

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

**HepatoPancreatoBiliary Cancers  
National Managed Clinical Network**



# **Audit Report**

## **Report of the 2010 Clinical Audit Data**

Mr Colin J McKay  
**Consultant Surgeon**  
**NMCN Clinical Lead**

Lindsay Campbell  
**NMCN Manager**

Jennifer Keatings  
**Information Officer**  
**West of Scotland Cancer Network**

# HepatoPancreatoBiliary Cancer Audit Report Addendum

## Contents Amendment Record

This report has been issued and amended as follows:

<b>Revision</b>	<b>Description</b>
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Page 17	The column headings in the data table under Figure 7 have been amended to correspond with the chart presented within Figure 7. Data contained within column 1 relates to Glasgow Royal Infirmary rather than Royal Infirmary of Edinburgh as previously stated. A transcription error occurred in transferring the original table from Microsoft Excel to Word. This has now been corrected.
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Signed:

Carol Marshall	Information Manager
Lindsay Campbell	NMCN Manager
Mr Colin J. McKay	NMCN Clinical Lead

# CONTENTS

<b>EXECUTIVE SUMMARY</b>	<b>4</b>
<b>1. INTRODUCTION</b>	<b>7</b>
<b>2. BACKGROUND</b>	<b>7</b>
<b>3. METHODOLOGY</b>	<b>10</b>
<b>4. RESULTS AND ACTION REQUIRED</b>	<b>11</b>
4.1 DATA QUALITY	11
4.2 PERFORMANCE AGAINST AGREED QUALITY MEASURES	12
<b>5. CONCLUSIONS</b>	<b>18</b>
5.1. ACTION REQUIRED	18
<b>ACKNOWLEDGEMENT</b>	<b>20</b>
<b>ABBREVIATIONS</b>	<b>21</b>
<b>REFERENCES</b>	<b>22</b>

## Executive Summary

### Introduction

The purpose of this report is to present an assessment of performance of HepatoPancreatoBiliary (HPB) Cancer Services relating to patients diagnosed across Scotland during 2010 through clinical audit data. This disease group does not have NHS Quality Improvement Scotland (QIS) Clinical Standards to report against and the current set of analyses criteria were determined through consultation with key clinical and clinical effectiveness staff throughout the Managed Clinical Network (MCN). The Scottish Cancer Taskforce Quality Subgroup is currently taking forward the development of national Quality Performance Indicators (QPIs) for all cancers. Work is now underway to develop QPIs for HPB cancers and this will help to drive continuous improvement for patients.

### Background

HPB cancers are a rare group of cancers. Incidence of liver cancer is increasing and mortality has significantly increased, especially in males, making liver cancer the tenth most common cause of death from cancer in males. Survival rates for pancreatic cancer are poor as these cancers tend to present at an advanced stage and are less amenable to treatment. In 2010 the audit identified 1048 patients diagnosed with a new primary cancer of the liver, pancreas, bile ducts, gallbladder or duodenum in Scotland.

Below are the five HPB cancer centres in Scotland. These are considered the centres for specialist treatment, which includes surgery, chemotherapy and radiotherapy. Patients may receive diagnostic and palliative care elsewhere, usually in their local hospital however, most patients are referred to one of the five centres for specialist management. Additionally, the Scottish Liver Transplant Centre is located in the Royal Infirmary of Edinburgh where all transplant cases in Scotland are referred.

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

### Methodology

Clinical audit data is collected by audit staff in each of the Health Boards in accordance with an agreed dataset and definitions. The data is recorded manually and entered locally into the electronic Cancer Audit Support Environment (eCASE): a secure centralised web-based database. Data was downloaded from eCASE in October 2011 and analysis performed by the West of Scotland Cancer Network (WoSCAN) Information Team on behalf of the MCN. The timescales agreed take into account the patient pathway and aim to ensure that a complete treatment record is available for each case. Initial results of the analysis were provided to Health Boards to check for inaccuracies, inconsistencies or obvious gaps and a subsequent download taken upon which final analysis was carried out. The final data analysis was disseminated for Health Board verification in line with the WoSCAN Regional Information Governance Framework to ensure that the data is an accurate representation of service in each area.

Once all Health Boards had verified data, further analyses were carried out at a regional and national level and by treatment centre to provide an overall assessment of the quality of HPB cancer services in Scotland.

When the MCN first analysed HPB audit data in 2007, case ascertainment was low in several areas and results were therefore unreliable. Data relating to patients diagnosed in 2010 were submitted by all fourteen Scottish Health Boards and demonstrated an acceptable level of case ascertainment for all data to be analysed and reported. Case ascertainment is over 75% for most Boards and it recognised that small Boards are likely to see yearly fluctuations in numbers therefore calculated case ascertainment may be an over or under estimation and is not a cause for concern.

Overall data quality and completeness is good for the data items required for analyses. A few Health Boards could improve upon the quality of surgical data. Start and end dates for chemotherapy could be better completed and similarly, date of death which is required to calculate mortality. Consistently poor data completeness of whether a patient was seen by a Palliative Care Specialist or dietician and whether patients were entered into a clinical trial has been observed across Health Boards with no significant improvement over the years. Analyses using these data items cannot provide meaningful results and therefore is not included within this report.

## **Results**

The data are measured against agreed criteria and results are summarised below. Values represent the overall Scotland result expressed as a percentage and where appropriate the range is also detailed.

1. Proportion of patients discussed at a multidisciplinary team meeting (92 [60-100]%)
2. Proportion of patients in Scotland with a curative care plan intent (17%)
3. Proportion of patients in Scotland treated with liver resection for primary liver cancer (15%)
4. Proportion of patients in Scotland treated with pancreatic resection (12%)
5. Proportion of patients who died within thirty days of pancreatic resection (1 [0-7]%)
6. Proportion of pancreatic resection patients who receive adjuvant chemotherapy (56 [37-72]%)

## **Conclusions and Action Required**

Improvements in data capture and quality have been observed in recent years, which have facilitated meaningful data analysis to help inform MCN activity. While progress is welcomed, it is also recognised that there remains room for further improvement. Much of the data available does not adequately facilitate analysis focussed upon outcome and there are still concerns with data quality and completeness. It is anticipated that these shortcomings will be addressed by the development and implementation of QPIs.

Health Boards are asked to develop local Action/Improvement Plans in response to the findings presented in this report. Progress against these plans will be monitored by the MCN Advisory Board and reported to Regional Cancer Advisory Groups (RCAGs) annually to enable them to review and monitor improvement.

## **Action required:**

### **Service Improvement**

- Health Boards should look at improving the early diagnosis of HPB cancer through appropriate imaging including the use of CT scan for patients with unexplained weight loss.
- Health Boards should support the development of formal referral pathways that may reduce the time from suspected diagnosis to confirmed diagnosis and treatment of HPB cancer.
- Aberdeen Royal Infirmary should review their cases of post-operative mortality following pancreatic cancer resection and formally report to the MCN Advisory Board and RCAG on results.
- North of Scotland Cancer Network (NOSCAN) should review the sustainability of current service provision within three low volume centres.
- All surgical centres should review protocols for post-operative referral to oncology to ensure all suitable patients receive adjuvant chemotherapy following pancreatic resection.

### **Data Quality Improvement**

- Health Boards should review local processes for notification of cases to ensure continual improvement of case ascertainment.
- Health Boards should review local audit processes to ensure capability to capture chemotherapy dates.
- Health Boards should encourage liaison and communication between audit staff and clinicians to facilitate good quality data.
- NHS Lanarkshire and NHS Fife should review local processes to ensure capture of information from MDT meetings.
- Aberdeen Royal Infirmary should review their documentation processes for surgical information to ensure accurate documentation by clinical staff to enable clinical audit data capture.
- Aberdeen Royal Infirmary should review the local audit verification process to ensure accurate audit information is analysed and reported.

## 1. Introduction

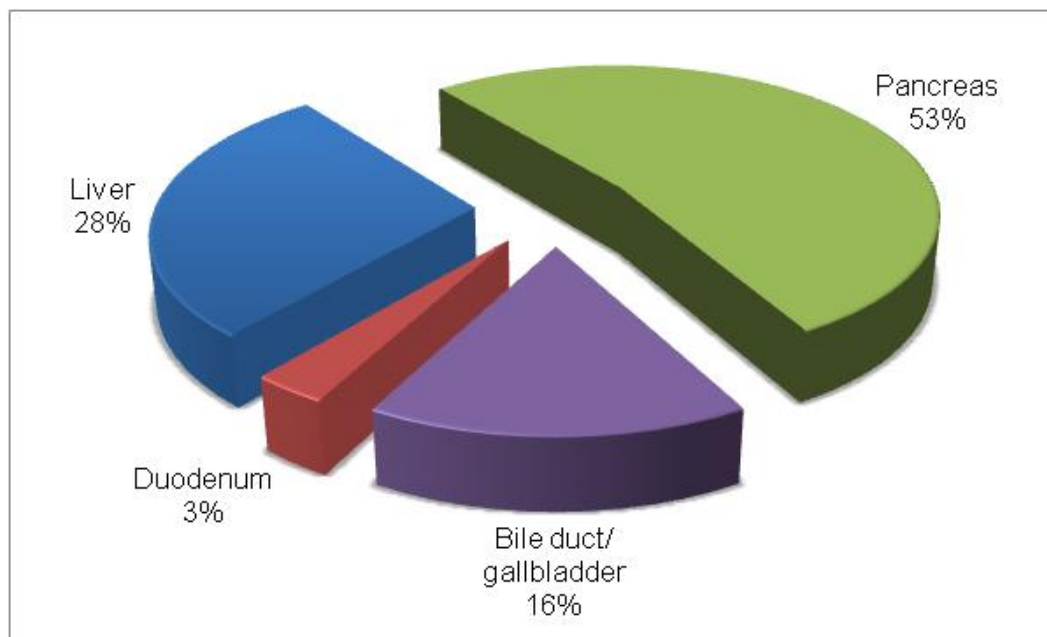
The National Managed Clinical Network (MCN) for HepatoPancreatoBiliary (HPB) Cancers launched in 2005 with the aim of providing quality and equitable care for all patients in Scotland. The purpose of this report is to present an assessment of performance of HPB Cancer Services relating to patients diagnosed across Scotland during 2010 through clinical audit data. These audit data underpin much of the regional development/service improvement work of the MCN and regular reporting of activity and performance is a fundamental requirement of an MCN to assure the quality of care delivered across the country.

This disease group does not have NHS Quality Improvement Scotland (QIS) Clinical Standards to report against and the current set of analyses criteria were determined through consultation with key clinical and clinical effectiveness staff throughout the MCN. The Scottish Cancer Taskforce Quality Subgroup is currently taking forward the development of national Quality Performance Indicators (QPIs) for all cancers. Work is now underway to develop QPIs for HPB cancers and this will help to drive continuous improvement for patients.

## 2. Background

HPB cancers are a rare group of cancers. In 2010 the audit identified 1048 patients diagnosed with a new primary cancer of the liver, pancreas, bile ducts, gallbladder or duodenum in Scotland. Comparative numbers of breast, colorectal and lung cancers diagnosed in Scotland are much greater with approx 4400, 3900 and 5000 patients diagnosed each year, respectively. Pancreatic cancer accounts for more than half of all HPB cancer diagnoses and Figure 1 illustrates the proportions of each type of HPB cancer diagnosed in Scotland in 2010.

Figure 1: Proportion of patients diagnosed in 2010 by site of origin of tumour

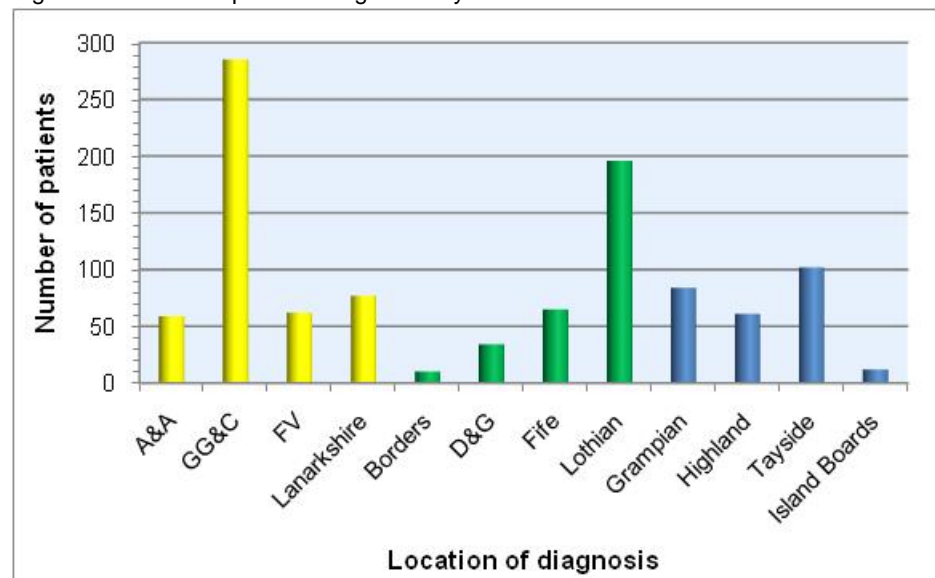


Site of tumour	Liver	Pancreas	Bile duct/ gallbladder	Duodenum	Total
Number of cases	296	551	167	34	1048

The distribution of the 1048 patients diagnosed in 2010 across the fourteen Scottish Health Boards is presented in Figure 2. The West of Scotland Cancer Network (WoSCAN) is the most populous area Scottish HepatoPancreatoBiliary Cancer Network

in Scotland and therefore with 483 patients diagnosed in 2010 is the largest of the three regional MCNs in Scotland. In the South East of Scotland Cancer Network (SCAN) and the North of Scotland Cancer Network (NOSCAN), 305 and 259 patients were diagnosed in 2010 respectively. NHS Greater Glasgow and Clyde diagnosed the greatest number of patients, followed by NHS Lothian. This reflects the population distribution in Scotland where these are the two most populated Health Boards.<sup>1</sup>

Figure 2: Number of patients diagnosed by Health Board in 2010



Board of diagnosis	A&A	GG&C	FV	Lan	Borders	D&G	Fife	Lothian
Number of cases	59	285	62	77	10	34	65	196

Board of diagnosis	Grampian	Highland	Tayside	Island Boards <sup>1</sup>
Number of cases	84	61	102	12

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

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

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

In Scotland, liver cancer is the thirteenth most common cancer in males and nineteenth in females.<sup>2</sup> The incidence of liver cancer is rising especially in males with increases of 59.4% and 10.3% in males and females respectively in the last two decades.<sup>2</sup> There has been a significant increase in mortality in

<sup>1</sup> Island Health Boards include NHS Orkney, NHS Shetland and NHS Western Isles  
Scottish HepatoPancreatoBiliary Cancer Network

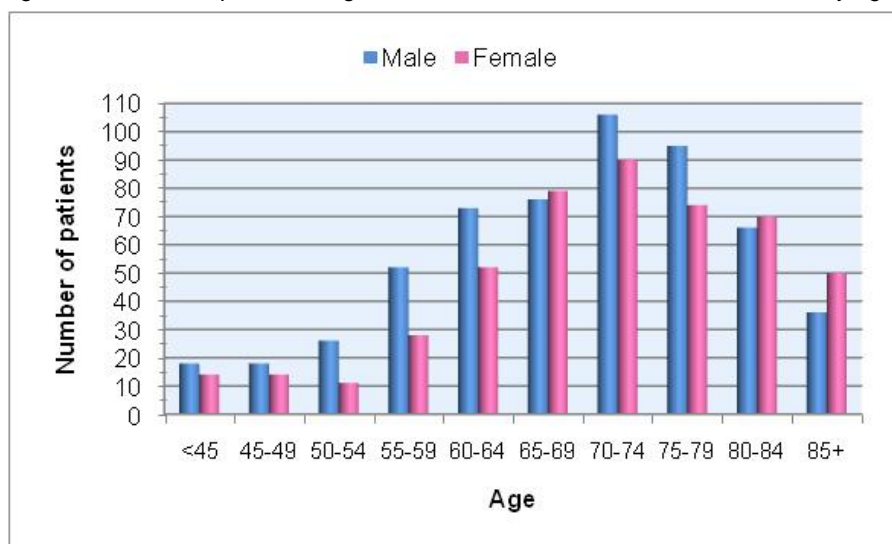


males from liver cancer with a 47.5% rise in the last ten years and consequently liver cancer is the now the tenth most common cause of death from cancer in males.<sup>3</sup>

Pancreatic cancer is the eleventh and ninth most common cancer in males and females respectively and in the last ten years there have been small increases in incidence in both sexes.<sup>4</sup> Whilst rare, pancreatic cancer is the sixth commonest cause of death from cancer.<sup>3</sup> Pancreatic cancers tend to present at an advanced stage and are less amenable to treatment and resultantly survival is poor. Although there has been a slight improvement in the last twenty years, 1 year relative (age-standardised) survival is 15.9% in males and 18.8% in females.<sup>5</sup> Five years after diagnosis, survival is 4.3% in males and 3.6% in females and is unchanged over the previous two decades.<sup>5</sup>

HPB cancers occur most frequently later in life. Figure 3 illustrates the number of new cases in 2010 by age and gender. The incidence of HPB cancers is higher in males in all age groups, however, as women live longer than men, the total number of cases diagnosed in women aged 80 years or more is greater than for males. Although the majority of cases do occur in older individuals, it is concerning to observe that 20% of HPB cancers in males and 13% in females were diagnosed in individuals under 60 years of age.

Figure 3: Number of patients diagnosed with HPB cancer in Scotland in 2010 by age and gender



### **3. Methodology**

Clinical audit data is collected by audit staff in each of the Health Boards in accordance with an agreed dataset and definitions. The data is recorded manually and entered locally into the electronic Cancer Audit Support Environment (eCASE): a secure centralised web-based database. Data relating to patients diagnosed between 1<sup>st</sup> January and 31<sup>st</sup> December 2010 was downloaded from eCASE in October 2011 and analysis performed by the WoSCAN Information Team on behalf of the MCN. The timescales agreed take into account the patient pathway and aim to ensure that a complete treatment record is available for each case. Initial results of the analysis were provided to Health Boards to check for inaccuracies, inconsistencies or obvious gaps and a subsequent download taken upon which final analysis was carried out. The final data analysis was disseminated for Health Board verification in line with the WoSCAN Regional Information Governance Framework to ensure that the data is an accurate representation of service in each area.

Once all Health Boards had verified data, further analyses were carried out at a regional and national level and by treatment centre to provide an overall assessment of the quality of HPB cancer services in Scotland.

## 4. Results and Action Required

### 4.1 Data Quality

Case ascertainment is a method of estimating whether the number of patient records captured through audit reflects the number expected for that cancer and location. It is also required to aid the interpretation of analysis based on cancer audit data, as more complete data will return more reliable results. When the MCN first analysed HPB audit data in 2007, case ascertainment was low in several areas and results were therefore unreliable. Data collected relating to patients diagnosed in 2009 demonstrated improved case ascertainment however case ascertainment for NHS Ayrshire & Arran data was too low (less than 60%) to include them in analyses. A few other Health Boards could not be included in this cohort for analyses: NHS Dumfries and Galloway and NHS Orkney did not collect the full dataset at this time and NHS Shetland did not have any cases diagnosed in 2009.

Building on the improvement in the first couple of years, data relating to patients diagnosed in 2010 is further improved. Data were submitted by all fourteen Scottish Health Boards and demonstrated an acceptable level of case ascertainment for all data to be analysed and reported. Case ascertainment is over 75% for most Boards and it recognised that small Boards are likely to see yearly fluctuations in numbers therefore calculated case ascertainment may be an over or under estimation and is not a cause for concern.

Overall data quality and completeness is good for the data items required for analyses. A few Health Boards could improve upon the quality of surgical data. Start and end dates for chemotherapy could be better completed and similarly, date of death which is required to calculate mortality. Consistently poor data completeness of whether a patient was seen by a Palliative Care Specialist or dietician and whether patients were entered into a clinical trial has been observed across Health Boards with no significant improvement over the years. Analyses using these data items cannot provide meaningful results and therefore is not reported.

#### **Action required:**

- Health Boards should review local processes for notification of cases to ensure continual improvement of case ascertainment.
- Health Boards should review local audit processes to ensure capability to capture chemotherapy dates.
- Health Boards should encourage liaison and communication between audit staff and clinicians to facilitate good quality data.

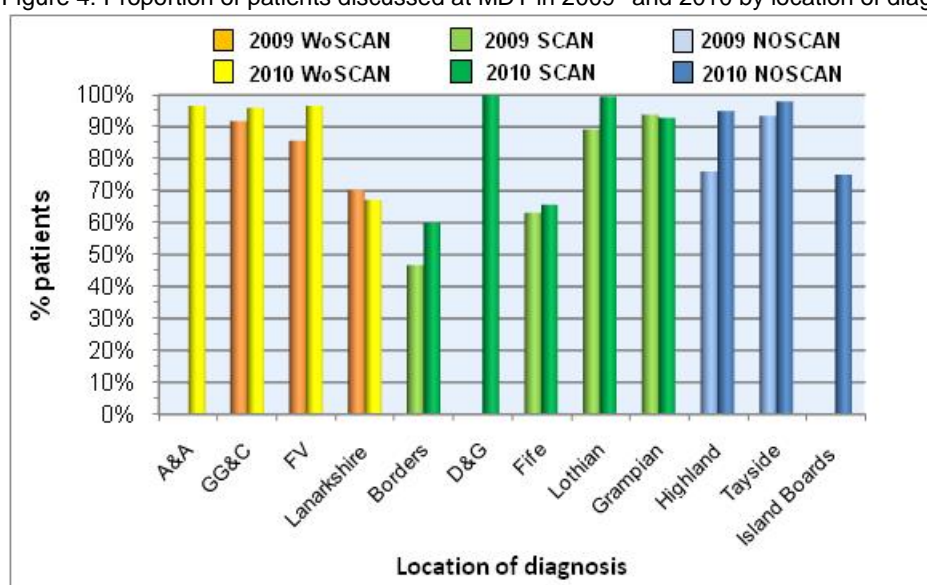
## 4.2 Performance Against Agreed Quality Measures

### 4.2.1. Discussed at a Multidisciplinary Team Meeting

Multi-disciplinary team (MDT) meetings have frequently been endorsed as a vital method of including all relevant disciplines and professional groups in decisions relating to the clinical management of cancer patients. Effective MDT working is considered integral to provision of high-quality cancer care, ensuring treatment and care provision is tailored to patient needs.

The proportion of patients diagnosed in Scotland in 2010 discussed at MDT is high at 92%. Figure 4 illustrates that the majority of Health Boards improved from 2009 to 2010. Lanarkshire and Fife have low proportions of patients discussed at MDT in both 2009 and 2010. Proportions in Borders, Shetland and Western Isles are based on small numbers and therefore are not of great concern.

Figure 4: Proportion of patients discussed at MDT in 2009<sup>2</sup> and 2010 by location of diagnosis



Board of diagnosis	A&A		GG&C		FV		Lan		Borders		D&G		Fife		Lothian	
Year of diagnosis	'09	'10	'09	'10	'09	'10	'09	'10	'09	'10	'09	'10	'09	'10	'09	'10
Patients discussed	-	57	246	240	48	57	52	49	7	6	-	33	36	42	133	186
Total patients included <sup>3</sup>	-	59	268	250	56	59	74	73	15	10	-	33	57	64	149	187

Board of diagnosis	Grampian		Highland		Tayside		Islands	
Year of diagnosis	'09	'10	'09	'10	'09	'10	'09	'10
Patients discussed	92	78	54	57	72	96	-	9
Total patients included <sup>3</sup>	98	84	71	60	77	98	-	12

#### Action required:

NHS Lanarkshire and NHS Fife should review local processes to ensure capture of information from MDT meetings.

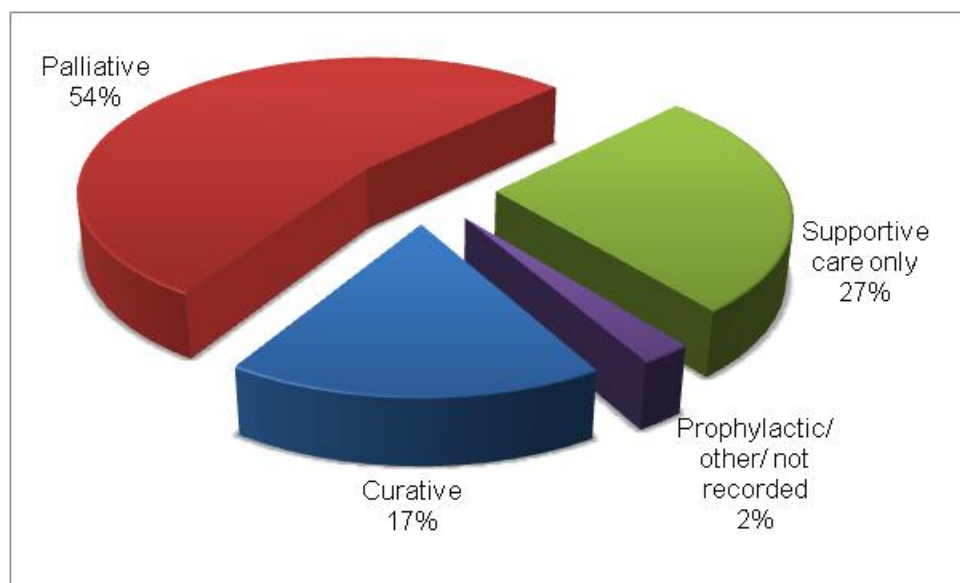
<sup>2</sup> Reason for missing 2009 A&A, D&G, Orkney and Shetland data is described in section 4.1

<sup>3</sup> Patients who died before first treatment are excluded from the total

## 4.2.2. Care Plan Intent

At initial discussion by the MDT, a care plan is decided based upon information available at that time. Figure 5 indicates that over half of all HPB cancer patients are considered for a palliative care plan at first discussion. A further 27% have supportive care only and only 17% of patients are initially considered for potentially curative treatment. Of those patients that are considered for curative treatment, a proportion of these will not go on to receive curative treatment as further investigation will indicate that they are not suitable, often due to more advanced disease than initially suspected.

Figure 5: Distribution of patients by care plan intent



The proportion of patients going forward for potentially curative treatment is low however this is expected for these difficult tumours where patients usually present late, at a point where curative treatment is not an option. Earlier diagnosis is desirable but difficult to achieve. At the present time efforts are focussed on speeding the pathway from suspected diagnosis to treatment plan. The MCN is working with Health Boards to agree formal referral pathways and individual specialist units are reviewing processes to see where unnecessary delays can be avoided.

### Action required:

- a. Health Boards should look at improving the early diagnosis of HPB cancer through appropriate imaging including the use of CT scan for patients with unexplained weight loss.
- b. Health Boards should support the development of formal referral pathways that may reduce the time from suspected diagnosis to confirmed diagnosis and treatment of HPB cancer.

#### **4.2.3. Surgical resection – primary liver cancer**

Liver cancer resection includes all operations where part of the liver is removed and includes total hepatectomy with liver transplantation. The resection rate is calculated as the proportion of patients who undergo liver cancer resection from all patients diagnosed with liver cancer, exclusive of patients who died before first treatment or who refused surgical treatment.

The liver cancer resection rate in Scotland was 14.7% in 2010, with 40 out of 272 liver cancer patients undergoing a liver resection procedure.

#### **4.2.4. Surgical resection - pancreatic cancer**

Pancreatic cancer resection includes all operations that remove part of the pancreas. The most common resection for pancreatic cancer is a pancreaticoduodenectomy (also known as a Whipple's resection). The resection rate is calculated as the proportion of patients who undergo pancreatic cancer resection from all patients diagnosed with pancreatic cancer, exclusive of patients who died before first treatment or who refused surgical treatment.

The pancreatic cancer resection rate in Scotland was 12.1% in 2010, with 61 out of 505 pancreatic cancer patients undergoing a pancreatic cancer resection procedure.

While this figure is low, efforts to encourage earlier diagnosis should be made which may increase access to curative treatment.

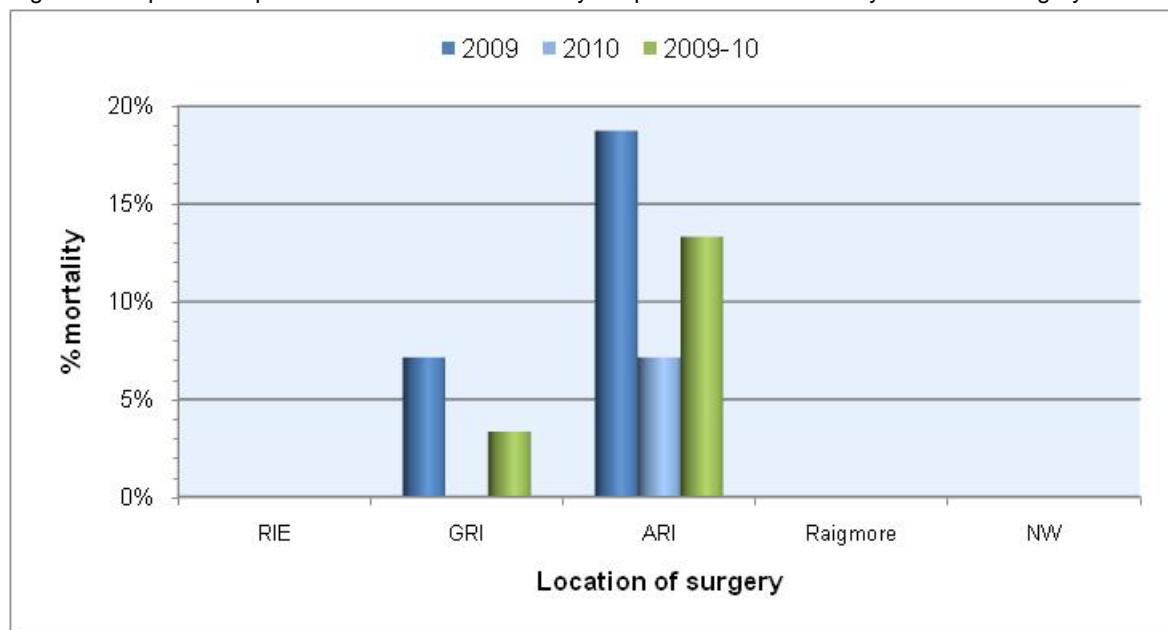
#### 4.2.5. Thirty day mortality following resection

There were 41 liver cancer resections<sup>4</sup> for primary cancer carried out on patients diagnosed in 2010 and no deaths occurred within thirty days of surgery. Almost 80% of these liver resections were carried out in the Royal Infirmary of Edinburgh and there were no liver resections carried out in Glasgow Royal Infirmary. Thirty day mortality following liver resection was also 0% in patients diagnosed in 2009 giving two successive years of excellent outcomes.

Guidelines for the Management of Pancreatic cancers published by each of the three regional cancer networks<sup>6,7,8</sup> state that “a 30 day in-hospital mortality of less than or equal to 5% should be achievable” following pancreatico-duodenectomy. In Scotland, thirty day mortality following pancreatic cancer resection was 5% in 2009, 1% in 2010 and 3% across the two years and this is in keeping with the evidence and guidelines.

Figure 6 shows the percentage of patients who died within thirty days of pancreatic cancer resection for patients diagnosed in 2009, 2010 and the two years combined by location of surgery. When considered alongside the numbers of operations carried out in each centre (detailed in the data table accompanying Figure 6) there is suggestion of a link between volume and mortality. This correlates with published evidence of an inverse relationship between hospital volume and mortality which has resulted in guidelines stating that resectional surgery should be carried out in a specialist high volume centre.<sup>9</sup>

Figure 6: Proportion of patients who died within 30 days of pancreatic resection by location of surgery



Location of surgery	RIE		GRI		ARI <sup>5</sup>		Raigmore		NW		Non-specialist		Total	
Year of diagnosis	'09	'10	'09	'10	'09	'10	'09	'10	'09	'10	'09	'10	'09	'10
Died within 30 days	0	0	2	0	3	1	0	0	0	0	0	0	5	1
Total patients included	34	37	28	32	16	14	10	3	5	10	1	0	94	96

<sup>4</sup> Number differs from 4.2.3 because 4.2.3 includes liver resection for patients recorded as having a liver cancer whereas 4.2.5 includes all liver resections, one of which is recorded as gallbladder as the site of tumour

<sup>5</sup> Subsequent to completion of the analysis and verification process, one patient operated on in Aberdeen Royal Infirmary (ARI) and included in 2009 results was identified as a neuro-endocrine tumour that had been incorrectly classified. These types of tumours are not eligible for national audit and therefore it should be noted that the true mortality rate for ARI in 2009 if this patient were excluded is 13.3% rather than 18.8% and combined two year mortality is 10.3%.

Figure 6 indicates variability in post-operative mortality between centres in Scotland. Aberdeen Royal Infirmary (ARI) is the only centre to have greater than 5% mortality over two years. With the small numbers of patients involved, it is recognised that this may be random variation rather than a statistically significant trend. Nonetheless, there is evidence from the published literature that surgical mortality is lowest in high volume centres<sup>9</sup> and the relatively high mortality in one relatively low volume centre requires careful monitoring.

In correspondence regarding mortality rates subsequent to completion of the verification process, Aberdeen Royal Infirmary has indicated concerns with the accuracy of local documentation of surgical information by clinical staff and thus the accuracy of surgical data collected through audit. Improvement in local processes is anticipated and should lead to information that is robust.

**Action required:**

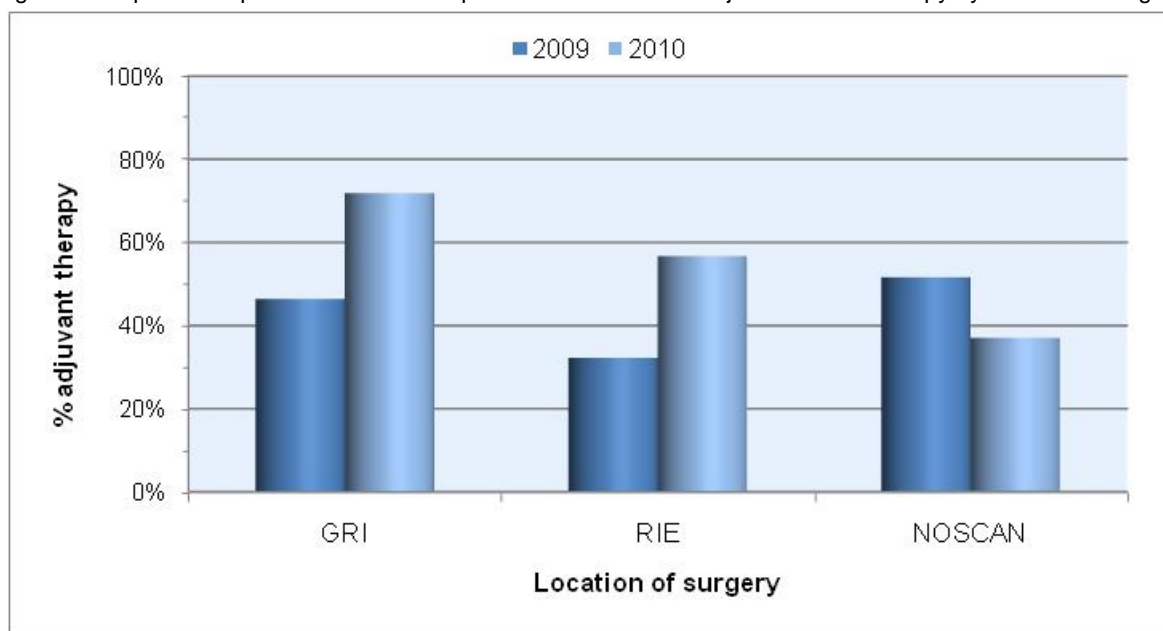
- a. Aberdeen Royal Infirmary should review their documentation processes for surgical information to ensure accurate documentation by clinical staff to enable clinical audit data capture.
- b. Aberdeen Royal Infirmary should review the local audit verification process to ensure accurate audit information is analysed and reported.
- c. Aberdeen Royal Infirmary should review their cases of post-operative mortality following pancreatic cancer resection and formally report to the MCN Advisory Board and RCAG on results.
- d. NOSCAN should review the sustainability of current service provision within three low volume centres.



#### 4.2.6. Adjuvant chemotherapy following pancreatic resection

Patients undergoing pancreatic cancer resection should be considered for adjuvant chemotherapy as there is proven survival advantage.<sup>10</sup> Figure 7 demonstrates that the proportion of pancreatic cancer resection patients who went on to receive adjuvant chemotherapy increased from 2009 to 2010 in WoSCAN and SCAN however there has been a decrease in NOSCAN between the two years. Results for Aberdeen Royal Infirmary, Raigmore Hospital and Ninewells Hospital are presented as combined NOSCAN results in Figure 7 due to the small numbers involved. The individual hospital results are detailed in the accompanying data table.

Figure 7: Proportion of pancreatic resection patients who received adjuvant chemotherapy by location of surgery



Location of surgery	GRI		RIE		ARI		Raigmore		NW		Non-specialist		Total	
Year of diagnosis	'09	'10	'09	'10	'09	'10	'09	'10	'09	'10	'09	'10	'09	'10
Adjuvant chemo	13	23	10	21	4	6	8	2	4	2	2	0	41	54
Pancreatic resections	28	32	31	37	16	14	10	3	5	10	4	0	94	96

Adjuvant chemotherapy rates are low and there is marked variation between centres. Adjuvant chemotherapy is associated with significant survival advantages and therefore improving this figure is desirable. Reflecting the importance of this topic, this issue is under consideration as part of the development process for national QPIs for HPB cancer.

#### Action required:

All surgical centres should review protocols for post-operative referral to oncology to ensure all suitable patients receive adjuvant chemotherapy following pancreatic resection.

## **5. Conclusions**

Cancer audit data underpins much of the development and service improvement work of the MCN and regular reporting of activity and performance is a fundamental requirement of an MCN to assure the quality of care delivered. It has been an aim of the Scottish HepatoPancreatoBiliary Cancer MCN to improve quality and completeness of clinical audit data to ensure that robust performance assessment can take place. Improvements have been observed in recent data and these improvements have facilitated availability of meaningful and useful information to the MCN regarding the service performance and quality.

While progress is welcomed, it is also recognised that there remains room for further improvement. Much of the data available does not adequately facilitate analysis focussed upon outcome and there are still concerns with data quality and completeness. It is anticipated that these shortcomings will be addressed by the development and implementation of QPIs.

QPIs which are evidence based, outcome focussed and measurable will be developed and agreed by a multi-disciplinary group. This will enable continuous improvement and drive service change, where appropriate, by focussing on areas of key clinical importance which make a difference to patient outcome and experience. A major element of the QPI development will be the implementation of a new dataset aligned directly to measure the QPIs, resulting in more focussed data collection. The development process for HPB QPIs began in June 2011 and it is anticipated this will be completed for implementation in October 2012.

Health Boards are asked to develop local Action/Improvement Plans in response to the findings presented in this report. Progress against these plans will be monitored by the MCN Advisory Board and reported to RCAGs annually to enable them to review and monitor improvement.

### **5.1 Action required**

#### **Service Improvement**

- Health Boards should look at improving the early diagnosis of HPB cancer through appropriate imaging including the use of CT scan for patients with unexplained weight loss.
- Health Boards should support the development of formal referral pathways that may reduce the time from suspected diagnosis to confirmed diagnosis and treatment of HPB cancer.
- Aberdeen Royal Infirmary should review their cases of post-operative mortality following pancreatic cancer resection and formally report to the MCN Advisory Board and RCAG on results.
- NOSCAN should review the sustainability of current service provision within three low volume centres.
- All surgical centres should review protocols for post-operative referral to oncology to ensure all suitable patients receive adjuvant chemotherapy following pancreatic resection.

#### **Data Quality Improvement**

- Health Boards should review local processes for notification of cases to ensure continual improvement of case ascertainment.
- Health Boards should review local audit processes to ensure capability to capture chemotherapy dates.

- Health Boards should encourage liaison and communication between audit staff and clinicians to facilitate good quality data.
- NHS Lanarkshire and NHS Fife should review local processes to ensure capture of information from MDT meetings.
- Aberdeen Royal Infirmary should review their documentation processes for surgical information to ensure accurate documentation by clinical staff to enable clinical audit data capture.
- Aberdeen Royal Infirmary should review the local audit verification process to ensure accurate audit information is analysed and reported.

## **Acknowledgement**

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

## Abbreviations

<b>A&amp;A</b>	NHS Ayrshire & Arran
<b>ARI</b>	Aberdeen Royal Infirmary
<b>CMG</b>	Clinical Management Guidelines
<b>D&amp;G</b>	Dumfries & Galloway
<b>e-CASE</b>	Electronic Cancer Audit Support Environment
<b>FV</b>	NHS Forth Valley
<b>GG&amp;C</b>	NHS Greater Glasgow and Clyde
<b>GRI</b>	Glasgow Royal Infirmary
<b>HPB</b>	HepatoPancreatoBiliary
<b>Lan</b>	NHS Lanarkshire
<b>MCN</b>	Managed Clinical Network
<b>MDT</b>	Multidisciplinary Team
<b>NOSCAN</b>	North of Scotland Cancer Network
<b>NW</b>	Ninewells Hospital
<b>QIS</b>	Quality Improvement Scotland
<b>RCAG</b>	Regional Cancer Advisory Group
<b>RIE</b>	Royal Infirmary of Edinburgh
<b>SCAN</b>	South East Scotland Cancer Network
<b>WoSCAN</b>	West of Scotland Cancer Network

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