Executive summary

1. The Hepato-Pancreato-Biliary (HPB) Pathway Board has been successfully established. The Pathway Clinical Director is Mr. Derek O’Reilly. There is active representation for all ten trusts in Greater Manchester and Cheshire that comprise Manchester Cancer. There is also primary care representation.

2. The HPB service in Greater Manchester is undergoing fundamental change in 2014. The North Manchester General Hospital and Manchester Royal Infirmary (MRI) units will merge on a single site at the MRI on 6 October. The merger process has been harmonious and successful. The clinical lead is Prof. Ajith Siriwardena.

3. The new merged single HPB multidisciplinary team (sMDT) and the HPB Pathway Board have been designed to meet:
   - NICE Cancer Service Guidance “Improving Outcomes of Upper GI Cancers”
   - The NHS Commissioning Board Specialised Services Specification

4. All new HPB cancer patients are reviewed by the HPB sMDT for discussion of initial treatment plan. Urgent cases can also be discussed outside of the MDT meeting, through the on-call HPB surgeon. The local referral/diagnostic teams are the local Upper GI and Colorectal Multidisciplinary teams at:
   - Bolton NHS Foundation Trust
   - Central Manchester University Hospitals NHS Foundation Trust
   - East Cheshire NHS Trust
   - Pennine Acute NHS Trust
   - Salford Royal NHS Foundation Trust
   - Stockport NHS Foundation Trust
   - Tameside Hospital NHS Foundation Trust
   - The Christie NHS Foundation Trust
   - University Hospital of South Manchester NHS Foundation Trust;
   - Wrightington, Wigan and Leigh NHS Foundation Trust;

5. A comprehensive set of clinical guidelines and treatment algorithms for HPB has been created. Thus, the entirety of HPB patient management is protocol-based and accords with the latest evidence and international guidance. This process has involved all members of the new sMDT, as well as representatives from the local referral/diagnostic teams.

6. National data on clinical outcomes is hampered by collection and presentation of results for HPB under the umbrella term “Upper Gastrointestinal Cancer”. This also includes oesophago-gastric cancer, an entirely different sMDT. Nonetheless, according to National Cancer Intelligence Network (NCIN) data, age-standardised incidence, emergency presentation and mortality for “upper GI cancers” in the Greater Manchester Area exceed the national average. Prevention and survival are correspondingly lower.

7. The HPB Pathway board is committed to measuring and openly publishing core measures that cover the whole cancer pathway. These include:
   - Percentage of cancers diagnosed by stage
   - Percentage of cancers diagnosed as emergencies
   - Resection rates
   - Operative morbidity and mortality
8. Responses to the Cancer Patient Experience Survey 2012/13 (CPES) are collected and reported as “upper gastrointestinal”. The use of this catch-all term for HPB and Oesophago-gastric (OG) cancer makes it impossible to separate the performance of these two separate MDT’s. Contact has been made with the national team to ensure separation of this data in future. With this proviso, the responses from PAT and CMFT closely match the national results and are tabulated in the annual report.

9. Research activity is a strength of the HPB Pathway Board. The number of HPB cancer patients recruited to NIHR Cancer Studies by Year consistently exceeds the 20% target of cancer patients recruited to NIHR studies and the 7.5% targets for cancer patients recruited to NIHR Interventional Studies. Prof. Juan Valle is the research lead for the HPB Pathway Board.

10. Recent innovations in clinical practice include:
   - the systematic use of cardiopulmonary exercise testing before HPB surgery,
   - the HPB WHO checklist
   - the HPB Quality Improvement programme.

11. A key priority for the HPB Pathway board is the introduction of a regional Jaundice Pathway. Its key innovative features are:
   - Same day definitive radiological imaging for patients presenting with obstructive jaundice not due to gallstones. The purpose is to provide for earlier diagnosis and timely referral and to improve patient experience.
   - Fast-track referral for jaundiced patients with pancreatic cancer for early surgery. The aim is to reduce overall complications and prolong survival.

   An application for funding has been to the “Acceleration, Coordination and Evaluation (ACE)” programme, for a clinical nurse specialist and data collector.

12. The key challenge identified by the HPB Pathway Board is to obtain sufficient resources to implement clinical improvements on a regional basis that lead to better outcomes. The resources necessary include: additional personnel for better coordination of patient care, accurate data collection to measure progress and active support from the Provider Board to implement change in their institutions.

13. Our key aims and vision are:
   - Better Patient Outcomes
   - Better Patient Experience
   - Research and Innovation
1. Introduction

2013/14 was a transitional year for cancer services in Greater Manchester and East Cheshire. The Greater Manchester and Cheshire Cancer Network ceased to exist in March 2013 when cancer networks nationally were amalgamated into strategic clinical networks as part of the NHS reorganisation. In Greater Manchester this coincided with the creation of Manchester Cancer, an integrated cancer system for Greater Manchester and East Cheshire.

Twenty Manchester Cancer Pathway Clinical Directors were appointed in late 2013 and took up their roles on 1st January 2014. They spent the first months in post forming their Pathway Boards, multi-professional clinical groups from across the region. These pathway Boards are now formed and most had their first meeting in April/May of 2014.

As such, this is a transitional annual report. It outlines the current configuration of services, the progress in forming the Pathway Board, the data on outcomes and experience that the Board took into account when setting its objectives, and what those objectives are for 2014/15 and beyond. In July 2015 every Manchester Cancer Pathway Board will publish a full annual report, outlining the work of its first full year and its progress against those objectives.

This annual report is designed to:

- Provide a summary of the work programme, outcomes and progress of the Board – alongside the minutes of its meetings, its action plan and its scorecard. This is the key document for the Board.
- Provide an overview to the hospital trust CEOs and other interested parties about the current situation across Manchester Cancer in this particular cancer area
- Meet the requirements of the National Cancer Peer Review Programme
- Be openly published on the external facing website.

2. General overview

The following is a summary of the references to all of the key documents that inform service specifications and standards in HPB cancer.

Service Specifications & Standards:


International/National Guidelines:


Local Guidelines:


3. Background to the pathway/cross-cutting area

The Greater Manchester & Cheshire Cancer Network HPB Network Site Specific Group (NSSG) was formed in 2010. The aim of the NSSG was to define the pathway for individual tumours, following discussion by all multi-disciplinary teams working in HPB cancer services across the Network, ensuring the same standard of care and treatment for patients with cancer across the whole Network.
The final meeting of the GMCCN HPB NSSG took place on 12.02.2013. The group was chaired by Professor Ajith Siriwardena.

The new Strategic Clinical Network took on the functions of the GMCCN from 1st April 2013. The Manchester Cancer HPB Pathway Board has superseded the HPB NSSG.

All minutes, reports and documents produced by the HPB NSSG may be obtained from the following websites:

www.gmccn.nhs.uk/hp/Groups/NetworkSiteSpecificGroupsNSSGs/HPB
www.manchestercancer.org

4. Configuration of services

The Greater Manchester and Cheshire Cancer Network ceased to exist in March 2013 when cancer networks nationally were amalgamated into strategic clinical networks as part of the NHS reorganisation. In Greater Manchester this coincided with the creation of Manchester Cancer, an integrated cancer system for Greater Manchester and East Cheshire. Maps defining these structures are provided in appendix 1.

4.1 A description of the GM&C HPB sMDT service

From October 1, 2014, there will be a single IOG compliant HPB Service located at the Manchester Royal Infirmary, Central Manchester NHS Foundation Trust (CMFT). This is the result of the merger of the two previous HPB Units at the MRI and North Manchester General Hospital, Pennine Acute Trust.

A description of the GM&C HPB sMDT service follows:

Core Membership

Lead clinician: Prof. Ajith Siriwardena
Manchester Cancer HPB Pathway Director: Mr Derek O’Reilly
The core team specific to the HPB cancer MDT are (The number in brackets is the minimum NHS England peer review requirement):

- (2) HPB surgeons each meeting the individual minimum case numbers relevant to their practice: Mr. Aali Sheen, Mr. Thomas Satyadas, Mr. Saurabh Jamdar, Mr. Derek O’Reilly, Mr. Rahul Deshpande, Mr. Nicola De’Liguori Carino

- (2) radiologists at least one of which should be an interventional radiologist so that interventional and diagnostic radiology are covered. Dr. Steven Lee, Dr. Raja Shankar, Dr. Finn Farquharson, Dr. S O’Shea, Dr. Rishi Sethi, Dr. Rafik Fillobbos,

- (2) HPB nurse specialists: Sr.Claire Newton, Sr. Debbie Clark, Sr.Claire Rynn
• (2) endoscopy practitioners, between them, covering endoscopic ultrasound and ERCP. *Dr. Alistair Makin, Dr. Jo Puleston, Dr Richard Hammonds*

• a physician gastroenterologist. *Dr. Martin Prince, Dr Shaun Greer, Dr. Narendra Kochar*

• a medical oncologist; *Prof Juan Valle, Dr Richard Hubner, Dr Saiffee Mullimitha, Dr Michael Braun*

• a histopathologist: *Dr Stephen Mc Grath*

• a core member of the specialist palliative care team:

• MDT co-ordinator/secretary:

• at least one clinical core member of the team with direct clinical contact, should have completed the training necessary to enable them to practice at level 2 for the psychological support of cancer patients and carers, and should receive a minimum of 1 hours clinical supervision by a level 3 or level 4 practitioner per month: *Claire Newton, Debbie Clark, Clare Rynn*

• an NHS-employed member of the core or extended team should be nominated as having specific responsibility for users' issues and information for patients and carers: *Claire Newton, Debbie Clark, Clare Rynn*

• a member of the core team nominated as the person responsible for ensuring that recruitment into clinical trials and other well designed studies is integrated into the function of the MDT: *Prof Juan Valle*

**MDT Quorum**

The MDT has a treatment planning meetings scheduled every week unless the meeting falls on a public holiday. This occurs every Wednesday, as follows:

- 10.00 to 12.00 Pancreatic Cancer MDT
- 13.00 to 15.00 Liver/Colorectal liver metastases MDT

The quorum for the HPB cancer MDT is made up of the following core members, or their cover:

• one designated HPB surgeon;

• one medical oncologist

• one hepatologist or gastroenterologist with an interest in hepatology;

• both diagnostic and interventional radiology should be represented, and may be by a single individual with the relevant skills;

• one histopathologist;

• one HPB nurse specialist;

• one MDT co-ordinator
MDT Review
All new cancer patients are reviewed by the multidisciplinary team for discussion of initial treatment plan. Urgent cases can be discussed outside of the formal MDT, however in this case the following protocol is to be followed:

- Telephone discussion between the relevant treating consultant or their deputy and another SMDT surgeon/clinical oncologist/medical oncologist. This discussion to include all available radiology and pathology evidence.
- Formal written letter to follow telephone discussion as a permanent record.
- The case will be discussed at the next scheduled SMDT meeting.

Criteria for referral of a patient with suspected HPB malignancy to the merged Greater Manchester specialist HPB MDT
Referral can either be to a named consultant by letter or by listing a patient for discussion at the HPB sMDT by completion of the electronic proforma available to all NHS provider Trusts. The HPB sMDT complies with IOG guidance for discussion of all patients with a newly diagnosed or suspected HPB malignancy.
At least one of the following criteria must be met in order for the patient to be listed for discussion. If a referral is received with no criteria listed, it will be returned and the responsibility for correct listing rests with the referrer.

<table>
<thead>
<tr>
<th>Pancreatic tumour</th>
<th>Please place cross as appropriate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newly diagnosed or suspected pancreatic tumour on CT</td>
<td></td>
</tr>
<tr>
<td>Pancreatic resection for discussion of histology</td>
<td></td>
</tr>
<tr>
<td>Pancreatic cytology (EUS-FNA or brush biopsy)</td>
<td></td>
</tr>
<tr>
<td>Follow-up after previous treatment where clinical criteria/imaging suggest that a change in treatment should be considered</td>
<td></td>
</tr>
<tr>
<td>Colorectal hepatic metastases</td>
<td></td>
</tr>
<tr>
<td>Patient with newly diagnosed or suspected liver metastases of likely colorectal origin</td>
<td></td>
</tr>
<tr>
<td>Liver resection for discussion of histology</td>
<td></td>
</tr>
<tr>
<td>Follow-up after previous treatment where clinical criteria/imaging suggest that a change in treatment should be considered</td>
<td></td>
</tr>
<tr>
<td>Non-colorectal liver metastases</td>
<td></td>
</tr>
<tr>
<td>Patient with newly diagnosed or suspected <strong>liver-limited</strong> metastases of likely non-colorectal origin</td>
<td></td>
</tr>
<tr>
<td>Primary tumour of liver, gallbladder or biliary tree</td>
<td></td>
</tr>
<tr>
<td>Newly diagnosed or suspected primary tumour</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Newly diagnosed or suspected primary tumour of relevance to HPB sMDT</td>
<td></td>
</tr>
<tr>
<td>Other case with individual case-specific indications for discussion at HPB sMDT</td>
<td></td>
</tr>
</tbody>
</table>
Specialist Surgical Cover
An on-call rota of consultant core surgical members is available for telephone advice and potential face to face patient assessment, 24/7, 365 days a year, for the MDT’s post-operative patients. This also applies to HPB emergencies, including trauma. This is available via the CMFT hospital switchboard.

Specialist Interventional Radiology Cover
An on-call rota of consultant interventional radiologists exists, whereby at least one is available for telephone advice and potential intervention, 24/7, 365 days a year, for the MDT’s patients. This is available via the CMFT hospital switchboard.

Single Site Surgery and Post-Operative Care
All operations and acute post-operative care activities of the MDT are all carried out at the Manchester Royal Infirmary.
Treatment Planning
The HPB sMDT agrees and records each individual patient's treatment plans. The record includes:
- the identity of patients discussed;
- the multidisciplinary treatment planning decision (i.e. to which modality(s) of treatment - surgery, radiotherapy, chemotherapy, hormone therapy or supportive care or combinations of the same, that are to be referred for consideration);
- confirmation that the holistic needs assessment has been taken into account.

Key Worker
A single named key worker for the patient's care at a given time is identified by the MDT for each individual patient and the name and contact number of the current key worker is recorded in the patient's case notes. The responsibility for ensuring that the key worker is identified is that of the nurse MDT member(s).

Patient Information
The MDT provides written material for patients and carers which includes:
- information specific to that MDT about local provision of the services offering the treatment for that cancer site;
- information about patient involvement groups and patient self-help groups;
- information about the services offering psychological, social and spiritual/cultural support, if available;
- information specific to the MDT's cancer site or group of cancers about the disease and its treatment options (including names and functions/roles of the team treating them);
- information about services available to support the effects of living with cancer and dealing with its emotional effects

Permanent Record of Consultation
The MDT offers patients the opportunity of a permanent record or summary of at least a consultation between the patient and the doctor when the following are discussed:
- diagnosis;
- treatment options and plan;
- relevant follow up (discharge) arrangements

4.2. Local referral/diagnostic teams
HPB surgery only takes place at the specialist centre. Nonetheless joint working with local sites will be critical to the success of the new services. As such, the HPB team based at the specialist centre will interact with the GI surgeons, gastroenterologists and colorectal surgeons in the local hospitals.

The local referral/diagnostic teams are the local Upper GI and Colorectal Multidisciplinary teams at:
Joint Working
The HPB sMDT is committed to joint working with all of the organisations involved in the care of patients with HPB cancer and ensuring that the specialist HPB cancer surgery centre is clinically fully integrated with the local referral/diagnostic teams and also with all the non-surgical cancer services provided by The Christie.

The HPB SMDT team will support joint working through:

- Buddying up specialist HPB surgeon with local teams
- Multi-Disciplinary Team meetings
- Joint protocols and guidelines covering the whole pathway
- Clinical Nurse Specialists

Consultant HPB surgeons are each allocated a referring hospital and will be the first point of contact for the relevant specialties within that hospital. This will give the local unit continuity and improve working relationships. The HPB surgeon will provide advice and support as necessary.

Any hospital requiring specialist HPB input to other services that they provide, usually specialist services, will be appropriately supported.

Primary and Community care
The HPB sMDT recognises the need to extend our joint working to better incorporate public health and primary care at the early stages of the pathway. One of the key factors in improving outcomes is early diagnosis and it is therefore essential that we educate primary and community health professionals and the public about what to look out for and how to lead healthy lives that reduce the likelihood of these cancers ever developing. We will also develop joint working with organisations that can provide holistic support for patients with HPB cancer. This would include St Anne’s hospice, McMillan and other charities that support cancer.

The clinical team at the specialist centre will maintain and develop close links with patients and their carers via support groups to further enhance the quality of the service, improve our understanding of patient needs and enhance future services.
5. Clinical guidelines

As part of the process of the HPB merger, it was agreed from the outset that a comprehensive set of clinical guidelines and treatment algorithms would be created. The aim is that the entirety of HPB patient management be protocol based according to the latest evidence and international guidance.

This process involved a series of meetings from June 2013 to June 2014, involving the two then existing MDTs at CMFT and PAT, as well as representatives from the local referral/diagnostic teams. All were invited to participate in the drafting and correction of these clinical guidelines, resulting in a document that covers patient management from diagnosis, referral and staging, to perioperative management and follow-up, across the entire breadth of HPB disease.

These draft clinical guidelines have already been tabled at the HPB Pathway Board for further widespread consultation, with a view to adoption at the next pathway board meeting.

For the full list of clinical guidelines that comprise the GM&C HPB Unit Guideline document, see appendix 2.

6. Clinical information and outcomes

6.1 National data

National data on clinical outcomes is hampered by collection and presentation of results for HPB under the umbrella term “Upper Gastrointestinal Cancer”. This also includes oesophago-gastric cancer, an entirely different sMDT. Nonetheless, according to data from the National Cancer Intelligence Network (NCIN) data, age-standardised incidence, emergency presentation and mortality for “upper GI cancers” in the Greater Manchester Area exceed the national average. Prevention and survival are correspondingly lower.
Incidence

Source: National Cancer Intelligence Network (NCIN) https://www.cancertoolkit.co.uk accessed 22.07.14

Age-standardised : Rate (#) : All age group(s) : 2012 : Upper GI

- All England
- Greater Manchester Area Team

Incidence Rate/100,000 (Confidence Intervals): 63.4 (60.0-66.9)
Proxy measure for emergency presentations for cancer

*Source: National Cancer Intelligence Network (NCIN) [https://www.cancertoolkit.co.uk](https://www.cancertoolkit.co.uk) accessed 22.07.14*

Proportion of newly identified tumours first presenting as an emergency calculated from Inpatient HES data

- Liver
- Pancreas

![Graph showing the proportion of newly identified tumours first presenting as an emergency for liver and pancreas over time.](image-url)
Mortality
Source: National Cancer Intelligence Network (NCIN) https://www.cancertoolkit.co.uk accessed 22.07.14

Cases
Age-standardised : Rate (#) : All age group(s) : 2012 : Upper GI

- All England
- Greater Manchester Area Team (Q46)

Mortality rate/100,000: 51.2 (48.1-54.3)
Survival 1. Pancreatic Cancer

Source: The NMGH database includes 283 patients who underwent pancreatic operations over the six-year period (2007-13).

One hundred and nineteen patients underwent curative operations for pancreatic ductal adenocarcinoma (PDAC). Overall median actuarial survival for patients with PDAC was 16.4 months, with 1, 3 and 5-year survival of 67%, 18% and 10% respectively.

Figure: Overall survival PDAC
Survival 2. Colorectal liver metastases


A total of 295 resections for CLM were performed in 256 patients since 2007. Thirty-two underwent re-do (second) hepatectomy; seven had a third hepatectomy.
Prevention: Successfully quit smoking at 4 weeks

Source: National Cancer Intelligence Network (NCIN) https://www.cancertoolkit.co.uk accessed 22.07.14

Percentage of quitters: 2012/13

All England

Greater Manchester & Cheshire: 47%
Cancer Referrals
Source: National Cancer Intelligence Network (NCIN) https://www.cancertoolkit.co.uk accessed 22.07.14

Two Week Wait Referral
Upper GI
Greater Manchester Area Team (Q46):
2013/14 Q4: 93.89% (1736 out of 1849)
6.2 Manchester Cancer data

The Manchester Cancer HPB Pathway board is committed to measuring and monitoring what is important to both them and their patients. Previously, many cancer-related measures were related to service targets – we wish to change this emphasis.

We are also committed to openly publishing data to illustrate to the Manchester Cancer Provider Board and other stakeholders that we are making a difference. Data will be made publicly available via the website: www.manchestercancer.org

The HPB Pathway Board will agree a small number of meaningful measures that it will monitor closely. This set of measures will cover the whole cancer pathway, including where appropriate measures for early diagnosis, patient experience and survivorship as well as the treatment phase of the pathway.

Core measures are likely to include:

- Percentage of cancers diagnosed by stage
- Percentage of cancers diagnosed as emergencies
- Resection rates
- Operative morbidity and mortality
- Cancer survival (at 1, 3 and 5 years)
- Measures of patient satisfaction
- The research involvement of patients

as well as national ‘clinical lines of enquiry’ or national commissioning specifications for specialised services.

Current sources of cancer information will be utilised, including:

The NCIN e-atlas for incidence, mortality and survival data
The cancer commissioning toolkit for:
Service profiles outlining the performance of individual MDTs
Cancer waiting time performance, which can also be used to show number of referrals and new patients treated
Data on routes to diagnosis by cancer type
Cancer deaths by place of death
National audit data
The results of the most recent National Cancer Patient Experience Survey (NCPES) by cancer type
Research and clinical trial recruitment data

The HPB board will discuss and agree a provisional set of measures on 18 September 2014. Once agreed, Pathway Board and Cross-cutting Board core measures will remain broadly static to facilitate year-on-year comparison. Where a change is needed because of pathway changes or because more sophisticated data becomes available, then this should be agreed by the Board.
Data will be presented in the form of a **scorecard** so that easy assessment is possible.

### 6.3 Local Audit

A brief limited audit of time from initial diagnostic tests to treatment has already been undertaken and discussed at the inaugural HPB Pathway Board meeting. This demonstrated considerable delay from initial ultrasound scan to surgery for patients with pancreatic cancer presenting with obstructive jaundice:

- **USS to:**
  - **USS to CT time** 7 days (median) range (1-156)
  - **USS to ERCP time** 10 days (median) range (1-189)
  - **USS to op time** 57 days (median) range (4-156)
  - **CT scan to surgery**
    - Median time 33 days (range 1 – 153)
- **ERCP to surgery**
  - Median time 30 days (range 7 – 146)

This evidence has informed the major task of the Pathway Board: the Manchester Cancer Jaundice Pathway.

### 7. Patient experience

The Cancer Patient Experience Survey 2012/13 (CPES) designed to monitor national progress on cancer care. The 2013 survey is congruent with the National Operating Framework (NOF) for the NHS 2012/13, which defines quality as those indicators of safety, effectiveness and patient experience that indicate that standards are being maintained or improved; with the NHS England Business Plan 2013-16; and "Everyone Counts", Planning for Patients 2013-14.

Postal surveys were sent to patients' home addresses following their discharge. Up to two reminders were sent to non-responders. A freepost envelope was included for their replies. Patients could call a free telephone line to ask questions, complete the questionnaire verbally, or to access an interpreting service.

593 patients responded to the survey from the PAT; 57 were recorded as “upper gastrointestinal”. This is most unfortunate as use of this catch-all term for HPB and Oesophago-gastric (OG) cancer makes it impossible to separate the performance of these two separate MDT’s.

The over-riding priority for the HPB Pathway Board is to ensure that future CPES data is obtained and analysed separately for HPB and OG Cancers.

With this proviso, the following results were obtained:
<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
<th>PENNINE</th>
<th>CMFT</th>
<th>NATIONAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>Saw GP once/twice before being told had to go to hospital</td>
<td>73%</td>
<td>63%</td>
<td>68%</td>
</tr>
<tr>
<td>Q2</td>
<td>Patient thought they were seen as soon as necessary</td>
<td>89%</td>
<td>74%</td>
<td>78%</td>
</tr>
<tr>
<td>Q4</td>
<td>Patient’s health got better or remained about the same while waiting</td>
<td>80%</td>
<td>78%</td>
<td>68%</td>
</tr>
<tr>
<td>Q6</td>
<td>Staff gave complete explanation of purpose of test(s)</td>
<td>88%</td>
<td>75%</td>
<td>81%</td>
</tr>
<tr>
<td>Q7</td>
<td>Staff explained completely what would be done during test</td>
<td>88%</td>
<td>88%</td>
<td>87%</td>
</tr>
<tr>
<td>Q8</td>
<td>Given easy to understand written information about test</td>
<td>81%</td>
<td>82%</td>
<td>86%</td>
</tr>
<tr>
<td>Q9</td>
<td>Given complete explanation of test results in understandable way</td>
<td>73%</td>
<td>80%</td>
<td>75%</td>
</tr>
<tr>
<td>Q11</td>
<td>Patient told they could bring a friend when first told they had cancer</td>
<td>72%</td>
<td>76%</td>
<td>74%</td>
</tr>
<tr>
<td>Q12</td>
<td>Patient felt they were told sensitively that they had cancer</td>
<td>82%</td>
<td>96%</td>
<td>80%</td>
</tr>
<tr>
<td>Q13</td>
<td>Patient completely understood the explanation of what was wrong</td>
<td>76%</td>
<td>67%</td>
<td>72%</td>
</tr>
<tr>
<td>Q14</td>
<td>Patient given written information about the type of cancer they had</td>
<td>54%</td>
<td>65%</td>
<td>63%</td>
</tr>
<tr>
<td>Q15</td>
<td>Patient given a choice of different types of treatment</td>
<td>83%</td>
<td>80%</td>
<td>82%</td>
</tr>
<tr>
<td>Q16</td>
<td>Patient’s views definitely taken into account by doctors and nurses discussing treatment</td>
<td>70%</td>
<td>74%</td>
<td>68%</td>
</tr>
<tr>
<td>Q17</td>
<td>Possible side effects explained in an understandable way</td>
<td>67%</td>
<td>85%</td>
<td>74%</td>
</tr>
<tr>
<td>Q18</td>
<td>Patient given written information about side effects</td>
<td>76%</td>
<td>76%</td>
<td>82%</td>
</tr>
<tr>
<td>Q19</td>
<td>Patient definitely told about treatment side effects that could affect them in the future</td>
<td>47%</td>
<td>48%</td>
<td>52%</td>
</tr>
<tr>
<td>Q20</td>
<td>Patient definitely involved in decisions about care and treatment</td>
<td>75%</td>
<td>70%</td>
<td>69%</td>
</tr>
<tr>
<td>Q21</td>
<td>Patient given the name of the CNS in charge of their care</td>
<td>90%</td>
<td>88%</td>
<td>91%</td>
</tr>
<tr>
<td>Q22</td>
<td>Patient finds it easy to contact their CNS</td>
<td>78%</td>
<td>87%</td>
<td>82%</td>
</tr>
<tr>
<td>Q23</td>
<td>CNS definitely listened carefully the last time spoken to</td>
<td>96%</td>
<td>100%</td>
<td>90%</td>
</tr>
<tr>
<td>Q24</td>
<td>Patient gave understandable answers to important questions all/most of the time</td>
<td>84%</td>
<td>91%</td>
<td>89%</td>
</tr>
<tr>
<td>Q25</td>
<td>Hospital staff gave information about support groups</td>
<td>76%</td>
<td>75%</td>
<td>81%</td>
</tr>
<tr>
<td>Q26</td>
<td>Hospital staff gave information about impact cancer could have on work/education</td>
<td>60%</td>
<td>75%</td>
<td>73%</td>
</tr>
<tr>
<td>Q27</td>
<td>Hospital staff gave information on getting financial help</td>
<td>62%</td>
<td>70%</td>
<td>56%</td>
</tr>
<tr>
<td>Q28</td>
<td>Hospital staff told patient they could get free prescriptions</td>
<td>79%</td>
<td>77%</td>
<td>79%</td>
</tr>
<tr>
<td>Q29</td>
<td>Patient has seen information about cancer research in the hospital</td>
<td>89%</td>
<td>85%</td>
<td>86%</td>
</tr>
<tr>
<td>Q30</td>
<td>Taking part in cancer research discussed with patient</td>
<td>41%</td>
<td>44%</td>
<td>35%</td>
</tr>
<tr>
<td>Q31</td>
<td>Patient has taken part in cancer research</td>
<td>52%</td>
<td>61%</td>
<td>61%</td>
</tr>
<tr>
<td>Q33</td>
<td>Staff gave complete explanation of what would be done</td>
<td>83%</td>
<td>87%</td>
<td>87%</td>
</tr>
<tr>
<td>Q34</td>
<td>Patient given written information about the operation</td>
<td>60%</td>
<td>69%</td>
<td>69%</td>
</tr>
<tr>
<td>Q35</td>
<td>Staff explained how operation had gone in understandable way</td>
<td>69%</td>
<td>76%</td>
<td>76%</td>
</tr>
<tr>
<td>Q37</td>
<td>Got understandable answers to important questions all/most of the time</td>
<td>73%</td>
<td>73%</td>
<td>78%</td>
</tr>
<tr>
<td>Q38</td>
<td>Patient had confidence and trust in all doctors treating them</td>
<td>78%</td>
<td>86%</td>
<td>82%</td>
</tr>
<tr>
<td>Q39</td>
<td>Doctors did not talk in front of patient as if they were not there</td>
<td>80%</td>
<td>82%</td>
<td>76%</td>
</tr>
<tr>
<td>Q40</td>
<td>Patient’s family definitely had opportunity to talk to doctor</td>
<td>57%</td>
<td>70%</td>
<td>63%</td>
</tr>
<tr>
<td>Q41</td>
<td>Got understandable answers to important questions all/most of the time</td>
<td>74%</td>
<td>50%</td>
<td>72%</td>
</tr>
<tr>
<td>Q42</td>
<td>Patient had confidence and trust in all ward nurses</td>
<td>73%</td>
<td>59%</td>
<td>65%</td>
</tr>
<tr>
<td>Q43</td>
<td>Nurses did not talk in front of patient as if they were not there</td>
<td>80%</td>
<td>81%</td>
<td>80%</td>
</tr>
<tr>
<td>Question</td>
<td>Description</td>
<td>64%</td>
<td>36%</td>
<td>57%</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Q44</td>
<td>Always / nearly always enough nurses on duty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q45</td>
<td>Patient did not think hospital staff deliberately misinformed them</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q46</td>
<td>Patient never thought they were given conflicting information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q47</td>
<td>All staff asked patient what name they preferred to be called by</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q48</td>
<td>Always given enough privacy when discussing condition/treatment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q49</td>
<td>Always given enough privacy when being examined or treated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q50</td>
<td>Patient was able to discuss worries or fears with staff during visit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q51</td>
<td>Hospital staff did everything to help control pain all of the time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q52</td>
<td>Always treated with respect and dignity by staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q53</td>
<td>Given clear written information about what should / should not do post discharge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q54</td>
<td>Staff told patient who to contact if worried post discharge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q55</td>
<td>Family definitely given all information needed to help care at home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q56</td>
<td>Patient definitely given enough care from health or social services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q57</td>
<td>Staff definitely did everything to control side effects of radiotherapy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q58</td>
<td>Staff definitely did everything to control side effects of chemotherapy</td>
<td>65%</td>
<td></td>
<td>79%</td>
</tr>
<tr>
<td>Q59</td>
<td>Staff definitely did everything they could to help control pain</td>
<td></td>
<td>73%</td>
<td>78%</td>
</tr>
<tr>
<td>Q60</td>
<td>Hospital staff definitely gave patient enough emotional support</td>
<td></td>
<td>61%</td>
<td>80%</td>
</tr>
<tr>
<td>Q61</td>
<td>Doctor had the right notes and other documentation with them</td>
<td></td>
<td>93%</td>
<td>96%</td>
</tr>
<tr>
<td>Q62</td>
<td>GP given enough information about patient`s condition and treatment</td>
<td></td>
<td>91%</td>
<td>86%</td>
</tr>
<tr>
<td>Q63</td>
<td>Practice staff definitely did everything they could to support patient</td>
<td></td>
<td>58%</td>
<td>53%</td>
</tr>
<tr>
<td>Q64</td>
<td>Hospital and community staff always worked well together</td>
<td></td>
<td>54%</td>
<td>54%</td>
</tr>
<tr>
<td>Q65</td>
<td>Given the right amount of information about condition and treatment</td>
<td></td>
<td>82%</td>
<td>89%</td>
</tr>
<tr>
<td>Q66</td>
<td>Patient offered written assessment and care plan</td>
<td></td>
<td>21%</td>
<td>32%</td>
</tr>
<tr>
<td>Q67</td>
<td>Patient did not feel that they were treated as a <code>set of cancer symptoms</code></td>
<td></td>
<td>80%</td>
<td>81%</td>
</tr>
<tr>
<td>Q68</td>
<td>Patient<code>s rating of care </code>excellent<code>/</code>very good`</td>
<td></td>
<td>84%</td>
<td>81%</td>
</tr>
</tbody>
</table>
8. Research and clinical trials

8.1 Number of HPB Cancer/Pre-Malignant Patients
Recruited to NIHR Cancer Studies by Year

NCRN Recruitment Targets:
7.5% Cancer/Pre-malignant patients recruited to
NIHR Interventional Studies.
20% Cancer/Pre-malignant patients recruited to
NIHR studies.

Recruitment Targets for HPB Cancer
RCT = 31 patients
Overall = 82 patients

2014-15 HPB Cancer Recruitment Performance
In 2014-15* has recruited 11 patients to Portfolio
cancer/pre-malignant HPB studies, including 9
patients to RCTs and 2 patients to non RCTs.
2013-14 HPB Cancer Recruitment Performance.
In 2013-14, 168 patients were recruited to Portfolio cancer/pre-malignant HPB studies, including 58 patients to RCTs and 110 patients to non RCTs.

8.2 Key Research Publications by the HPB sMDT and Manchester Cancer HPB Pathway Board members

See appendix 3.

9. Innovation in clinical practice

9.1 The Manchester Cancer Jaundice Pathway

A key priority for the HPB Pathway board is the introduction of a regional Jaundice Pathway.
Its key innovative features are:

- Same day definitive radiological imaging for patients presenting with obstructive jaundice not due to gallstones. The purpose is to provide for earlier diagnosis and timely referral and to improve patient experience.
- Fast-track referral for jaundiced patients with pancreatic cancer for early surgery. The aim is to reduce overall complications and prolong survival.

An application for funding has been to the “Acceleration, Coordination and Evaluation (ACE)” programme, for a clinical nurse specialist and data collector.

The Manchester Cancer Jaundice Pathway sits within the HPB Pathway board’s strategy for improving outcome in HPB cancer. Briefly, research, early diagnosis, timely referral and improved pathways, reduction in post-operative morbidity and mortality and improved oncology, have been identified as the five key areas by which this may be achieved. The MC Jaundice Pathway provides for earlier diagnosis as well as timely referral and improved pathways.

The Problem
The problems with the existing system are threefold: lack of timeliness, poor patient experience and high complications rates.

1. A recent audit of timeliness has been undertaken. Among 422 patients with pancreatic cancer presenting to the HPB unit at North Manchester General Hospital between July 2007 and March 2014, time from Ultrasound (USS) or Computed Tomography (CT) to further investigation or treatment was as follows:
   - USS to CT time 7 days (median) range (1-156)
   - USS to endoscopic retrograde cholangiography (ERCP) time 10 days (median) range (1-189)
   - USS to operation time 57 days (median) range (4-156)
   - CT scan to surgery Median time 33 days (range 1 – 153)
2. The Cancer Patient Experience Survey 2012/13 (CPES) is designed to monitor national progress on cancer care. The 2013 survey is congruent with the National Operating Framework (NOF) for the NHS 2012/13, with the NHS England Business Plan 2013-16; and "Everyone Counts", Planning for Patients 2013-14. The results obtained from the two currently existing HPB units in Greater Manchester (Pennine Acute Trust and Central Manchester Foundation Trust) are to be found in appendix 4.
3. Detailed studies of post-operative complication and mortality rates have been published by both of the HPB units, as well as innovative solutions for quality improvement, e.g. scoring systems, quality improvement programs, cardio-pulmonary exercise testing (1-3). Nonetheless, complication rates remain high after HPB surgery. The use of unnecessary, temporising but non-therapeutic interventions (i.e. ERCP and stenting) is common and exists in practice solely for logistical reasons, as it relieves jaundice, allowing the patient to wait for delayed definitive surgery, at a time that suits the provider hospital. Fast-track surgery, omitting the ERCP, has been shown in randomised controlled trials to reduce the incidence of overall complications (4). Reduced complications in turn are associated with increased uptake of chemotherapy and prolonged survival.
The solution
The MC Jaundice Pathway provides for earlier diagnosis as well as timely referral and improved pathways. The full pathway is to be found in appendix 2. The key innovations are twofold:

1. Same day definitive radiological imaging for patients presenting with obstructive jaundice not due to gallstones. The purpose is to provide for earlier diagnosis and timely referral and to improve patient experience.

2. Fast-track referral for jaundiced patients with pancreatic cancer for early surgery. The aim is to reduce overall complications and prolong survival.

Measuring the outcome
The impact of this proposal will be measured in terms of Quality Improvement. The Institute of Medicine report “Crossing the Quality Chasm”, defined quality based upon six aims for improvement, which have become accepted definitions of the dimensions of quality.

1. Effectiveness; “avoiding both the overuse of ineffective care and the underuse of effective care”.

Post-operative Complication rates (according to definitions of the Manchester HPB Quality Improvement Program, (See appendix 5 & reference 3)).

Post-operative Mortality rate
Pathological stage; tumour size, nodal involvement, resection margin involvement
Disease-free and overall survival

2. Efficiency; “The reduction of waste...and the total cost of care”.

Time-to-diagnosis
Time-to-treatment
Total length of stay
Total hospital costs

3. Patient Centeredness; “respecting the individual patient’s choices and needs”.

Patient satisfaction questionnaire (CPES)

4. Safety; “avoiding injuries to patients from the care that is intended to help them”.

Complication rates
Death rate

5. Timeliness; “continually reducing waiting times and delays”.

Time-to-diagnosis
Time-to-treatment
Total length of stay

6. Equity; “closing racial and ethnic gaps”. This will be monitored via the patient satisfaction questionnaire and demographic data from patient registration.

References
9.2 Recent innovations of the HPB sMDT/Pathway Board to clinical practice include:

2. Comprehensive clinical guidelines and protocol based management (see appendix 2)
3. The HPB WHO checklist

10. The Pathway Board

10.1 Formation of the Board

The principle of Manchester Cancer Pathway Boards is that they should be professionally and institutionally representative, yet small and manageable in size. To help Pathway Clinical Directors form institutionally representative Boards the Manchester Cancer central team sought nominations from trusts for their representative(s) on 16 of the 20 Pathway Boards. Nominations were not sought for Children’s, Sarcoma, Palliative Care and Early Diagnosis as alternative arrangements were necessary in these areas.

For each Pathway Board trusts were asked to provide up to three nominations from a range of professions from which the trust representative(s) could be chosen. The team asked that nominations included a brief statement of the individual’s suitability for membership of the relevant Pathway Board.

Nominations were passed to Pathway Clinical Directors who took them into account when forming their Boards. Trusts were informed during this process that Directors would not be obliged to accept all trust nominations but that, if a Pathway Clinical Director wished to appoint a trust representative that had not been nominated by their organisation, then this would be discussed with the Trust Cancer Clinical Lead.

10.2 Membership

<table>
<thead>
<tr>
<th>Name</th>
<th>Role/Trust Representative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Derek O’Reilly</td>
<td>HPB Pathway Clinical Director</td>
</tr>
<tr>
<td>Miss. Caroline McCall</td>
<td>Manchester Cancer Pathway Manager</td>
</tr>
<tr>
<td>Prof. Ajith Siriwardena</td>
<td>Central Manchester University Hospitals NHS Foundation Trust</td>
</tr>
<tr>
<td>Mr. Joseph Varghese</td>
<td>Bolton NHS Foundation Trust</td>
</tr>
<tr>
<td>Dr. Konrad Koss</td>
<td>East Cheshire NHS Trust</td>
</tr>
<tr>
<td>Ms. Debbie Clark</td>
<td>Pennine Acute NHS Trust</td>
</tr>
<tr>
<td>Dr. Emma Donaldson</td>
<td>Salford Royal NHS Foundation Trust</td>
</tr>
<tr>
<td>Dr. Guvinder Banait</td>
<td>Wrightington, Wigan and Leigh NHS Foundation Trust</td>
</tr>
<tr>
<td>Dr. Mong-Yang Loh</td>
<td>Stockport NHS Foundation Trust</td>
</tr>
<tr>
<td>TBC.</td>
<td>Tameside Hospital NHS Foundation Trust</td>
</tr>
<tr>
<td>Mr. Andrew MacDonald</td>
<td>University Hospital of South Manchester NHS Foundation Trust;</td>
</tr>
<tr>
<td>Prof. Juan Valle</td>
<td>The Christie NHS Foundation Trust</td>
</tr>
<tr>
<td>TBC</td>
<td>Patient Representative(s)</td>
</tr>
<tr>
<td>Dr. Kevin Finn</td>
<td>Primary Care Representative</td>
</tr>
<tr>
<td>Dr. Rafik Filobbos</td>
<td>Co-opted member</td>
</tr>
<tr>
<td>Dr. Martin Prince</td>
<td>Co-opted member</td>
</tr>
</tbody>
</table>

10.3 Meetings

The HPB Pathway Board held its inaugural meeting on 14.04.2014 and a second meeting on 24.06.2014. A full list of attendees and meeting minutes are to be found in appendices 6 and 7 respectively. Future meetings are scheduled to take place at two monthly intervals. These will take place at each of the ten participating Trusts in turn, with the additional feature of a wider meeting/educational event for the benefit of the local MDT. The day of the meeting will alter on a rolling basis.
10.4 Terms of Reference

These terms of reference were agreed on 07.07 2014 by Mr. Derek O'Reilly, Pathway Clinical Director for Hepato-Pancreato-Biliary (HPB) Cancer, and Mr David Shackley, Medical Director of Greater Manchester Cancer Services, on behalf of the Greater Manchester Cancer Services Provider Board. The full terms of reference are to be found in appendix 8. The terms of reference will be subject to future review.

11. Progress and challenges to date

The key challenge identified by the HPB Pathway Board is to obtain sufficient resources to implement clinical improvements on a regional basis that lead to better outcomes. The resources necessary include: additional personnel for better coordination of patient care, accurate data collection to measure progress and active support from the Provider Board to implement change in their institutions.

12. Vision and objectives

12.1 Our key aims and vision are:

- Better Patient Outcomes
- Better Patient Experience
- Research and Innovation
12.2 Our strategy for obtaining better outcomes

12.3 The HPB Pathway Board’s 2014/15 annual plan

This is to be found in appendix 9.
Appendix 1

Map defining the NHS England Strategic Clinical Network (SCN) for Greater Manchester, Lancashire & South Cumbria

Top Level detailed map for Cancer
Map defining the Greater Manchester & Cheshire Trusts and Acute Hospitals
Appendix 2

Greater Manchester and Cheshire HPB Unit Guidelines for the Assessment & Management of Hepatobiliary and Pancreatic Disease

Contents

1. Introduction

2. The Greater Manchester & Cheshire HPB sMDT

2.1. A description of the GM&C HPB sMDT service

2.2. NHS England Strategic Clinical Network (SCN), Greater Manchester, Lancashire & South Cumbria

2.3. Greater Manchester Clinical Commissioning Groups (CCG's)

2.4. Greater Manchester & Cheshire Trusts and Acute Hospitals

3. HPB cancer service in Greater Manchester and Cheshire - Model of Care

3.1. Introduction

3.2. Leadership

3.3. Patient Pathway

3.4. Joint Working

3.5. Local Services

3.6. Transport

3.7. Audit of Outcomes

4. Manchester Cancer Pathways

4.1. Manchester Cancer

4.2. Strategies for improving outcomes in HPB cancer

4.3. Urgent Suspected Cancer Referral Pathway Liver, Pancreas & Bile duct

4.4. Suspected Cancer Referral Pathway Liver, Pancreas & Bile duct

4.5. Investigations Pathway for Jaundice
4.6. Guidelines for referral of patients with known or suspected colorectal liver metastases
4.7. Criteria for referral of a patient with suspected HPB malignancy to the merged Greater Manchester specialist HPB MDT

5. Assessment & Management of Liver Metastases
5.1. Metachronous colorectal liver metastases (CRLM) staging algorithm
5.2. Metachronous CRLM Treatment Algorithm
5.3. Treatment order algorithm for synchronous CRLM
5.4. Timing of treatment of synchronous CRLM
5.5. Resection of patients with extrahepatic disease
5.6. Consent
5.7. Cardiopulmonary Exercise Testing Protocol
5.8. Radiological Reporting Standards for CRLM
5.9. Histopathology reporting proforma – Colorectal cancer metastasis
5.10. Follow up after liver resection
5.11. Treatment of Metastatic Neurendocrine Tumours
5.12. Management of GIST
5.13. Treatment of liver metastases of unknown primary
5.14. ECOG / WHO Performance Status

6. Hepatocellular carcinoma
6.1. Introduction
6.2. HCC surveillance
6.3. Screening for underlying liver disease
6.4. Diagnosis of HCC
6.5. Staging of HCC
6.6. Surgical Resection
6.7. Liver Transplantation
6.8. Local Ablation
6.9. Chemoembolisation and other transcatheter therapies
6.10. Systemic therapy
6.11. Advanced disease
6.12. Long term follow-up
6.13. EASL-EORTC Surveillance recall policy and diagnostic algorithm
6.14. Barcelona Clinic Liver Cancer strategy for diagnosis and staging of HCC
6.15. TNM classification and histopathology reporting proforma – HCC

7. Benign liver conditions
7.1. Pyogenic liver abscess
7.2. Management of hydatid cysts (cystic echinococcosis) 
7.3. Solitary & Polystic liver disease 
7.4. Hepatocellular adenomas 
7.5. Acute Liver Failure 

8. Perihilar and intrahepatic cholangiocarcinoma 
8.1. BSG Guidelines for cholangiocarcinoma screening in primary sclerosing cholangitis 
8.2. Diagnosis and staging algorithm for cholangiocarcinoma 
8.3. The DeOliveira-Clavien (B,T,F,PV,V,D,N,M) Classification System 
8.4. Criteria for unresectability 
8.5. Treatment algorithm for resectable disease 
8.6. Treatment algorithm for unresectable disease 
8.7. TNM classification and histopathology reporting proforma – Perihilar cholangiocarcinoma 
8.8. TNM Classification and histopathology reporting proforma – Intrahepatic cholangiocarcinoma 

9. Management of Gallbladder disease 
9.1. Gallbladder polyps 
9.2. Laparoscopic Cholecystectomy 
9.3. Patient readmitted post laparoscopic cholecystectomy 
9.4. Bile duct injury 
9.5. Diagnosis and staging of gallbladder cancer 
9.6. Treatment algorithm for Gallbladder Cancer 
9.7. Management of incidentally detected gallbladder cancer 
9.8. Extent of surgery for Gallbladder cancer 
9.9. TNM classification and histopathology reporting proforma – Gallbladder cancer 

10. Acute Pancreatitis 
10.1. Diagnosis 
10.2. Initial Management 
10.3. Definitions 
10.4. Severity Prediction 
10.5. Determine and treat the underlying aetiology 
10.6. Role of ERCP 
10.7. CT Scanning & Ultrasound 
10.8. Nutritional Support 
10.9. Antibiotics 
10.10. Management of gallstones 
10.11. Management of alcoholism 
10.12. Management of idiopathic acute pancreatitis
10.13. Management of Abdominal Compartment Syndrome
10.15. Indications for Referral to the specialist centre
10.16. Radiology Guidelines in Acute Pancreatitis

11. Chronic Pancreatitis
11.1. Overview of management
11.2. Diagnostic algorithm for chronic pancreatitis
11.3. Aetiological Classification of Chronic Pancreatitis (TIGAR-O system)
11.4. Treatment algorithm for chronic pancreatitis
11.5. Nutritional Assessment, Treatment of PEI and Type 3c DM
11.6. Autoimmune Pancreatitis – Principles of Diagnosis
11.7. Autoimmune Pancreatitis – Treatment Algorithm

12. Pancreatic cystic lesions
12.1. Classification and salient features of the more common pancreatic cystic lesions
12.2. Radiological reporting standards for pancreatic cystic lesions
12.3. Algorithm for management of pancreatic cystic lesions

13. Pancreatic cancer
13.1. Algorithm for diagnosis and staging of pancreatic cancer
13.2. Algorithm for treatment of pancreatic cancer
13.3. Secondary screening for early pancreatic cancer
13.4. Pancreatic cancer CT protocol
13.5. TNM and JPS classification – pancreatic, ampullary and bile duct cancer
13.6. Histopathology reporting proforma – Pancreatic carcinoma
13.7. Histopathology reporting proforma – Ampulla of Vater Cancer
13.8. Histopathology reporting proforma – Bile duct carcinoma

14. Neuroendocrine Tumours
14.1. Diagnostic algorithm for pancreatic neuroendocrine tumours (PNETs)
14.2. Surgical management of resectable PNET
14.3. Management of Residual/Progressive/Metastatic/Inoperable PNET
14.4. ENETS TNM and WHO classification of PNET
14.5. Histopathology reporting proforma for pancreatic neuroendocrine tumour resections

15. General perioperative management
15.1. ERAS Protocol for management of liver resection
15.2. ERAS Protocol for perioperative management of Pancreatoduodenectomy
15.3. Algorithm for reducing the risk of venous thromboembolism
15.4. Algorithm for IV fluid therapy
15.5. Composition of commonly used crystalloids

15.6. Composition of common fluid losses

15.7. Malnutrition Universal Screening Tool (MUST)

15.8. Indications for nutrition support

15.9. Nutritional Support and Refeeding syndrome

15.10. Protocol for nutritional, anthropometric and clinical monitoring of nutrition support

15.11. Protocol for laboratory monitoring of nutrition support

15.12. HPB Quality Improvement Programme (QIP)

16. **HPB trauma**


16.2. Operative management of blunt hepatic trauma

16.3. Nonoperative management of adult blunt hepatic trauma

16.4. Management of pancreatic injuries

16.5. AAST Liver Injury Scale

16.6. AAST Pancreas Organ Injury Scale

17. **Selected References**
Appendix 3 Key Research Publications by the HPB sMDT and Manchester Cancer HPB Pathway Board members


Appendix 4. The HPB Quality Improvement Programme

Patient Demographics:

<table>
<thead>
<tr>
<th>Name</th>
<th>Unit Number</th>
<th>DOB</th>
<th>Consultant</th>
</tr>
</thead>
</table>

Operative Details:

<table>
<thead>
<tr>
<th>Operation</th>
<th>Date</th>
<th>Time</th>
<th>Operating surgeon</th>
<th>Elective / Emergency</th>
</tr>
</thead>
</table>

Complication Codes: (Please note date diagnosis made if applicable)

<table>
<thead>
<tr>
<th>Code</th>
<th>Complication</th>
<th>Grade</th>
<th>Justified</th>
<th>Error</th>
<th>Action Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Pancreatic fistula</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Delayed gastric emptying</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Post pancreatectomy Haemorrhage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Bile leak</td>
<td></td>
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<td></td>
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<tr>
<td>E</td>
<td>Liver failure</td>
<td></td>
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<tr>
<td>F</td>
<td>Post hepatectomy haemorrhage</td>
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<tr>
<td>G</td>
<td>Cardiac</td>
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<tr>
<td>H</td>
<td>Pulmonary</td>
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</tr>
<tr>
<td>I</td>
<td>DVT/PE</td>
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</tr>
<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>Readmission within 30 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>Death</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>Unplanned return to theatre</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A: Pancreatic fistula (ISGPF)

ISGPF Definition: “Output via an operatively placed drain (or a subsequently placed percutaneous drain) of any measurable volume of drain fluid on or after postoperative d 3, with an amylase content greater than 3 times the upper normal serum value”

<table>
<thead>
<tr>
<th>Grade A</th>
<th>No clinical impact</th>
<th>No peri-pancreatic collections on CT scan; little/no change in management</th>
<th>Clinically well; no sepsis; no prolongation of hospital stay; slow removal of operatively placed drains</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Transient fistula&quot;</td>
<td></td>
<td>High drain amylase but nil else needed</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade B</th>
<th>Clinical impact</th>
<th>Peri-pancreatic drains in place or repositioned to drain collections; Change in management is required</th>
<th>Clinically fairly well; degree of infection requiring specific treatment; prolongation of hospital stay; patients often discharged with drains in situ and observed in outpatient setting</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Grade C</th>
<th>Severe clinical impact</th>
<th>Worrisome peri-pancreatic collections that require percutaneous drains; major change in management usually in ICU setting; possible re-surgery to salvage a difficult situation (completion pancreatectomy etc)</th>
<th>Clinically unwell; associated sepsis requiring aggressive antibiotics, octreotide and other intensive care support; major prolongation of hospital stay; associated complications</th>
</tr>
</thead>
</table>

B: Delayed gastric emptying (ISGPF)

<table>
<thead>
<tr>
<th>Grade A</th>
<th>Need for NGT intubation for 4 d or NGT reinsertion after postoperative day (POD) 3, or inability to tolerate a solid diet by POD 7.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade B</td>
<td>Need for NGT intubation for 8 d or NGT reinsertion after POD 7, or inability to tolerate a solid diet by POD 14.</td>
</tr>
<tr>
<td>Grade C</td>
<td>Need for NGT intubation for 15 d or NGT reinsertion After POD 15</td>
</tr>
</tbody>
</table>

C: Post Pancreatectomy haemorrhage (ISGPF)

<table>
<thead>
<tr>
<th>Onset, location, presentation and severity</th>
<th>Condition</th>
<th>Diagnosis</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade A</td>
<td>Early, intra or extraluminal mild</td>
<td>Well</td>
<td>Observation, blood count, USG and, if necessary CT</td>
</tr>
<tr>
<td>Grade B</td>
<td>Early, intra or extraluminal severe OR Late, intra or extraluminal, mild</td>
<td>Often well/intermediate Very rarely life-threatening</td>
<td>Observation, blood count, USG, angiography, CT endoscopy</td>
</tr>
<tr>
<td>Grade C</td>
<td>Late intra or extraluminal, severe</td>
<td>Severely impaired life-threatening</td>
<td>Angiography, CT endoscopy</td>
</tr>
</tbody>
</table>
**D: Bile Leak (ISGLS)**

**ISGLS definition:** ‘Bile leakage is defined as fluid with an increased bilirubin concentration in the abdominal drain or in the intra abdominal fluid on or after post operative day 3, or as the need for radiologic intervention because of biliary collections or relaparotomy resulting from bile peritonitis. Increased bilirubin concentration in the drain is defined as at least 3 times greater than the serum bilirubin concentration measured at the same time.’

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Bile leakage requiring no or little change in patients clinical management</td>
</tr>
<tr>
<td>B</td>
<td>Bile leakage requiring a change in patients clinical management (e.g. additional diagnostic or interventional procedures) but manageable without relaparotomy or grade A lasting &gt; 1 week</td>
</tr>
<tr>
<td>C</td>
<td>Bile leakage requiring relaparotomy</td>
</tr>
</tbody>
</table>

**E: Liver failure (ISGLS)**

**ISGLS definition:** ‘A postoperatively acquired deterioration in the ability of the liver (in patients with normal and abnormal liver function) to maintain its synthetic, excretory, and detoxifying functions, characterized by an increased INR (or need of clotting factors to maintain normal INR) and hyperbilirubinemia (according to the normal cut-off levels defined by the local laboratory) on or after postoperative day 5. If INR or serum bilirubin concentration is increased preoperatively, PHLF is defined by an increasing INR (decreasing prothrombin time) and increasing serum bilirubin concentration on or after postoperative day 5 (compared with the values of the previous day). Other obvious causes for the observed biochemical and clinical alterations such as biliary obstruction should be ruled out.’

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>PHLF resulting in abnormal laboratory parameters but requiring no change in the clinical management of the patient</td>
</tr>
<tr>
<td>B</td>
<td>PHLF resulting in a deviation from the regular clinical management but manageable without invasive treatment</td>
</tr>
<tr>
<td>C</td>
<td>PHLF resulting in a deviation from the regular clinical management and requiring invasive treatment</td>
</tr>
</tbody>
</table>

**F: Post hepatectomy haemorrhage (ISGLS)**

**ISGLS definition:** ‘Post-hepatectomy haemorrhage (PHH) is defined as a drop of haemoglobin level >3 g/dl after the end of surgery compared to postoperative baseline level and/or any postoperative transfusion of PRBCs for a falling haemoglobin level and/or the need for invasive re-intervention (e.g. embolization or relaparotomy) to stop bleeding.

To diagnose PHH (and to exclude other sources of haemorrhage) evidence of intraabdominal bleeding should be obtained such as frank blood loss via the abdominal drains if present (e.g. haemoglobin level in drain fluid >3 g/dl) or detection of an intra-abdominal haematoma or active haemorrhage by abdominal imaging (ultrasound, CT, angiography). Patients who are transfused immediately postoperatively for intra-operative blood loss by a maximum of two units of PRBCs (i.e. who do not have evidence of active haemorrhage) are not diagnosed with PHH.’

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>PHH requiring transfusion of up to 2 units of RBC'S</td>
</tr>
<tr>
<td>B</td>
<td>PHH requiring transfusion of &gt;2 units of RBC'S but manageable without invasive intervention</td>
</tr>
<tr>
<td>C</td>
<td>PHH requiring radiological interventional treatment (e.g. embolization) or relaparotomy</td>
</tr>
</tbody>
</table>

**G-L: Grade as per Clavien System:**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Any deviation from the normal postoperative course without the need for pharmacological treatment or surgical, endoscopic, and radiological interventions. Allowed therapeutic regimens are: drugs as antiemetics, antipyretics, analgetics, diuretics, electrolytes, and physiotherapy. This grade also includes wound infections opened at the bedside</td>
</tr>
<tr>
<td>II</td>
<td>Requiring pharmacological treatment with drugs other than such allowed for grade I complications. Blood transfusions and total parenteral nutrition are also included</td>
</tr>
<tr>
<td>III</td>
<td>Requiring surgical, endoscopic or radiological intervention</td>
</tr>
<tr>
<td>IIIa</td>
<td>Intervention not under general anesthesia</td>
</tr>
<tr>
<td>IIIb</td>
<td>Intervention under general anesthesia</td>
</tr>
<tr>
<td>IV</td>
<td>Life-threatening complication (including CNS complications)* requiring IC/ICU management</td>
</tr>
<tr>
<td>IVa</td>
<td>Single organ dysfunction (including dialysis)</td>
</tr>
<tr>
<td>IVb</td>
<td>Multiorgan dysfunction</td>
</tr>
<tr>
<td>V</td>
<td>Death of a patient</td>
</tr>
</tbody>
</table>

*Brain hemorrhage, ischemic stroke, subarachnoidal bleeding, but excluding transient ischemic attacks. CNS, central nervous system; IC, intermediate care; ICU, intensive care unit.
## M: Death analysis

<table>
<thead>
<tr>
<th></th>
<th>Non preventable: Requires that:</th>
<th></th>
<th>Probably Preventable: Requires that:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1) To a reasonable degree of medical certainty, outcome would have been the same regardless of any errors 2) No substantive errors were made and identified</td>
<td>C</td>
<td>1) Substantive errors made and identified 2) Errors were prospective errors 3) Death did not meet criteria for preventable 4) More likely than not, death would NOT have occurred had the identified errors been avoided</td>
</tr>
<tr>
<td>B</td>
<td>Possibly preventable: Requires that: 1) Substantive errors made and identified 2) Errors were prospective or retrospective errors 3) Death did not meet criteria for non preventable 4) More likely than not, outcome would have been the same regardless of errors made</td>
<td>D</td>
<td>Preventable: Requires that: 1) Substantive errors made and identified 2) Errors were prospective errors 3) To a reasonable degree of certainty, death would NOT have occurred had the identified errors been avoided</td>
</tr>
</tbody>
</table>

### Justification of errors:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Justifiable, unavoidable, or consistent with reasonable and prudent practice given the situation or clinical data available.</td>
</tr>
<tr>
<td>B</td>
<td>Not justifiable, avoidable, not consistent with standards of practice or service.</td>
</tr>
<tr>
<td>C</td>
<td>Indeterminate, controversial, cannot be resolved.</td>
</tr>
<tr>
<td>D</td>
<td>No errors identified for this event</td>
</tr>
</tbody>
</table>

### Action Plan:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>None required – explain in comments</td>
</tr>
<tr>
<td>B</td>
<td>Tabulation and tracking of problem for further reporting</td>
</tr>
<tr>
<td>C</td>
<td>Institution of formal Q/A audit</td>
</tr>
<tr>
<td>D</td>
<td>Formulation of new policy or procedure</td>
</tr>
<tr>
<td>E</td>
<td>Modification of dept, training program</td>
</tr>
<tr>
<td>F</td>
<td>Individual counselling and discussion</td>
</tr>
<tr>
<td>G</td>
<td>Educational offering</td>
</tr>
<tr>
<td>O</td>
<td>Other inc. action pending review</td>
</tr>
<tr>
<td></td>
<td>Errors Description</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>A</td>
<td>Patient selection</td>
</tr>
<tr>
<td>B</td>
<td>Delayed / missed diagnosis</td>
</tr>
<tr>
<td>C</td>
<td>Delay to provide treatment</td>
</tr>
<tr>
<td>D</td>
<td>Intra operative / technical error</td>
</tr>
<tr>
<td>E</td>
<td>Judgement error in patient manage</td>
</tr>
<tr>
<td>F</td>
<td>Equipment failure / unavailability</td>
</tr>
<tr>
<td>G</td>
<td>Drug error</td>
</tr>
<tr>
<td>H</td>
<td>IV Fluid error</td>
</tr>
</tbody>
</table>
Appendix 6 HPB Pathway Board meeting attendance

Attendance of meeting held on 14 April 2014, 2-4pm at The Christie

In Attendance:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derek O'Neill</td>
<td>Pathway Director</td>
</tr>
<tr>
<td>Caroline McCall</td>
<td>Pathway Manager</td>
</tr>
<tr>
<td>Juan Valle</td>
<td>Medical Oncology Consultant, The Christie</td>
</tr>
<tr>
<td>Konrad Koss</td>
<td>Consultant Gastroenterologist, East Cheshire</td>
</tr>
<tr>
<td>Debbie Clark</td>
<td>HPB Nurse Specialist, Pennine</td>
</tr>
<tr>
<td>Dr Emma Donaldson</td>
<td>Consultant Gastroenterologist, SRFT</td>
</tr>
<tr>
<td>Dr Mong-Yang Loh</td>
<td>Consultant Radiologist, Stockport</td>
</tr>
<tr>
<td>Andrew MacDonald</td>
<td>Consultant OG Surgeon, UHSM</td>
</tr>
</tbody>
</table>

Attendance of the meeting held on 24 June 2014, 2-4pm, at The Christie

IN ATTENDANCE

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derek O’Neill</td>
<td>Pathway Director</td>
</tr>
<tr>
<td>Caroline McCall</td>
<td>Pathway Manager</td>
</tr>
<tr>
<td>Juan Valle</td>
<td>Medical Oncology Consultant, The Christie</td>
</tr>
<tr>
<td>Konrad Koss</td>
<td>Consultant Gastroenterologist, East Cheshire</td>
</tr>
<tr>
<td>Debbie Clark</td>
<td>HPB Nurse Specialist, Pennine</td>
</tr>
<tr>
<td>Harry Kaltsidis (Deputising for Dr Javaid Iqbal)</td>
<td>UHSM</td>
</tr>
<tr>
<td>Dr Mong-Yang Loh</td>
<td>Consultant Radiologist, Stockport</td>
</tr>
<tr>
<td>Rafik Filobbos</td>
<td>PAT</td>
</tr>
<tr>
<td>Thomas Satyadas</td>
<td>CMFT</td>
</tr>
<tr>
<td>Vicki Stevenson.Hornby</td>
<td>WWL</td>
</tr>
<tr>
<td>Hans Ulrik Laasch</td>
<td>Christie</td>
</tr>
</tbody>
</table>
Appendix 7 Pathway Board minutes

HPB PATHWAY BOARD MEETING MINUTES

DATE: 14/04/2014

- Overview of Manchester Cancer

CMC gave an overview of the development of Manchester Cancer, including a comparison of adverse cancer survival outcomes for the UK with other European countries as well as regional disparities within the UK, whereby the Greater Manchester has poorer outcomes. She outlined the formation, leadership and composition of the Manchester Cancer provider board and the formation of 20 pathway boards.

- Aims & Priorities

The aim of the Manchester Cancer HPB Pathway Board is to improving outcomes. In particular, this means improving survival rates and patient satisfaction.

The key to this is to develop patient-centred diagnostic and referral pathways, which minimise delay and inconvenience.

A survey of board members revealed that failures in a HPB pathway that had had a negative effect on clinical outcome and/or patient experience for a HPB cancer patient were due to both inadequate access to the sMDT/tertiary centre and difficulties in obtaining adequate information from referring hospitals.

Solutions included: a better referral system, clearer clinical guidelines and better bed management.

Great improvements have been seen with the appointment of specialist HPB nurses in a number of referring hospitals. There should be at least 1 HPB CNS in each referring DGH and 4 HPB CNS in the tertiary centre.

There needs to be more frequent contact between the referring clinicians and the sMDT than the weekly MDT meeting. The feasibility of the concept of a daily review of SMDT referrals by a HPB clinician (e.g. the on-call HPB surgeon of the week) should be re-explored. Action may then be taken in time sensitive cases, pending further discussion at the weekly MDT.

The personal links between HPB surgeons and local colorectal and upper GI MDT’s are valuable in facilitating speedy referral and patient management and should be retained.

It is essential to remain compliant with the terms of National Cancer Peer Review whereby all new cancer patients should be reviewed by a multidisciplinary team for discussion of initial treatment plan.

*Action – To work to achieve an adequate number of HPB CNS in each hospital (All)  
DOR/JV to raise greater responsiveness of the SMDT to referrals at the HPB Joint Implementation Group (JIG) meeting 16.04.2014.
• **New Jaundice Pathway**

DOR presented data indicating the median times from initial ultrasound scan to further investigations and to surgery (appendix 1) as well as survival data from the current North Manchester Unit (appendix 2). He proposed a new jaundice pathway (appendix 3), the key features of which are:

- Same day CT scanning for patients with obstructive jaundice not due to gallstones (Radiologist to make the decision)
- More patients to proceed straight to surgery (within 1 week) without preoperative biliary drainage (if bilirubin <250).

A similar pathway is already in place at East Cheshire NHS Trust and reported to be working well. Sharing what is working well and innovative within each trust is a powerful function of the Pathway Board.

*Action – DOR to raise the new jaundice pathway at the JIG and begin the process of developing a generic business case (DOR/CMC)*

• **Patient and Primary Care Involvement**

It is recognised that to have patient and primary care representatives on the pathway board is essential to making changes and improvements.

There is a MacMillan Patient event planned in June.

DC has two useful forums whereby she may be able to identify and recruit patient representatives. JV also knows a few patients that may be interested and suitable.

Other proposals for finding suitable patient representatives were advertising.

JV also suggested incorporating primary care physicians who already have some knowledge of HPB through clinical sessions or other board membership.

ED raised the issue that clear expectations need to be set out not only for the role of the patient representative but also with regards to what happens at “the end” of the project, e.g., an exit strategy for the patient rep.

*Action – Caroline McCall to distribute details of the MacMillan Patient Event  
DC to identify suitable patients to attend this event  
JV to also identify suitable potential patient and primary care representatives.*

• **Incorporating Research – Juan Valle**

The incorporation of research aims into the work of the pathway board was emphasised. The aim is to have more patients participating in clinical trials.

Survey data was presented summarising the perceived obstacles to recruitment of patients into HPB clinical trials. These were: lack of awareness of clinical trials by doctors, patient inconvenience (especially the need to travel), lack of patient fitness/poor performance status, lack of suitable clinical trials and poor research infrastructure (especially lack of research nurses and research time for clinicians).
JV emphasised: participation in NCRN studies, developing “Manchester led” studies, the need for more non-intervention studies (e.g. biomarker and quality of life studies)

*Action – JV to update the next meeting about current patient enrolment in clinical trials and review the current portfolio of trials available.

Database & Data Collection – Jac Livsey

JL presented the Christie centralised system for MDT referral, recording of MDT outcomes, procedures and survival. Specific data fields of interest can be added for each tumour group. This will not only enhance data collection but also facilitate MDT working and patient management. This system has received the support of the Manchester Cancer Provider Board. It allows for the essential function of knowing our outcomes and results, which is essential to the success of Manchester Cancer as well as being a specification requirement of NHS commissioning board

*Action – DOR and JV to pursue development of a HPB system and seek its adoption and implementation in time for the commencement of the new merged HPB service.

• Date & Venues for Future Meetings

Future HPB pathway board meetings will be held at different venues and will be held on different days.

*Action – opinion to be sought by Doodle poll and dates & venues to be circulated (DOR/CMC)

Appendix 1. Audit of time between investigation and treatment for patients with pancreatic cancer presenting with obstructive jaundice.

Jaundice; problems with current pathway

• USS to:
  – USS to CT time 7 days (median) range (1-156)
  – USS to ERCP time 10 days (median) range (1-189)
  – USS to op time 57 days (median) range (4-156)

• CT scan to surgery
  – Median time 33 days (range 1 – 153)

• ERCP to surgery
  – Median time 30 days (range 7 – 146)
Appendix 2. Current survival analysis for patients with pancreatic cancer after surgery.

Overall Survival for resected Pancreatic Ductal Adenocarcinoma

Kaplan-Meier survival estimate

- 1 yrs: 67%
- 3 yrs: 18%
- 5 years: 10%

Appendix 3. Proposed new Manchester Cancer jaundice pathway

Greater Manchester Cancer Services
part of Manchester Cancer

Jaundice

USS

Bile duct dilatation / obstruction

Gallstones

Liver SOL

Liver screen

Normal bile ducts,
Abnormal liver echotexture or cirrhosis

Hepatitis and ETOH
screen
Autoimmence screen
(ANA, LKM, AMA ANCA)
Alpha antitrypsin
Caeuruloplasmin, ferritin

Refer to local Hepatology service

Low obstruction
Next List ERCP + SHORT METAL STENT if:
Bili >250 or Advanced/metastatic disease

See unit guidelines 8.2-8.6, 13.1-13.2

High obstruction
No ERCP or PTC prior to HPB MDT

Local ERCP or lap ECBD

same day further imaging
CT / MR/MRCP
Tumour marker (CEA, AFP, CA19-9)

Refer to local Hepatology service

HPB SMDT

Greater Manchester Cancer Services
part of Manchester Cancer
Appendix 8 Hepato-Pancreato-Biliary Cancer Pathway Board
Terms of Reference

These terms of reference were agreed on 07.07 2014 by Mr. Derek O’Reilly, Pathway Clinical Director for Hepato-Pancreato-Biliary (HPB) Cancer, and Mr David Shackley, Medical Director of Greater Manchester Cancer Services, on behalf of the Greater Manchester Cancer Services Provider Board. The terms of reference will be subject to future review.

The Pathway Board

The HPB Cancer Pathway Board is a cancer care specific board with responsibility to improve cancer outcomes and patient experience for local people across Greater Manchester and areas of Cheshire (a catchment population of 3.2 million). This area is synonymous with the old Greater Manchester and Cheshire Cancer Network area.

The Pathway Board is led by a Pathway Clinical Director and is formed of a multidisciplinary team of clinicians and other staff from all of hospital trusts that are involved in the delivery of HPB cancer care in Greater Manchester. The Pathway Board also has membership and active participation from primary care and patients representatives.

The HPB Cancer Pathway Board reports into and is ultimately governed and held to account by the Greater Manchester Cancer Services Provider Board.

Greater Manchester Cancer Services Provider Board

The Greater Manchester Cancer Services Provider Board is responsible for the service and clinical delivery arm of Manchester Cancer, Greater Manchester’s integrated cancer system. Manchester Cancer has two other arms: research and education (see appendix for the structure of Manchester Cancer).

The Provider Board is independently chaired and consists of the Chief Executive Officers of the ten acute hospital trusts in the Greater Manchester area:

- Bolton NHS Foundation Trust
- Central Manchester University Hospitals NHS Foundation Trust
- East Cheshire NHS Trust
- Pennine Acute NHS Trust
- Salford Royal NHS Foundation Trust
- Stockport NHS Foundation Trust
- Tameside Hospital NHS Foundation Trust
- The Christie NHS Foundation Trust
- University Hospital of South Manchester NHS Foundation Trust;
- Wrightington, Wigan and Leigh NHS Foundation Trust;
The Provider Board regularly invites representatives of commissioners, the Strategic Clinical Network, and Manchester Cancer to its meetings.

**Purpose of the Pathway Board**

The purpose of the Pathway Board is to improve cancer care for patients on the Greater Manchester HPB cancer pathway. Specifically, the Pathway Board aims to save more lives, put patients at the centre of care, and improve patient experience. The Board will represent the interests of local people with cancer, respecting their wider needs and concerns. It is the primary source of clinical opinion on this pathway for the Greater Manchester Cancer Services Provider Board and Greater Manchester’s cancer commissioners.

The Pathway Board will gain a robust understanding of the key opportunities to improve outcomes and experience by gathering and reviewing intelligence about the HPB cancer pathway. It will ensure that objectives are set, with a supporting work programme that drives improvements in clinical care and patient experience.

The Pathway Board will also promote equality of access, choice and quality of care for all patients within Greater Manchester, irrespective of their individual circumstances. The Board will also work with cancer commissioners to provide expert opinion on the design of any commissioning pathways, metrics and specifications.

**Role of the Pathway Board**

The role of the HPB Cancer Pathway Board is to:

Represent the Greater Manchester Cancer Services professional and patient community for HPB cancer.

Identify specific opportunities for improving outcomes and patient experience and convert these into agreed objectives and a prioritised programme of work.

Gain approval from Greater Manchester’s cancer commissioners and the Greater Manchester Cancer Services Provider Board for the programme of work and provide regular reporting on progress.

Design and implement new services for patients where these progress the objectives of commissioners and Greater Manchester Cancer Services, can be resourced, and have been shown to provide improvements in outcomes that matter to patients.

Ensure that diagnosis and treatment guidelines are agreed and followed by all teams in provider trusts, and are annually reviewed.

Ensure that all providers working within the pathway collect the pathway dataset measures to a high standard of data quality and that this data is shared transparently amongst the Pathway Board and beyond.
Promote and develop research and innovation in the pathway, and have agreed objectives in this area.

Monitor performance and improvements in outcomes and patient experience via a pathway scorecard, understanding variation to identify areas for action.

Escalate any clinical concerns through provider trusts.

Highlight any key issues that cannot be resolved within the Pathway Board itself to the Medical Director of Greater Manchester Cancer Services for assistance.

Ensure that decisions, work programmes, and scorecards involve clearly demonstrable patient participation.

Share best practices with other Pathway Boards within Greater Manchester Cancer Services.

Contribute to cross-cutting initiatives (e.g. work streams in living with and beyond cancer and early diagnosis).

Discuss opportunities for improved education and training related to the pathway and implement new educational initiatives.

Develop an annual report of outcomes and patient experience, including an overview of progress, difficulties, peer review data and all relevant key documentation. This report will be published in July of each year and will be the key document for circulation to the Provider Board. A template for this report is available so that all Pathway Boards complete the report in a similar manner.

**Membership principles**

All member organisations of Greater Manchester Cancer Services will have at least one representative on the Pathway Board unless they do not wish to be represented.

Provider trusts not part of Greater Manchester Cancer Services can be represented on the Pathway Board if they have links to the Greater Manchester HPB cancer pathway.

All specialties and professions involved in the delivery of the pathway will be represented.

The Board will have at least one patient or carer representative within its membership.

One professional member of the Pathway Board will act as a Patient Advocate, offering support to the patient and carer representative(s).

The Board will have named leads for:

- Early diagnosis
- Pathology
- Radiology
- Surgery
• Oncology
• Specialist nursing
• Living with and beyond cancer (‘survivorship’)
• Research
• Data collection (clinical outcomes/experience and research input).

It is possible for an individual to hold more than one of these posts. The Pathway Clinical Director is responsible for their fair appointment and holding them to account.

These named leads will link with wider Greater Manchester Cancer Services Boards for these areas where they exist.

All members will be expected to attend regular meetings of the Pathway Board to ensure consistency of discussions and decision-making (meeting dates for the whole year will be set annually to allow members to make arrangements for their attendance).

A register of attendance will be kept: members should aim to attend at least 5 of the 6 meetings annually and an individual’s membership of the Pathway Board will be reviewed in the event of frequent non-attendance.

Each member will have a named deputy who will attend on the rare occasions that the member of the Board cannot.

**Frequency of meetings**

The HPB Cancer Pathway Board will meet every two months.

**Quorum**

Quorum will be the Pathway Clinical Director plus five members of the Pathway Board or their named deputies.

**Communication and engagement**

Accurate representative minutes will be taken at all meetings and these will be circulated and then validated at the next meeting of the Board.

All minutes, circulated papers and associated data outputs will be archived and stored by the Pathway Clinical Director and relevant Pathway Manager.

The Pathway Board will design, organise and host at least one open meeting per year for the wider clinical community and local people. This meeting or meetings will include:

• An annual engagement event to account for its progress against its work programme objectives and to obtain input and feedback from the local professional community
• An annual educational event for wider pathway professionals and interested others to allow new developments and learning to be disseminated across the system

Representatives from all sections of the Greater Manchester Cancer Services professional body will be invited to these events, as well as patient and public representatives and voluntary sector partners.

An annual report will be created and circulated to the Medical Director of the Greater Manchester Cancer Services Provider Board by 31st July of each calendar year.

The agendas, minutes and work programmes of the Pathway Board, as well as copies of papers from educational and engagement events, will be made available to all in an open and transparent manner through the Greater Manchester Cancer Services website once this has been developed.

**Administrative support**

Administrative support will be provided by the relevant Pathway Manager with the support of the Greater Manchester Cancer Services core team. Over the course of a year, an average of one day per week administrative support will be provided.
Appendix 9 HPB Pathway Board Annual Plan 2014/15

HPB Pathway Board Annual Plan 2014-15

<table>
<thead>
<tr>
<th>Pathway Clinical Director:</th>
<th>Mr. Derek O’Reilly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathway Board Members:</td>
<td>Juan Valle</td>
</tr>
<tr>
<td></td>
<td>Konrad Koss</td>
</tr>
<tr>
<td></td>
<td>Debbie Clark</td>
</tr>
<tr>
<td></td>
<td>Javed Iqbal</td>
</tr>
<tr>
<td></td>
<td>Dr Mong-Yang Loh</td>
</tr>
<tr>
<td></td>
<td>Rafik Filobbos</td>
</tr>
<tr>
<td></td>
<td>Thomas Satyadas</td>
</tr>
<tr>
<td></td>
<td>Vicki Stevenson.Hornby</td>
</tr>
<tr>
<td></td>
<td>Hans Ulrik Laasch</td>
</tr>
<tr>
<td>Pathway Manager:</td>
<td>Miss Caroline McCall</td>
</tr>
</tbody>
</table>

| Date agreed by Pathway Board: | 14th June 2014 |
| Date agreed by Medical Director: | 31st July 2014 |
| Review date:                  | August 2015   |

Summary of objectives

<table>
<thead>
<tr>
<th>No</th>
<th>Objective</th>
<th>Alignment with Provider Board objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Implement a regional jaundice pathway</td>
<td>1. 1-year SURVIVAL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Patient EXPERIENCE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. RESEARCH and INNOVATION</td>
</tr>
<tr>
<td>2.</td>
<td>Improve Patient Experience</td>
<td>2. Patient EXPERIENCE</td>
</tr>
<tr>
<td>3.</td>
<td>Increase recruitment of HPB patients to clinical trials</td>
<td>1. 1-year SURVIVAL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. RESEARCH and INNOVATION</td>
</tr>
<tr>
<td>4.</td>
<td>Improve education for public, patients and</td>
<td>1. 1-year SURVIVAL</td>
</tr>
<tr>
<td></td>
<td>referrers to the service.</td>
<td>2. Patient EXPERIENCE</td>
</tr>
</tbody>
</table>
## Objective 1: The Manchester Cancer Jaundice Pathway

<table>
<thead>
<tr>
<th>Objective:</th>
<th>Implement a regional jaundice pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rationale:</td>
<td>The problems with the existing system are threefold: lack of timeliness, poor patient experience and high complications rates. The MC Jaundice Pathway provides for earlier diagnosis as well as timely referral and improved pathways.</td>
</tr>
<tr>
<td>By (date):</td>
<td>Within next twelve months: To obtain funding for a jaundice co-ordinator; to establish pilot pathways in some referring hospitals; to establish the concept of fast-track pancreatic surgery as the default strategy in suitable patients in the new merged HPB service CMFT. Full implementation: by end of 3 year MC cycle, i.e. end of 2016.</td>
</tr>
<tr>
<td>Board measure(s):</td>
<td>Time-to-diagnosis</td>
</tr>
<tr>
<td></td>
<td>Time-to-treatment</td>
</tr>
<tr>
<td></td>
<td>Total length of stay</td>
</tr>
<tr>
<td></td>
<td>Post-operative Complication and Mortality rates</td>
</tr>
<tr>
<td></td>
<td>Pathological stage; tumour size, nodal involvement, resection margin</td>
</tr>
<tr>
<td></td>
<td>Patient satisfaction</td>
</tr>
<tr>
<td></td>
<td>Disease-free and overall survival</td>
</tr>
<tr>
<td>Risks to success:</td>
<td>The key challenge identified by the HPB Pathway Board is to obtain sufficient resources to implement clinical improvements on a regional basis that lead to better outcomes. The resources necessary include: additional personnel for better coordination of patient care, accurate data collection to measure progress and active support from the Provider Board to implement change in their institutions. An application for funding has been to the “Acceleration, Coordination and Evaluation (ACE)” programme, for a clinical nurse specialist and data collector.</td>
</tr>
<tr>
<td>Support required:</td>
<td>The support of the provider board with the implementation of the MC Jaundice Pathway at each Trust. Support to obtain funding for a clinical nurse specialist and data collector.</td>
</tr>
</tbody>
</table>

### Work programme: The Manchester Cancer Jaundice Pathway

<table>
<thead>
<tr>
<th>Action</th>
<th>Resp.</th>
<th>By (date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To obtain funding for a jaundice co-ordinator</td>
<td>DOR, CMC</td>
<td>Jan 2015</td>
</tr>
<tr>
<td>To establish pilot pathways in some referring hospitals</td>
<td>DOR, HPB Pathway Board</td>
<td>April 2015</td>
</tr>
<tr>
<td>To establish the concept of fast-track pancreatic surgery as the default strategy in suitable patients in the new merged HPB service CMFT.</td>
<td>DOR, AS</td>
<td>July 2015</td>
</tr>
<tr>
<td>Full implementation: by end of 3 year MC cycle</td>
<td>DOR, CMC, HPB</td>
<td>Dec 2016</td>
</tr>
</tbody>
</table>
### Objective 2: Improve Patient Experience

**Objective:** To Improve Patient Experience

**Rationale:** The CPES results, as well as patient feedback and complaints, have provided useful information on the quality of the service provided, from the patient perspective. The individual comments section, in particular, identifies opportunities for improvement.

**By (date):** Annual improvement in CPES results

**Board measure(s):** Patient satisfaction

**Risks to success:** The over-riding priority for the HPB Pathway Board is to ensure that future CPES data is obtained and analysed separately for HPB and OG Cancers, i.e. Not unified as “Upper GI”. Application to NHS England has been made for this data to be separated and made available to the Greater Manchester HPB sMDT.

**Support required:** Support for the specific HPB objectives that improve patient experience, such as improved patient pathways.

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### Work programme: Improve Patient Experience

<table>
<thead>
<tr>
<th>Action</th>
<th>Resp.</th>
<th>By (date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation of CPES data at HPB Pathway Board</td>
<td>DC</td>
<td>Sept 2014</td>
</tr>
<tr>
<td>To obtain separation of CPES data for HPB</td>
<td>AS, DOR, DC</td>
<td>Jan 2015</td>
</tr>
<tr>
<td>To have two patient representatives on the HPB Pathway Board</td>
<td>DOR, CMC, HPB Pathway Board</td>
<td>April 2015</td>
</tr>
<tr>
<td>Discussion of survivorship at Pathway Board from Survivorship Pathway Director</td>
<td>DOR, CMC</td>
<td>July 2015</td>
</tr>
<tr>
<td>Re-presentation of CPES Results</td>
<td>DC</td>
<td>Sept 2015</td>
</tr>
</tbody>
</table>
Objective 3: Increase recruitment of HPB patients to clinical trials

**Objective:** To increase recruitment of HPB patients to clinical trials.

**Rationale:** Increased involvement in clinical trials sits within the HPB Pathway board’s strategy for improving outcome in HPB cancer. Briefly, research, early diagnosis, timely referral and improved pathways, reduction in post-operative morbidity and mortality and improved oncology, have been identified as the five key areas by which improved outcomes may be achieved.

**By (date):** July 2015

**Board measure(s):**
- To exceed NCRN Recruitment Targets:
  - 7.5% Cancer/Pre-malignant patients recruited to NIHR Interventional Studies.
  - 20% Cancer/Pre-malignant patients recruited to NIHR studies.

**Risks to success:** Data obtained from the HPB Pathway Board relating to the perceived obstacles to recruitment of patients into HPB clinical trials has been obtained by survey. These are: lack of awareness of clinical trials by doctors; patient inconvenience (especially the need to travel); lack of patient fitness/poor performance status; lack of suitable clinical trials; and poor research infrastructure (especially lack of research nurses and research time for clinicians).

Continued gains may be made by participation in NCRN studies, developing “Manchester-led” studies, the need for more non-intervention studies (e.g. biomarker and quality of life studies).

**Support required:** To support measures to improve data collection, including funding for a HPB clinical data manager. To support improved research infrastructure, especially funding of research nurses.

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**Work programme Increase recruitment of HPB patients to clinical trials**

<table>
<thead>
<tr>
<th>Action</th>
<th>Resp.</th>
<th>By (date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish reliable system of data collection by HPB sMDT</td>
<td>AS, JV, DOR</td>
<td>Jan 2015</td>
</tr>
<tr>
<td>Presentation of recruitment by NCRN targets</td>
<td>JV</td>
<td>April 2015</td>
</tr>
<tr>
<td>Develop at least 1 Manchester lead NCRN HPB surgical study</td>
<td>DOR, AS, JV.</td>
<td>July 2015</td>
</tr>
<tr>
<td>To increase the HPB data and research infrastructure</td>
<td>DOR, JV, AS, CMC, HPB Pathway Board</td>
<td>July 2015</td>
</tr>
</tbody>
</table>
## Objective 4: Improve education for public, patients and referrers to the service.

<table>
<thead>
<tr>
<th>Objective:</th>
<th>To improve education for public, patients and referrers to the service.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rationale:</td>
<td>To achieve improved patient experience, more timely diagnosis, quicker time from diagnosis to treatment and improved survival.</td>
</tr>
<tr>
<td>By (date):</td>
<td>July 2015</td>
</tr>
</tbody>
</table>
| Board measure(s): | Time-to-diagnosis
                  | Time-to-treatment
                  | Pathological stage; tumour size, nodal involvement, resection margin
                  | Patient satisfaction
                  | Disease-free and overall survival |
| Risks to success: | Failure of engagement by the targeted stakeholders. Future HPB Pathway Board meetings are scheduled to take place at two monthly intervals. These will take place at each of the ten participating Trusts in turn, with the additional feature of a wider meeting/educational event for the benefit of the local MDT. The day of the meeting will alter on a rolling basis. |
| Support required: | Further work to recruit and train a cadre of effective patient representatives. |

### Work programme

<table>
<thead>
<tr>
<th>Action</th>
<th>Resp.</th>
<th>By (date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPB Pathway Board Meeting &amp; Educational Event at Wigan</td>
<td>GB, VSH, DOR, CMC</td>
<td>18.09.2014</td>
</tr>
<tr>
<td>Pennine Acute Trust Educational Event</td>
<td>DOR</td>
<td>15.10.2014</td>
</tr>
<tr>
<td>HPB Pathway Board Meeting &amp; Educational Event at Stockport</td>
<td>MYL</td>
<td>23.01.2015</td>
</tr>
<tr>
<td>HPB Pathway Board Meeting &amp; Educational Event at Wythenshaw</td>
<td>HK</td>
<td>March 2015</td>
</tr>
<tr>
<td>Joint Annual Event with Colorectal &amp; Upper GI Pathway Boards</td>
<td>DOR &amp; other Pathway Board CD's</td>
<td>April 2015</td>
</tr>
<tr>
<td>HPB Pathway Board Meeting &amp; Educational Event at Macclesfield</td>
<td>KK</td>
<td>May 2015</td>
</tr>
</tbody>
</table>
Appendix: Manchester Cancer Provider Board objectives

The Manchester Cancer Provider Board has identified the themes of its three key objectives. The precise wording of those objectives remains to be confirmed.

1. **1-year SURVIVAL**: Focus on improving 1-year pooled cancer overall survival rate, so that we halve the survival gap with the world’s best (Sweden) for patients diagnosed in 2020, and approach their figures by 2025

2. **Patient EXPERIENCE**: Achieve year-on-year improvement in patient experience aspiring to be the best performing conurbation in the National Cancer Patient Experience Survey

3. **RESEARCH and INNOVATION**: Increase patient involvement in research (>40% by 2019) and be an international leader in developing innovation in clinical practice