even if the patient is not wishing to receive treatment.

Action Required:

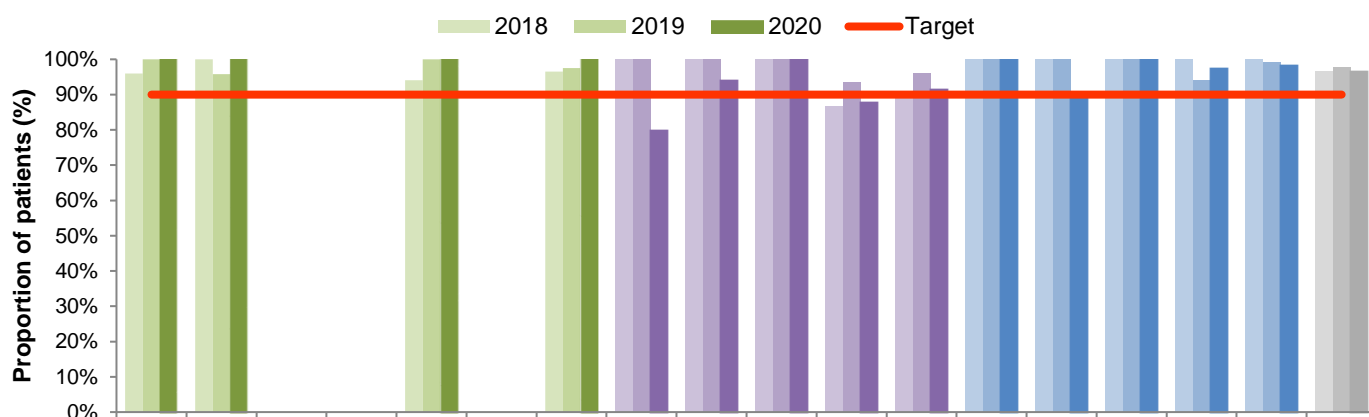
- **All NHS Boards to ensure that each patient not discussed at MDT before definitive treatment is individually reviewed.**
- **Glasgow centre joint leads to write to the Chief of Medicine in NHSGGC to remind clinicians to refer all patients to the MDT upon diagnosis, even if just for registration purposes.**
- **NHS Highland to communicate with emergency receiving teams across medical and surgical disciplines the need to refer patients to the MDT, even if the patient is not wishing to receive 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 disease¹. 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. 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 treatment¹.

QPI 2:	Patients with Hepatocellular Carcinoma (HCC) should be appropriately diagnosed and staged.
Description:	Proportion of patients with HCC who have undergone computerised tomography (CT) or Magnetic Resonance Imaging (MRI) and with full information recorded.
Numerator:	(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. (iii) Number of patients with HCC undergoing either CT or MRI prior to first treatment who are assigned a BCLC Score.
Denominator:	All patients with HCC.
Exclusions:	No exclusions.
Target:	90%

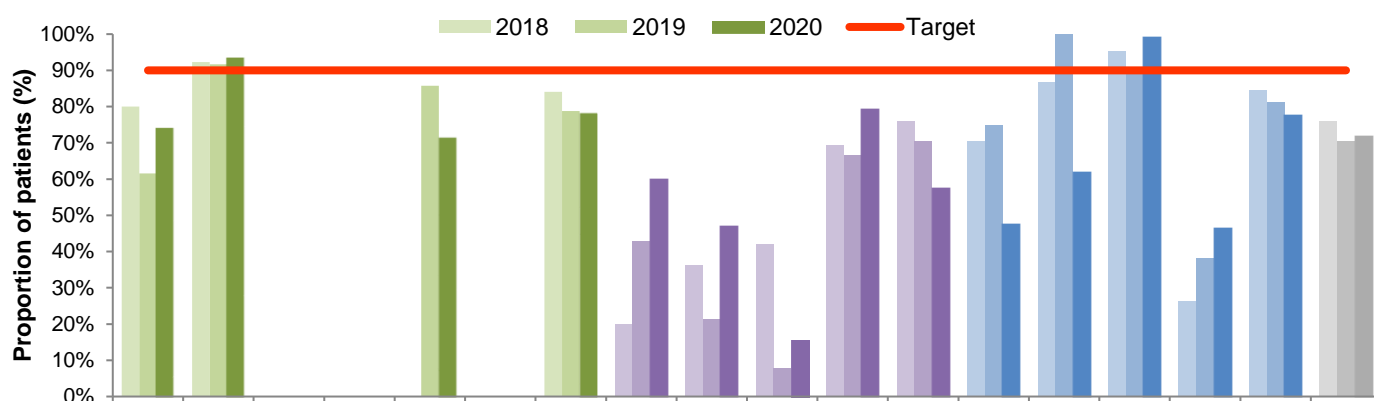
Specification (i) results are summarised below. Across Scotland 96.6% of patients with HCC had either a CT or MRI, meeting the 90% target. Ten of the twelve NHS Boards with patients diagnosed with HCC in 2020 met this target as did all three regions.



2020 data	Grampian	Highland	Orkney	Shetland	Tayside	W Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	A&A	Forth Valley	GGC	Lanarkshire	WoSCAN	Scotland
Numerator	27	15	0	*	21	0	64	4	16	26	51	97	19	19	102	40	180	341
Denominator	27	15	0	*	21	0	64	5	17	26	58	106	19	21	102	41	183	353
Performance (%)	100	100	-	*	100	-	100	80.0	94.1	100	87.9	91.5	100	90.5	100	97.6	98.4	96.6

Review of patients not meeting this QPI in NHS Lothian indicated that in the majority of cases HPB cancer diagnosis was an incidental finding at surgery. The single patient not meeting this QPI in NHS Borders declined a CT scan and all other interventions.

Specification (ii) considers the proportion of patients that have a CT or MRI imaging where full information is provided within the radiology report. Across Scotland 71.1% of patients with HCC had CT or MRI imaging where all required information was included within the report, below the target of 90%. Three of the thirteen Boards with patients with HCC cancer met this target, it was not achieved by any of the three regions.



2020 data	Grampian	Highland	Orkney	Shetland	Tayside	W Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	A&A	Forth Valley	GGC	Lanarkshire	WoSCAN	Scotland
Numerator	20	14	0	*	15	0	50	3	8	4	46	61	9	13	101	19	142	253
Denominator	27	15	0	*	21	0	64	5	17	26	58	106	19	21	102	41	183	353
Performance (%)	74.1	93.3	-	*	71.4	-	78.1	60.0	47.1	15.4	79.3	57.5	47.4	61.9	99.0	46.3	77.6	71.7

Review of patients not meeting specification (ii) indicates incomplete recording of the Child’s Pugh score across the majority of the NHS Boards not meeting this target; and to a lesser extent vascular invasion. Further, many of the patients for which data were not recorded were very frail patients for best supporting care only.

The HCC referral forms were updated in 2020 in all surgical centres to require referring clinicians to record information required for this QPI. Referring clinicians should ensure that these forms are completed fully, however a number of measures have been implemented to improve recording including MDTs calculating Childs Pugh score and vascular invasion being confirmed by a Specialist Radiologist during MDT where referrers are unable to provide complete information. Further, a Scottish Government funded improvement project to coordinate HPB cancer patient care is likely to result in improvements in referral information recording. In addition individual NHS Boards have made further efforts to ensure that information is appropriately recorded as follows:

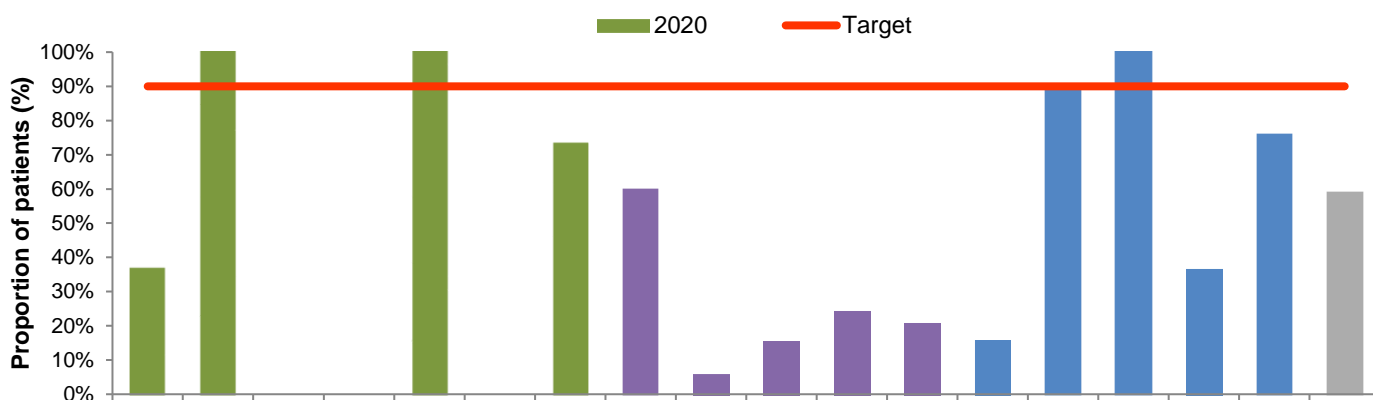
- NHS Grampian have improved recording by data collectors attending the virtual MDT.
- In NHS Tayside the CNS team review MDT outputs following each MDT meeting with the cancer audit team to ensure data is complete.
- In NHS Fife referral forms have the full dataset required and the Board will continue to work with clinicians to ensure that these are completed appropriately.

Consequently it is anticipated that performance should improve against this specification in 2021.

Action Required:

- **NMCN to monitor performance against QPI 2(ii) following implementation of the Scottish Government funded improvement project to coordinate HPB cancer patient care.**

Specification (iii) considers the proportion of patients that have a CT or MRI imaging prior to first treatment who are assigned a BCLC Score. Across Scotland 58.9% of patients were assigned a BCLC Score, below the target of 90%. Five of the twelve Boards with patients with HCC cancer met this target, it was not achieved by any of the three regions, with performance in SCAN considerably lower than in other regions. As this specification has only been reported for the first time this year, there is no previous data with which to compare the 2020 performance.



2020 data	Grampian	Highland	Orkney	Shetland	Tayside	W Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	A&A	Forth Valley	GGC	Lanarkshire	WoSCAN	Scotland
Numerator	10	15	0	*	21	0	47	3	1	4	14	22	3	19	102	15	139	208
Denominator	27	15	0	*	21	0	64	5	17	26	58	106	19	21	102	41	183	353
Performance (%)	37.0	100	-	*	100	-	73.4	60.0	5.9	15.4	24.1	20.8	15.8	90.5	100	36.6	76.0	58.9

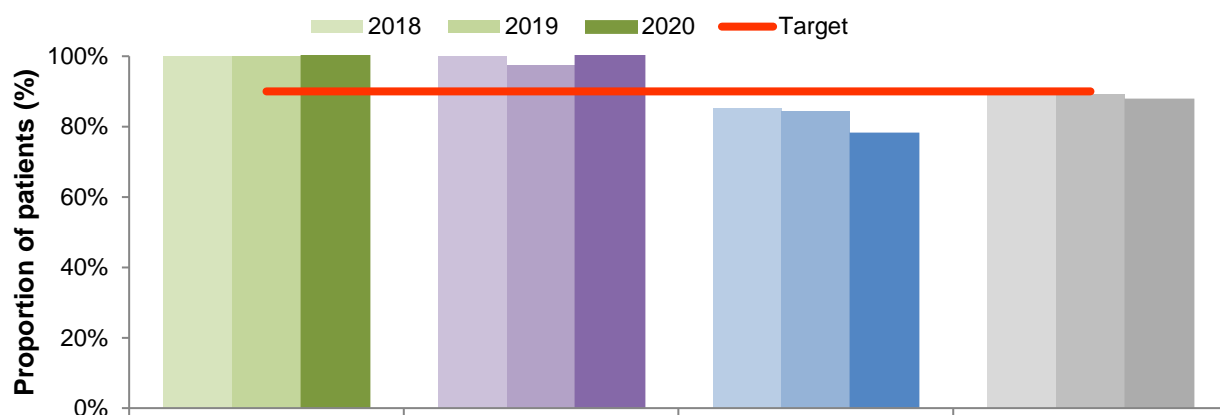
This is the first year of reporting of this specification. In 2020 BCLC score was incorporated into the HCC referral forms by all 5 centres so an improvement in performance is expected for 2021. Childs Pugh score is required to calculate BCLC and as such improvements in recording of Childs Pugh scores as outlined above should further improve performance. As for specification (ii), a Scottish Government funded improvement project to coordinate HPB cancer patient care is likely to result in improvements in the recording of BCLC score.

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 HCC¹. All patients with early HCC should be considered for liver transplantation and there should be equity of access to liver transplantation across Scotland¹. The current UK listing criteria are well validated selection criteria based on tumour number and size. Full details are published within the HPB QPI document¹.

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

Across Scotland 87.8% of patients with HCC who met the UK listing criteria were referred to SLTU in 2020, just below the target of 90%. As with previous years there was regional variation in performance against this indicator, with NCA and SCAN comfortably meeting the target while WoSCAN falls below the target level. Results for this QPI are reported by region rather than by NHS Board due to the small numbers of patients included for many of the Boards.



2020 data	NCA	SCAN	WoSCAN	Scotland
Numerator	6	37	43	86
Denominator	6	37	55	99
Performance (%)	100%	100%	78.2%	87.8%

In NHS Greater Glasgow & Clyde patients meeting the radiological criteria for a transplant but who were not fit enough for surgery were not always referred to the SEoS HPB MDT; while formal referral to the

SEoS HPB MDT is not necessary in all cases these patients should be discussed with a surgeon from the Scottish Liver Transplant Unit (SLTU). Improvements have been made since the reporting period with surgeons from the SLTU now participating in the WoS HCC MDT, and details of any patients meeting the transplant criteria and not discussed with SLTU at MDT will be discussed with them via email. Further improvements could be made to this process by ensuring that all patients meeting the criteria for liver transplant are discussed during the WoS HCC MDT when clinicians from the SLTU are present.

Action Required:

- **NHS Glasgow Greater and Clyde to ensure all patients meeting the criteria for liver transplant will be discussed with the SLTU at the joint WoS HCC MDT and where there is agreement that patients are not suitable for formal referral to the SEoS HPB MDT this will be documented in the MDT outcome.**

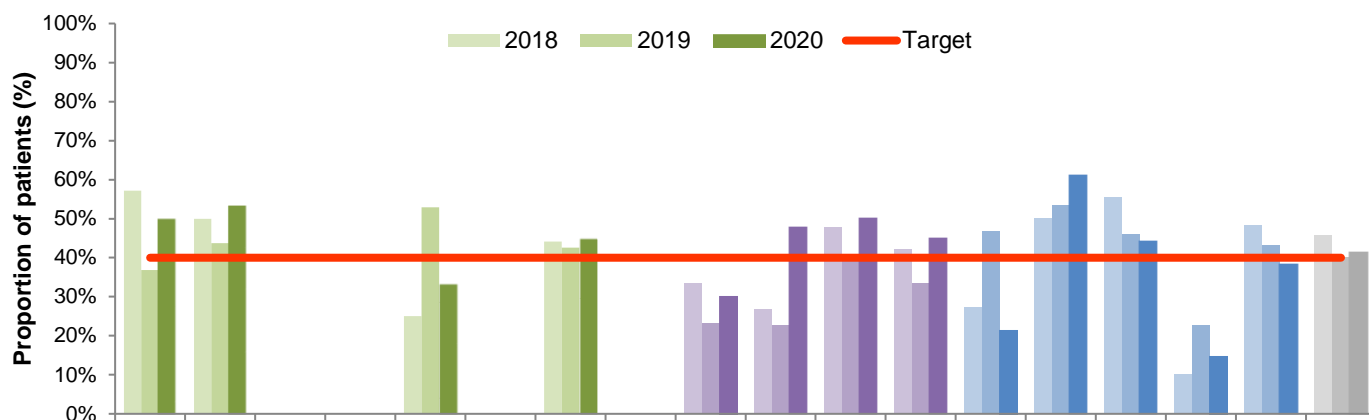
QPI 4: Palliative Treatment for HCC

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 intent¹. 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 HCC⁶.

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 appropriate¹.

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

Of the 256 patients diagnosed with HCC across Scotland in 2020 and not undergoing treatment with curative intent, 106 (41.4%) received palliative treatment; therefore the QPI target of 40% was met at a national level. Six of the twelve NHS Boards with patients included within this measure met the target.



2020 data	Grampian	Highland	Orkney	Shetland	Tayside	W Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	A&A	Forth Valley	GGC	Lanarkshire	WoSCAN	Scotland
Numerator	9	8	0	*	5	0	22	*	3	11	17	32	3	11	34	4	52	106
Denominator	18	15	0	*	15	0	49	*	10	23	34	71	14	18	77	27	136	256
Performance (%)	50.0	53.3	-	*	33.3	-	44.9	*	30.0	47.8	50.0	45.1	21.4	61.1	44.2	14.8	38.2	41.4

Where Boards have not met the target, cases have been reviewed. Patients not meeting the QPI were discussed at the MDT and for the vast majority of these, palliative treatment was not considered appropriate due to patient frailty and comorbidities. Due to late presentation of disease and high levels of co-morbidity this QPI target is challenging to meet; the establishment of awareness campaigns aimed at encouraging improved general health and more specifically to promote early presentation of HPB cancer would likely result in an increase in the proportion of patients being suitable for treatment, both curative and palliative. While the majority of the patients that did not have palliative treatment were discussed at an MDT at one of the 5 HPB surgical centres, some were only discussed at local MDTs; primarily for patients where discussion at a regional MDT was not necessary. Performance against this QPI will continue to be reviewed, as will the extent of discussion of patients at an MDT within one of the surgical centres.

It was noted that the lack of recording of Childs Pugh score for 55 of the patients included within this QPI means that some patients with decompensated chronic liver disease (Child-Pugh Grade C) may have been erroneously included within the measure, potentially lowering performance. Continued efforts to improve recording of Childs Pugh score (QPI 2(ii)) should result in improved reporting against this QPI in future years.

QPI 5: 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) intent. In either case, treatments should be performed safely with low rates of mortality and should not be undertaken in futile situations¹.

QPI 5:	30-day and 90-day mortality following treatment for Hepatocellular Carcinoma (HCC) with curative or palliative intent.
Description:	Proportion of patients with HCC undergoing disease specific treatment, either curative (liver transplantation, resection or ablation) or palliative (Trans-arterial chemoembolisation (TACE)), who die within 30 or 90 days of definitive treatment.
Numerator:	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).
Denominator:	All patients with HCC undergoing disease specific treatment (liver transplant, resection, ablation or TACE)
Exclusions:	No exclusions
Target:	<p>Curative: 30 days <5% 90 days <7.5%</p> <p>Palliative: 30 days <10%</p>

National mortality figures for 2018 to 2020 are presented in the table below by treatment type. Data is not displayed graphically and data for the 3 surgical centres in the North of Scotland (Aberdeen, Inverness and Dundee) are aggregated due to the small numbers of patients included within the measures. For curative treatments one patient died within 30 days of treatment in 2020, while two patients died within 90 days of curative treatment. Mortality levels were well within the targets of less than 5% for 30 day mortality and less than 7.5% for 90 day mortality at a national level with the exception of liver transplant, where the QPI target was not met in 2020 due to the death of a single patient. One patient (1.2%) died within 30 days of receiving palliative TACE, well within the target of less than 10% of patients.

Liver Transplant		Aberdeen, Inverness and Dundee 2020	Edinburgh 2020	Glasgow 2020	Scotland 2020	Scotland 2019	Scotland 2018
30 day mortality Target < 5%	Numerator	0	1	0	1	0	0
	Denominator	0	7	0	7	10	20
	Performance (%)	-	14.3%	-	14.3%	0%	0%
90 day mortality Target < 7.5%	Numerator	0	1	0	1	0	0
	Denominator	0	6	0	6	10	19
	Performance (%)	-	16.7%	-	16.7%	0%	0%

Resection		Aberdeen, Inverness and Dundee 2020	Edinburgh 2020	Glasgow 2020	Scotland 2020	Scotland 2019	Scotland 2018
30 day mortality Target < 5%	Numerator	*	0	0	0	0	0
	Denominator	*	7	0	8	19	18
	Performance (%)	*	0%	0%	0%	0%	0%
90 day mortality Target < 7.5%	Numerator	*	0	0	0	1	0
	Denominator	*	7	0	8	19	18
	Performance (%)	*	0%	0%	0%	5.3%	0%

Ablation		Aberdeen, Inverness and Dundee 2020	Edinburgh 2020	Glasgow 2020	Scotland 2020	Scotland 2019	Scotland 2018
30 day mortality following Ablation Target < 7.5%	Numerator	*	0	0	0	0	0
	Denominator	*	19	18	38	50	43
	Performance (%)	*	0%	0%	0%	0%	0%
90 day mortality following Ablation Target < 5%	Numerator	*	1	0	1	1	1
	Denominator	*	19	17	37	49	41
	Performance (%)	*	5.3%	0%	2.7%	2.0%	2.4%

TACE		Aberdeen, Inverness and Dundee 2020	Edinburgh 2020	Glasgow 2020	Scotland 2020	Scotland 2019	Scotland 2018
30 day mortality following TACE Target < 10%	Numerator	1	0	0	1	1	2
	Denominator	11	41	32	84	91	85
	Performance (%)	9.1%	0%	0%	1.2%	1.1%	2.4%

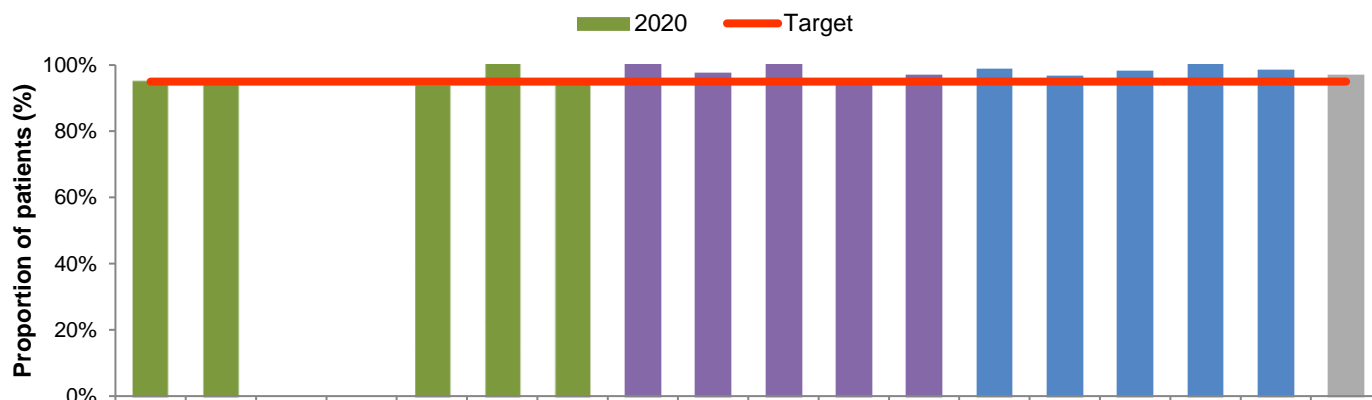
Patients that die following treatment are reviewed at the monthly centre mortality and morbidity reviews and the annual NMCN mortality and morbidity review. The number of patients who died following treatment for HCC was very low in 2020 and the failure to meet the specifications relating to liver transplant was the result of the outcome of a single patient due to the small number of patients within the denominator for this measure.

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. 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.

QPI 6:	Patients with pancreatic, duodenal or biliary tract cancers should undergo computerised tomography (CT) of the abdomen to evaluate the extent of disease.
Description:	Proportion of patients with pancreatic, duodenal or biliary tract cancer who undergo CT of the abdomen prior to first treatment.
Numerator:	Number of patients with pancreatic, duodenal or biliary tract cancer who undergo CT of the abdomen prior to first treatment.
Denominator:	All patients with pancreatic, duodenal or biliary tract cancer.
Exclusions:	No exclusions
Target:	95%

Of the 1113 patients diagnosed with pancreatic, duodenal or biliary tract cancer in Scotland in 2020, 1080 (97.0%) had a CT of the abdomen prior to first treatment. The QPI target of 95% was met at a national level; however NHS Tayside narrowly missed the target. 2020 performance is not compared with that from previous years for this QPI due to changes in how the QPI is measured for 2020.



2020 data	Grampian	Highland	Orkney	Shetland	Tayside	W Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	A&A	Forth Valley	GGC	Lanarkshire	WoSCAN	Scotland
Numerator	113	60	0	*	89	6	270	22	41	61	176	300	72	58	278	102	510	1080
Denominator	119	63	0	*	95	6	285	22	42	61	185	310	73	60	283	102	518	1113
Performance (%)	95.0	95.2	-	*	93.7	100	94.7	100	97.6	100	95.1	96.8	98.6	96.7	98.2	100	98.5	97.0

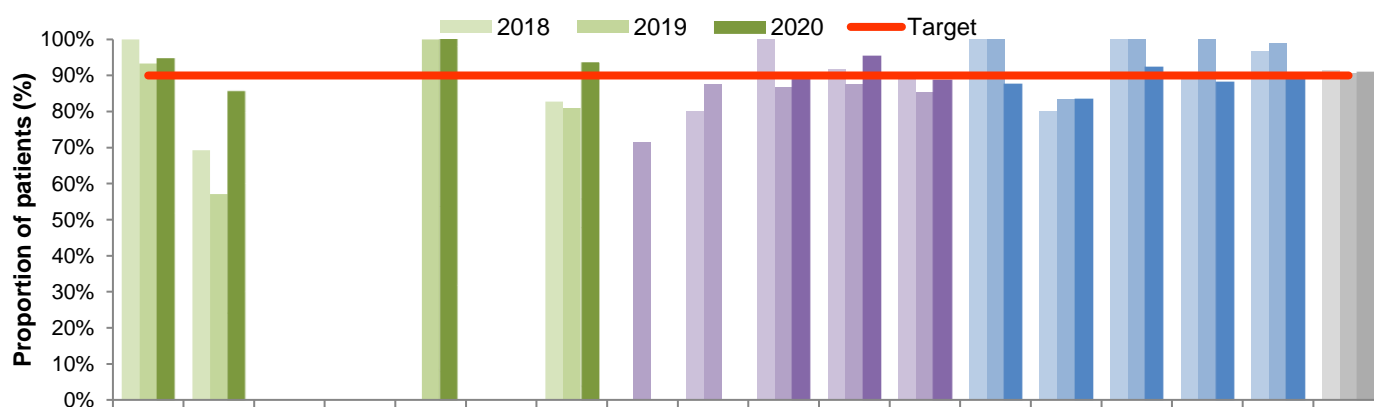
Performance against this revised QPI was very good across Scotland. Any differences in performance between NHS Boards are difficult to interpret based on a single years data but may be clearer once additional years of data are available.

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 offered¹. 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 prognosis¹. 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 90% target reflects this and also factors relating to patient choice.

QPI 7:	Patients with pancreatic, duodenal or biliary tract cancers having non-surgical treatment should have a cytological or histological diagnosis
Description:	Proportion of patients with pancreatic, duodenal or biliary tract cancer undergoing non-surgical treatment who have a cytological or histological diagnosis
Numerator:	Number of patients with pancreatic, duodenal or distal biliary tract cancer undergoing non-surgical treatment who have a histological or cytological diagnosis (e.g. brush cytology, endoscopic or image guided biopsy)
Denominator:	All patients with pancreatic, duodenal or distal biliary tract undergoing non-surgical treatment
Exclusions:	No exclusions
Target:	90%

Of the 152 patients diagnosed with pancreatic, duodenal or distal biliary tract in Scotland in 2020 and undergoing non-surgical treatment, 90.8% had a cytological or histological diagnosis, meeting the new, higher target of 90%. The QPI was met by 7 of the 11 NHS Boards with patients measured within the QPI.



2020 data	Grampian	Highland	Orkney	Shetland	Tayside	W Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	A&A	Forth Valley	GGC	Lanarkshire	WoSCAN	Scotland
Numerator	18	12	0	0	13	*	44	0	*	9	20	31	7	5	36	15	63	138
Denominator	19	14	0	0	13	*	47	0	*	10	21	35	8	6	39	17	70	152
Performance (%)	94.7	85.6	-	-	100	*	93.6	-	*	90.0	95.2	88.6	87.5	83.3	92.3	88.2	90.0	90.8

An improvement in performance against this QPI can be seen in the NCA due to improvements within NHS Highland. This is due to a change in practice in late 2019 from the use of Endoscopic Ultrasound-guided Fine Needle Aspiration (EUS FNA) to using Endoscopic Ultrasound-guided Fine Needle Biopsy (EUS FNB) in order to improve the diagnostic yield from samples.

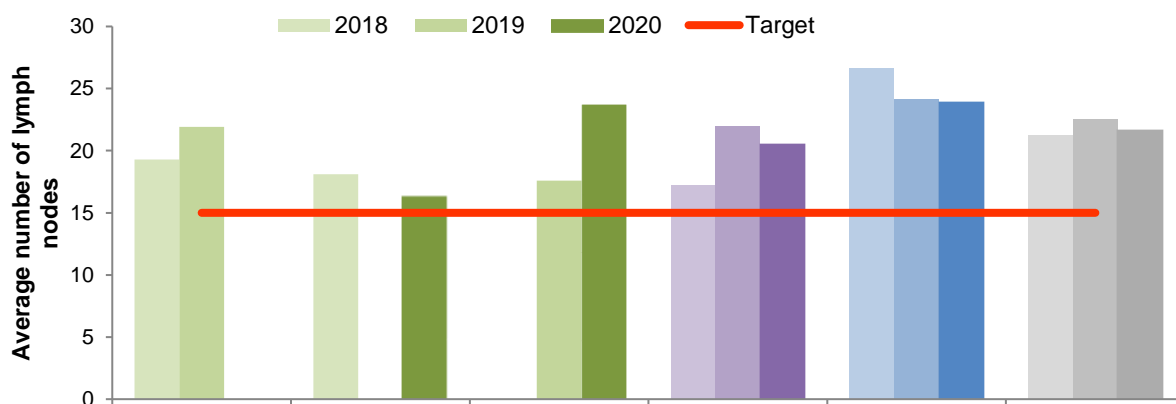
Review of patients not meeting this measure indicate that for the vast majority of patients pathology reports were suspicious of cancer. While cytological or histological diagnosis is important to inform palliative treatment decisions, in certain circumstances (for example patients with strong radiological findings and supporting CA (cancer antigen) 19-9 results) it maybe in the best interest of patients to progress with treatment in the absence of a definitive histological or cytological diagnosis to improve the patients quality of life. In addition, for a small number of patients cytology was not undertaken due to patient distress or a technical failure during the procedure.

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 pathologist¹. Evidence suggests that pancreatoduodenectomy should yield a minimum of 15 lymph nodes from the principal specimen¹.

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

In 2020, as in previous years, all five surgical centres across Scotland had an average lymph node yield of more than 15 nodes per patient. Across Scotland patients who had a pancreatoduodenectomy had an average of 22 lymph nodes resected and pathologically examined.



2020 data	Aberdeen	Inverness	Dundee	Edinburgh	Glasgow	Scotland
No. nodes examined	-	163	307	410	764	1669
No. surgeries	-	10	13	20	32	77
Average no. nodes	-	16	24	21	24	22

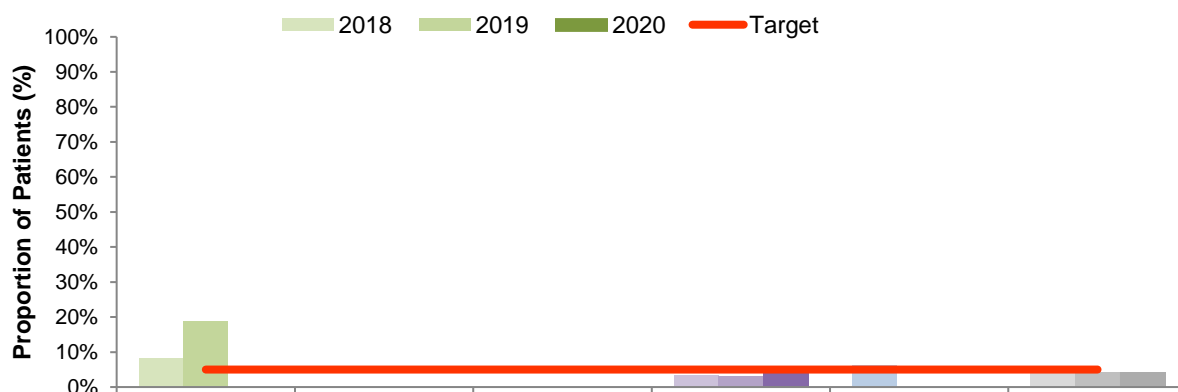
QPI 11: 30 and 90-day Mortality Following Surgical Resection for Pancreatic, Duodenal or Distal Biliary Tract Cancer

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

QPI 11:	30-day and 90-day mortality surgical resection for pancreatic, duodenal or distal biliary tract cancer.
Description:	Proportion of patients with pancreatic, duodenal or distal biliary tract cancer who die within 30/90 days of surgical resection.
Numerator:	Number of patients with pancreatic, duodenal or distal biliary tract cancer who undergo surgical resection that die within 30/90 days of treatment.
Denominator:	All patients with pancreatic, duodenal or distal biliary tract cancer who undergo surgical resection.
Exclusions:	No exclusions.
Target:	30 days <5% 90 days <7.5%

30 Day Mortality

Across Scotland 4.3% of patients having surgical resection died within 30 days of surgery, meeting the target of less than 5%. Analysis by surgical centre indicates that this target was met in 4 of the 5 centres, although caution should be exercised in interpreting variation based on the outcomes of small numbers of patients.

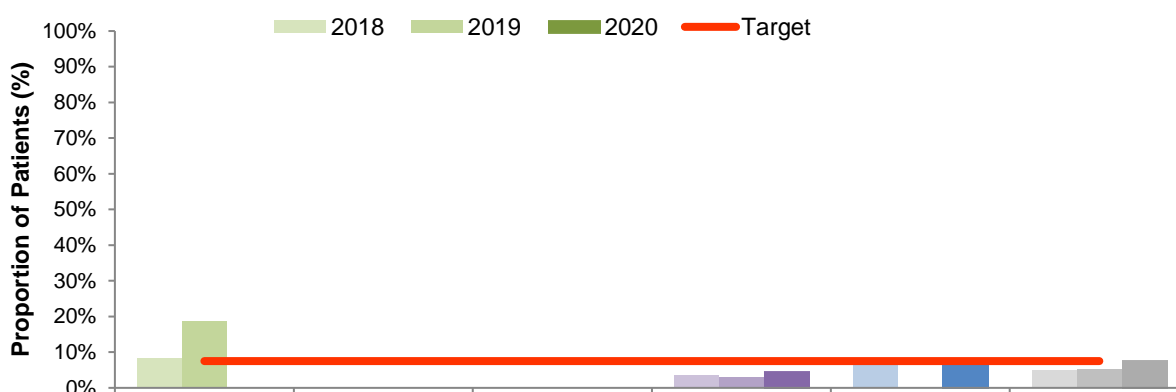


2020 data	Aberdeen	Inverness	Dundee	Edinburgh	Glasgow	Scotland
Numerator	*	0	0	1	0	4
Denominator	*	13	14	22	39	92
Mortality (%)	*	0%	0%	4.5%	0%	4.3%

90 Day Mortality

Across Scotland 8.2% of patients having surgical resection died within 90 days of surgery, slightly above the target of less than 7.5%. Analysis by surgical centre indicates that this target was met in 3 of the 5

centres, although caution should again be exercised in interpreting variation based on the outcomes of small numbers of patients.



2020 data	Aberdeen	Inverness	Dundee	Edinburgh	Glasgow	Scotland
Numerator	*	0	0	1	3	7
Denominator	*	13	14	22	39	92
Mortality (%)	*	0%	0%	4.5%	7.7%	7.6%

All patients that die following treatment are reviewed at the monthly centre mortality and morbidity reviews and the annual NMCN mortality and morbidity review.

Of the 3 patients that died within 90 days of surgery at Glasgow, two died from COVID-19 and neither patient had a surgical complication. These deaths predated the COVID-19 vaccine roll out; NHSGGC now encourage all patients to be vaccinated prior to surgery.

Across the 3 surgical centres in the North of Scotland 30 and 90 day mortality was 10%, above the target for the QPI. The HPB surgical service for these patients was suspended at the Aberdeen centre in early 2020 and a review undertaken into patient mortality; during this review period patients from Grampian had their surgery undertaken at an alternative surgical centre in the North of Scotland. Following the review, the Aberdeen centre resumed surgical resections in 2021 under special governance arrangements and patient outcomes are anticipated to improve.

QPI 12: 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 nationally¹. 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) ¹.

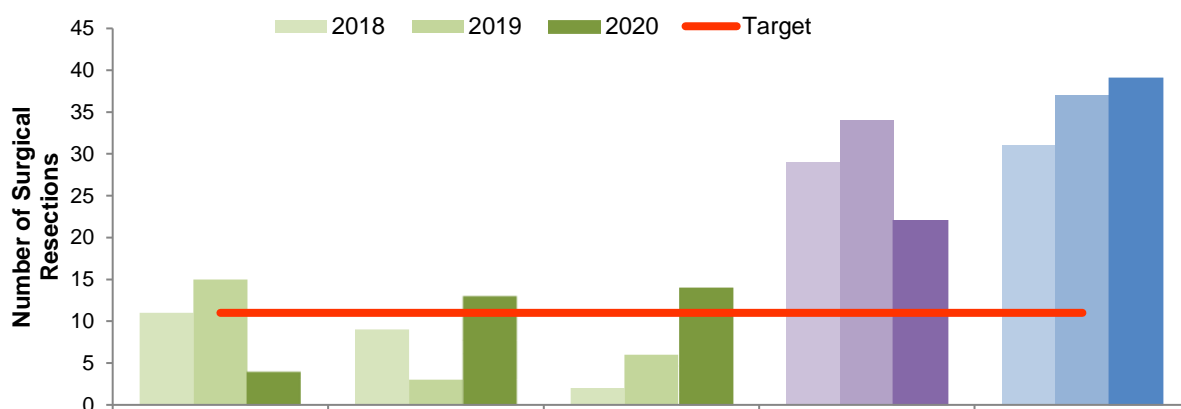
QPI 12a/b: HPB resectional surgery should be performed in hospitals where there is an appropriate annual volume of such cases.

Description: 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.

Target:
 a) Minimum of 11 cases per centre in a one year period.
 b) Minimum of 4 procedures per surgeon in a one year period.

Number of surgical resections per centre

Of the five surgical centres in Scotland, three met the minimum number of cases required within a one year period to meet this target in 2020.

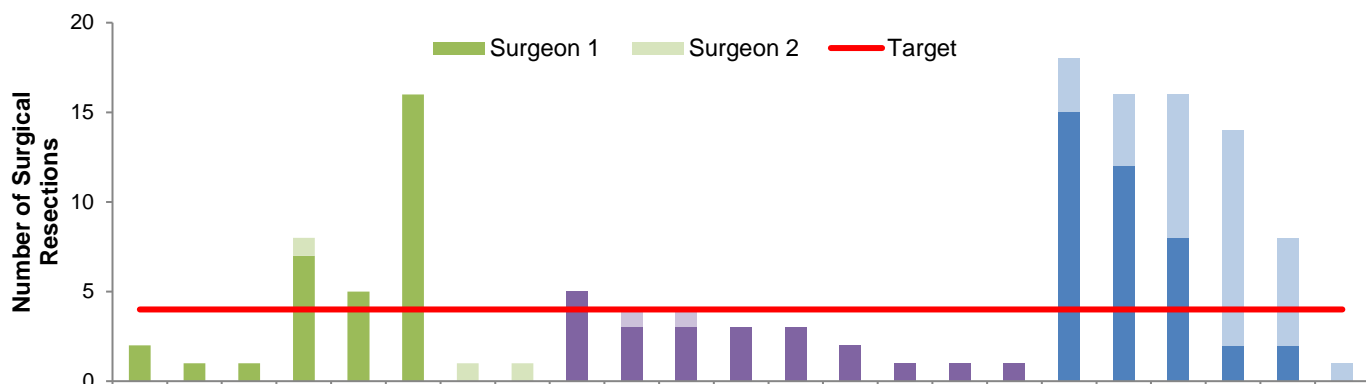


Number of Surgical Resections	Aberdeen	Inverness	Dundee	Edinburgh	Glasgow
2018	11	9	2	29	31
2019	15	3	6	34	37
2020	4	13	14	22	39

Part of the HPB surgical service at the Aberdeen centre were suspended in early 2020 and not resumed until 2021 resulting in a decrease in numbers of patient having surgery in Aberdeen and corresponding increase in Dundee and Inverness. Consequently, while surgical volumes are anticipated to increase in Aberdeen in future years, an associated decrease in other centres in the North of Scotland is also expected. Overall there are insufficient numbers of patient requiring surgery to enable this QPI to be met across 3 surgical centres in the North of Scotland; this is recognised and work is advancing as part of the low volume surgery programme to address the minimal volumes requirements. This exercise is advancing with the full collaboration of the North of Scotland centres and an outcome to this process will be available in due course.

Number of surgical resections per surgeon

Of the 23 surgeons undertaking surgical resection in 2020, 11 undertook four or more surgeries within the year, therefore meeting the QPI target. Of the 12 surgeons performing less than four surgeries in the year, 5 were from surgical centres in the NoS, 6 from Edinburgh and one from Glasgow.



Centre	Aberdeen			Inverness		Dundee			Edinburgh									Glasgow					
Surgeon	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Performed as surgeon 1	2	1	1	7	5	16	0	0	5	3	3	3	3	2	1	1	1	15	12	8	2	2	0
Performed as surgeon 2	0	0	0	1	0	0	1	1	0	1	1	0	0	0	0	0	0	3	4	8	12	6	1
Total	2	1	1	8	5	16	1	1	5	4	4	3	3	2	1	1	1	18	16	16	14	8	1

Performance against this QPI can be affected by the situations for individual surgeons, for example in Dundee staffing changes have affected performance, with one surgeon only being in post for part of the year reported. In Glasgow the surgeon not meeting this QPI has now progressed to a senior medical management role and no longer undertakes resections as the primary operator. As a senior pancreatic surgeon he will still be available for mentorship and advice and may therefore continue to be named on operation notes.

Issues affecting the surgical centres can also impact on performance of individual surgeons; in Edinburgh it was noted that the total number of patients having surgery was lower than usual in 2020, impacting on the number of surgeries performed by individual surgeons while in the Aberdeen the cessation of surgery for a period in 2020 impacted the number of surgeries individual surgeons were able to undertake. All surgical centres across Scotland are considering how to address the surgical volumes of individual clinicians on a local basis.

Action Required:

- All surgical centres to ensure that surgeons undertake an adequate number of surgical procedures each year.

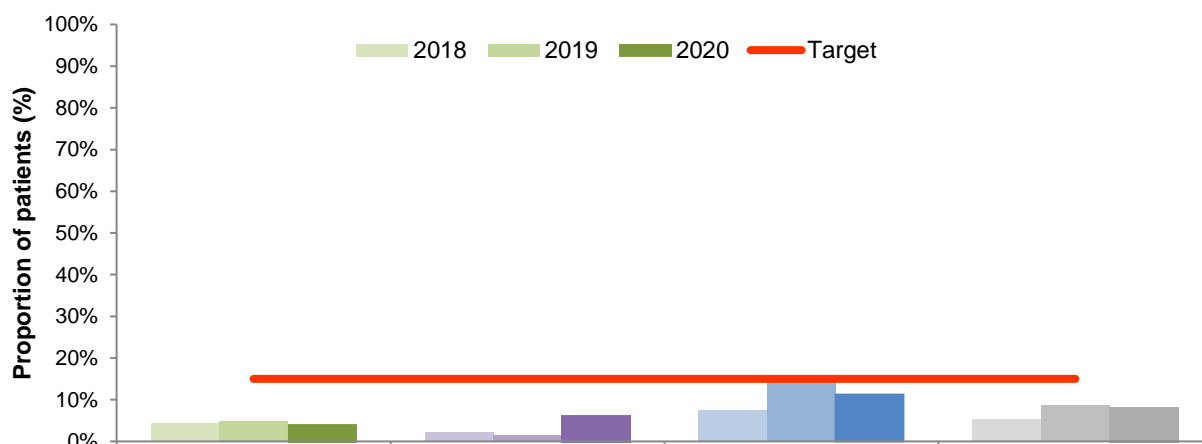
QPI 13: Clinical Trials and Research Study Access

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 data¹.

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 mechanism².

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

Across Scotland 8.1% of patients were consented for clinical trials or research studies in 2020, below the target of 15%; no individual regions met the QPI.



2020 data	NCA	SCAN	WoSCAN	Scotland
Numerator	18	29	91	138
Denominator	433	467	809	1709
Performance (%)	4.2%	6.2%	11.2%	8.1%

HPB Clinical Trials and Research Studies open to recruitment in Scotland in 2020	Patients Consented
A Phase I/IIa trial of BT1718 in patients with advanced solid tumours	Y
A Phase I trial of LY3143921 hydrate in solid tumours	Y
ABC-07: Addition of stereotactic body radiotherapy to systemic chemotherapy in locally advanced biliary tract cancers	Y
ACELARATE	N
ACTICCA-1	N
Add-Aspirin	Y
AFPc332T Cell Therapy in Advanced Hepatocellular Carcinoma (HCC)	Y
An exploratory biomarker analysis in blood and urine of patients with malignant disease	Y
An Open-Label Multicenter Phase 1 Study of E7386 in Subjects with Selected Advanced Neoplasms	Y
Bas301	Y
Childhood cancer diagnosis	Y
Clinical Registry and Molecular Characterisation of Biliary Tract Cancers (REG-BIL)	Y
ECMC EXPLOR BIOMARKER	Y
ENDOTOX	Y
EOTB	Y
FIGHT-302	Y
IMAGINE	Y
MEDIVIR MIV-818-101/201	Y
The MENAC Trial	Y
NUC-3373 in Advanced Solid Tumours (NuTide: 301)	Y
NuTide:121 - Patients with Advanced or Metastatic Biliary Tract Cancer	Y
PHITT	Y
Ph3 Study of Lenvatinib + Pembrolizumab for 1L Therapy of Advanced HCC	Y
PIONEER	Y
PrecisionPanc	Y
PRIMUS 001	Y
PRIMUS 002	Y
SCALOP-2: Systemic therapy and Chemoradiation in Advanced LOCALISED Pancreatic cancer - 2	N
SN38-SPL9111 in advanced solid tumours	Y
ST101-101 Phase 1-2 Study in Advanced Cancer	Y
TACE-3	N
TCD14678	Y

This is a generic QPI which applies to all tumour groups. The target of 15% is challenging, particularly for tumours with relatively low curative treatment rates such as HPB. As such performance achieved against this QPI in recent years is considered to be a success with the performance due to UK liver and pancreas research being led by the University of Glasgow.

Accessibility of clinical trials and research studies to patients depends on whether trials are open for patients locally and whether they are eligible for entry into these trials. The majority of HPB trials in Scotland are undertaken at surgical centres, although NHS Borders have indicated an interest in opening trials within their NHS Board. The SHPBN website⁸ provides information on the clinical trials currently open across the 5 surgical centres in Scotland; this helps promote awareness of trial availability to clinical staff from across Scotland.

Due to the COVID-19 pandemic recruitment to clinical trials decreased in 2020. This is partly due to all clinical trials across the UK being closed to recruitment on 13th March 2020. Trials began to reopen in a phased manner shortly after the closure based on local health board risk assessments. The cancer portfolio has since reopened the majority of trials and has also been able to open new trials. Impacts of the COVID-19 pandemic on research staff, such as staff deployment to wards and COVID research, has also effected the running of trials in some centres. As such, performance against this QPI is anticipated to improve in 2021.

QPI 14: 30 Day Mortality following Systemic Anti-Cancer Therapy (SACT)

Treatment related mortality is a marker of the quality and safety of the whole service provided by the Multi Disciplinary Team (MDT). Outcomes of treatment, including treatment related morbidity and mortality should be regularly assessed. Treatment should only be undertaken in individuals that may benefit from that treatment. This QPI is intended to ensure treatment is given appropriately, and the outcome reported on and reviewed.

QPI 14:	30 day mortality following Systemic Anti-Cancer Therapy (SACT) treatment for HPB cancer
Description:	Proportion of patients with HPB cancer who die within 30 days of SACT treatment
Numerator:	Number of patients with HPB cancer who undergo SACT that die within 30 days of treatment
Denominator:	All patients with HPB cancer who undergo SACT
Exclusions:	No exclusions
Target:	Curable treatment < 5% Non-curable treatment < 10%

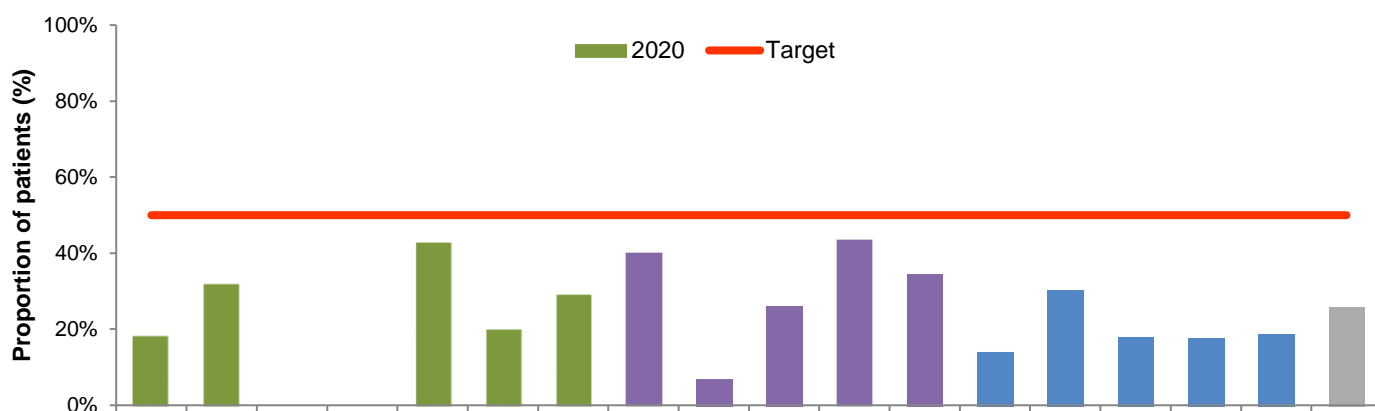
This is a new QPI which will use CEPAS (Chemotherapy ePrescribing and Administration System) data to measure SACT mortality to ensure that the QPI focuses on the prevalent population rather than the incident population. The reporting for this QPI is still under development to ensure consistency across the country and it is anticipated that performance against this measure will be reported in the next audit cycle. In the meantime all deaths within 30 days of SACT will continue to be reviewed as standard practice in line with local procedures at a NHS Board level.

QPI 15: Access to Oncology Services for Inoperable Pancreatic, Duodenal or Biliary Tract Cancer

Approximately 80% of patients with pancreatic, duodenal or biliary tract cancer will not be suitable for potentially curative surgical resection due to fitness or advanced disease at presentation. Palliative treatment options have increased in recent years however rapid disease progression can result in potentially fit patients becoming unsuitable for treatment. Therefore timely assessment is important. The tolerance within this target is designed to account for those patients with co-morbidities for whom systemic therapy would not be appropriate, and for factors of patient choice.

QPI 15:	Patients with inoperable pancreatic, duodenal or biliary tract cancer should be seen by an oncologist to assess suitability for systemic treatment
Description:	Proportion of patients with pancreatic, duodenal or biliary tract cancer not undergoing surgery who are seen by an oncologist (or offered an oncology clinic appointment) within 6 weeks of initial diagnostic CT scan
Numerator:	Number of patients with pancreatic, duodenal or biliary tract cancer not undergoing surgery who are seen by an oncologist (or offered an oncology clinic appointment) within 6 weeks of initial diagnostic CT scan
Denominator:	All patients with pancreatic, duodenal or biliary tract cancer not undergoing surgery.
Exclusions:	No exclusions
Target:	50%

Of the 796 patients diagnosed with pancreatic, duodenal or distal biliary tract in Scotland in 2020 and not undergoing surgery, 25.6% were seen by an oncologist (or offered an oncology clinic appointment) within 6 weeks of diagnosis, below the target of 50%. The QPI was not met by any NHS Boards. As this is a new QPI no data are available for previous years.



2020 data	Grampian	Highland	Orkney	Shetland	Tayside	W Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	A&A	Forth Valley	GGC	Lanarkshire	WoSCAN	Scotland
Numerator	15	14	0	*	26	1	56	6	2	13	56	77	8	13	36	14	71	204
Denominator	82	44	0	*	61	5	193	15	30	50	129	224	57	43	200	79	379	796
Performance (%)	18.3	31.8	-	*	42.6	20.0	29.0	40.0	6.7	26.0	43.4	34.4	14.0	30.2	18.0	17.7	18.7	25.6

As a new QPI, performance in 2020 is a benchmark for future improvements in the accessibility of oncological services for patients not undergoing surgery. Analysis of whether patients were offered an oncology clinic appointment at any time indicated that 16% had access to an appointment more than 6 weeks after their CT scan but the majority (58%) were not offered an oncology clinic appointment. Further, there appears to be some variation across Scotland in the numbers of patients being referred, and the timeliness of appointments for those patients referred.

Clinical review of patients not meeting the QPI suggested that the majority of patients were not considered fit for oncological treatment and were therefore not referred to oncological services, while smaller numbers of patients did not want to be considered for further treatment. There is a need to review the pathway for oncological intervention to identify any delays or limitations to the pathway and any variation in access to services between NHS Boards.

Action Required:

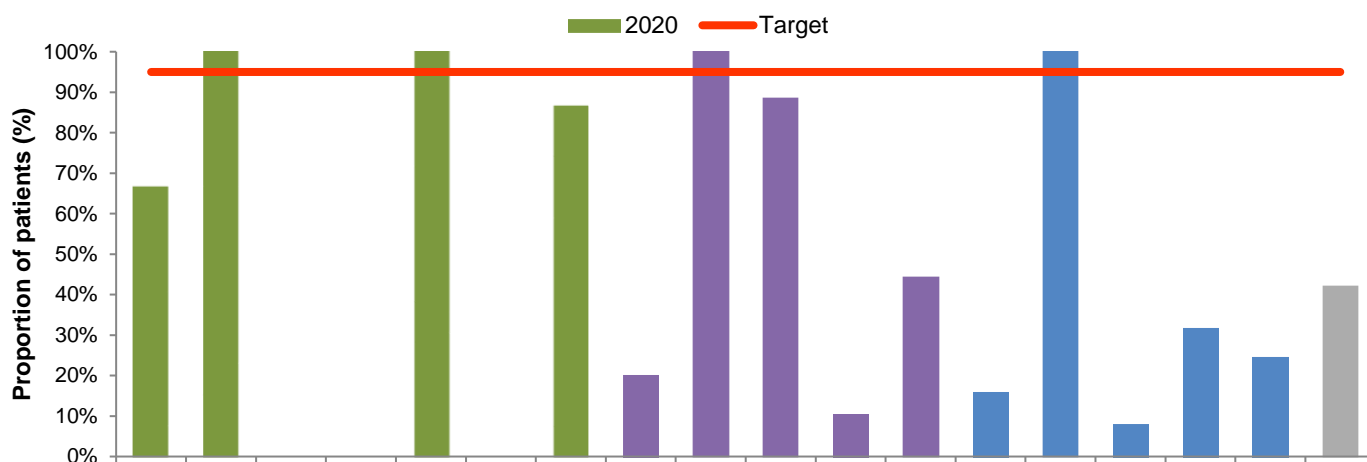
- **NMCN, in conjunction with NHS Boards, to review the referral pathway for oncology intervention to ensure that all patients requiring oncology review or treatment are offered a timely oncology clinic appointment.**

QPI 16: Key Worker

Primary liver cancer is a complex cancer to treat with various management options requiring input from multiple specialties, and as a result can require treatment across multiple health boards. Communication and continuity of care is vital for these patients to allow a co-ordinated, patient centred approach to their care. Mechanisms should be developed to promote continuity of care which may include the nomination of a person to take on the role of a key worker. This role will include communication with regards to care plans to all involved in a patient's care, ensuring patients know who to contact and managing transition of care.

QPI 16:	Patients with hepatocellular cancer (HCC) should have an identified key worker to co-ordinate care across the patient pathway
Description:	Proportion of patients with HCC who have an identified key worker at the time of referral to the MDT
Numerator:	Number of patients with HCC who have an identified key worker at the time of referral to the MDT
Denominator:	All patients with HCC
Exclusions:	No exclusions
Target:	95%

Of the 356 patients diagnosed with Hepatocellular cancer (HCC) in Scotland in 2020, 42.1% had an identified keyworker at the time of referral to the MDT below the target of 95%. There was considerable variation in performance against this QPI with 5 NHS Boards meeting the QPI with 100% but no regions achieving the target. As this is a new QPI no data are available for previous years.



2020 data	Grampian	Highland	Orkney	Shetland	Tayside	W Isles	NCA	Borders	D&G	Fife	Lothian	SCAN	A&A	Forth Valley	GGC	Lanarkshire	WoSCAN	Scotland
Numerator	18	15	0	*	23	0	58	1	17	23	6	47	3	21	8	13	45	150
Denominator	27	15	0	*	23	0	67	5	17	26	58	106	19	21	102	41	183	356
Performance (%)	66.7	100	-	*	100	-	86.6	20.0	100	88.5	10.3	44.3	15.8	100	7.8	31.7	24.6	42.1

The results for this QPI indicate considerable variation in performance across NHS Boards and identify an unmet need for Cancer Nurse Specialist (CNS) involvement in the care of patients with HCC in some NHS Boards including NHS Lothian and NHS GGC. In other Boards (for example NHS Ayrshire & Arran and NHS Lanarkshire) not all patients are referred to the CNSs available, at times due to patients being directly referred by other specialities to the Edinburgh HPB or Glasgow HCC MDT.

This year's performance will provide a baseline against which future improvements can be measured. NHS Borders has recently recruited a CNS which should result in improved performance in future years while NHS Fife identified some recording difficulties in which they are aiming to resolve. In addition, in NHS Grampian the MDT coordinator is now actively identifying keyworkers for patients at the time of registration at the MDT. These improvements should improve performance against the QPI in future years.

Action Required:

- **NHS GGC to determine how the role of the key worker will be resourced and supported across the Board supporting, where appropriate, the progression of already developed business cases for CNSs.**
- **NHS Lothian to explore additional resource to secure CNS support for all HCC patients.**
- **NHS A&A, NHS Borders, NHS Fife, NHS Grampian and NHS Lanarkshire to ensure timely referral of all HCC patients to CNSs.**

QPI 17: 30 / 90 Day Mortality following Treatment for Colorectal Liver Metastases

Over 50% of patients with primary colorectal cancer will develop liver metastases. Liver resection has now been widely accepted as the treatment of choice for primary colorectal liver metastases (CRLM), providing the only potential curative treatment with 5 year survival rates of 40 – 60% reported¹. This QPI is intended to ensure treatment is given appropriately, and the outcome reported on and reviewed.

QPI 17:	30 and 90 day mortality following treatment for Colorectal liver metastases (CRLM) with curative intent.
Description:	Proportion of patients with CRLM undergoing curative treatment (resection / ablation) who die within 30 or 90 days of treatment.
Numerator:	All patients with CRLM undergoing curative treatment (resection / ablation) who die within 30/90 days of treatment.
Denominator:	All patients with CRLM undergoing curative treatment (resection / ablation).
Exclusions:	No exclusions.
Target:	30 days <5% 90 days <7.5%

Across Scotland one patient with colorectal liver metastasis died within 30 days of resection and four within 90 days of resection; while the target was met for both measures at a national level the 90 day mortality target of < 7.5% was narrowly missed for patients having surgery in Edinburgh.

Resection	2020 data	Aberdeen	Inverness	Dundee	Edinburgh	Glasgow	Scotland
30 day mortality Target < 5%	Numerator	0	*	*	1	*	1
	Denominator	10	*	*	52	*	72
	Performance (%)	0%	*	*	1.9%	*	1.4%
90 day mortality Target < 7.5%	Numerator	0	*	*	4	*	4
	Denominator	10	*	*	52	*	72
	Performance (%)	0%	*	*	7.7%	*	5.6%

One patient with colorectal liver metastasis died within 30 and 90 days of ablation; while the QPI targets were met at a nation level they were not met for patients having treatment in Edinburgh due to the outcome of this single patient.

Ablation	2020 data	Aberdeen	Inverness	Dundee	Edinburgh	Glasgow	Scotland
30 day mortality Target < 7.5%	Numerator	*	0	0	1	0	1
	Denominator	*	0	6	10	11	29
	Performance (%)	*	-	0%	10%	0%	3.4%
90 day mortality Target < 5%	Numerator	*	0	0	1	0	1
	Denominator	*	0	6	10	11	29
	Performance (%)	*	-	0%	10%	0%	3.4%

All patients that die following treatment were reviewed at the monthly centre mortality and morbidity reviews and the annual NMCN mortality and morbidity review. Following clinical review of patients that died in Edinburgh within 90 days of treatment, changes in practice have been implemented within NHS Lothian and all concerns raised have been addressed. No patients diagnosed in 2019 were recorded as having died within 30 or 90 days of ablation or resection for colorectal liver metastases in Edinburgh.

5. Next Steps

Progress against these plans will be monitored by the NMCN and any service or clinical issue which the NMCN 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, 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

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

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

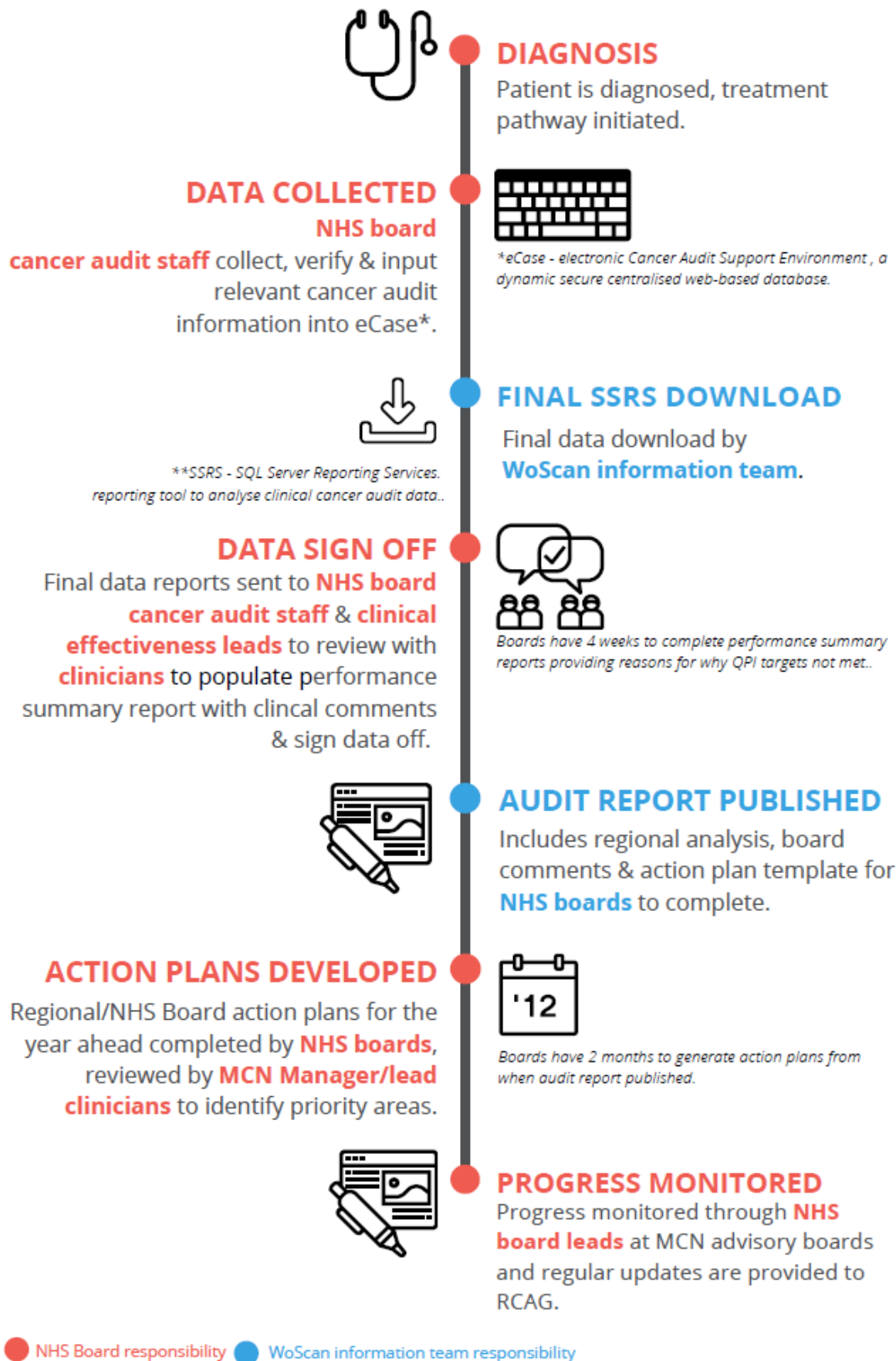
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Appendix 1: Meta Data

Report Title	Audit Report: HPB Cancer Quality Performance Indicators																				
Time Period	Patients diagnosed 01 January 2020 to 31 December 2020																				
Data Source	Electronic Cancer Audit Support Environment (eCASE). A secure centralised web-based database which holds cancer audit information in Scotland.																				
Data extraction date	2200 hrs on 22 September 2021																				
Methodology	<p>Analysis was performed centrally for the region by the WoSCAN Information Team. The timescales agreed took into account the patient pathway to ensure that a complete treatment record was available for the majority of patients.</p> <p>Initial results were provided to Boards to check for inaccuracies, inconsistencies or obvious gaps and a subsequent download taken upon which final analysis was carried out.</p> <p>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. Please see infographic in appendix 2 for a more detailed look at the reporting process.</p>																				
Data Quality	<p>Audit data completeness can be assessed by estimating the proportion of expected patients that have been identified through audit compared to the number reported by the National Cancer registry (provided by ISD, National Services Division), this is known as case ascertainment. Figures should only be used as a guide as it is not possible to compare the same exact cohort from each data source. Note that a 5 year average is taken for cancer registry cases to take account of annual fluctuations in incidence within NHS Boards.</p> <table border="1" data-bbox="415 1283 1338 1549"> <thead> <tr> <th>Health Board of diagnosis</th> <th>2020 Audit Data</th> <th>Cases from Cancer registry (2015 - 2019)</th> <th>Case Ascertainment</th> </tr> </thead> <tbody> <tr> <td>NCA</td> <td>389</td> <td>433</td> <td>89.8%</td> </tr> <tr> <td>SCAN</td> <td>475</td> <td>467</td> <td>101.7%</td> </tr> <tr> <td>WoSCAN</td> <td>739</td> <td>809</td> <td>91.3%</td> </tr> <tr> <td>Scotland Total</td> <td>1603</td> <td>1709</td> <td>93.8%</td> </tr> </tbody> </table>	Health Board of diagnosis	2020 Audit Data	Cases from Cancer registry (2015 - 2019)	Case Ascertainment	NCA	389	433	89.8%	SCAN	475	467	101.7%	WoSCAN	739	809	91.3%	Scotland Total	1603	1709	93.8%
Health Board of diagnosis	2020 Audit Data	Cases from Cancer registry (2015 - 2019)	Case Ascertainment																		
NCA	389	433	89.8%																		
SCAN	475	467	101.7%																		
WoSCAN	739	809	91.3%																		
Scotland Total	1603	1709	93.8%																		

Appendix 2: WoSCAN QPI Reporting Process



Appendix 3: NHS Board Action Plans

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

Action / Improvement Plan

Area:	Aberdeen Centre/ NHS Grampian, NHS Orkney and NHS Shetland
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>
1	All NHS Boards to ensure that each patient not discussed at MDT before definitive treatment is individually reviewed (category: MDT)						
12ii	All surgical centres to ensure that surgeons undertake an adequate number of surgical procedures each year (category: surgery)						
16	NHS A&A, NHS Borders, NHS Fife, NHS Grampian and NHS Lanarkshire to ensure timely referral of all HCC patients to CNSs (Category: AHP/CNS)						

Action / Improvement Plan

Area:	Inverness Centre/ NHS Highland and NHS Western Isles
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>
1	All NHS Boards to ensure that each patient not discussed at MDT before definitive treatment is individually reviewed (category: MDT)						
1	NHS Highland to communicate with emergency receiving teams across medical and surgical disciplines the need to refer patients to the MDT, even if the patient is not wishing to receive treatment (category: MDT)						
12ii	All surgical centres to ensure that surgeons undertake an adequate number of surgical procedures each year (category: surgery)						

Action / Improvement Plan

Area:	Dundee Centre/ NHS Tayside
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>
1	All NHS Boards to ensure that each patient not discussed at MDT before definitive treatment is individually reviewed (category: MDT)						
12ii	All surgical centres to ensure that surgeons undertake an adequate number of surgical procedures each year (category: surgery)						

Action / Improvement Plan

Area:	Edinburgh Centre/ NHS Borders, NHS Dumfries & Galloway, NHS Fife, NHS Forth Valley and NHS Lothian
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>
1	All NHS Boards to ensure that each patient not discussed at MDT before definitive treatment is individually reviewed (category: MDT)						
12ii	All surgical centres to ensure that surgeons undertake an adequate number of surgical procedures each year (category: surgery)						
16	NHS A&A, NHS Borders, NHS Fife, NHS Grampian and NHS Lanarkshire to ensure timely referral of all HCC patients to CNSs (Category: AHP/CNS)						
16	NHS Lothian to explore additional resource to secure CNS support for all HCC patients (category: AHP/CNS)						

Action / Improvement Plan

Area:	Glasgow Centre/ NHS Ayrshire & Arran, NHS Greater Glasgow & Clyde, NHS Lanarkshire
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>
1	All NHS Boards to ensure that each patient not discussed at MDT before definitive treatment is individually reviewed (category: MDT)						
1	Glasgow centre joint leads to write to the Chief of Medicine in NHSGGC to remind clinicians to refer all patients to the MDT upon diagnosis, even if just for registration purposes (category: MDT)						
3	NHS Glasgow Greater and Clyde to ensure all patients meeting the criteria for liver transplant will be discussed with the SLTU at the joint WoS HCC MDT and where there is agreement that patients are not suitable for formal referral to the SEoS HPB MDT this will be documented in the MDT outcome (category: MDT)						
12ii	All surgical centres to ensure that surgeons undertake an						

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	adequate number of surgical procedures each year (category: surgery)						
16	NHSGGC to determine how the role of the key worker will be resourced and supported across the Board supporting, where appropriate, the progression of already developed business cases for CNSs (category: AHP/CNS)						
16	NHS A&A, NHS Borders, NHS Fife, NHS Grampian and NHS Lanarkshire to ensure timely referral of all HCC patients to CNSs (Category: AHP/CNS)						

Action / Improvement Plan

Area:	HPB cancer 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>
2ii	NMCN to monitor performance against QPI 2(ii) following implementation of the Scottish Government funded improvement project to coordinate HPB cancer patient care (category: performance review)						
15	NMCN, in conjunction with NHS Boards, to review the referral pathway for oncology intervention to ensure that all patients requiring oncology review or treatment are offered a timely oncology clinic appointment (category: oncology)						

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