

# MANAGEMENT OF MALIGNANCY

## INTRODUCTION

### Key points

- The system is failing patients with a cancer, particularly those who present as an emergency. Currently the picture is one of varying expertise, poor compliance with recommendations and failure to collect data and run adequate multidisciplinary teams.
- Many of the recommendations of the Calman-Hine report have not been implemented.
- Patients are being managed in units and centres with very different case-loads and experience levels. Some case-loads are very low and it is doubtful whether clinicians are able to maintain clinical skills.
- Some patients are being subjected to lengthy and complex surgical procedures for palliation, where the benefits of surgery are unclear.
- Data collection appears to be deficient, and many clinicians are unable to demonstrate knowledge of simple demographic data about the cancer being treated, including survival data.

- In some specialties, rates of cancer staging are very low.
- Some patients are receiving inappropriate diagnostic operative procedures, because of a failure to use appropriate preoperative imaging modalities, or because of a lack of resources for diagnostic facilities.

A total of 512 cases reported had a diagnosis including a cancer at the time of admission. These cases have been studied in some detail in order to assess the quality of care for patients admitted and undergoing a surgical procedure, whilst they had a diagnosis of cancer. In the majority of cases (77%) the final procedure was undertaken in relation to the cancer. However, in some cases, patients underwent a procedure which was not directly related to the cancer.

The report 'A Policy Framework for Commissioning Cancer Services' (Calman-Hine report) was published in 1995<sup>78</sup>. This report identified apparent variations in recorded outcomes of treatment for cancer. It noted that improved outcomes were associated with specialised care, particularly for uncommon cancers.

It is perhaps worth reiterating some of the general principles outlined in the Calman-Hine report:

- *“All patients should have access to a uniformly high quality of care... to ensure the maximum possible cure rates and best quality of life. Care should be provided as close to the patient’s home as is compatible with high quality, safe and effective treatment.”*

- *“Patients, families and carers should be given clear information about...treatment options and outcomes available to them.”*

- *“Effective communication between sectors, professionals and patients is imperative.”*

- *“Psychosocial aspects of cancer care should be considered at all stages.”*

- *“Cancer registration and careful monitoring of treatment outcomes are essential.”*

The report made a number of recommendations

about the configuration of cancer services in order to

achieve these goals:

- *“The new structure should be based upon a network of expertise in cancer care reaching from primary care through cancer units in district hospitals to cancer centres.”*

- *“Integration with relevant non-cancer services is essential.”*

- *“Designated cancer units should be of a size to support clinical teams with sufficient expertise and facilities to manage the commoner cancers.”*

- *“Designated cancer centres should provide expertise in the management of all cancers.”*

- *“Cancer units or cancer centres, which use different methods of treatment, should be expected to justify them on scientific or logistical grounds.”*

- *“Surgical sub-specialisation in the cancer sites is essential and a hospital should only seek to function as a cancer unit if the volume of work, related to each cancer site, is sufficient to maintain such sub-specialisation.”*

- *“All specialties with responsibility for cancer care should form a network for audit with other cancer units and centres.”*

- *“There will need to be flexibility to allow for emergency presentations of cancers in hospitals without cancer units.”*

- *“Multidisciplinary consultation and management are essential and each cancer unit should have in place arrangements for non-surgical oncological input into services.”*

- *“Nursing services must be structured to ensure access to specialist nurses and care at ward and outpatient level must be planned and led by nurses who have benefited from post-registration education in oncology.”*

- *“The services of the cancer unit/centre should include palliative medicine.”*

- *“Cancer units are expected to engage in appropriate clinical research.”*

This study examines to what extent the principles and recommendations set out in the Calman-Hine report of 1995 have been implemented for patients with cancer who died within 30 days of a procedure in the data collection year 1999/00.

## OVERVIEW OF CANCER SERVICES

### Questionnaire completion

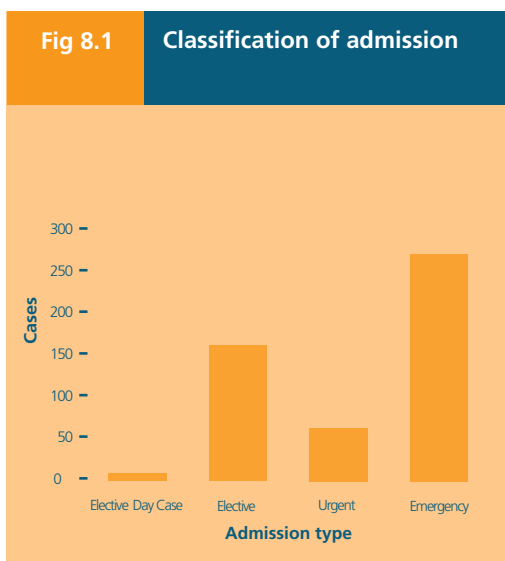
Overall, the standard of the data provided in the oncology questionnaire was rather poor due to failure to correctly complete all questions, and in particular, the failure to use the free text options in order to give advisors an accurate ‘pen picture’.

Those questions requesting details about demographic data concerning the cancer concerned were particularly poorly answered. Should clinicians be expected to have a reasonable grasp of basic facts about specific cancers? NCEPOD believes that they should.

### Admission category

The majority of patients with a cancer diagnosis were admitted either urgently or as an emergency (Figure 8.1). This is of importance, because the emphasis on organisation of cancer services is to accommodate patients attending following elective referral for cancer from the primary sector. It is not well designed to serve those patients who are admitted as emergencies.

Consequently many patients, who are admitted with the complications of malignant disease, fail to benefit from multidisciplinary teams (MDTs), or sub-specialised surgical teams throughout their acute admission. Paradoxically, it is this group of patients, requiring complex management decisions, who have most to benefit from experienced MDTs.



The Calman-Hine report sets out in considerable detail, recommendations for the configuration of services necessary to maximise the equality and quality of care available for cancer patients. However, in relation to those patients presenting as emergencies, the report simply acknowledges the need for “flexibility” in managing these patients presenting at hospitals without cancer units. There is evidence from this study that even when patients are admitted as emergencies to hospitals designated as a cancer unit or cancer centre, they are not receiving a uniformly high quality of cancer care. NCEPOD believes that more guidance is required, to ensure that this significant group of cancer patients also receive access to uniformly high quality, specialist cancer care.

The major burden numerically for this group of patients falls upon the general surgeon as shown in Table 8.1

Speciality	Total Oncology Cases	Urgent and Emergency Procedures	Scheduled and Elective Procedure	Not answered
General*	332	170	159	3
Orthopaedic	53	37	16	-
Urology	50	14	36	-
Gynaecology	20	2	17	1
Neurosurgery	15	9	6	-
Otorhinolaryngology	10	2	8	-
Vascular	9	8	1	-
Paediatrics	4	2	2	-
Plastic	1	0	1	-
Cardiothoracic	15	7	8	-
Oral & Maxillofacial	2	0	2	-
Ophthalmology	1	0	1	-
<b>Total</b>	<b>512</b>	<b>251</b>	<b>257</b>	<b>4</b>

Some problems could be alleviated by surgeons recognising the benefit of cross-referral to colleagues with a sub-specialised oncology interest at an early stage in the process. However, there remains a problem over the provision of specialised care 24 hours a day, seven days a week.

Most district hospitals (including designated cancer units) have insufficient numbers of sub-specialised staff to cover around the clock even for the common cancers. Junior doctors’ hours and European Working Time Directives will often mean that no

member of the specialist team is available out of working hours. In a number of cases, consultants commented that they were now on-call all the time for their sub-specialty, because other surgeons felt that they had become de-skilled.

More emphasis needs to be placed upon developing the concept of clinical networks as outlined in the Calman-Hine report. The cosmetic designation of hospitals as cancer units or centres does nothing to enhance the quality of patient care.

Clinical networks should be designed to try and ensure that every patient has access to the appropriate level of expertise. At one extreme this may involve Trusts reaching mutual agreement to concentrate on their strengths and withdraw from certain services where expertise cannot be maintained. Depending upon circumstances, 24-hour advice may be available from specialist teams or admission or transfer policies agreed, so that patients are treated in the most appropriate hospital. Geographic considerations will need to be taken into account when configuring local clinical networks.

### Basic cancer data

Overall 112/512 (22%) questionnaires were unanswered in relation to staging and in a further 118/512 (23%), no stage was recorded in the notes. Two hundred and seven questionnaires (40%) did not indicate how many new cases were seen by the team each year; only 193/512 (38%) supplied peri-operative mortality rates; and only 109/512 (21%) could supply the incidence of the particular cancer in their area.

Perhaps of most concern, only 108/512 (21%) supplied five-year survival rates.

The Calman-Hine report set out the following principle:

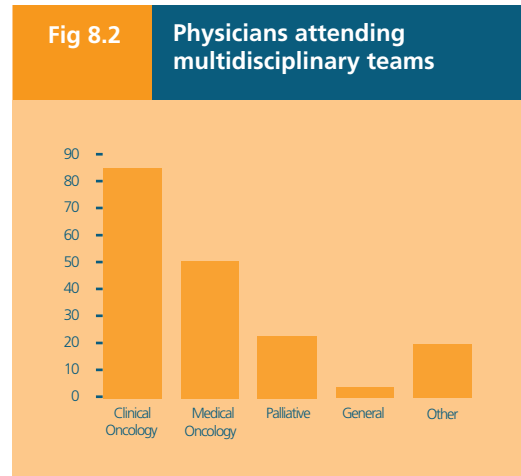
*“Patients, families and carers should be given clear information about...treatment options and outcomes available to them.”*

It is difficult to know how clinicians could fulfil these obligations without having a basic grasp of the demographics of a particular cancer, and without employing a recognised staging system in the management of the patient.

### Multidisciplinary teams (MDTs)

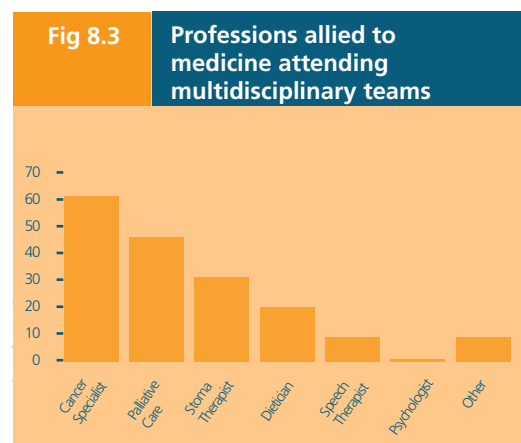
Overall 313/512 (61%) of patients were not considered by a MDT. A further 58 questionnaires failed to answer this question, and only 141/512 (27%) of patients were identified as having been seen by such a team.

Of the 141 patients discussed by a MDT, the non-surgical make up of the teams was as shown in Figure 8.2.



In 30/141 (21%) cases neither a clinical oncologist nor a medical oncologist were members of the MDT. Despite the small number of palliative care physicians attending MDTs, in those cases where the aim of treatment was palliation (either wholly or in part), only 14/196 (7%) indicated that there was inadequate support from the palliative care team.

Transfer to a hospice was considered appropriate in 69/512 (13%) of cases but bed availability was only confirmed in 38/69 (55%). In 14/69 (20%) no bed was available. Fifteen questionnaires were unanswered and two did not know. Home care with palliative support was considered in 89 cases and of these support was thought to be inadequate in only 8/89 (9%).



Although radiologists and pathologists were infrequently cited as members of the MDT, in 51% of cases joint clinico-radiology meetings were held and in 55% joint clinico-pathology conferences were held. Sub-specialised pathology was only available in 49% of cases. Specialised radiology and pathology is an important component of any multidisciplinary team.

### Cancer status of hospital

Despite the relatively low number of patients being seen by MDTs and the low number of patients who were considered at clinico-pathological or radiology meetings, 73% of hospitals were designated as either cancer centres or cancer units. In only 35 cases was chemotherapy administered on the surgical ward, and in all but one case medical and nursing staff had had specific training for this.

### Guidelines for GPs

There were 201 questionnaires where the question asking if referral guidelines were available for general practitioners (GPs) was unanswered. Four questionnaires (all seen by consultants) stated that they did not know. Of those remaining who responded, 160 did provide referral guidelines for GPs, but 147 stated that they did not.

### Continuing professional development

Just under half (45%) of the surgeons undertaking treatment of cancer patients indicated membership of an appropriate specialist oncology association. One hundred and nineteen (23%) indicated that they were not members of a relevant specialist association, and in 182 cases the question was either unanswered, or the clinician completing the form did not know. Membership of a relevant specialist association does not guarantee effective CME. However, surgeons who are not members of a specialist association may be at danger of not keeping abreast of developments.

### Nursing

Overall only 95/512 (18%) answered the question about the percentage of ward staff who held an appropriate higher qualification in oncology care. Of those, 31/95 (32%) indicated that none of the nursing staff were in possession of an appropriate qualification. Only 17/95 (18%) indicated that more than 30% held a relevant qualification.

There is a great deal to be done to meet the

aspiration that all cancer patients should be cared for in units with access to nurses with appropriate post-basic qualifications in oncology care.

### Questionnaire deficiency

The questionnaire was identified as deficient, in that it failed to ask sufficiently specific questions about preoperative investigations and their findings. It was often suspected, but only confirmed in a few cases, by free text that preoperative investigation of acute cases was inadequate, particularly in terms of appropriate use of imaging. In a number of cases where diagnostic laparotomy was performed, more thorough preoperative assessment might have prevented the need for surgical intervention.

### Aims of treatment

Question 21 asked what the aim of treatment was. Table 8.2 details the responses. It is disappointing that in 110 questionnaires, this question was not answered. Is this a reflection of a lack of clarity about the reason for surgery?

Table 8.2		Aim of treatment
Aim		Cases
Palliation		176
Curative Intent		156
Diagnosis		38
Palliation and Diagnosis		10
Palliation and Cure		8
Cure and Diagnosis		5
Palliation, Cure and Diagnosis		2
Not answered		110
Not sure		7
<b>Total</b>		<b>512</b>

## PATIENTS UNDERGOING SURGERY WITH PALLIATIVE INTENT

Palliation of symptoms alone was the object of surgery in 176/512 (34%) of cases overall, and in 151/395 (38%) where the procedure was directly related to the index cancer.

Whilst it is understood that a procedure, initially intended as diagnostic, could ultimately become palliative once the diagnosis became clear, it is less easy to understand the ten cases where the intent was both curative and palliative, given that: to palliate is by definition 'to lessen the severity of symptoms without curing'.

Only 35/176 (20%) of patients undergoing surgery with palliative intent were admitted electively.

<b>Table 8.3</b>	
<b>Symptoms being controlled in palliative only cases</b> <i>(answers may be multiple)</i>	
Symptom	Cases
Bowel obstruction (sic)	50
Pain/discomfort	50
Nausea and or vomiting	19
Bleeding	13
Immobility	10
Dysphagia	8
Jaundice	8
Anaemia	6
Diarrhoea / faecal incontinence	5
Dyspnoea	5
Weight Loss/anorexia	4
Urinary retention	4
Other	10
Not Stated	18

### Bowel obstruction

There were 50 cases operated upon by general surgeons to palliate bowel obstruction. In the majority 38/50 (75%) death was either a definite risk or expected. Small bowel obstruction accounted for 24/50 and large bowel obstruction for 26/50.

Use of the term 'bowel obstruction' as a symptom means different things to different clinicians. Furthermore, the lack of standardised outcome

measures for palliation of the variable symptoms of bowel obstruction makes comparison of surgical and medical techniques difficult. However, it is estimated that between 42-80% of patients with bowel obstruction have satisfactory surgical palliation, and between 10-50% of patients will re-obstruct following surgery <sup>79</sup>.

Medical measures to control colicky pain, reduce constipation and control nausea and vomiting are often effective, and have the advantage of avoiding painful laparotomy scars and often avoid tying patients to intravenous lines and NG tubes.

Non-surgical methods of palliative control should be considered in patients who are terminally ill and particularly where death is regarded as a definite risk or is expected <sup>80</sup>.

### Procedures

There was a wide range of procedures undertaken to relieve bowel obstruction. At one extreme, a simple defunctioning colostomy was performed whereas at the other extreme, a major resection and anastomosis was undertaken to palliate bowel obstruction. In some cases, an extensive resection together with a colostomy or ileostomy was undertaken. The rationale for choice of procedure was not always clear.

<b>Table 8.4</b>	
<b>Procedures undertaken for palliation of bowel obstruction</b>	
Procedures	No. of cases
Resection and primary anastomosis	17
Resection and stoma	8
Bypass procedure	9
Stoma alone	10
Other	6
<b>Total</b>	<b>50</b>

Just over half 26/50 (52%) of procedures were classified as emergency or urgent (within 24 hours). Only six of these cases were discussed by a multidisciplinary team (MDT), and whilst disappointing, this is perhaps not surprising. However, of the remaining 24/50 (48%) of procedures classified as scheduled, only nine (37%) were considered by a MDT. Is it possible that some of these procedures could have been avoided, or at least been less radical, if the patient had had access to a multidisciplinary team? Is it possible to organise services for cancer patients so that those presenting acutely have access to the same level of expertise as those referred on an elective basis?

It is unfortunate that the Calman-Hine report fails to give specific guidance on the provision of service for this group of patients.

**Case Study 71**

*An 83-year-old, ASA 4 patient was admitted to a district hospital (cancer centre) under the care of a surgical team with a sub-specialised interest in breast surgery. Two days following admission for small bowel obstruction the patient underwent a sub-total colectomy and ileorectal anastomosis, performed by a SpR 2. The procedure took 3h 30 min and was carried out with palliative intent for an extensive sigmoid carcinoma with hepatic metastases. The patient died of pneumonia five days after surgery. This team sees four colon cancer cases per year and the consultant operates on two cases per year. The patient was not considered by a MDT, and this surgical team is not involved in audit or research for colon cancer.*

Should this patient have been referred to the colorectal cancer MDT? Was this procedure appropriate for palliation? Was the seniority and experience of the surgeon appropriate?

**Pain or discomfort**

Pain or discomfort was usually associated with other symptoms. In 11 cases, pain or discomfort was the only symptom that the procedure intended to palliate. Procedures performed to palliate pain are shown below. Of these procedures five were performed urgently or as emergencies, and six as scheduled or elective procedures. Six were considered by a MDT.

**Nausea and vomiting**

Of the 19 patients undergoing procedures for nausea and vomiting, only four (21%) were seen in a MDT. Seven patients underwent procedures classified as urgent and the remaining 12 were classified as scheduled.

Of the patients undergoing urgent procedures, only two were seen by a MDT and only 2/12 (16%) of the scheduled patients were seen by a MDT. It seems strange that in some hospitals patients have access to a MDT even when undergoing an urgent procedure, whereas in the majority of patients undergoing scheduled surgery, where more time is available, and where the procedure was recognised as having palliative intention, these patients were not seen by MDTs. This is particularly noteworthy given that non-surgical methods of palliation for nausea and vomiting are often very effective.

Six patients underwent pancreatico-biliary procedures to palliate nausea and vomiting. Only two of these patients were considered by a MDT. Table 8.6 shows the wide range of procedures undertaken to palliate nausea and vomiting.

**Table 8.5** Procedures undertaken to palliate pain or discomfort

Site of Primary	Operation
Breast	Closed reduction and intra-medullary nail humerus
Finger	Debridement arm wound and bilateral humeral nails
Leukaemia	Drainage perianal abscess
Prostate	Humeral intramedullary nail
Rectum	Laparotomy for peritonitis
Rectum	Laparoscopic assisted loop sigmoid colostomy
Sezary syndrome-leukaemic	Incision and drainage of abscess, marrow harvest
Stomach	Laparotomy
Stomach	Exploratory laparotomy
Uterine cervix	Paracentesis
Unknown	Drainage of ascitic fluid under local anaesthesia



**Bleeding**

Four of these patients underwent procedures classified as emergency or urgent (Table 8.7). Eight patients had scheduled procedures and one patient had an elective cystoscopy and TURBT. Only 3/9 of the scheduled or elective group were seen by an MDT.

**Dysphagia**

Only one out of eight patients, admitted for dysphagia, underwent an urgent procedure. The remainder underwent scheduled procedures. The site of tumour and operation performed are shown in Table 8.8.

Six of these eight patients with dysphagia were

considered by a MDT. It is interesting to note the wide range of techniques and procedures available for managing this symptom. Is it right to consider major surgery to palliate dysphagia?

**Immobility**

All the patients who were palliated for immobility were managed by orthopaedic surgeons. The distribution of primary site and procedure undertaken is shown in Table 8.9. The three patients with breast cancer and one with lung cancer had been seen by a multidisciplinary team, but the remaining six patients had not.

It is interesting that immobility is a relatively

**Table 8.6** Wide range of procedures undertaken to palliate nausea and vomiting

Site of Primary Tumour	Operation
Caecum	Right hemicolectomy
Common bile duct	ERCP - dual approach with radiology & insertion of endoprosthesis
Gastric antrum	Laparotomy + high gastrojejunostomy
Head of pancreas	Cholecystectomy + gastrojejunostomy
Hepatic flexure of colon	Palliative loop ileostomy + omental biopsy
Pancreas	Palliative gastroenterostomy (mini-laparotomy)
Pancreas-head	Biliary and gastric bypass
Pancreas-head	Laparotomy for haemorrhage from gastroenterostomy
Pancreatic/biliary	Laparotomy
Rectum	Laparotomy
Sigmoid colon	Sigmoid colectomy, end colostomy, caecostomy, biopsy of lesion of colon
Sigmoid colon	Laparotomy/Hartmann's procedure/small bowel resection
Stomach	Laparotomy, no palliative procedure possible
Stomach	Gastrojejunostomy
Stomach	Total gastrectomy and splenectomy
Stomach (antrum)	Gastrojejunal bypass
Stomach (pylorus)	Laparotomy, gastroenterostomy
Transverse colon?	Endoscopic insertion of nasojejunal feeding tube
Unknown	Bilateral salphingo-oophrectomy + omental biopsy

**Table 8.7** Procedures undertaken to palliate bleeding

Site of Primary Tumour	Operation
Bladder	Cystoscopy + TURBT (3 Cases)
Colon	Cystoscopy + clot evacuation, biopsy and diathermy
Corpus of uterus	Truncal vagotomy, gastroenterostomy, feeding jejunostomy
Hepatic flexure	Right hemicolectomy
Left kidney	Left radical nephrectomy
Prostate	Flexible sigmoidoscopy
Rectum	Minilaparotomy - left iliac colostomy
Splenic flexure	Percutaneous cricothyroidotomy
Stomach	Laparotomy, palliative distal gastrectomy
Stomach invading the transverse colon	Laparotomy + oesophagojejunal anastomosis
Suspected pancreas	OGD



common reason cited for a palliative procedure. Yet many of the surgical procedures used to palliate other symptoms do in themselves produce immobility, by virtue of tying the patient to lines and giving them uncomfortable (mainly abdominal) scars, which also have effects on respiration as well as immobility. It is likely that most of these immobile patients would also have pain and discomfort, and orthopaedic procedures would palliate this as well. Orthopaedic surgery is not always indicated however, and other non-operative methods of palliating pain and discomfort caused by bony metastases should be considered.

Orthopaedic surgeons are involved in the management of patients with cancer arising from many primary sites. Despite this they were not cited as being involved in any of the MDTs. There needs

to be a mechanism whereby orthopaedic surgeons are involved in the decision making process of the MDT particularly for those cancer sites with a predilection for bony metastases.

**Jaundice**

Jaundice was cited as the reason for palliative surgery in eight cases (Table 8.10). Only half of these patients were seen by a MDT. Half of these patients were classified as having scheduled surgery and half as urgent or emergency. Classification of procedure made no difference as to whether the patient was seen by a MDT. Five cases were treated in cancer centres and three in cancer units. The average number of new cases of these cancers seen by the teams per year was 16 (range 10-25).

**Table 8.8 Procedures undertaken to palliate dysphagia**

Site of Primary Tumour	Operation
Hypopharynx	OGD and dilatation PEG feeding tube
Oesophagus	OGD and dilatation
Oesophagus	OGD + laser
Middle third of oesophagus	OGD + laser + radiological stent insertion
Bronchus invading oesophagus	OGD and dilation + covered stent insertion
Lower third oesophagus	OGD + stent
Lower third oesophagus	OGD and dilatation + micro-selectron therapy
Oesophago-gastric junction	Oesophago-gastrectomy

**Table 8.9 Procedures undertaken to palliate immobility**

Site of Primary Tumour	Operation
Breast	Total hip replacement
Breast	Hemiarthroplasty
Breast	Rush nail humerus
Lung	Intramedullary nail humerus
Ovary	Hemiarthroplasty
Penis	Dynamic condylar screw and plate femur with cement augmentation
Prostate	Intramedullary nail femur
Prostate + rectum	Dynamic hip screw
Ureter	Acetabular reconstruction & THR with Bich Scheider reinforcement ring
Unknown	AO screws to hip

**Table 8.10 Procedures undertaken to palliate jaundice**

Site of Primary Tumour	Operation
Bile duct	Endoscopic retrograde cholangio pancreatogram + change of stent
Common bile duct	ERCP - dual approach with radiology & insertion of endoprosthesis
Gallbladder/pancreas	Open cholecystectomy
Head of pancreas	ERCP
Head of pancreas	ERCP abandoned
Pancreas	Laparotomy stent bile duct, gastrojejunostomy, biopsy metastases
Pancreas head	Biliary and gastric bypass
Pancreatic/biliary	'Open and close' laparotomy

**Anaemia**

None of the patients who had surgery to palliate the symptoms of anaemia were seen by a MDT. One procedure was performed as an emergency and one urgently, the remainder being classified as scheduled (Table 8.11). There was a definite risk of death in four out of six of these patients. All had major abdominal surgery for palliation of anaemia.

*and splenectomy were performed in addition to the gastrectomy. The patient died of septicemia and bilateral pleural effusions, 22 days after surgery.*

**Diarrhoea**

All of these procedures were classified as scheduled. Only one patient was seen in a MDT. Diarrhoea can usually be well controlled with medication<sup>81</sup>. Involvement of palliative care physicians as part of an MDT may prevent unnecessary palliative operations.

Would this patient have benefited from a MDT opinion and involvement of a dietician, or nutrition team? Was this extensive surgery justified to palliate weight loss?

**Weight loss or anorexia**

This group of patients (Table 8.13) all had scheduled procedures and none were seen by a MDT.

**Dyspnoea**

Only one of these procedures (Table 8.14) was classified as urgent, the remainder being scheduled or elective. Only one patient was seen by a MDT.

Simple aspiration may be appropriate for palliation, however medical therapy is also available for this distressing symptom and should be considered by the MDT.

**Urinary retention**

All but one procedure was scheduled, and half of the patients were seen by a MDT (Table 8.15). Death was expected in two patients.

**Case Study 72**

*A 65-year-old, ASA 2 patient was admitted for weight loss and anorexia, resulting from an adenocarcinoma of the stomach. A radical gastrectomy was planned, but surgery was delayed for one week because of the unavailability of ICU beds. The intention of surgery was to “effectively palliate weight loss”. Despite being in hospital for almost a month, the patient did not have the benefit of a MDT. At operation, the tumour was found to be more extensive than predicted by preoperative imaging, and an extended right hemicolectomy*

**Table 8.11 Procedures undertaken to palliate anaemia**

Site of Primary Tumour	Operation
Body of stomach	Radical total gastrectomy, splenectomy and extended right hemicolectomy
Caecum	Right hemicolectomy
Hepatic flexure	Right hemicolectomy and gastrojejunostomy
Splenic flexure	Re-laparotomy for bleeding and hypotension
Kidney	Radical nephrectomy
Rectum	Anterior resection and ovarian cystectomy

**Table 8.12 Procedures undertaken to palliate diarrhoea**

Site of Primary Tumour	Operation
Hepatic flexure	Right hemicolectomy
Prostate	Defunctioning loop colostomy
Rectum	Abdominoperineal excision of rectum
Rectum	Loop ileostomy
Recto-sigmoid	Anterior resection, left iliac fossa end colostomy

### Orthopaedic surgery

Orthopaedic surgeons were involved in the management of 53 patients with a diagnosis of cancer. In 23 of those cases, the orthopaedic procedure was stated to be directly related to the index cancer. All but one procedure was undertaken with the intent of palliating symptoms, mainly pain and immobility, following pathological fracture. Orthopaedic surgeons were therefore involved in the management of patients with cancers from a wide range of primary sites. Despite this, only 12/23 cases had been considered by a MDT.

The reader is referred to the British Association of Surgical Oncologists ‘Guidelines for the Management of Metastatic Bone Disease in the United Kingdom’<sup>82</sup>.

<b>Table 8.13      Procedures undertaken to palliate weight loss or anorexia</b>	
<b>Site of Primary Tumour</b>	<b>Operation</b>
Hepatic flexure of colon	Palliative loop ileostomy, omental biopsy
Stomach (body)	Radical total gastrectomy, splenectomy, extended right hemicolectomy
Stomach (pylorus)	Laparotomy, Gastroenterostomy
Transverse colon (uncertain)	Endoscopic insertion of nasojejunal feeding tube

<b>Table 8.14      Procedures undertaken to palliate dyspnoea</b>	
<b>Site of Primary Tumour</b>	<b>Operation</b>
Gut	Ascitic tap
Left kidney	Radical nephrectomy
Oesophagus (mid third)	OGD drainage of pleural effusion + talc pleurodesis
Ovary	Paracentesis

<b>Table 8.15      Procedures undertaken to correct urinary retention</b>	
<b>Site of Primary Tumour</b>	<b>Operation</b>
Bladder	Cystoscopy, bladder washout, prostatic/pelvic mass biopsies
Chronic lymphatic leukaemia	Laparotomy, with view to splenectomy
Prostate	Cystoscopy, laparotomy, ureteric catheters and attempted bladder & prostatic urethral diversion
Rectum	Minilaparotomy - left iliac colostomy

# PATIENTS UNDERGOING SURGERY WITH CURATIVE INTENT

## Distribution of cancers

The majority of patients receiving treatment with curative intent were managed by general surgeons (Table 8.16).

In contradistinction with those patients undergoing procedures with palliative intent, the majority of patients (103/156, 66%) undergoing procedures with curative intent were admitted electively.

Specialty	Cases	Elective Admission	Urgent or Emergency
General	114	74	40
Urology	14	12	2
Gynaecology	9	5	4
Cardiothoracic	6	5	1
Otorhinolaryngology	5	4	1
Neurosurgery	2	0	2
Oral and maxillofacial	2	2	0
Paediatric	2	1	1
Vascular	1	0	1
Orthopaedic	1	0	1
<b>Total</b>	<b>156</b>	<b>103</b>	<b>53</b>

## Rectal and rectosigmoid carcinoma

The largest group of cancers treated with curative intent by general surgeons was colorectal 77/114 (68%). Thirty-five of these were rectal or rectosigmoid and the remaining 42 were other colon sites.

### Multidisciplinary teams

A MDT considered 11/35 (31%) of the rectal or recto-sigmoid cases treated with curative intent. Seventeen of the 35 were operated upon either as emergencies or urgently, the remaining 18 being classified as scheduled or elective.

### Staging

Despite the relatively low number of MDTs, the use

of staging for this cancer site was high (Table 8.17).

Staging	No. of cases
Dukes only	23
TNM + Dukes	10
No Stage	2
<b>Total</b>	<b>35</b>

### Cancer status of hospital

Twelve patients were treated in cancer centres or associate centres, 21 in cancer units and two in other hospitals. Fifteen cases were treated in units or centres with access to sub-specialised pathology services.

### Basic cancer data

Five questionnaires supplied no demographic data. However, of the remaining 30, the mean population served by the units or centres was 299,000 with a range of 100,000 to 550,000. The mean number of new cases of rectal or rectosigmoid cancer seen per unit was estimated at 70, with a range between 12 to 300. Only 12 respondents answered the question about the incidence of this cancer in the population. The answers given ranged from 16.3/100,000 to 84/100,000. The published rates of new rectal cancer registrations for 1997 were 23.4/100,000 for males and 17.1/100,000 for females<sup>83</sup>.

### Outcomes

Five-year survival figures for units were only returned in five questionnaires, and ranged from 30% to 60%. Perioperative mortality rates were disclosed by 21 units, and ranged from 1% to 10% with a mean of 4.6%. The recommended standards for perioperative mortality for curative colorectal cancer are less than 20% for emergency surgery and less than 5% for elective surgery<sup>84</sup>. Can those units unable to supply this simple data satisfy the Calman-Hine recommendation to give patients “clear information about...treatment options and outcomes available to them?” Why are units unable to supply this simple data? Is it because of lack of knowledge by clinicians who are not sub-specialised? Is it because there is a lack of support for data collection and management in cancer units and centres?

### Guidelines for GPs

In 24/35 cases, the centres or units claimed to provide written guidelines to GPs.

**Audit/research**

All but one unit was involved in audit. Eleven were confined to local unit audits, 20 both regionally and locally and only two units were involved in national audits. Calman-Hine recommended all specialties with responsibility for cancer care should form a network for audit with other cancer units and centres.

**Nursing**

Only three units responded to the question about percentage of nursing staff with appropriate specialist qualifications. Answers ranged from 1% to 50% of ward staff having appropriate higher qualifications in oncology care. The draft manual of cancer services standards<sup>85</sup> suggests that colorectal nurse specialists should be available to all patients with a stoma, and should have obtained the ENB 216.

Chemotherapy was only administered on one of the surgical wards, and medical and nursing staff were appropriately trained on this ward.

**Continuing professional development**

In 13 cases, the consultant in charge was not a member of any specialist oncology association. Of the remainder, 12 were members of the Association of Coloproctology of Great Britain and Ireland, five were members of The British Association of Surgical Oncology, one a member of the specialist section of the Royal Society Medicine and four did not state which association they belonged to.

**Procedures**

<b>Table 8.18</b>	
<b>Procedures undertaken with curative intent for rectosigmoid cancers</b>	
<b>Procedure</b>	<b>Number of cases</b>
Abdominoperineal resection	3
Anterior resection alone	4
Anterior resection + stoma	6
Hartman's procedure	3
Other resection + stoma	5
Stoma only	4
Other procedure	10
<b>Total</b>	<b>35</b>

As can be seen from Table 8.18, a wide range of procedures and modifications of procedures were undertaken. It is notable that only a small number of patients in this sample of 30-day deaths received an abdominoperineal (AP) resection,

for the curative management of patients with rectosigmoid carcinomas. Is the small number of AP resections in this sample simply a reflection of the decreased indications for AP resection, or could it indicate that the indication for anterior resection has been over extended to a level where the mortality rate has risen?

Quality of life is an important consideration. However it was noted that a significant number of patients in this group either had, or advisors strongly suspected they had, anastomotic leaks following low anterior resections. Are surgeons becoming too reluctant to produce a stoma? Are some patients being treated by inexperienced surgeons due to lack of sub-specialisation?

**Case Study 73**

*A 65-year old, ASA 4 patient was admitted electively one week following neoadjuvant radiotherapy for a Dukes C rectal carcinoma. An anterior resection was performed, and the patient sent to HDU. Postoperatively the patient became hypotensive on HDU and a gastrograffin enema demonstrated a leak.*

Should this patient have had a covering stoma in view of the preoperative radiotherapy?

**Colon**

**Multidisciplinary teams**

Excluding rectum and recto-sigmoid, a further 42 cases of colon cancer were treated with curative intent. Only 6/42 (14%) of cases were seen by a MDT. 23/42 cases were classified as emergency or urgent procedures and 18 as schedules or elective, with one case not being classified.

**Staging**

All but one patient in this group had been staged appropriately (Table 8.19).

<b>Table 8.19</b>	
<b>Staging of colon carcinoma</b>	
<b>Staging</b>	<b>No. of cases</b>
TNM + Dukes	22
Dukes only	17
TNM only	2
No stage	1
<b>Total</b>	<b>42</b>

Cancer status of hospital

Twelve patients were treated in cancer centres or associate centres, 15 patients were treated in cancer units, and five in other hospitals. Half (21) of the patients were treated in units or centres with access to sub-specialised pathology services.

Basic cancer data

Three units supplied no demographic data for this cancer site. However of the remaining 39, the mean population served was 262,000, with a range of 105,000 to 600,000. The mean number of new cases seen per unit was 86/year with a range of 5-290. It is possible that this question was interpreted differently by different clinicians. Even so, there is a very wide variation in the number of new cases of colon cancer seen in units. Only 10 questionnaires gave an indication of the incidence of colon cancer, and the answers given ranged from 5/100,000 to 100/100,000. The published registration rates for colon cancer were in fact 34.6/100,000 for males and 35.5/100,000 for females for 1997. Only two questionnaires gave figures within  $\pm 10/100,000$  of the actual reported figures.

Outcomes

Overall five-year survival figures were only produced in 7/42 questionnaires and ranged from 10% to 80%. The overall five-year survival rate published in the UK is in the region of 38% for all colo-rectal cancers<sup>84</sup>. Only three of the questionnaires gave responses within 10% of published survival data.

Audit/research

Five questionnaires stated that no audit was undertaken for cancer patients, and in four questionnaires the question was unanswered. In the remaining 33 questionnaires, 13 were engaged in local audit only, four in regional audit only, 13 were involved both locally and regionally and three were involved in local and national audits.

Twelve units were either not involved in clinical trials or failed to answer the question. Of the remaining 30 units, 27 were involved in national clinical trials and four in international trials.

Nursing

Only five units responded with regard to the qualifications of nursing staff. One stated that no nurses had appropriate higher qualifications in oncology care and the others ranged from 10% to 75%.

Continuing professional development

In 16 cases the consultant was not a member of a relevant specialist association or the question was not completed. Of the remaining 26, 19 were members of the Association of Coloproctology of Great Britain and Ireland and 11 were members of the British Association of Surgical Oncology.

In all but three cases where the question was not completed, the questionnaire was either completed by the consultant or was agreed by him/her.

Procedures

Table 8.20		Procedures undertaken with curative intent for other colonic cancers	
Procedures			Number of cases
Resection + primary anastomosis alone			22
Resection + stoma			3
Bypass			4
Stoma alone			5
Other			8
<b>Total</b>			<b>42</b>

Case Study 74

An 82-year-old, ASA 4 patient was admitted electively for a right hemi-colectomy performed with curative intent. The patient was on warfarin for a previous deep vein thrombosis. No pre-operative preparation was undertaken. Postoperatively the patient became hypotensive, anuric, and developed a coagulopathy. There was no active intervention, and the patient succumbed to intra-abdominal exsanguination.

Having taken a decision to treat with curative intent, could the preoperative preparation of this patient have been improved upon, and subsequently should an attempt have been made to arrest the haemorrhage?

Case Study 18

A 74-year-old patient had been admitted electively and undergone a right hemi-colectomy for a T4N3M1 carcinoma of the ascending colon, performed by an associate specialist on a colorectal firm. The procedure was carried out with curative intent. However, the patient had not been seen by a MDT. Eleven days later the patient developed peritonitis and after an unsuc-

*successful attempted resuscitation for 16 hours, underwent a laparotomy and further resection and primary anastomosis. This procedure was performed by an SHO. The consultant was on annual leave and a 'non-colorectal' general surgeon was available for advice. The hospital provided a service for a relatively small population of 105,000.*

Would this patient have benefited from a clinical network, so that specialist colorectal expertise was available even when the Trust's own specialist was on leave? Surely this difficult case should not have been left to an SHO?

## Upper gastrointestinal cancer

### Multidisciplinary teams

There were 24 upper GI cases managed with curative intent, 23 of which were treated by general surgeons, and one by a thoracic surgeon. Only seven of these cases were seen by a MDT. Eight cases were treated as urgent or emergency procedures and the remaining 16 were either scheduled or elective.

### Staging

In 19 cases the TNM staging system was used, in four cases the stage was not recorded in the medical records, and in one questionnaire the question was left uncompleted.

### Cancer status of hospital

Fifteen patients were treated in cancer centres or associate centres, eight were treated in cancer units and one was treated in another hospital. In 13 cases there was a sub-specialised pathology service.

### Basic cancer data

Two questionnaires contained no demographic data, but of the remaining 22 units, the median population served was 320,000, with a range of 140,000 to 4,000,000 (with the exception of the one centre claiming a catchment population of 4 million the range was 140,000 - 800,000). The mean number of new cases seen per year was 39, and ranged from 10 to 120.

Twelve of the questionnaires gave figures for incidence. Two questionnaires gave outlying figures of 77/100,000 and 150/100,000 for oesophageal cancer, but the median incidence was 14.5/100,000, and the remaining 10 units gave incidences ranging from 10 - 20/100,000 which is within

± 10/100,000 for both stomach and oesophageal cancer registrations in England and Wales.

Survival figures were provided in only five questionnaires, and ranged from 10 - 30% five-year survival.

### Nursing

Only five questionnaires responded to this question. Two units indicated that none of the nurses had a relevant postgraduate qualification and the maximum number in one unit was 20%.

### Audit/research

Three questionnaires gave no detail about audit, and only one unit undertook no audit for cancer patients. Ten units conducted local audit only, and a further 10 units were involved in both local and regional audit for these patients. Half of the units were involved in nationally based clinical trials, and one unit was involved in multinational trials.

### Continuing professional development

Fifteen consultants were members of relevant specialist associations, 13 were members of the Association of Upper Gastro-Intestinal Surgeons and seven were members of the British Association of Surgical Oncology.

### Procedures

Table 8.21		Procedures undertaken with curative intent for upper GI cancers
Site of Primary Tumour	Operation	Number of Cases
Gastric	Gastrectomy	5
Gastric	Other	5
Gastro-oesophageal	Oesophagogastrectomy	4
Oesophagus	Oesophagogastrectomy	6
Oesophagus	Other	4
<b>Total</b>		<b>24</b>

### Case Study 75

*A 49-year-old, ASA 4 patient was admitted electively, and underwent a transhiatal oesophagectomy with curative intent. The surgeon performed five oesophagectomies per year, working in a district hospital with no MDT and a catchment of 220,000. On day five postoperatively, the patient developed chest pain. He*



*was admitted and discharged from ICU on three occasions. On day ten he underwent a laparotomy for a possible appendicitis. He died of septicaemia. No postmortem was undertaken, and no cause of death given.*

Should this patient have been seen by a MDT and managed in a centre or unit where there was sufficient throughput of similar cases to maintain the expertise of the team? Could there have been an anastomotic leak heralded by the chest pain at day five? Unfortunately we will never know, because the form was incomplete, and no post mortem was conducted.

## Gynaecology

### Multidisciplinary teams

There were a total of nine patients with cancer who underwent a procedure where the intention was to achieve cure. Five of the nine patients were considered by a MDT, there was only one emergency procedure and the remainder were all classified as scheduled. Only one centre and one unit did not have access to sub-specialised pathology services.

### Staging

All cases except one were staged using the FIGO staging system. Five of the nine cases were treated in cancer centres and the remaining four in cancer units.

### Basic cancer data

All but two units were able to supply some demographic data. Four centres served populations ranging from 500,000 to 3.5 million (median 1.75 million). The three cancer units who completed this section served a median population of 150,000 ranging from 138,000 to 230,000. For ovarian cancer, the median number of new cases seen per year was

35 ranging from 32 to 70 for the cancer centres, and from 6 to 35 for the cancer units. Only one unit and one centre completed the question on incidence, and both stated that the incidence of ovarian cancer was 20/100,000. This is close to the registration rate of 23/100,000 in England and Wales for 1997.

Survival figures were produced by only two units who reported 20% and 30% five-year survival for ovarian cancer, and two cancer centres who reported five-year survival figures of 60% and 62%. When asked about perioperative mortality, two cancer centres quoted 1% and one reported 7%. Three units reported figures ranging from 1% to 5%.

### Guidelines for GPs

Three cancer centres and one cancer unit had written referral guidelines for GPs.

### Audit/research

All units and centres were involved in either regional or local audit. Four of the five centres, and two of the units were involved in national clinical trials.

### Nursing

Four of the five centres reported between 1% and 10% of ward nurses had appropriate specialist qualifications. The question was not answered by any of the units.

### Continuing professional development

Four of the surgeons in centres belonged to the British Gynaecological Cancer Society, together with one surgeon from a unit. Three centre surgeons also belonged to the International Gynaecological Cancer Society.

**Table 8.22** Gynaecological procedures undertaken with curative intent

Site of Primary Tumour	Operation
Ovary	Total abdominal hysterectomy, bilateral salpingo-oophrectomy, omentectomy, stenting right ureter
Ovary	Laparotomy and omental biopsy only
Ovary	Laparotomy, partial omentectomy and bilateral salpingo-ovariectomy
Ovary	Laparotomy
Ovary	Laparoscopy, laparotomy, bilateral salpingo-oophrectomy, omentectomy
Ovary	Laparotomy, evacuation of clot, packing of upper abdomen
Ovary	Total abdominal hysterectomy, bilateral salpingo-oophorectomy, appendicectomy and omentectomy
Endometrial	Laparotomy & removal of omental tumour & bilateral oophrectomy
Unknown	Laparotomy, drainage of ascitic fluid, biopsy of ?ovarian tumour

Procedures

Table 8.22 shows gynaecological procedures undertaken with curative intent.

Case Study 76

*A 74-year-old patient (ASA not stated) was admitted to a district hospital serving a catchment population of 150,000. Ultrasound and CT scan had failed to demonstrate the extent of ovarian carcinoma which was detected at laparotomy, conducted with curative intent. The patient was not seen by a MDT prior to surgery. The patient died two days after surgery from respiratory failure attributed to disseminated ovarian malignancy.*

Could a more accurate diagnosis have been reached by an MDT? Could neoadjuvant chemotherapy have been employed?

Case Study 77

*An 83-year-old, ASA 2 patient underwent total abdominal hysterectomy, bilateral salpingo-oophorectomy, omentectomy and ureteric stenting to debulk an ovarian tumour. The patient returned to a general gynaecological ward because HDU was not available. By the second postoperative day, the patient was in positive fluid balance of over six litres. When recognised mannitol was administered. The patient died of a myocardial infarction.*

Should this patient have undergone extensive surgery without access to an HDU bed? Why do patients continue to suffer from poor postoperative fluid management?

Urology

Multidisciplinary teams

Ten of the 14 urology patients undergoing procedures with curative intent had bladder tumours, three had renal tumours, and one prostatic tumour. Only two cases were classified as urgent, the remainder being scheduled or in two cases elective. Only four cases (all bladder) were seen by a MDT.

Staging

All patients had been staged using the TNM system.

Cancer status of hospital

Three patients were treated in cancer centres or associate centres, the remaining 11 being treated in cancer units.

Basic cancer data

The two cancer centres served populations of 325,000 and 420,000. The associate cancer centre served a population of 260,000, and the cancer units served populations ranging from 100,000 to 500,000 (median 300,000). Five units had access to sub-specialised pathology services, but perhaps surprisingly, none of the centres had sub-specialised pathology.

For bladder cancer, the number of new cases seen per year ranged from 30 to 200 (median 100). Only two questionnaires gave details of incidence for bladder cancers namely 5/100,000 and 16/100,000. Data from the ONS indicates that the incidence of bladder cancer in England and Wales in 1997 was 33/100,000 for males and 13/100,000 for females. For renal carcinoma, only one unit indicated an incidence and this was 30/100,000. The published ONS data indicates an incidence of 12/100,000 for males and 7/100,000 for females.

Five-year survival figures were only produced for two patients with bladder cancer and were 70% and 50%. Only one questionnaire reported on five-year survival for renal carcinoma and this was 80%.

Guidelines for GPs

Six of ten hospitals treating bladder cancer had written referral guidelines for GPs. In contrast there were no guidelines for any of the hospitals dealing with renal cancer.

Audit/research

All units and centres undertook audit for cancer patients, but only six hospitals undertook audit on a regional or national basis. Eight units were involved in clinical trials, four involving national trials.

Nursing

Only four questionnaires gave details of relevant nursing qualifications. Two hospitals indicated that none of the nursing staff had additional qualifications, and two indicated 10% and 20%.

Continuing professional development

Eleven out of fourteen consultants were members of the oncological section of the British Association of Urological Surgeons.

Procedures

Table 8.23 shows Urological procedures performed with curative intent.

Case Study 78

An 86-year-old, ASA 2 patient with dementia underwent a thoraco-abdominal approach for a small T1 renal carcinoma. There was a staghorn calculus in the lower pole of the kidney. Consent for the procedure was obtained from the patient by an SHO 2. The patient was not seen by a MDT despite a three month delay for an operating list. The patient died seven hours later following a myocardial infarction.

Should this patient have been seen by the MDT? Was surgery appropriate and was the choice of approach appropriate? Was consent valid?

Head and neck

There were nine cases where a procedure was undertaken in relation to a head and neck index cancer. Two procedures were undertaken for palliation and the remaining seven cases were undertaken with curative intent.

Multidisciplinary teams

All but one of these cases was seen by a MDT, and all but one case was treated in a unit with access to sub-specialised pathology services.

Staging

In six out of nine cases, staging was undertaken using the TNM system, however in three cases there was no stage recorded in the notes.

Cancer status of hospital

Half of the cases were treated in cancer centres and half in cancer units (one questionnaire was incomplete).

Basic cancer data

One ENT unit claimed a catchment population of 50 million, but otherwise the catchments ranged from 380,000 to 1 million (median 775,000). There were a wide range of cancer sites covered in this section. Despite this, demographic data was mainly completed and in most cases accurately reflected the published data on incidence and survival.

Audit/research

All but two units were involved in audit of cancer patients, but only two hospitals were involved in clinical trials.

Nursing

Only six out of nine responded to this question. The number of nurses with appropriate additional qualifications in these units ranged from 0 to 75%.

Continuing professional development

Five of the nine consultants were members of the British Association of Head and Neck Oncologists (BAHNO) and one surgeon was a member of the British Association of Surgical Oncology. Three surgeons were not members of any relevant specialist association.

Table 8.23 Urological procedures undertaken with curative intent		
Site of Primary Tumour	Operation	Number
Bladder	Flexible cystoscopy	2
Bladder	Laparotomy, closure of faecal fistula, ligation of both ureters	1
Bladder	Cysto-urethrectomy, hysterio-salpingo-oophorectomy, appendicectomy, ileal conduit	1
Bladder	Cystodiathermy	1
Bladder	Radical cystectomy	1
Bladder	TURBT	3
Bladder	Anterior pelvic exteriorisation and ileal conduit urinary diversion	1
Bladder	Total cystoprostatectomy, ileal conduit urinary revision, appendicectomy	1
Left kidney	Radical nephrectomy	3
<b>Total</b>		<b>14</b>

Procedures

Table 8.24 shows head and neck procedures undertaken with curative intent

Although classified as ‘curative’ by the surgeon completing the questionnaire, some of these procedures would appear to be diagnostic rather than curative.

Case Study 79

*A 60-year-old, ASA 4 patient was initially admitted electively for excision of a presumed cutaneous squamous cell carcinoma on the nose. The patient was seen in a joint clinic comprising ENT surgeon, clinical oncologist, Macmillan nurse and social worker. There was no input from physicians. Postoperatively she developed a chest infection and underwent an elective tracheostomy under general anaesthesia. At the time of the tracheostomy her sodium was 120 mmol/l, haemoglobin 9 gm/dl, urea 58 mmol/l and creatinine 561 micromol/l. The pathology specimen reported a basal cell carcinoma.*

Would this patient have benefited from a preoperative biopsy? Should this procedure have been undertaken without the benefit of managing her underlying medical problems prior to surgery?

This case does not appear in table 8.24, as in the opinion of the surgeon, the final procedure was not undertaken in relation to the management of the index cancer.

Cardiothoracic surgery

Six cases were treated with curative intent by cardiothoracic surgeons. One oesophageal cancer has already been considered under the upper gastrointestinal section.

Of the remaining five cases, four had primary lung tumours and one had a cardiac tumour. Only one of these patients was seen by a MDT. This is particularly surprising given that lung cancer is common, and yet the indications for surgery are relatively few. As one of the common cancers, one might expect MDTs to be more available for patients with a lung cancer. All except the cardiac tumour were treated as scheduled or elective procedures.

Neurosurgery

Only two neurosurgical procedures were undertaken with curative intent, out of a total of 11 neurosurgical procedures undertaken in direct relation to index tumours. The remainder were either diagnostic, palliative, or the aim was not stated. Neither of the two patients treated with curative intent was seen by a MDT. However, one patient was admitted as an emergency and the other urgently.

Paediatric surgery

There were only two children who underwent procedures for cancers with curative intent. One child with leukaemia had removal of a Hickman line, and one infant had insertion of a ventricular drain to control hydrocephalus during chemotherapy for a primary neuro ectodermal tumour. Both children had been considered by a MDT.

Orthopaedic and plastic surgery

There were no primary orthopaedic tumours in this sample, nor were any patients treated with curative intent under the care of plastic surgeons.

Table 8.24 Head and neck procedures undertaken with curative intent

Specialty	Site of Primary	Operation
Oral/Maxillofacial	Maxillary sinus	Tracheostomy under LA, debridement of surgical defect + insertion of pack
Oral/Maxillofacial	Floor of mouth	Resection, neck dissection and free flap reconstruction
Otorhinolaryngology	Larynx	Panendoscopy
Otorhinolaryngology	Pyriiform fossa	Laryngectomy, partial pharyngectomy and flap repair
Otorhinolaryngology	Pyriiform fossa	Pharyngoscopy + biopsy
Otorhinolaryngology	Thyroid	Tracheostomy
Otorhinolaryngology	Nose	Total rhinectomy
Otorhinolaryngology	Nose	Orbital exenteration and free flap, tracheostomy
Otorhinolaryngology	Unknown	Superficial parotidectomy

## PATIENTS UNDERGOING SURGERY FOR DIAGNOSIS

Thirty-eight procedures were performed for diagnostic purposes on patients with cancer.

Table 8.25		Distribution by specialty
Specialty	Number of Cases	
General	19	
Urology	8	
Gynaecology	5	
Cardiothoracic	2	
Neurosurgery	2	
Paediatric	2	
<b>Total</b>	<b>38</b>	

This group of procedures was performed predominantly on patients admitted urgently or as emergencies (84%). However, only 12/38 procedures were considered to be urgent or emergency. Of these, eight out of 12 were regarded as at definite risk of dying, or death was expected.

### Multidisciplinary teams

The majority of patients, even when admitted with a degree of urgency, only underwent a diagnostic procedure on a scheduled basis. It is therefore a little surprising that only 8/38 (21%) were seen by a MDT, despite the fact that in 28/38 (74%) of cases the preoperative working diagnosis involved malignancy.

### Cancer status of hospital

Twelve patients were managed in hospitals designated as cancer centres or associate cancer centres and 17 patients were managed in cancer units. The remaining nine patients were managed in hospitals not designated as cancer centres or units.

### Basic cancer data

Only 12/38 (31%) completed the demographic data.

### Audit/research

Audit for cancer patients was carried out in 24/38 (63%) of cases, but only 14/38 were involved in clinical trials.

### Nursing

Only 11/38 (29%) answered the questions regarding levels of nursing qualification and two of these indicated that there were no nurses with appropriate post-basic qualification.

### Continuing professional development

In this group 19/38 (50%) indicated membership of a specialist association.

There were a number of cases where diagnostic procedures appeared to be used inappropriately, either because the patient had not been seen by a MDT, or because diagnostic facilities or expertise were deficient. Because we did not specifically ask about preoperative diagnostic facilities, we are unable to give any statistical analysis. However, we give below examples, where the problem was highlighted in the free text section of the questionnaire.

### Case Study 80

*A 56-year old, ASA 1 Jehovah's Witness was admitted to a district hospital with a palpable pelvic mass. Ultrasound failed to distinguish between a fibroid and ovarian malignancy. There was no MDT, and it was felt inappropriate to wait two weeks for a CT scan. A diagnostic laparotomy was therefore undertaken. Extensive friable tumour was encountered, including liver metastases. Bleeding could not be controlled despite the assistance of a vascular surgeon who ligated both iliac arteries. The patient died of exsanguination.*

Should this patient have been managed in a gynaecological cancer centre, with timely access to appropriate diagnostic facilities and expertise? Was a diagnostic laparotomy appropriate?

### Case Study 81

*A moribund 50-year-old patient graded ASA 5 underwent a brain biopsy with the stated intention of confirming to the family that no further treatment was possible. The working diagnosis was of high grade glioma, and the patient was not seen by a MDT.*

Was this diagnostic procedure necessary? Might the family have been equally reassured by a MDT?

## PATIENTS UNDERGOING SURGERY WHERE THE AIM STATED WAS “NOT SURE”

There were seven patients in whom the aims of the procedure were stated in the questionnaire as not clear. All of these questionnaires had been either completed or seen by the consultant. In addition there were a further 25 cases where multiple responses were given about the aims of treatment. For example, in eight patients, the aim was described as both palliative and curative. By definition these two aims are mutually exclusive. It is likely that some of these represent procedures where the initial intent was curative, but once the extent of the disease was fully appreciated the aim was changed to palliation. Unfortunately, the data completion for this group is poor and does not permit more detailed analysis.

The majority of this group 22/32 (69%) were admitted either urgently or as emergencies. As in other groups general surgeons are primarily involved.

Table 8.26		Indication for procedure given as “not sure” or multiple answers given.
Specialty	Number of Cases	
General	22	
Urology	5	
Neurosurgery	2	
Gynaecology	1	
Otorhinolaryngology	1	
Vascular	1	
<b>Total</b>	<b>32</b>	

### Multidisciplinary teams

There were very few patients in this group who were seen by a MDT, only 5/32 (16%). This may well reflect why there was uncertainty about the aims of the procedure.

### Staging

In only 50% of this group of patients was staging undertaken or recorded in the notes.

### Cancer status of hospital

These patients were treated in cancer centres or associate centres in 11 cases, cancer units in 15 cases, and in non-cancer designated hospitals for the remaining eight cases.

### Basic cancer data

Basic demographic data including five-year survival rates was completed in only 7/32 (22%) of questionnaires.

### Guidelines for GPs

Only six units responded indicating that referral guidelines were available for general practitioners.

### Audit/research

Whilst 23/32 (72%) units were involved in the audit of cancer patients, by contrast few were involved in clinical trials 13/32 (41%).

### Nursing

Only six units responded to the question regarding qualifications of ward nursing staff. Only one unit claimed that any nursing staff held an appropriate post-basic qualification, and even here this was only by an estimated 10% of the ward nurses.

### Continuing professional development

Twenty-three of the surgeons claimed membership of an appropriate oncological specialist association (72%).

### Procedures

As would be expected, there was a wide range of procedures undertaken in this group. By way of example the following case indicates the concern that some patients had inappropriate procedures, which had the patient been seen by an appropriate MDT, might have been avoided.

#### Case Study 82

*An 80-year old, ASA 5 patient was taken to theatre for a laparotomy at 21.00 hrs without any relevant preoperative investigation having been undertaken. At surgery, extensive tumour was identified, with “litres of liquid tumour”. The surgeon comments “with the benefit of hindsight an alternative may have been to provide palliative care only”.*

Could the same alternative decision have been reached with appropriate preoperative investigation such as ultrasound?



## INTENTION OF PROCEDURE NOT STATED

There were 110 cases where the patient had a diagnosis of cancer, and the aims of the procedure were not stated in the questionnaire. In 36/110, the procedure was undertaken in relation to the index cancer. When a patient has cancer, it is incumbent upon the treating clinician to liaise with the treating oncology team, and take account of the cancer, (including its prognosis and the effects of surgery on quality of life), even if the procedure is not being undertaken in direct relation to the index cancer. In other words, the patient must be treated as a whole, and care should not be independently compartmentalised.

### Multidisciplinary teams

It is perhaps not surprising that only 17/110 (15%) of patients who underwent procedures where the intention was not stated were seen by the MDT.

Clearly, many of the procedures undertaken were likely to have been palliative, some diagnostic and some curative, but the question was not answered, by the clinicians completing the questionnaire. The majority of questionnaires were completed by the consultant. In two cases the questionnaire was completed by an SHO who did not show and agree the form with the consultant in charge. In six cases the questionnaire did not indicate what grade of clinician had completed the form.

#### Case Study 83

*After a two month delay from referral, a 72-year-old, ASA 2 patient underwent an Ivor Lewis oesophago-gastrectomy for carcinoma of the oesophagus. The patient died of "aspiration pneumonia" 11 days after surgery. No postmortem examination was undertaken. The surgeon worked in a university teaching hospital and claimed to undertake 18 such procedures each year. Unfortunately, none of the oncology details had been completed in this questionnaire.*

We cannot determine whether the standard of care was deficient or not. Compliance with NCEPOD is now mandatory under clinical governance, and it is not acceptable to return forms which have not been fully completed.

## CONCLUSION

The evidence of this study demonstrates haphazard organisation of cancer services. There was poor compliance with the oncology questionnaire, and evidence of inadequate availability of data, even at a very basic level, within the cancer service.

Even where cancer units and cancer centres have been established, there is little evidence of clinical networking. A large number of cancer patients are admitted as emergencies, but they do not have equitable access to high quality cancer services.

A number of patients are undergoing complex surgical procedures with palliative intent when much simpler procedures, or non-surgical remedies, may be more appropriate.

Only a minority of patients had access to multidisciplinary oncology teams, and only a few patients were managed on wards where nursing staff had post-basic oncology qualifications.

Sadly, many of the aspirations of the Calman-Hine report are not being met.

## Recommendations

- Hospitals should review the availability of sub-specialists for those patients who present as an emergency.
- Every effort should be made for all patients with a cancer to be considered by a multidisciplinary oncology team. This applies especially to those patients admitted for urgent or emergency surgery.
- All clinicians should use a recognised staging system in the management of patients.



# REVIEW OF HISTOLOGY REPORTS

## INTRODUCTION

### Key point

- A third of histology reports contained insufficient information to support tumour staging and subsequent clinical management.

Information derived from histopathological examination of tumours is essential for further clinical staging and management of patients. This has recently been acknowledged by standardisation of histopathological reporting of common tumours in all major organs using Calman Minimum Datasets, published by the Royal College of Pathologists<sup>86</sup>, and by the need for all histopathology departments reporting tumour resection specimens to meet stringent requirements as part of nationally-established cancer service standards<sup>87</sup>. Commencing in July 1998, standards and minimum datasets to cover most major organ systems have now been published.

NCEPOD reviewed the content of diagnostic histology reports of patients with tumours included

in the 10% sample for 1999/00. We sought to answer the question “*Is the information in the histology reports adequate, given the type of specimen received, for further staging and management using minimum dataset-equivalent criteria?*”. Although our review is only a ‘snapshot’, it may give an overview of the quality of pre-Calman tumour reporting and thus be a yardstick against which the quality of reports can be assessed in the future.

NCEPOD requested the diagnostic histology reports of 90 patients with malignant tumours included in the 1999/00 questionnaire returns. A total of 61 replies were received, giving a response rate of 68%. Information was abstracted from the reports using a proforma based on minimum dataset-equivalent criteria. Calman datasets for colorectal, breast, lung, oesophageal and head and neck cancers were available for the timeframe under study.

### Type of specimen and anatomic site

Specimen type	No	(%)
Incisional biopsy	8	(13%)
Excision biopsy	7	(11%)
Resection	42	(69%)
Not assessable from report	4	(7%)
<b>Total</b>	<b>61</b>	

Forty-two (69%) of the 61 specimens were resections (Table 8.27), 36 (59%) from the gastrointestinal tract (Table 8.28), reflecting the role of surgery as the first and optimum line of treatment for tumours at this site. Eight specimens (13%) were incisional biopsies

Site	No	(%)
Colon	24	(39%)
Oesophagus / stomach	12	(20%)
Bladder	4	
Kidney	3	
Brain	2	
Larynx	2	
Lung	2	
Lymph node	2	
Metastases	3	
Other primary sites (1 each from breast, prostate, abdomen, pancreas, ovary, mouth, cervix)	7	
<b>Total</b>	<b>61</b>	

Histological type	No	(%)
Adenocarcinoma	24	(39%)
Carcinoma, not otherwise specified	14	(23%)
Squamous cell carcinoma	7	
Clear cell carcinoma	2	
Transitional cell carcinoma	2	
Lymphoma	2	
Metastases	3	
Other (1 each of carcinosarcoma, craniopharyngioma, glioblastoma multiforme, ductal carcinoma of breast, leiomyoma)	5	
Not known (not sampled /not found at PM)	2	
<b>Total</b>	<b>61</b>	

from sites such as brain, prostate, breast, larynx and bladder or excision biopsies (11%) such as lymph nodes. It was not possible to identify the site of the tumour from the report in 4 patients (7%).

### Tumour origin, size, cell type and histological grade

Tumour cell type was given in 59 reports (97%) (Table 8.29). In 56 (92%), the tumours were primary to the site of biopsy/resection and 3 (5%) were metastases. In two patients (3%), both with a presumptive diagnosis of malignancy before death, the tumour was not detected at autopsy in one patient and in the other patient was seen, but, surprisingly, was not sampled for histology - a regrettable omission.

Adenocarcinoma was the predominant cell type in 24 cases (39%), reflecting the preponderance of gastrointestinal resection specimens in the study population. Disappointingly, “carcinoma, not otherwise specified” was diagnosed in 14 of cases (23%). This seems high, and whether it was the true diagnosis or related to sampling error, as might occur in incisional biopsies, inadequate sampling of resected tumours or failure to do further tests such as mucin stains, was difficult to ascertain.

Tumour size was given in 36 reports (59%) (Table

Attribute	Stated	Not stated	Not applicable
Site of origin	58 (95%)	2 (3%)	1 (2%)
Size	36 (59%)	15 (25%)	10 (16%)
Type	59 (97%)	2 (3%)	-
Grade	51 (84%)	7 (11%)	3 (5%)

8.30) but, surprisingly, was omitted in 15 (25%). Histological grade was provided in 51 reports (84%) but was a notable omission in 7 (11%).

### Adequacy of tumour excision

The distance of tumour from the proximal and distal margins of the resection specimen was not recorded in 42% and 28%, respectively, of reports, virtually all of colorectal resection specimens. This is probably not significant as in such specimens most pathologists measure only the ‘nearest resection margin’ to the tumour. The circumferential margin is important for oesophageal and rectal cancers but is not usually an issue for stomach and colon. It is of concern, therefore, that in 25% of reports, there was no comment on the circumferential margin of excision deep to the tumour, although we acknowledge that not all of these tumours were of oesophageal or rectal origin. A smaller proportion of reports omitted to comment on lymph node status or had identified fewer nodes than are regarded as adequate. The TNM staging (combined with Dukes’ staging for colonic tumours) is now almost universally used to stage most solid organ tumours,

Comment	Yes	No	Not applicable
Proximal margin	12 (20%)	26 (42%)	23 (38%)
Distal margin	21 (34%)	17 (28%)	23 (38%)
Soft tissue margin	21 (34%)	15 (25%)	25 (41%)
Lymph node status	38 (62%)	7 (12%)	16 (26%)
Overall adequacy of excision stated?	39 (64%)	5 (8%)	17 (28%)
Staging system	28 (46%)	18 (30%)	15 (24%)

so it was surprising to note that in 30% of reports no pathological staging system at all was used.

Overall, there was sufficient information in 39 of the 44 reports (89%) on resection specimens to enable a judgement on adequacy, or otherwise, of excision to be made and pathologic staging to be done.

### Adequacy of reports

<b>Table 8.32</b>		<b>Does the information contained in the histology report meet accepted criteria for further staging and management?</b>	
<b>Answer</b>	<b>No.</b>	<b>(%)</b>	
Yes	34	(56%)	
No	21	(34%)	
Not applicable	6	(10%)	
<b>Total</b>	<b>61</b>		

Excluding six reports (10%) which did not require further staging, the pathology advisors considered that in only 34 of the 61 reports (56%) (Table 8.32) was there sufficient information to meet accepted criteria for further staging and management. Table 8.33 summarises the reasons for the remaining 21 reports (34%) failing to meet accepted criteria, the most important being incomplete assessment of excision margins, notably the circumferential / soft tissue margin. Sampling of lymph nodes still seems to pose a problem, with failure to comment on lymph node status in six reports (29%). Comment on extramural lymphovascular invasion was absent in seven cases (33%) although it is now considered an important prognostic factor in colorectal and breast carcinoma and is included in the Minimum Dataset. No pathologic stage was given in 4 reports (19%) - the advisors considered this to be a minor omission providing there was sufficient information in the report for the clinician to work out the stage. We were unable to identify in this small study if there was specialist reporting of tumours or if the

<b>Table 8.33</b>		<b>Advisors' reasons for considering histology reports inadequate for further staging and management (n=21, answers may be multiple)</b>	
<b>Reasons</b>	<b>No.</b>	<b>(%)</b>	
Excision margins not fully assessed	12	(57%)	
No comment on vascular invasion	7	(33%)	
Node status not adequately assessed/sampled	6	(29%)	
Pathologic staging not given	4	(19%)	
Other (No tumour size = 2, no tumour type = 1)	3	(14%)	

pathologist referred to Calman dataset proformas for those tumours for which they were available.

### Conclusion

In this 'one shot' review of 61 diagnostic histology reports, there was insufficient information, mainly about adequacy of excision and lymph node status, in 21 reports (34%) to meet currently accepted criteria for further staging and management. This should improve in the future with more widespread use of Calman Minimum Datasets for the standardised reporting of common cancers and the inclusion of a pathologist in the multidisciplinary team.

### Recommendation

- All histology reports relating to oncology cases should match the Calman Minimum Datasets for the standardised reporting of common cancers.