

U.B.H.T.

Clinical Audit Report

1997/8

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## ***1. Introduction from Chairman of Clinical Audit Committee***

Clinical audit is a challenging activity which enables us to improve the quality of care we give to our patients. Highlights of this year's Clinical Audit Report are a new layout and the improved reporting of patient outcomes. The brief descriptions of audits are an easier read than the previous tabular format. The inclusion of more audits of patient outcomes helps UBHT to prepare for clinical governance. I am particularly pleased to see the increasing number of joint audits linking our hospitals with the communities that we serve. I would like to thank everyone at UBHT who has contributed to this report.

**Roger Baird**  
**Chairman, Clinical Audit Committee**

## ***2. Report from Chairman of Clinical Audit Convenors***

The last year has been a watershed for clinical audit within the Trust. My immediate predecessor, Dr Marius Lemon sadly died last November, just as he was beginning to set in motion changes in the arrangements for clinical audit within the Trust to enable it to assume a higher profile. I will subsequently touch on the timeliness of his vision for audit. He is and will continue to be greatly missed.

In January of this year, a central clinical audit office was established with the appointment of a Clinical Audit Co-ordinator, Mr Chris Swonnell and his deputy, Ms Tracey Jones. The advantages of this central audit resource are that it will be able to co-ordinate training of clinical audit convenors and audit support staff, help to integrate the changes inherent in information technology to be harnessed for clinical audit across the Trust and facilitate cross-directorate and interface audit which is so desirable if audit is to mature into a tool for promoting change with clinical effectiveness.

Despite the lack of this central resource up until recently, I am proud of the audit activity which has occurred within the Trust over the last year and look forward to chairing the Clinical Audit Convenors' Committee which will drive audit forward. This naturally leads to the White Paper, *The New NHS* which was published in December of 1997. This makes several references to clinical audit, directly and indirectly. The new Labour Government will establish a National Institute for Clinical Excellence in which audit will play a key role. In addition, it has introduced the concept of Clinical Governance, making the Chief Executive personally responsible for the quality of the service that the trust provides and stipulating that monthly reports be made available to the Trust Board regarding quality. This indeed will be a challenge and the way in which the Board responds to this concept is currently being addressed. The concepts of Clinical Effectiveness and Clinical Risk Management are also related issues in which audit will play an important role.

My vision for the future of audit within the Trust is at two levels. At a practical level, I would wish firstly to see a streamlining of the administration of audit to reduce the number of committees, secondly to promote the introduction of new information

technology innovations and integrate them into the audit process and thirdly to see more direct control by the Clinical Audit Convenors Committee of the way money is spent. At a more philosophical level, I would hope to create a partnership with the purchasing authorities, especially as they are in the process of change, so that realistic objectives for audit are set and to integrate clinical audit within the concepts of Clinical Governance, Clinical Effectiveness and Clinical Risk Management.

I would like to thank all the people involved in audit within the Trust, Chris Swonnell and Tracey Jones for their efforts in writing the Clinical Audit Annual Report and the Clinical Audit Convenors for electing me as their new Chairman. I would also like to thank the Medical Director, Roger Baird for his support.

Finally, I would like to conclude on a positive note. The Special Trustees have agreed to fund two yearly prizes of £500 and £250 for the best two audits within the Trust for a trial period of three years (audits will be judged against agreed criteria). It is hoped that this will be a further incentive to perform high quality audit and provide recognition for the people involved. I would like to extend my thanks to Professor Peter Wells, Chairman of the Special Trustees for his efforts in securing funding for these prizes.

**Zenon Rayter**  
**Chairman, Clinical Audit Convenors, UBHT**

### ***3. Clinical Audit Co-ordinator's Report***

As outlined in last year's annual report, the post of Clinical Audit Co-ordinator has been created to provide support for the Trust's audit staff and for activities best centralised, e.g. training, primary care interface and Trust-wide audits.

As I write I have been in post approximately four months. During this time I have been impressed by the enthusiasm for clinical audit demonstrated by both audit support staff and convenors. I am also encouraged by the diversity of audit topics being tackled within the Trust.

This year has seen many changes within clinical audit at UBHT. Some of these have already been alluded to; other are discussed later. One important change is in the format of this report. On this occasion we have chosen to build the report around brief audit abstracts. All audits have been included - not just those considered exemplar. Constructive feedback on this change is welcomed.

Last year it was suggested that the Trust would be adopting the NCCA (National Centre for Clinical Audit) summary form to assist in the production of the clinical audit annual report. In the event, we designed our own form which draws upon the best elements of the NCCA form but also meets our own particular requirements (see Appendix A). In future it is envisaged that this form will be filled out upon completion of an audit and used in conjunction with the new Trust Clinical Audit Proposal Form (see Appendix B).

Major challenges lie ahead: audit's role in the Trust's response to Clinical Governance; the promotion of Evidence Based Healthcare; the integration of Clinical Effectiveness into directorate clinical audit programmes.

There are also a number of practical issues which have been highlighted in previous annual reports and will need to be addressed in the next twelve months. For example: the distribution and management of the clinical audit budget; the future of MDI (Medical Data Index) for clinical audit; the need for clinical directors and senior managers to support and 'underwrite' clinical audit activity to ensure that report recommendations lead to real changes in practice.

But in all of this we must not lose sight of our real objectives: better treatment, better quality of care, better experiences of healthcare and better outcomes - for patients.

**Chris Swonnell**  
**Clinical Audit Co-ordinator, UBHT**

#### ***4. Achieving effective clinical audit***

##### ***4.1 Financial information***

The first prerequisite for effective clinical audit is financial support to enable it to happen. In 1997/8, UBHT received £337,800 from Avon Health Authority to fund clinical audit activity. This sum of money was incorporated into the general contracting process (i.e. audit monies were not ring-fenced). In line with the Trust's continuing policy of devolved budgetary responsibility, the budget was allocated within UBHT as follows:

Central Office			£58,500	17.3%
IM&T (MDI)			£50,600	15.0%
Medicine	£33,700	14.7%		10.0%
Anaesthesia	£31,500	13.8%		9.3%
Mental Health	£21,400	9.4%		6.3%
Pathology	£17,300	7.6%		5.1%
Dentistry	£17,100	7.5%		5.1%
Children's Services	£17,100	7.5%		5.1%
Surgery	£16,100	7.0%		4.8%
Community	£15,000	6.6%		4.4%
Radiology	£14,600	6.4%		4.3%
O&G / ENT	£12,400	5.4%		3.7%
Oncology	£ 9,200	4.0%		2.7%
Cardiac Services	£ 8,400	3.7%		2.5%
Ophthalmology	£ 7,400	3.2%		2.2%
Specialty Services	£ 6,000	2.6%		1.8%
Occupational Health	£ 1,500	0.7%		0.4%
TOTAL 1	£228,700		£228,700	
TOTAL 2			£337,800	

The table shows directorate audit allocations both as a proportion of total funding for directorates (TOTAL 1) and of the overall audit budget (TOTAL 2). It should be

noted, however, that the existence of audit allocations to IM&T and Cardiac Services is presently disputed by the respective directorates. This matter is being investigated.

A number of years ago, at the outset of medical audit (as it was then) it was agreed that the audit budget would be divided amongst directorates according to the number of consultants in post. Each subsequent year these original figures have been increased on a pro-rata basis. Current audit allocations are therefore based on historical precedent rather than current need. The present system of allocating audit monies is inequitable. This fact has been recognised by the Clinical Audit Committee. Possible ways of achieving a more equitable distribution are actively under discussion. It is also essential that audit monies are clearly identifiable within directorate budgets and that audit convenors are able to access these resources as and when needed.

The distribution of audit resources is one matter. Another is how those funds are used. A new inclusion for this year's annual report is a breakdown of audit expenditure:

Salaries of Audit 'Team' (central office, facilitators, assistants)	£126,532	(37.5%)
Salaries of other full-time project workers (e.g. ICNARC, MDI*, Convenors where paid for sessions)	£63,153	(18.7%)
Cost of covering additional clinical time to enable audit	£14,813	(4.4%)
Additional secretarial and medical records support	£ 4,480	(1.3%)
Office equipment including PCs	£29,170	(8.6%)
Project Licences (ICNARC, MDI*)	£27,890	(8.3%)
Stationery	£ 3,902	(1.1%)
Education, training and conferences	£ 7,398	(2.2%)
Miscellaneous (e.g. contribution to networking costs)	£5,038	(1.5%)
<b>TOTAL EXPENDITURE</b>	<b>£282,376</b>	<b>(83.6%)</b>
Underspend	£55,424	(16.4%)

\* disputed (see above)

The process of gathering the above information has not been without considerable difficulty and the figures remain only approximate. In addition to the disputed allocations already mentioned, two further problems have been highlighted: firstly not all directorates appear to have lines for clinical audit in their budget statements and secondly many audit convenors do not presently have easy access to information about their directorate's audit expenditure or the facility to make decisions about that expenditure. These points will be now be addressed at the earliest opportunity.

The majority of the underspend is accounted for by the central office (as a consequence of the two posts being vacant prior to January 1998), however the total has almost certainly been artificially inflated as a result of several directorates being unable to track their audit expenditure.

#### ***4.2 Organisational arrangements for the support of audit***

The most valuable clinical audit resource the Trust has at its disposal is its staff. 1997/8 has seen a number of new appointments amongst its audit support staff,

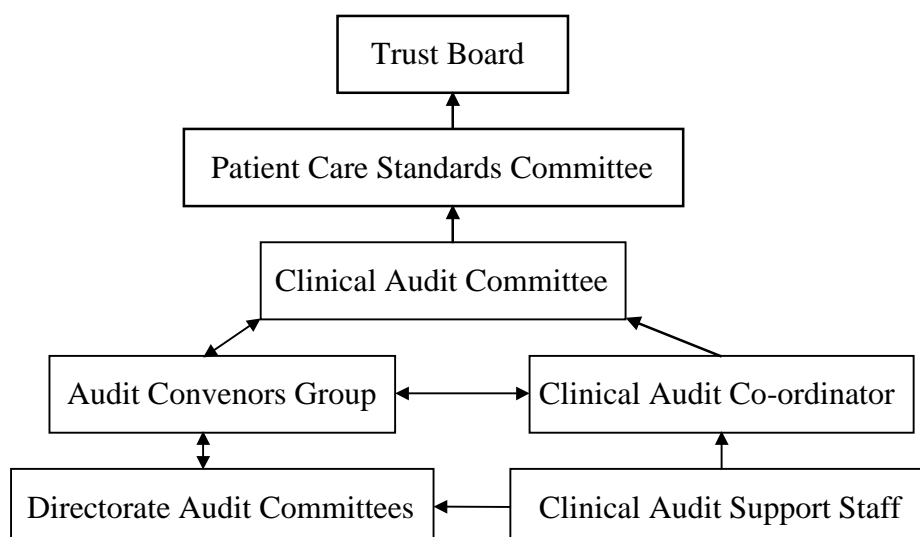
namely Heidi Bishop (Surgery), Betty Underwood (Community) & James Mackie (O&G/ENT). For the first time the Homoeopathic Hospital has employed the services of an audit assistant (Sue Barron), an exciting development currently funded from BHH resources but which, it is hoped, will in the future be supported by the Trust's audit budget. The Trust now employs a 16 audit support staff, totalling approximately 10.0 WTE. In addition, Dr Mike Kinsella (Anaesthesia), Dr Bill Jerrom (Mental Health), Dr Chris Price (Oncology), Dr Morgan Moorghen (Pathology), Dr Andrew Duncan (Radiology) and Mr Steve Brown (Specialty Services) have joined the ranks of audit convenors.

The beginning of 1998 also saw the creation of a new central clinical audit office at Trust Headquarters. Mr Chris Swonnell has joined UBHT from the Black Country Mental Health Trust to become the Trust's Clinical Audit Co-ordinator whilst Mrs Tracey Jones has moved from her former post at St Michael's Hospital to become Assistant Co-ordinator.

One consequence of the devolved structure of the Trust is that the UBHT is the only trust in the region which does not have a clinical audit (or clinical effectiveness) department *per se*. The size and geographical spread of the Trust mean that a large central audit presence is not a realistic option, however it is hoped that the creation of the central office will encourage the growth of a 'virtual' audit department. This process will be promoted by regular 'team' meetings and assisted greatly by the planned provision of email access for all audit staff by the end of 1998.

A full list of current clinical audit support staff, convenors and members of the CAC is provided in Appendix C to this report.

The organisational structure of clinical audit at UBHT has been as follows:



Clinical audit support staff sit on their respective directorate audit committee along with the directorate audit convenor and other multidisciplinary representatives. The audit convenors also meet as a group to discuss the progress of clinical audit projects across the Trust. The Chair of the Audit Convenors attends the Clinical Audit Committee (CAC) which is responsible for Trust audit strategy and monitoring the

progress of directorate audit programmes. The CAC has until now been upwardly accountable to the Patient Care Standards Committee (PCSC) and the Trust Board.

In early May 1998 the Trust Board approved a proposal which will in future see the PCSC replaced by a new Clinical Governance Committee. The present CAC and Audit Convenors Group will be disbanded and a new CAC formed from members of both committees.

Detailed remits of the CAC, audit convenors, Clinical Audit Co-ordinator and audit support staff are shown in Appendix D to this report.

### ***4.3 Staff Development***

Any system where support staff are assigned to individual directorates has its pros and cons. The advantages are that staff develop an 'expertise' in their area and build strong working relationships. On the minus side however, audit staff do not get the breadth of experience which comes from more generalist (cross-directorate) roles found in many smaller trusts. This can have important implications when staff seek to progress in their audit careers. For this reason it is hoped that in the next year the CAC will discuss ways of encouraging staff development. In some directorates, for example, it is possible that a reorganisation of audit roles may compliment recent management restructuring within the Royal Infirmary.

### ***4.4 Training***

Most directorates have now developed training materials to assist clinicians who are unfamiliar with the concept of clinical audit. The Directorate of Medicine has, for example, devised a format for an 'Introduction to Clinical Audit' training day and several successful workshops have already been held. The central audit office is presently looking at the issue of audit training on a Trust-wide basis.

Training of clinical audit staff - both support staff and convenors - is a priority area for the central audit office. In April 1998 Healthcare Quality Quest ran a two-day clinical audit workshop for audit support staff at the Trust's training facilities at Barrow Hospital. The purpose of this training was to ensure that all audit support staff possess a common grounding of knowledge in their subject. Similar training has been organised for audit convenors in June 1998.

The Trust also continues to support and encourage audit staff who wish to study for formal clinical audit qualifications. James Osborne is now in the second year of his MSc in Clinical Audit & Effectiveness, whilst Heidi Bishop and Sue Barron will shortly begin studying for the Clinical Audit Association Certificate in Clinical Audit.

### ***4.5 Equipment***

All clinical audit support staff have access to a p.c. and Microsoft Office software. Relatively few directorates possess equipment such as colour printers, however these



facilities are made available for other directorates' audit projects if a need arises. In addition, the new audit central office has recently purchased a scanner and two lap-top computers. The latter are available for short-term loan in order to facilitate audits in any directorate.

#### ***4.6 Audit Screening***

Another prerequisite for successful audit is an effective system for screening audit proposals. Last year's report stated, "We wish to encourage future audit activity to be more critically examined in the planning phase". In April 1998, therefore, a Trust-wide audit proposal form was introduced. This builds on the best elements of various forms which were already being used in a number of directorates. The forms are designed to be completed by the lead clinician for the proposed audit in order to clarify the exact purpose of the project and to ensure that what is being proposed is not in fact research or mere activity analysis. The form emphasises the need for audits to be based on research evidence, clinical guidelines or written standards and if not, to be undertaken with an explicit intention to set standards.

Audit support staff are entrusted with the responsibility of ensuring that audits are undertaken using appropriate methodology. They are also responsible for following up audit projects to ensure that appropriate changes in practice are implemented.

#### ***4.7 Auditing Audit***

In 1998/9, UBHT - in common with all Trusts in the region - will be required to provide evidence of systematic evaluation of the quality of its audit arrangements and programmes. In other words, are we auditing audit? Trusts will have freedom to choose how they do this, however The University of Birmingham's recently-published *Clinical Audit Assessment Framework* is being recommended. This document poses 37 specific questions about trusts' clinical audit arrangements. It is encouraging to report that UBHT can already give positive answers to 31 of them. Of the areas which will need to be addressed, most are alluded to elsewhere in this report.

#### ***4.8 Clinical Effectiveness & Evidence Based Practice***

Clinical effectiveness is concerned with ensuring that patients receive treatments that are proven to work and do not receive treatments that are proven not to work. It is a medium term priority of the NHSE. In the past year the Chief Executive and Medical Director at UBHT have produced a draft statement on Clinical Effectiveness recognising that the Trust needs to be proactive in all aspects of clinically-effective practice. The statement also outlines the expectations placed on Trusts by the NHSE in the 1996 publication 'Promoting Clinical Effectiveness', including the need to promote clinical guidelines and evidence-based practice.

A recent report from the NHS Confederation<sup>1</sup> revealed that a significant proportion of trusts have chosen to rename their clinical audit departments as 'clinical effectiveness departments'. The report questions the wisdom of such a move: "...an audit programme which focused solely on clinical effectiveness might be rather narrow and unbalanced". A better example has, arguably, been set by other trusts who have redirected their audit programmes to *prioritise* issues of clinical effectiveness. Others still have expanded the functions of audit committees to become 'clinical audit and clinical effectiveness committees'. UBHT's own response to the clinical effectiveness initiative will now necessarily be guided by the Trust's plans for tackling Clinical Governance which will be announced in the near future. But respond we must.

To achieve a service that is both clinically and cost effective we need:

- **R&D** to find out what works
- Availability of research findings
- **Critical appraisal skills** to enable clinicians to evaluate findings
- Skills in **change management** to enable **evidence-based practice**
- **Clinical audit** to make sure we're doing the right thing and doing it right
- **Clinical guidelines** to ensure that best practice becomes routine
- **Health economics** because resources are finite

All of these areas are inter-linked and interdependent.

Although family relations between the disciplines of **audit and research** have not always been as harmonious as they might, it remains a fact that the two are closely related. One potential area for future collaboration at UBHT is in developing Critical Appraisal Skills - providing clinicians with the skills to enable them to make informed decisions about whether research findings (especially review articles) can and should be used to drive changes in practice locally. A small number of workshops have been held in the last year by the RDSU in conjunction with postgraduate library. It is hoped that in the next 12 months the clinical audit central office will be able to collaborate with these units to encourage dissemination of critical appraisal skills throughout the Trust.

There is now a vast wealth of information available to clinicians - in journals, electronic databases and via the Internet - about clinically effective practice. In the coming year the central audit office will be seeking to ensure that audit staff are provided with links to the Internet and that relevant journals on effectiveness are made available through the postgraduate library.

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<sup>1</sup> *Acting on the Evidence*, K.Walsh & C.Ham, HSMC, University of Birmingham, 1997

It is widely recognised that the most desirable treatment scenario is one where the healthcare professional's clinical judgement is supported by strong research evidence and where this is the treatment of choice for the patient. It is therefore hoped that the year ahead will also bring closer links with UBHT's Patient Survey Unit, in particular to enable comparisons of objective and subjective outcome measures.

#### ***4.9 IM&T Support***

Clinical audit is dependent on the availability of accurate clinical information. The majority of audits are based on lists of patients generated from electronic databases. In a smaller number of cases, where data has been collected concurrently, detailed audit reports can also be generated from these systems. The responsibility for retrieving such information varies between directorates. Several directorates, for example, have employed staff in joint audit and information roles. In many other directorates, audit staff have felt that it is in their best interests to possess the skills required to enable them to retrieve data from hospital information systems. It is important, however, that staff employed solely to facilitate clinical audit and who possess information skills are not burdened with other information responsibilities, e.g. providing regular non audit-related information for hospital management.

In 1997/8 the Trust has continued to support the use of MDI as its main clinical audit information system. MDI is overseen by Caroline Daley, who has provided the following progress report:

##### ***Clinical Audit Database - MDI***

*At the present time the Trust supports MDI as an audit tool with 8 directorates currently use approximately 20 systems. The data collection aspect is user defined and runs with the Trust standard report generator providing easy data retrieval and download facilities. Data can then be manipulated in packages such as Excel, Access, SPSS etc. as necessary.*

*This system is being considered by the Trust to fulfil the Calman-Hine requirements as specified by the Avon and Somerset Cancer Services. Since there is no funding allocation for this project it seems appropriate to use MDI thus incurring no additional costs. A number of the local specialist groups have already adopted MDI for this purpose.*

*MDI is accessed via VDU, and any PC with appropriate software. As it is part of the IHCS software supported by the Trust it is able to share data across most hospital systems. Information such as demographics, theatre information, outpatient/inpatient data and clinical coding etc. can be automatically retrieved from the originating system, thus eliminating the need for duplication.*

*IM&T provide professional support for the structure and design of the individual specification. Initial training is provided for nominated staff. Once the system has been piloted and signed off by IM&T technical and*

*day to day support is still available to the directorate responsible for the system.*

***4.10 Protected time for clinical audit***

Most directorates currently operate a system of monthly audit half-days. This usually translates into eight or nine meetings each year. This is protected time when clinical staff are able meet to discuss the progress of directorate audit plans and receive presentations on completed projects.

**Chris Swonnell**  
**Clinical Audit Co-ordinator, UBHT**

**Tracey Jones**  
**Deputy Clinical Audit Co-ordinator, UBHT**

## **Clinical Audit Activity in 1997/8**

### ***5. Summary Information***

#### **Total Number of audits**

A total of **190** audits were reported during 1997/8. This represents an increase from the figure of 133 stated in last year's report and appears to contradict the Trust's policy of encouraging fewer but better quality audits. It should be noted, however, that not all current audits were included in the 1996/7 report. The total number of completed (first audits, re-audits and ongoing audits) audits for 1997/8 is **123**.

#### **What prompted the audit?**

- **41%** of audits were in areas identified as local priorities
- **29%** were prompted by local or national guidelines of some kind
- **13%** were prompted by new published research
- **2%** were prompted by new local primary research findings
- **10%** were responding to some form of contracted obligation
- **However, 26%** were not prompted by any of the above

*Note: do not sum to 100% - some audits were prompted by more than one source*

#### **Who led the audit?**

- **52%** of audits were led by a doctor
- **17%** were led by a PAM
- **12%** were led by a manager
- **11%** were led by a nurse
- **5%** were led by an audit facilitator/assistant
- **3%** were led by a scientist

#### **Other information required by AHA**

- **49%** of audits were multi-disciplinary
- **9%** were primary care interface audits (defined as being any audit involving both the acute Trust and health professionals working in the community)

*Note: AHA guidelines state that 10% of audit activity should focus on the primary/secondary interface*

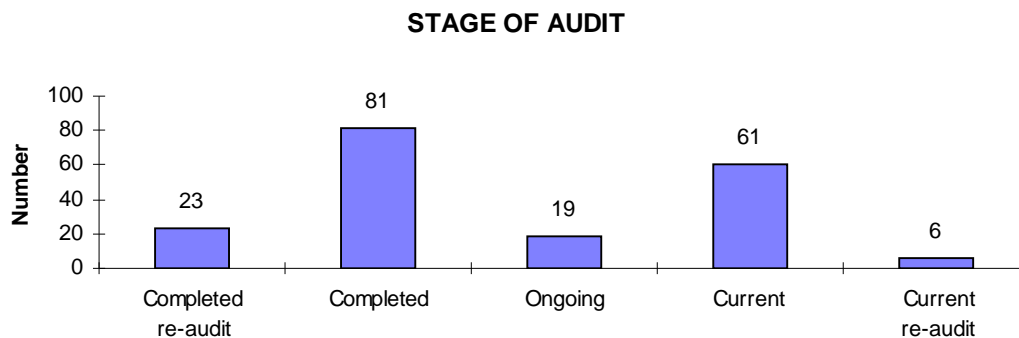
- **58%** measured against standards or guidelines
- A further **7%** were undertaken in order to set standards
- **24%** used published research evidence (although not all these were *prompted* by the publication of this research - see above)
- **19%** took consumer views into account
- **57%** of completed (i.e. non-current) audits resulted in a change in practice
- **28%** of completed audits resulted in improved patient outcomes

**79%** of completed audits were considered to have been successful by the audit lead.

## 6. Abstracts of Audit Projects undertaken during 1997/8

Audit projects are presented in the following order:

- Completed Re-audits
- Completed First Audits
- Ongoing Audits (i.e. continuous data collection)
- Current Audits (i.e. not yet completed)



In previous years, the annual report has focused on selected ‘exemplar’ reports. Indeed, the Health Authority have requested that for each directorate we identify two particularly successful audits and one less successful. We feel, on balance, that this process is rather too subjective (who decides?). There is also a concern that by identifying ‘exemplar’ audits, other excellent work may be seen as being less worthy. In the event we have chosen instead to provide brief abstracts of all audits undertaken in the last year. We have, however, asked project leads to comment on any changes in practice which resulted from the audit and any lessons - positive or otherwise - which they learned in the process. Suffice to say that the biggest audits are not necessarily the most successful. For example, Community Services’ Audit of Vitamin K Prophylaxis in Infancy (see entry under Completed First Audits) is one of the simplest audits in the report and yet it addresses a clearly focused question based on evidence of clinical effectiveness, has led to a change in policy and will potentially result in benefits for patients: an example which others would do well to follow.

In a number of cases, directorates still appear to be carrying out ‘audit’ which in reality is research (e.g. finding out whether one treatment is better than another) or activity analysis (counting numbers of things) - a problem which was also highlighted in last year’s report. To clarify: the intention is not to discourage research or the gathering of information which may be required for management purposes, however the Trust is funded to carry out clinical audit and it is important that we fulfill our obligation in this respect. We should also ensure that audit resources are used appropriately.

The Trust Board has recently requested a progress report on audit projects listed last year as being in progress. This information is provided in Appendix E and will in future be a routine feature of the annual report.

### 6.1 Completed Re-Audits

## Anaesthesia

### **6.1.1.1 Adequacy of completion of anaesthetic records** *Dr Sally Masey, Consultant, Tel 928 2163*

100 sets of casenotes were pulled at random, but reflecting different surgical areas. 87 anaesthetic charts were assessed following exclusion of 13 (missing notes, missing charts, local anaesthesia for eye surgery). The assessment involved looking at completion of 13 items designated following a previous audit as being of sufficient importance to be completed 100% of the time. The completion rate for the items varied from 100% for patient name to 8% for the assessing anaesthetist. It was more likely for an item to be recorded if there was a recognised "slot" on the chart for it. It was concluded that anaesthetic chart should be re-designed.

### **6.1.1.2 BCH paediatric ENT turnaround times re-audit** *Dr Steve Mather, Consultant Anaesthetist, Tel 928 2163*

Original audit carried out in 1996, re-audit to assess benefits of changes implemented.

Objectives: To evaluate theatre utilisation in ENT sessions, assess the turnaround times for children undergoing ENT surgical procedures against departmental standards/targets in place, identify reasons for turnaround time delays, assess the improvement, if any, since the original audit.

Audit conducted over 4 months in 1997 for two specific theatre sessions (Tuesday and Thursday mornings) and included 75 patients.

Results: Theatre sessions started late on more occasions in the re-audit, due to the surgeon being on a Ward Round. Delays in the anaesthetic room remain a constant problem. Both audits highlighted the under-utilisation of the surgeon's time. One of the sessions finished early 88% of the time. There was a marked increase in delays stemming from the start of operation to the out of theatre target, 47% did not meet the target in the Tuesday sessions. This was due to higher incidence of post op bleeding, and teaching. A designated porter has improved turnaround times for this aspect. Case mix of sessions similar. Need to address late starting of lists, under-utilisation of surgeon time, delays caused by anaesthetist and nurse accompanying patient to recovery. Further actions and recommendations awaited.

## Children's Services

### **6.1.2.1 Fetal cardiology - activity analysis of ongoing service 1993-1996** *Dr Rob Martin, Cardiologist, Tel 928 5448*

Objectives: to analyse the cardiology activity in order to give a more refined prediction of outcome and mortality. Analysis of impact of diagnosis of congenital heart disease on morbidity.

Part of national survey but so far no accepted standards.

New information obtained on mortality and morbidity associated with the fetal diagnosis of a congenital heart malformation.

**6.1.2.2 Patient identification - Were all patients identifiable?**  
***Connie Wakely, Ward Sister, Tel 928 5638***

Objective: To check that each child was identifiable by the Ward Sister.

Standards: There should be a means of identification for every patient in the Children's Directorate from the time of their admission through to discharge.

The acceptable means are - (1) Patient identification bracelet on patient, with patient's name, hospital number and date of birth. (2) Photograph of patient with name, hospital number and date of birth. (3) Where it is detrimental to patient care the bracelet may be attached to the bed, cot or incubator.

It was found that 27% patients were not identifiable.

Reported to Ward Managers and management. Taken on board by new Critical Incident Committee.

Some wards will now adopt a photograph policy when it is detrimental to patient care to wear an identity bracelet.

**Dental Services**

**6.1.3.1 To determine the percentage of unavailable notes on staff treatment sessions**  
***Mr M Woodhead, Consultant Prosthetic Dentistry***

Audit involved the Junior Restorative Staff on Adult Clinic 1 and Adult Clinic 2.

The objectives were to determine the percentage of unavailable notes on staff treatment sessions and see if a problem existed. The first audit was in March 1997. There was a re-audit in May 1997 after computerisation on Adult Clinic 2. The findings were : (1) Low unavailability on Adult Clinic 2; (2) No change after computerisation; (3) No appreciable problem; (4) No changes implemented.

The audit showed there was not a problem where it was felt that one existed.

There may be an audit in the future on unavailability on Undergraduate sessions.

**6.1.3.2 Management of new patient referrals to BDH (Mr King's clinics)**  
***Mrs C Southwell - Audit Officer. 0117 928 4973***

This was a re-audit of Mr King's clinics which involved measuring the time taken to dispose of referral letters and the subsequent time taken for reports to be sent to the referring GDP after the first appointment. The time taken to send out a discharge letter after the last appointment was also recorded. The standards used are specified by Avon Quality Health.

Findings were: (1) About 69% of referral letters were responded to within the 2 week standard; (2) Nearly 100% of reports to GDPs were sent within 4 weeks; (3) About 38% of the discharge letters were sent out within the 2 week standard.

This re-audit showed an improvement in the number of referral letters responded to within 2 weeks but a worse result on discharge letters.



**6.1.3.3 Paediatric outpatient general anaesthetic extractions**  
*Mr C Bell*

This re-audit was undertaken to examine the changes in practice implemented after an initial audit in 1996/97 to examine the number of treatment plans being changed from that originally requested by the referring clinicians. Altered treatment plans were previously at 48%. This resulted in a large amount of hospital services being used - consultant orthodontic opinion, radiographs and telephone calls to the referring clinician for agreement to the change.

As a result of the first audit a standard letter is sent to referring clinicians asking them to provide far more information than before, including a reminder for them to consider orthodontic balancing/compensating. They were also asked if the hospital could proceed without having to spend inordinate amounts of time telephoning for agreement to the changes. The results of changes implemented were seen as treatment plans altered reduced from 48% to 32%. The use of radiographs OPT dropped from 52% to 35% often with the help of pre-existing x-rays being forwarded.

The overall outcome produced a considerably easier patient clerking protocol which reduced waiting times for patients and involvement of other hospital services.

The audit allowed us to examine the hospital process for the above patients, identify local deficiencies and implement measures to overcome them.

**6.1.3.4 Oral Hygiene appointment failures/cancellations**  
*Shelagh Lockyer, Principal Tutor Oral Hygiene Tel 928 4411*

In order to improve on waiting lists and student hygienist practical exercises, an audit was undertaken to identify patient failure/cancellation numbers. This was done over a four week period on the student dental hygienist clinics. The outcome was that letters were formulated explaining to new patients treatment times and plans. Reminders are now sent to those who do not attend for appointments in order to improve on attendance to hygienist clinics. The audit showed that patient failures/cancellations were not as many as have been estimated. Forms will be simplified and a re-audit undertaken at a later date.

**6.1.3.5 Appropriateness of recall patients**  
*Anne White, Associate Clinical Director Tel 928 3405*

This was an audit of patients placed on the recall list to ensure that they met contract requirements to treat only patients with special or social needs. Dental nurses and dentists were involved. The audit identified that 97.7% of patients placed on recall did have special or social needs. Of the 5 patients who did not meet current criteria, 4 had a valid reason for being recalled. The criteria for accepting patients has been broadened to include this group ie. siblings of children with special needs.

**6.1.3.6 Patients attending emergency clinic with referral letters**  
*Dr A Richards, Senior Registrar Tel 928 4304*

All clinic staff were involved. The current guidelines allow all patients attending with letters of referral to be seen. Objectives: (1) To assess the impact of reduced staffing in the service to referred patients; (2) Periodic assessment of the type of referred cases seen and appropriateness of referral.

Results: (1) The number of referred patients was down but no patient was denied treatment during the session attended; (2) There was no evidence that seeing referred patients adversely affected the service to other patients; (3) At least 90% of patients attended for conditions which fall within the remit of the clinic and clinicians felt that 74% of referrals were warranted. The audit provided information needed for deciding future guidelines.

**Medicine**

***Occupational Therapy***

**6.1.4.1 Use and effectiveness of the Continuing Care form**  
*Sarah Hirst, Senior Occupational Therapist*

In 1989 the Department of Health set out guidelines for discharge arrangements: "Where the patient requires continuing healthcare, patients and their carers will be consulted and informed at all stages in their discharge process. Upon discharge, the provider will ensure where appropriate that the patient has a written record of the discharge plan and of any financial consequences" As a result, a standard was set to be audited against - "Any patient

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identified as requiring community liaison occupational therapy (CLOT) intervention to be documented on a continuing care form, along with equipment / adaptations to be issued or delivered". The first audit found that 70% of patients did not receive a continuing care form, 1% could not remember. Of those that received a CCF, only 23% had CLOT identified. As a result of this a change of practice was introduced and a training programme was implemented. A re-audit was subsequently carried out. The results found that little if any improvement had been found for the number of patients receiving a CCF (62%), 11% couldn't remember. However, of those that received a form, 55% had community liaison occupational therapy identified, a significant improvement. Further improvements have since been highlighted, including an information pack to inpatients. A further re-audit is planned for later in the year. The result of the audit has benefitted patients, and helped in the transition to community care.

## **Mental Health**

### **6.1.5.1 Care Programme Approach in the Directorate of Mental Health *Dr Bill Jerrom, Audit Convenor, Tel 928 6551***

The audit consisted of three stages: (1) Semi-structured interviews were carried out with clinical and ward managers in order to understand perceptions of CPA within the directorate. (2) A replication was undertaken of the local audit of CPA by The Audit Commission in 1994/5. (3) The quality of CPAs was investigated by rating a cross-section of CPA forms against a number of predefined standards.

The recommendations centred around six themes: The need for better CPA training; The need for improved IT support and access; A re-design of the present CPA form to make it more informative and to meet the requirements for good practice; The need for a clear CPA protocol; A continuing programme of audit; The need for clinical case load reviews.

The audit of CPA form quality was a useful exercise for evaluating the quality of CPA across the directorate. However, caution should be exercised when making inferences from forms to the underlying care programmes: in some cases good CPA working may have been masked by poor recording.

## **Obstetrics, Gynaecology & Ent**

### ***Obstetrics***

#### **6.1.6.1 Return of the hand-held yellow notes to St Michael's Hospital *Tracey Jones, Audit Facilitator Tel 928 5794***

Background - the hand held yellow notes are often the only written record of any mother's obstetric episode(s). It is important that these notes are returned to the hospital as soon as possible after discharge. The notes are expected back within six weeks of delivery. Aims and Objectives - To assess time involved in returning yellow notes. To streamline recording of their return. To enable reminder system to be set up.

Standard: Care plans for women who deliver at St Michael's should be returned to the hospital within 6 weeks.

Sample - Jan 97 deliveries (383). Results - 47% were returned within time period.

This poor performance lead to several changes in the return system and a re-audit in June 1997. Recording of the receipt of Care plans was done solely by Medical Records instead of Community Midwifery Office as well. Medical Records are given a download every month of all deliveries for that month. The date of return of the notes is logged on this, and care plans not received give rise to a letter to the community midwife base requesting return as soon as possible. After reaudit of June 1997 (394) 71% of care plans had been returned.

Conclusion - The reminder system brought the total up to 93% received.

The audit improved the return of Care plans through the implementation of a new reminder system. A further improvement should be seen as a new stamp is now used in the Delivery Suite which is used when a women delivers at St Michael's and here midwife is based outside UBHT area. A further re-audit is planned next year.

## ***Contraception and Sexual Health***

**6.1.6.2 Doctors' IUD practice**  
*Dr S Bodard, District SCMO, CHC, Tel 929 1010*

Involved: all family planning doctors in 4 Avon Trusts.

Standards: (1) Risks discussed and recorded before IUD fitted, and method leaflet given.

(2) IUD offered as contraceptive method including as post-coital contraception to women of all ages.

(3) All women should be screened for Chlamydia prior to IUD fitting.

(4) IUDs fitted 4 weeks after normal delivery and 4 weeks after caesarean section.

Results: (1) Discussed - 100%, risks listed 53%, record of leaflet given 89%

(2) Post-coital IUD 100%, fit under 16s 89%

(3) Chlamydia swabs 89%

(4) Fitting 4 weeks after normal delivery 63%, fitting 4 weeks after caesarean section 11%.

Recommendations: (1) IUD training workshops to be set up initially for clinic doctors, possibly later to be extended to GPs

(2) Sticker for notes to record counselling and fitting of IUDs

(3) Re-audit in 1 year.

This audit showed improvements in practice from the previous audit and led to recommendations which should further improve practice.

**Oncology**

**6.1.7.1 GP Communications - first appointment letter**  
*Judy Cox Superintendent Radiographer, Tel 928 2022*

This project set out to monitor BOC's communication with GP's focusing on the initial letter following the patient's first appointment. This was an interface audit with a multidisciplinary team from BOC and a representative GP. The project aimed to provide GP's with key information in clear format and it was agreed to:

(1) Liaise with GP's in the setting of mutually acceptable standards. (2) Monitor practice against these standards. (3) Implement changes as indicated.

It was agreed that the following should be included in communication with GPs: Diagnosis, histology, staging, main symptom treated, proposed management, intent, prognosis, planned investigations, who executes planned investigations, approximate treatment start date, proposed duration of treatment, side effects, new/changed support medication, who prescribes/continues new/changed medication, information given to patient, information given to relatives, planned follow up.

As a result of a pilot study 17 core data items were identified and agreed as standards. The audit monitored 120 sets of notes randomly selected over a 3 month period stratified by consultant. Agreed changes were made following this audit and a re-audit was carried out. The re-audit identified several improvements but also indicated that some standards were not being met. It was agreed that the letters were now of a reasonable quality and no complaints were being received from GPs. The GP input into the re-audit was compromised by lack of funding for the attendance of GP representatives at meetings. In view of this it was agreed that no further action should be taken on this project.

This audit helped identify the information priorities of hospital staff and GPs . A structured skeleton letter was produced which can be used as a 'prompt' in clinic and to monitor future compliance with standards. This was the first BOC/GP interface audit and was a useful learning experience for both groups.

#### **6.1.7.2 Analgesic prescribing**

*Helen Morgan, Nurse Specialist, UBHT Palliative Care Team, Tel 928 2473*

A prospective audit carried out one week before a teaching session on the management of chronic cancer pain for junior doctors and other ward staff. Audit repeated 2 weeks after teaching session. Results fed back to junior doctors and audit repeated 2-3 weeks before leaving.

Objective - to assess where P C T needs to concentrate teaching. Standards set pre audit.

Feedback given to junior doctors highlighting: (1) What do we do well; (2) Where do we need to concentrate our teaching. Audit following feedback showed definite improvement in analgesic prescribing.

Junior doctors were very keen to have feedback following the audit post teaching. Prescribing definitely improved after this. Emphasises the importance of disseminating results.

1. Preferred drugs are: a) non-opioid - paracetamol aspirin and non-steroidal anti-inflammatory drugs, b) weak opined - either Co-proxamol or Co-codamol 30i500 c) strong opioid - morphine fur oral use, diamorphine for parenteral use, and fentanyl for transdermal use where appropriate.
2. Morphine prescriptions must make it clear which formulation is intended: immediate release. Controlled release (12 hrly) and controlled release (24 hrly).
3. An appropriate dose of weak or strong opioid should be prescribed at regular intervals. Doses should not be omitted without a documented reason (It is acceptable to omit the 2am dose of immediate release morphine if a double dose is given last thing at night).
4. A breakthrough (rescue) dose should be prescribed. If on a weak opioid, there should be an alternative prn weak opioid (caution re paracetamol dose) or immediate release morphine. If on morphine, this should be equivalent to the regular dose of an immediate release preparation.
5. Modified release morphine and fentanyl patches should only be used if pain is controlled (defined as  $\leq 3$  rescue doses in 24 hrs).
6. The subcutaneous route is preferred for parenteral analgesia.
7. The equianalgesic dose of subcutaneous diamorphine is one-third of the oral morphine dose.
8. In the absence of a clear contraindication, regular laxatives should be prescribed with weak and strong opioids.
9. Patients should have access to an anti-emetic during the first few days of strong opioid therapy.
10. Excluding non-opioid analgesics and coanalgesics, no other analgesics should be prescribed in addition to regular morphine.

### **Ophthalmology**

#### **6.1.8.1 Trabeculectomy**

*Mr W Westlake, Registrar*

A retrospective audit of all patients undergoing trabeculectomy at BEH between September and October 1995. This period was chosen to allow a long period to lapse during which time the success could be established. Sixty-five patients studied with average follow-up of 45 weeks (range 2-67). Success was defined as an intra-ocular pressure after surgery below that before surgery. 78% qualified as successful and 6.3% were unsuccessful. 14.1% were deemed possibly successful. There were 18 complications, one of which was serious (infection). Guidelines were proposed to reduce failure rates. A high overall success/partial success rate (over 90%) with a low complication rate.

**6.1.8.2 Cataract surgery**  
*Charanjit Sethi, SHO*

A prospective audit of all cataract operations undertaken over a two week period. All patients followed-up through to discharge. Audit undertaken using standardised forms. Sixty-seven cases included. 46 were phako extractions and 21 extra-capsular. 52 cases were day cases and 15 inpatients. 54 were performed under local anaesthetic and 13 under general anaesthetic. 8 Complications were identified, 5 of which were important (4 vitreous loss, and 1 infection). The majority of cases had a single follow-up visit and 26% had 6/6 visual acuity. Confirmed an increasing number of cases being undertaken as day case under LA, by phako-emulsification and demonstrated safety of single follow-up visit.

**Pathology**

*Chemical Pathology*

**6.1.9.1 Clinical aspects of Therapeutic Drug Monitoring (TDM) - Aim was to assess appropriateness of TDM requests with respect to sample collection. Identify ways to improve poor performance**  
*Dr Andrew Day, Consultant Chemical Pathologist, Tel 928 4543*

This audit was carried out in conjunction with the pharmacy department and involved a retrospective analysis of TDM requests for one week in June. It was difficult to trace patients' notes, but of the 6 sets of notes reviewed, only two requests were judged to be appropriate on clinical grounds and had correct sample collection. The availability of TDM information was discussed; as a first attempt to improve this, a monograph had recently been produced by a pharmacy student but this was felt to be inappropriate as a user guide. A new TDM guide was to be produced jointly by Dr Day and Dr Hiom (research pharmacist). This has now been done and after production will be issued to junior staff and be available on the wards. There is also a plan to put the same information on the pathology computer system which is accessible from clinical areas. Dr Day and Dr Hiom will continue to liaise to keep this information up to date.

Inaccuracies were identified and corrected in the information on cyclosporin and an alteration of the therapeutic range for lithium in the light of new clinical practice was suggested.

This audit provided a link with pharmacy to improve information in an area of common interest. Showed the difficulties in obtaining information through case notes.

## *Histopathology*

### **6.1.9.2 Cytology and histology discrepancy in colposcopic material (1995)** *Dr J Pawade, Consultant Histopathologist, BRI Tel 928 2869*

All patients were examined in the colposcopy clinic in St Michael's Hospital. All cases with a discrepancy (2 out of eg, mild - severe) in cytology and in histology of punch or loop biopsies of the cervix were reviewed without access to previous result for a 6 month period.

It was concluded that: (1) A small number of cases with high grade lesions can have negative cytology even at colposcopy. (2) Immature squamous metaplasia when extensive, appears dyskaryotic in cytology. (3) Low grade dyskaryosis/HPV changes are better diagnosed in cytology. (4) Overall performance of the laboratory is very good. Improved diagnostic accuracy in gynaecological cytopathology.

## **Radiology**

### **6.1.10.1 Mobile chest radiographs on ITU (BCH)** *Dr Chris Cook*

Aim: to investigate the technical quality of mobile radiographs, and to what extent such quality may limit the diagnostic value of the radiograph.

100 non-consecutive mobile plain chest radiographs from paediatric ITU were assessed.

97% included all patient details, 2% part of name omitted, 1% incorrect side marker.

97% were correct exposure.

97% were well centred and showed no significant rotation (i.e. only in 3% was the degree of rotation noted in the report). However, 14% showed minor degrees of rotation and 3% minor degrees of poor centring.

100% of films were of diagnostic quality, and the of the faults noted above, there was never more than a single fault on any one film.

Conclusions: All the criteria assessed above have improved since the previous audit of April 1996 and at no time was the diagnostic quality of the film lacking.

Actions: The audit had initially also been designed to assess the rapidity in the return of the report to the ITU. It was however immediately apparent from discussion with staff on the unit that the reports were erratic in their arrival on the unit, and where they could be located after their arrival. This would be an important point for assessment. The audit confirmed quality.

## **Specialty Services**

### *Pharmacy*

### **6.1.11.1 The efficacy of Tazocin as the first line treatment of neutropenic fever on Bone Marrow Transplant Unit** *Clare Kelly, Pharmacist, Tel 928 5458*



Tazocin was introduced as first line treatment for neutropenic fever on BMT 2 years ago. First audit showed a good initial response rate but a high incident of secondary fever. This audit is to ensure that a good initial response rate is still being achieved and to look at the incidence of secondary fevers. This is a rolling audit programme. The measure of efficacy is against company statistics.

Data collected and being collated currently. The results will be discussed with the clinicians and may influence antibiotic choice.

### ***Biophysics***

#### **6.1.11.2 Review of value of hypnotherapy in chronic pain management**

***Dr A W Preece***

Patients were sent questionnaires by the clinic specialist in acute pain. Responses were reviewed by Dr. M. Griffiths and scored by Dr. AW. Preece. Two periods were studied with different treatment formats.

Evidence of some improvement in pain score. No difference in two treatment regimes except second gave greater patient satisfaction. Results published at Society of Hypnotherapy meeting.

## **6.2 Completed First Audits**

### **Anaesthesia**

#### **6.2.1.1 Use of basic monitoring in anaesthesia: Is basic monitoring available in all sites used for anaesthesia? Is it is being used?**

***Dr Sally Masey, Consultant, Tel 928 2163***

The audit was performed to ascertain whether the Department's use of basic monitoring was in line with NCEPOD and Association of Anaesthetists guidelines. The site survey was satisfactory with a few exceptions, e.g. Was end tidal CO<sub>2</sub> monitoring available in the Oncology Centre? To ascertain the level of use of basic monitoring, 88 anaesthetic charts were randomly selected and checked for charting of use of basic monitoring. The level was high: 99% for oxygen saturation, 97% for ECG, and 99% for blood pressure. Discussion followed as to whether these results were good or bad, i.e. Should this monitoring be used (and charted) 100% of the time. The conclusions included looking into sites with lack of equipment and raise awareness of use of monitoring.

#### **6.2.1.2 Use of Laryngeal Mask Airway (LMA) in adult and paediatric practice**

***Dr F Forrest, Consultant Anaesthetist***

Audit of ophthalmic anaesthetists in SW region.

To assess use of LMA in general anaesthetics for eye surgery in adults and children, and any problems.

No guidelines but some clinicians are dubious about safety aspects.

Discovered widespread use. Low incidence of problems - but potentially hazardous.

To be written up as review article. The audit results gave support to my clinical practice.

Emphasized need for teaching about safety to trainees.

#### **6.2.1.3 Emergency Eye Surgery**

***Dr F C Forrest, Consultant Anaesthetist***

See entry under Ophthalmology

#### **6.2.1.4 Training list undertaken at UBHT by trainee anaesthetists**

***Dr A Whaley, Specialist Registrar, Tel 928 2163***

Audit of all training grade anaesthetists over 10 week period - looking at whether lists on rota actually took place, and the reasons why not. How successful the trainee/trainer interaction was perceived to be by trainee. How many sessions a week were spent with teaching lists and how this compares to perceived need.

Use adjunct to college assessment in future, plus ?need to reorganise anaesthetic training.

Gave accurate information on actual teaching that takes place - will be able to re-audit when new consultant in place, Calman more established, etc.

**6.2.1.5 Anaesthesia Under Examination - the efficiency and effectiveness of anaesthesia and pain relief services**  
*Dr D P Coates, Clinical Director, 928 2163*

Participation in National Audit organised by The Audit Commission  
Involved Trust wide questionnaires and information analysis

## **Cardiac Services**

### **6.2.2.1 Cardiac surgery in the elderly** *A Bryan, Cardiac Surgeon, Tel 928 2821*

Within a consecutive series of 1259 patients undergoing adult heart surgery within the UBHT, 314 (25%) were 70 years of age or over. Only 7 (0.5%) were greater than 80 years. 61% underwent Coronary Artery Bypass Graft (CABG) procedures, 29% valve replacements and 13% combined valve/CABG procedures. In the under 70's these figures were 74%, 13% and 4% indicating valve replacement is more common in the elderly.

Mortality in the over 70's was elevated in CABG procedures (3.6% (>70) vs 0.9% (<70)), and after valve replacement (8%(>70) vs 2% (<70)). Elderly patients were ventilated for longer, were more likely to require blood transfusions and had a longer ITU stay and hospital stay.

The increasing proportion of elderly patients undergoing cardiac surgery appears to have implications with respect to overall risk and resources for in-hospital care. Further observation is required.

## **Children's Services**

### **6.2.3.1 Cranial ultrasound scanning of neonates** *Dr Tan Soe, Neonatal Registrar, Tel 928 5046*

The aim of the audit was to see how compliant we are with the local guidelines for neonatal USS. Delays in initial, weekly and discharge scanning were noted. The results showed that the guidelines were not being adhered to. This was exacerbated by incomplete data in the scanning book. Recommendations were made to amend the record in the scanning book to include time of scan. This should improve record keeping and accountability. A re-audit following implementation of these changes has been arranged.

### **6.2.3.2 Necrotising Enterocolitis (NEC) - to determine whether the course of the condition was affected by feeding management and use of antibiotics** *Dr Indra Da Costa*

NEC covers a spectrum of clinical features - abdominal distension, bilious aspirates +/- pr bleeding - with associated radiological findings. Cause unknown.

Objectives: (1) To observe feeding practice; (2) To observe antibiotic usage; (3) To reach consensus on present management.

Recommendations: a comparative study to be undertaken in the future

As the volume of cases was quite few in this audit despite going back several years it was difficult to audit properly - a sufficient sample of patients would need to be in the study in order to make the project significant.

### **6.2.3.3 Physiotherapy reports to community paediatricians to ascertain whether the reports are received, read, and acknowledged by the doctors** *Penny Parrie-Evans - Superintendent Physiotherapist*

Objectives: to ascertain whether physio reports are being written and are on appropriate form - to find out whether the reports are being received, read and acknowledged by the community paediatrician - to reach consensus on the quality of information provided by the reports.

Standards and guidelines: locally set and agreed. Guidelines for report writing: on the correct form; date of clinic on form; typed by secretary allowing 2 days notice; to be received by clerical assistant in time for filing prior to clinic. Guidelines for physiotherapy reports: Frequency of physiotherapy input; aims of treatment; change in child's ability; new provision of equipment/orthotics; suggestions; questions.

Standards: (1) All children receiving physiotherapy should have a written report; (2) The record should be filed in the notes in time for the next clinic appointment; (3) Acknowledgement and indications to feedback should be written on the form; (4) The content of the report should be within recommended guidelines;

(5) Changes in practice: new system in place for ease of delivery and reporting.

Recommendations: proposal to widen the audit to other areas within Tyndalls Park Children Centre - proposal to re-audit. Prior to the audit, the reports were written as a standard letter and were sometimes very lengthy; the reports have now improved in terms of content and brevity - creating a report form with clear indications for the community paediatricians to feedback whether the report has been read improves communication between paediatricians and community physiotherapists.

#### **6.2.3.4 Timeliness of out patient clinics** *Lisa Goldsworthy, Consultant Paediatrician*

Involvement: staff nurses, audit department

Objectives: (1) To ensure local standards are met thus avoiding delays to patients and members of staff. (2) To note reasons for delay.

Standards: (1) All children should be seen within 30 minutes of appointment time (National Standard) (2) All children should receive the appropriate time in clinic according to appointment status (new or follow up).

Recommendations: difficult subject to audit because of number of clinics and different clinic set up - agreed to re-audit by firm when approached by consultants.

This audit was proposed by nursing staff who were concerned with clinic delays - consultants have individual clinics which are uniquely set up - it would require the firms' complete involvement to pursue this audit in terms of improving practice.

#### **6.2.3.5 Central venous catheter service within oncology and BMT - to audit prospectively the service to ascertain the efficiency of the service** *Mr Ross Fisher, Specialist Surgical Registrar, Tel 928 5046*

Involvement : surgeons, anaesthetists, oncologists, theatre nurses, radiographers, porters and audit facilitator

Objectives: to assess efficiency and reach consensus for service provision.

Standards: (1) patients listed should be patients operated on; (2) procedures listed / procedures performed; (3) list runs in order; (4) list runs within time limitations.

Recommendations: the need for the oncology middle grade person to co-ordinate the list with a check list for hand-over and the decision to bring children in earlier in order to improve the list start time.

During our one month pilot it was observed that children were waiting at the theatre site for considerable lengths of time - this had improved when we analysed data from a subsequent 3 month period.

**6.2.3.6 Paediatric ultrasound performed for abdominal pain**  
*Andrew Duncan, Consultant Paediatric Radiologist, Tel 928 5464*

We had a subjective impression that a considerable number of abdominal ultrasounds were being carried out for abdominal pain with negative results. Ultrasound scans carried out for abdominal pain with no clinical signs of abdominal mass were reviewed retrospectively on scans carried out over the previous 10 months. All requests specifically asking for renal ultrasounds were excluded. It was interesting to note that 12 positive scans out of a total of 85 were in-patients. This probably reflected the fact that the in-patients presented with an acute abdominal pain and obviously were clinically of more concern because the patient had been admitted. Out-patients had a very low yield, only 2 positives out of 85 examinations. Both these were teenage girls who had had pelvic pathology. It was clear from this review that patients referred from out-patients had a low yield - 2 positive scans out of a total of 45 out-patients. Most of these had a chronic history and it is apparent that these scans were probably unnecessary. It is suggested that out-patients and casualty referrals should have a clear indication for the scan.

It was stated that many of the scans are carried out for reassurance of the parents, but as one senior paediatrician pointed out, the doctor's reassurance should be sufficient. Initially there was a reduction in the number of ultrasound scans from out-patients but this has now returned almost to its previous level. It was a useful exercise that brought to the attention of the clinicians the need for a positive history. The consultant performing the ultrasound examination could be spending time on other cases requiring his expertise.

**6.2.3.7 Transient tachypnoea of the new-born (TTN) - to audit those children with TTN to decide if the admission to SCBU was preventable**  
*Dr Anna Barkley, Tel 928 5226*

Objectives: to identify babies most at risk of developing TTN. To reach consensus on management. To facilitate a protocol for midwives for managing TTN.

Results: 50% of all babies had low temperatures +/- or low BM;

50% of babies were post elective caesarean section (C/S).

Recommendations: protocol of care for all post elective C/S babies with regard to thermal care.

Re-audit to see if temp > 36.5 reduces admissions with TTN in this group.

There was general agreement for adopting a protocol for midwives which would advise the prevention of hypoglycaemia and hypothermia in high risk cases in order to prevent TTN.

**6.2.3.8 Indications for blood transfusion (TFN) in neonates. To ascertain whether TFN was appropriate and to reach consensus on selection criteria**  
*Dr Eleanor Thomas, Tel 928 5226*

Objectives: (1) To ensure indicators are appropriate; (2) To establish local consensus of management.

Standards: All children with Hb <10.5 g/dl and symptoms of anaemia (feeding difficulties, lethargy, failure to thrive, tachycardia, tachypnoea, pallor, increased oxygen requirements) should be transfused.

Consensus on local guidelines agreed.

## **Community Services**

### **6.2.4.1 Methods used for cleansing of medical equipment in the community**

*K Russell, Disability Services Manager, Keynsham Hospital. Tel 986 2356*

All Nursing staff and Professions allied to Medicine were asked to identify the methods employed when cleaning equipment which may have been used in health bases or the patients' homes. The objectives were to clarify current practice and develop standard practice across the Community Directorate, as part of guidelines for maintenance and cleaning of equipment. Guidelines used were "DOH - Control of Infection in Residential & Nursing Homes."

The audit resulted in guidelines for community staff being issued to all staff groups and training being undertaken. Audit now completed, training is ongoing.

*Lesson learned:* Communication/questionnaires must be clear.

### **6.2.4.2 Hand-over from Health Visitors to School Nurses**

*Ruth Marks, Health Visitor Adviser, Central Health Clinic Tel 929 1010*

*Ext 265*

During the first week of January 1998 the School Nurses in Locality 4 counted the number of transfer records received from Health Visitors for children in Reception Classes.

Of 529 records expected 438 had been received, leaving 91 missing (17.2%).

The School Nurses say they understand general records are in Avon Health Authority School Health Department. They have wasted a lot of time searching for records.

Proposed new Trust guidelines on the hand-over procedure.

### **6.2.4.3 A & E Faxes**

*J Dougal, Community Associate Manager, Central Health Clinic, Tel 929*

*1010 ext 229*

Recommendations from an enquiry following a child's death stated that all children who attend A & E must have details faxed to appropriate Health Visitor and School Nurse. The objective of the audit was to measure the standard set and to identify any change to practice. The audit revealed that faxes did arrive through different processes to the Health Visitor and School Nurse. They were picked up and acted upon appropriately. Some bases needed to change their practice. The audit process will be complete following feedback to appropriate people change in the standard and practice.

*Lesson learned:* Questionnaires were not easy to analyse - standards set should be written in a way that they can be measured more accurately.

**6.2.4.4 Vitamin K prophylaxis in infancy**

*J Dougal, Community Associate Manager, Central Health Clinic, Tel 929 1010 ext. 229*

The objective of this audit was to find out if 4-6 week old babies actually received their 3<sup>rd</sup> dose of prophylaxis in the Community as per Trust policy.

The outcome was that they did not. This information was relayed to St Michael's Hospital and Avon Health Authority. A new policy is to be implemented.

**6.2.4.5 Emergency re-admissions of over-75s within the Medical Directorate**

*D Harrison, Clinical Co-Ordinator, CHC Tel 929 1010 Ext. 318*

The audit involved the Avon Health Authority, the UBHT's Information Technology Department, the BRI Medical Records Department, and the Community Care Facilitator. It involved an investigation of individual records for the causes of emergency re-admission within 28 days of discharge. It reviewed the quality of data held on the Trust's Patient Administration System (PAS). It was intended to make recommendations based on findings, and to review the information gained for future use as clinical performance indicators.

The audit was completed, and recommendations were made.

It was very time consuming searching through medical records. Clerical support must be inbuilt to any future similar project.

**Dental Services**

**6.2.5.1 Patient satisfaction with hospital orthodontic treatment**

*N Harradine, Audit Convenor Tel 928 4390*

This was a collaborative audit between all the Hospital Orthodontic departments in the Northern half of the South-West region following a pilot pre-audit at Musgrove hospital Taunton. It took the form of a questionnaire given to consecutive patients completing courses of treatment and expert advice on the structure and logistics of questionnaires was obtained.

Findings: A high level of satisfaction with the various aspects of patient care and the results of treatment with a few areas for potential improvement. One hospital was criticised for a lack of pre-treatment information and has since created and distributed new patient information leaflets. Bristol Dental Hospital had a higher than average incidence of unscheduled appointments required to deal with problems during treatment. This has led to a further, current audit utilising the database of all such attendances at BDH. It is anticipated that this will reveal ways of reducing these problems. The satisfaction survey will be repeated in 1999.

**6.2.5.2 Recall system**

*Michelle Dicks, Dental Nurse, Tel 967 7191 Ext 222*

The audit was carried out by the dental nurses working in the Community Dentistry Service (CDS).

The aim was to standardise the recall system to cover the 10 dental clinics involved.



The objectives were: (1) All dental nurses would know the system when working in different clinics;

(2) Patients' records were correctly 'written up'; (3) Patients were recalled at the correct time.

A re-audit will be carried out later in the year. This was the first audit carried out by the dental nurses and by doing so they have gained knowledge and experience of audit.

**6.2.5.3 The success rate of treatment for unerupted upper canine teeth. Also the criteria for extraction versus alignment of these teeth**

*N Harradine, Audit Convenor Tel 928 4390*

This was a collaborative audit involving 8 Orthodontic Consultants and their junior staff from the units in the northern half of the South-West region. 137 consecutively referred cases were included with a total of 189 unerupted teeth. Firstly, radiographic criteria for extraction versus surgical exposure and orthodontic alignment were investigated. The main conclusion from this part of the audit was that factors of patient attitude were much more important than the degree of ectopic position of the tooth. The main audit prospectively followed the success of surgical and orthodontic alignment of the 88 surgically exposed teeth over a three year period. In terms of final tooth position and gingival and periodontal health, only two teeth did not have a good result. It was concluded that treatment guidelines were being well and successfully followed.

It was however noted that the average age at referral ( surgery on average at 15.4 yrs) was much higher than is good practice. It was agreed to draft and distribute to all referring general dental practitioners summary guidelines on detection, prevention and early referral of these teeth which are lengthy and complicated to treat. This has been done and a further audit will assess the effectiveness of this advice

*Lesson learned:* Collaboration enhances the power of small specialty audit. A better understanding of our criteria for treatment was achieved. Successful cross-specialty treatment was demonstrated. A need to further educate primary care clinicians was revealed. Steps were taken to achieve this.

**6.2.5.4 Unavailable notes on oral surgery**

*Lynne Booth, Dental Nurse*

This audit was carried out by the dental nurses on Oral Surgery student treatment sessions for 6 months to see how many patients' notes were missing on the day.

It was found that 2.5% of notes were missing which was not as big a problem as first thought. There would be a re-audit in the future. A more detailed form for data collection will be used on the re-audit, listing who the notes were traced out to and where they were found eventually.

**6.2.5.5 Number of laboratory re-makes in the conservation laboratory**

*Mr P King*

This audit involved the chief technician in the conservation laboratory, Mr P King and Mr Adrian Watts. The purpose of the audit was to determine a baseline figure for the number of laboratory remakes for staff and student patients at the BDH. The number of laboratory remakes was lower than anticipated. Conservation work is high volume / high cost and the low percentage of remakes is encouraging.

The audit involved high volume / high cost laboratory work and was easily monitored with regard to outcome. A clinical decision was made at chairside regarding the quality of work being acceptable to be placed in a patient's mouth.

**6.2.5.6 Quality of solid root fillings in anterior teeth**  
*Katherine Walls, SHO, Tel 946 7088*

The audit investigated the quality of solid root fillings done by members of staff in the department of Child Dental Health. 52 end of treatment radiographs were examined by the department staff, and success was determined for each, according to various published criteria. These criteria were that a) there should be an apical and a coronal seal, b) the whole canal should be filled. Of the 22 that were unsuccessful, most failed because of inadequate filling of the canal. As most of the treatments were carried out by junior staff, it was felt that this type of treatment on these patients should be more formally taught and assessed. Currently, this type of treatment is learned more by experience than by formal teaching. Until this audit was done, it was not realised that some training may be required.

**6.2.5.7 Junior staff casemix**  
*F Scriven, Tel 970 1212 Bleep 1399*

The aim of this audit was to investigate the Junior Staff casemix. The ideal would be that all patients were referred to the Junior Staff by consultants, their clinics or the assessment clinic. This audit demonstrated that almost always (94% of the time) this was the case. The audit would be worth repeating in 2 years time to ensure that these high standards are maintained.

**6.2.5.8 Management of new patient referrals to BDH (Prof Addy's clinics)**  
*Mrs C Southwell, Audit Officer, Tel 928 4973*

The audit involved measuring the time taken to dispose of referral letters and the subsequent time taken for reports to be sent to the referring General Dental Practitioner (GDP) after the first appointment. The time taken to send out a discharge letter after the last appointment was also recorded. The standards used are specified by Avon Quality Health.

The findings were: About 66% of referral letters were responded to within the 2 week standard. Nearly 100% of reports to GDPs were sent within 4 weeks. About 50% of the discharge letters were sent out within the 2 week standard.

The audit highlighted the problem areas and there was subsequent relocation of reception staff to speed up the making of appointments. There will be a re-audit in the future.

**Medicine**

*General Medicine*

**6.2.6.1 Delays to inpatient care**  
*Jan Lynn, Operational Manager Tel 928 3844*

The aim of this uni-disciplinary audit is to set standards to ensure that delays to inpatient care do not occur. It was highlighted by ward nurses in the directorate that some patients were not progressing in their patient process due to delays in waiting for investigations or to be seen by specialist consultants. During the pre-audit, information was prospectively collected on patients that experienced delays in care for any reason. Several areas were highlighted as problems, patients waiting for nursing homes or residential accommodation, waiting for investigations. Changes have now been identified and will be implemented in the near future

**6.2.6.2 Process of patient food delivery to the wards in order to make recommendations to reduce waste, improve patient nutrition and ensure quality of taste and presentation**  
*Annabelle Legg, Associate General Manager (acting) Tel 928 3066*

The audit involved senior nurses, dieticians and managers in the hospital. Ward observation, staff questionnaires and a financial report were undertaken by an external senior dietician. The first piece of work to establish current practice, identify problems and make recommendations was completed in October 1997. Recommendations are now being put in

place. These have included the following: (1) Review and change menus to improve choice and nutrition; (2) Changes on wards to improve meal environment; (3) Availability of condiments improved; (4) Increase in availability of snacks, milky drinks, and use of cooked breakfasts to increase patients calorie intake.

Work still to do includes: (1) Setting up training for nurses & HSA's; (2) Measuring food wastage; (3) Trial and review of cook freeze project on wards Lucas 1 & 2. (Starts 30<sup>th</sup> Mar 98); (4) Improvements in patient information. It is planned to re-audit in May 98 to establish progress and further work to be done.

Although a local initiative, the results and changes being made have attracted Trust wide interest. The work is making a real difference to patient care.

*Lesson learned:* An impartial observer facilitates effective identification of problems and recommendations.

### ***Elderly Medicine***

#### **6.2.6.3 The under-use of anticoagulants for prophylaxis of CVA's in patients with atrial fibrillation**

***Dr SK Wensley***

All new admissions to the department of Medicine for the Elderly were screened for atrial fibrillation. Additional risk factors were analysed in those with established atrial fibrillation who were not receiving warfarin. Previous hospital admissions, documentation by doctors explaining why prophylaxis was not being used and the use of aspirin as an alternative agent were also examined.

**Key Findings:** The majority of elderly hospital patients with established atrial fibrillation are not receiving prophylaxis with warfarin or aspirin, despite having additional risk factors for stroke. The reasons for this were not documented. The audit has since been published and presented to several forums around the country. Further audit will be considered in the light of future clinical evidence. Awareness about the use of warfarin is being raised through presentation of the results.

#### **6.2.6.4 William Lloyd Day Hospital, effectiveness and scope**

***Dr G Tobin, Clinical Director, Tel 928 6314***

The aim of the audit is to establish scope of the present service provided and to establish standards and identify patient outcomes. One hundred case notes of patients attending the hospital were pulled and reviewed. A patient questionnaire was designed and sent to the patients who were reviewed. Details of ambulance times, and journeys for the patients were also recorded for concurrent analysis with the questionnaire. Areas for improvement are currently being identified and changes will be implemented by 1st May 1998.

A re-audit is planned to run towards the end of 1998 to establish if any benefits have been found.

### ***Respiratory Medicine***

#### **6.2.6.5 Lung Cancer - from symptoms to diagnosis**

***Dr Martin Hetzel, Respiratory Medicine Consultant***

New standards in the management of lung cancer suggests delays occur between presentation and the institution of palliative or curative treatment. A multidisciplinary team including primary care and thoracic surgery audited lung cancer patients, and those that had a fiberoptic bronchoscopy at the BRI. The audit focused on patients' recollection of first symptoms, date of GP referral letter, date of outpatient appointment, date of bronchoscopy, date of staging CT, date first seen by oncologist or thoracic surgeon, number of follow up visits. Findings from the audit were that there were the expected delays following presentation to hospital, but the major delay is, in fact, the time spent prior to referral to hospital. Patients tolerated symptoms for an average 138 days. Non-specific symptoms such as weight loss were tolerated for a mean average of 143 days. More worrying symptoms such as haemoptysis were tolerated for a mean of 56 days. The earlier the stage at which a tumour is resected, the higher the rate of survival (JS Billing, FC Wells Thorax 1996: 51: 903 -906). The average doubling time for a lung cancer is 60 days. Completion of the audit is awaiting results of a current research project looking at ways to cut delays between symptoms and medical advice being sought.

## **Mental Health**

### **6.2.7.1 Section 5(2) Mental Health Act 1983 *Kim Smith, Services Manager, Tel 928 6635***

Concern was expressed by the Mental Health Act Commission over the number of Section 5(2)s left to lapse. The audit tracked all Section 5(2) outcomes for one year and identified any recording problems, as well as inconsistent practice. Medical Staff were reminded of the importance of arranging further assessments to determine the outcome of the Section 5(2) within the 72 hour time limit.

### **6.2.7.2 Mental Health Review tribunal applications and outcomes *Kim Smith, Services Manager, Tel 928 6635***

Concern was expressed by the Mental Health Act Commission at the number of sections rescinded shortly before a Mental Health Review Tribunal. The audit sought to track all activity for a one year period, by consultant and ward.

Medical staff are now aware of their practice in relation to the Mental Health Review Tribunal.

### **6.2.7.3 A baseline investigation of re-admissions in the Directorate of Mental Health *Dr Bill Jerrom, Audit Convenor, Tel 928 6551***

Admission information was downloaded from the Service's database to examine the re-admissions to the acute adult wards at Barrow Hospital from January- December 1996. After removing the respite admissions, the data were processed to examine demographic, illness and service factors.

Previous research (Kammerling & O'Connor, 1993) has shown that the level of psychiatric admissions in an area is highly correlated with the unemployment rate. To test whether re-admissions represented a sub-group of individuals resident in localities with greater social stress, single and repeat admissions were compared on two indices of social stress (rate of

unemployment and total MINI score). No significant differences were found between these two populations; reasons for this are considered.

The project makes recommendations concerning the following: (1) the information system; (2) the recording of diagnoses; (3) the type of patient data collected; (4) the Care Programme Approach.

*Lesson learned:* The largest hindrance to the project was the information system. It is an extremely time-inefficient way of producing meaningful information. Additionally, it was found that one cannot track the course of patients across hospital wards, and consequently cannot derive any worthwhile information by ward.

**6.2.7.4 Inpatient admissions to the Mother and Baby Unit at Barrow Hospital**  
*Sarah Oke - Consultant Psychiatrist, Tel 928 6608*

We looked at 100 consecutive admissions to the Mother and Baby Unit (MBU). There are several similarities and differences between the MBU and the Unit at the Maudsley Hospital. More of our referrals are from GPs, but the level of disturbance manageable in the MBU is lower. Some mothers are separated from their babies before admission - others are separated after discharge. Rates of illness during pregnancy are high. Planning for pregnant schizophrenic women is poor. There are no admissions where drugs or alcohol is the primary problem. There are very few admissions from the ethnic minorities. The rates of childhood sexual abuse is high.

This audit has highlighted the areas we need to look at more closely, e.g the impact of separating mothers and babies at outset of admission while mothers are permanently separated from their babies.

**6.2.7.5 Challenging behaviour on Intensive Rehabilitation Ward**  
*Mr J A Smith, Clinical Psychologist, Tel 924 8824*

Residents challenging behaviour on the intensive rehabilitation ward, East Villa, was assessed over a 2 1/2 year period from routine behaviour observations collected as part of Careplans. The objective was to find out the severity and frequency and type of challenging behaviour faced by residents and staff on the ward. The results suggested observational charts needed to be revised to allow more efficient use of staff time and increase reliability of monitoring in relation to the monitoring of challenging behaviour on the ward. Information was gathered which could usefully inform the ongoing process of defining unacceptable levels of stress experienced by residents and staff due to challenging behaviour on the ward. Severe training issues were highlighted regarding monitoring and responding effectively to challenging behaviour.

The audit addressed an issue of great importance to nursing and other staff working on the ward - personal safety/stress. It was a collaborative project between several disciplines and resulted in some changes in clinical practice.

**6.2.7.6 New Elderly Mental Health Day Hospital**  
*Naomi Roberts, Consultant Clinical Psychologist, Tel 928 6584*

The day hospital for elderly patients moved for one day a week to the community, (Beech House in Knowle). The first 6 months of operation (January to July 1997) were studied so that

a decision could be made about whether to continue after the Pilot period. Client satisfaction was assessed via a questionnaire for Barrow and Beech House attendees. Notes of all patients were audited - the topics but not exact standards had been predetermined and were compared with the previous year. Staff perceptions of efficiency in the two settings were compared. Patients were found to prefer Beech House to Barrow, but staff felt drawbacks of Beech House to be too great. Beech House 'Satellite' Day Hospital discontinued in January 1998. The audit highlighted the fact that the patients prefer a day hospital in the community with shorter travel times. Made the point that properly resourced day hospital in community should be planned.

**6.2.7.7 Satisfaction of people attending assessment and training, Colston Fort.**  
*Mr JA Smith, Clinical Psychologist, Tel 924 8824*

People attending Assessment and Training, Colston Fort, were facilitated to develop a customer satisfaction questionnaire regarding their views of the service received. The aim was to establish which issues people felt reflected a good/bad service and to determine baseline levels of satisfaction to be re-audited year upon year. A secondary aim was to engage people using the service by providing a regular and formal opportunity to participate in the process of evaluating the service. Several issues were brought to light by the audit as causing concern to the people using the service, and these were fed back to the manager of the unit by user representatives and the facilitator.

People were able to formally state what they expected of the service - the first occasion since its opening. Areas of dissatisfaction were highlighted for the manager and staff to improve to benefit the users.

**6.2.7.8 Suicides and Unexpected Deaths**  
*Dr J Parker, Consultant, Tel 928 6605*

This project audited the occurrence of clinical audits following suicides - the standard being to hold an audit within 6 months. From 1995 to June 1997 63% of suicides were followed by a medical audit, and 23% had a multidisciplinary audit. The cumulative recommendations of the audits were checked for implementation. Local performance against the HoN suicide reduction targets were monitored - there was no evidence of reduction by the end of 1996. Lessons learned: (1) A database has been set up to replace previous paper systems. (2) A lead Consultant has been identified. (3) The local policy for multidisciplinary audits has been clarified.

**6.2.7.9 Art therapy. Do referrals to art therapy cover the range of needs at Inner City Mental Health Team? Are there under-represented groups?**  
*Marion Liebmann, Senior Art Therapist, Tel 0117 955 6098*

Analysis of referrals over two year period May 1995 to June 1997, looking at (a) suitability for art therapy, (b) gender, (c) ethnic background, (d) comparing (b) and (c) with ICMHT referrals 1986 to 1993, (e) housing status, (f) referral source, (g) GP practices covered, (h) diagnosis, (i) reason for referral to art therapy, (j) benefit for those attending more than two sessions. Showed that referrals to art therapy did not quite reflect ICMHT referrals (fewer

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black clients and fewer men referred), also that many referrers do not make appropriate referrals and that movement out of the area between assessment and starting work is a problem.



**6.2.7.10 Use of ECT at Barrow: 1992 - 1996**

*Dr Paul Dedman, Consultant, (Now replaced by Dr. Paul Birkett, Consultant, Tel 928 6600)*

(1) A detailed study of ECT use in 1996 - Variables: Age, Diagnosis, MHA Status, Consultant, Medication, Comorbid Physical Illness. (2) An audit of ECT Practice in 1996, using the Royal College of Psychiatrists Standards. Main Findings: (i) The use of ECT is falling at Barrow. (ii) Appropriate Diagnostic Groups are prescribed ECT. (iii) Practice in 1996 met the RCP standards.

It was agreed that future audits should include - 1. outcome measures, 2. Patient evaluation of ECT.

**6.2.7.11 Initial assessment of the value of sodium valproate in treatment aggression/agitation in demented patients.**

*Dr S Fosbury, Clinical Assistant, Tel 01275 394155*

The audit assessed the efficacy of Sodium Valproate in 12 patients, admitted to Southside Unit, Barrow. Standards were set by Dr. Fosbury and assessed for each patient by the nursing staff involved. We found a significant improvement in 73% of patients leading to placement in more friendly environments after assessment. A fuller study in conjunction with other centres is now being pursued.

This audit demonstrated clearly that the drug does have a positive role, and that a full drug trial should be the next move.

**6.2.7.12 New Mental Health Patient Charter Standards**

*Jenny MacDonald, Hospital Manager, Tel 928 6627*

A group of clinicians (multi-disciplinary) and managers convened a working party in order to investigate certain standards. A report was produced to inform the Executive Group of the Mental Health Directorate regarding compliance with Patients Charter Standards. Recommendations were made, but were not actioned.

*Lesson learned:* A manager should be identified who will follow the recommendations through.

**6.2.7.13 Safe working conditions**

*Joseph McEvoy, Community Psychiatric Nurse Tel 973 0225*

Staff were particularly concerned about the lack of operational policies regarding minimising risk of aggressive incidents. Staff were unaware of any written policies, procedures or guidelines, and were concerned about the lack of training and induction for new staff working in the area. Two members of the Community Team commented on working arrangements in the community, with little comment made about procedures for arranging joint visits, interviews or use of neutral venues. One member of the Community Team commented on a system for alerting others when a visit had been completed and the procedure when staff have failed to return or check back. No staff commented on the availability of mobile phones for staff working away from the workplace.

## **Obstetrics, Gynaecology & ENT**

### ***Gynaecology***

#### **6.2.8.1 Delayed discharges following Day Case Gynaecology surgery** ***Babs Williams, Assistant General Manager***

Background - Day case surgery for certain operative procedures has been steadily increasing over recent years with the improvement of laparoscopic techniques and facilities. The Royal Colleges have introduced guidelines for day case surgery and inclusion criteria. Concern was expressed at St Michael's over adherence to the selection criteria. Objectives (1) to ensure adherence to selection criteria

(2) to identify patterns in the reasons for delayed discharge (3) to improve the quality of patient care (4) to improve the efficiency of the Day Unit.

The audit highlighted that laparoscopic procedures carried out as day cased were more likely to result in delayed discharges and an audit has been designed to look specifically at this. Data collection has been undertaken and analysis and reporting will be performed later this year.

Standard - 80% of day unit patients will be discharged by 17:00.

Data collection - Pro forma designed for prospective data collection including details of the type of surgery and anaesthesia, grade of staff, times of surgery. Approximately 200 patients increase between March/April 1997. Data collection by Day Unit staff.

Results - 188 patients included. 8.5% did not meet criteria, of 87% who had surgery in the morning 16% went home after 17:00 and 5% stayed overnight. Overall 71% of patients are able to leave before 17:00 short of the 80% standard. Recommendations - review of selection criteria and all staff made aware of criteria, day case procedures done in morning. The audit highlighted potential Medico-legal implications of patients not meeting selection criteria. Day Surgery Teamlet to review criteria .

#### **6.2.8.2 Early Pregnancy Clinic - Delays in the emergency theatre list** ***Babs Williams, Assistant General Manager***

Background - Early Pregnancy Clinic operates every morning for early pregnancy problems, post partum and post termination problems. A high proportion of women have retained products following spontaneous miscarriage or post termination. An emergency theatre list was set up to begin at 2pm daily. Over the last 6 months list has been increasingly postponed leading to complaints. Therefore this audit was undertaken to identify delays. Aims - Improve quality of care for patients and to ensure prompt delivery of treatment after diagnosis. Objectives - To assess the timing of the start of the emergency gynaecology theatre list and ascertain the reasons for delays

Standards - 90% of patients should receive operative treatment on the same day as diagnosis. 80% of patients should receive operative treatment by 18:00 on the same day as diagnosis.

Sample: all patients booked for theatre following assessment during period May to July 1997

Results - 65% of patients received operative treatment on the same day as diagnosis; 50% received operative treatment by 18:00; 81% received operative treatment on booked day of surgery.

Standards set did not take into account the option to return the next day or where list was already full.

Conclusion - Data collected shows substantial delays in start time of clinic.

*Lesson learned:* There was confusion over the responsibility of the data collection on the various parts of the form. Data collection form has been redesigned and collection recommenced.

## ***ENT***

### **6.2.8.3 Post tonsillectomy haemorrhage in adults** ***Claire Langton-Hewer, Registrar***

Background - Discussion at ENT audit meetings raised concern over increasing secondary post-tonsillectomy haemorrhages. Highlighted an area of concern at number of patients involved and resource implications of re-admission to hospital and returns to theatre.

Aims - To evaluate and analyse the factors which increase the likelihood of post tonsillectomy haemorrhage. To formalise and agree the definition of post tonsillectomy haemorrhage.

Objectives: (1) To assess any pre-operative factors which may increase likelihood of haemorrhage (2) To assess any peri-operative factors which may increase likelihood of haemorrhage (3) To assess any post-operative factors which may increase likelihood of haemorrhage (4) To determine any effects of seasonal variations on the haemorrhage rate.

Methodology - A data collection form was designed, MDI enquiry identified all adult patients for year 1996. Data collection undertaken by retrospective case note analysis. Data entry and analysis used Access and Excel. Standards- haemorrhage should occur in no more than 2% of cases. Conclusion - Rate at St Michael's was higher than National Average. Recommendation: rate could be reduced by more assiduous surgical technique.

The definition of haemorrhage was disputed at presentation of results despite the definition being agreed at proposal. However, following discussion at presentation of results, guidelines were recommended for the method of recovery for patients. Because of the dispute over the definition the audit results were felt to be invalid. When the audit was presented, clinicians re-defined haemorrhage, as a bleed sufficiently significant to require return to theatre. When this new definition was observed, the "haemorrhage" rate at St Michael's was well within the national average. The audit has therefore been abandoned and a new set of data is to be collected to compare against the newly agreed definition.

### **6.2.8.4 Myringoplasty - Part of national audit set up by Royal College of Surgeons** ***Mike Saunders (SPR)***

Data was collected by Doctors from 74 patients - looking at different outcomes (asked for by RCS) of patients undergoing a myringoplasty operation.

Overall St Michael's results compared to other Trusts did not require and adverse changes, however one statistic suggested that patients were receiving misleading information regarding the standard of their hearing after the operation.

Suggested change in practice. A stamp would be used in patients notes indicating the different outcomes that can occur following the above procedure. The Doctor seeing the patients in the out patient department would have to tick and sign when the possible outcomes had been explained. A re-audit looking at numbers of complaints scheduled for 1999. This

system should lead to a reduction in complaints from patients whose expectations exceed the actual outcome of the operation

### ***Contraception & Sexual Health***

#### **6.2.8.5 How can we encourage men to attend clinics?**

***Dr S Bodard, District SCMO, CHC, Tel 9291010***

Objectives: to ascertain views of men attending clinics (as patient or partner) on (1) whether the clinic was “welcoming” (2) what services they would like (3) how it could be improved.

Method: questionnaire given to all men attending clinics in October 1997.

Results: 83% felt comfortable attending clinic. 5% would prefer a clinic only for males.

Suggestions for improvements included: more comfortable waiting area, men’s magazines, posters and leaflets for men.

Increased awareness of needs of men attending sexual health services.

#### **6.2.8.6 Chlamydia screening in CASH clinics. Are we screening the right groups of women, treating or referring, and given advice about partner treatment?**

***Dr S Bodard, District SCMO, CHC, Tel 9291010***

Audit by doctors and nurses in CASH services of 4 Avon Trusts. Standards set: (1) Chlamydia screening to be offered to (a) all women at first and subsequent smears up to age 25, (b) women referred for terminations, (c) women having IUD fitted or changed (2) Cervical and urethral swabs to be taken (3) Patients with a positive result for Chlamydia should be treated or referred to GUM clinic (4) Patients should be advised that partner(s) should attend GUM clinic.

Results: High pick up rates found through screening under 25s at the time of cervical smear. Lower rates pre-abortion and pre-IUD fitting. 83% patients treated, 92% given advice about partner.

Recommendations: (1) a retrospective audit of last 6 months of the year will be done (2) an audit of screening at the time of smear to continue.

Showed that screening likely to be useful to be useful at time of smear testing up to age 25 - new policy instituted.

## **Oncology**

### **6.2.9.1 In-patient chemotherapy delivery** *Sally Long, Staff Nurse, Tel 928 2406*

The audit was carried out by a senior staff nurse with support from ward staff and some input from pharmacy and aimed to ensure safe administration of chemotherapy with minimum waiting time. The project looked at patients admitted to Oncology wards over a one month period.

The following standards were set: (1) Chemotherapy should be written up prior to admission (2) Patients should not wait longer than 5 hours on ward before start of chemotherapy (3) All bolus chemotherapy should be given between the hours of 09:00 and 17:00.

Details of all relevant timings were captured and analysed. The overall result showed that the majority of patients were given their bolus chemotherapy after 17.00, thereby failing to meet the set standard

Proposals for change included more patients having pre-assessment appointments, extra staffing in pharmacy, chemotherapy team to take on bolus chemotherapy administration. A re-audit to be carried out following implementation of agreed changes. In order to meet our own and agreed national standards there should be a proper in-patient chemotherapy service, which is currently not funded.

### **6.2.9.2 Chemotherapy delivery (Out-Patients)** *Jo Counsell, Staff Nurse*

This project was carried out by the day unit chemotherapy staff and aimed to ensure the safe administration of chemotherapy to outpatients with a minimum waiting time. The following standards were set: (1) Go-ahead for chemotherapy should be available 24 hours in advance; (2) Chemotherapy should be started at appointment time.

Relevant data regarding timings of patient activity as well as timings of arrival of drugs and pathology results were captured and analysed. The project looked at patients seen in the chemotherapy day unit, over a one month period. In all 389 patients were scrutinised and of these 41% were seen on time and 10% were seen early. The mean waiting time was 37 mins. and 25% waited between 5 & 15 mins. Conclusions cited service from Parenteral Services Unit (PSU), chasing patient notes, pre-assessment clinics, increased workload and lack of space as the main problems. It was felt that there was little effective change that could be implemented at the present time. New staff in PSU should improve things somewhat and in the meantime all possible should be done to ensure patients attend pre-assessment clinics

This project indicated that there were several problem areas of equal importance, some of which required extra resources, e.g. service from PSU. Some benefit can potentially be derived by improving the flow of patient notes.

### **6.2.9.3 Bed Utilisation** *Dr H Newman, Clinical Oncologist, Tel 928 2412*

In order to look at possible solutions to refusal of admission requests and to set standards/guidelines for admitting patients to BOC it was agreed to examine the actual reason for bed occupancy over an agreed period during January 1997. The aim of the audit is to

optimise our bed utilisation thus facilitating more requests for admission and thereby improving patient care.

The objectives were to: (1) identify the reason for admitting the patient; (2) identify the treatment being administered; (3) identify whether this is the course of action proposed on admission; (4) look at proposed length of stay and actual length of stay of those patients occupying beds at the time of the audit.

This data gathering activity revealed problems in holding booked beds. It was agreed to look in more detail at this with a view to adopting a "higher risk" bed policy. However with the closure of ward 62 and integration of Haematology in early 1998 it was felt that whilst every effort would be made to improve bed availability there was little that could be done to improve matters in the immediate future.

This audit revealed that a policy of blocking beds for planned admissions led to an unacceptably low level of bed occupancy bearing in mind the frequency with which emergency admission requests from GPs were turned down. Flexibility in the actual day of admission for planned admissions was introduced and a higher bed occupancy rate has been achieved.

#### **6.2.9.4 Bed Occupancy**

*Dr H Newman, Clinical Oncologist, Tel 928 2412*

This project aims to ensure that all patients who should be admitted to BOC are admitted. Frequently doctors have to refuse to admit a patient because of a lack of beds, causing problems for both patient and GP.

The objectives of this data gathering activity were to look at: (1) the number of requests for admission refused; (2) the whereabouts of patients we are unable to admit; (3) course of action by receiving hospital; (4) whether BOC was contacted following the admission and if so when.

All telephone requests for admission that were refused were scrutinised over a seven week period. Because of the period covered included the Christmas holiday period the number of admission requests were much lower than normal. Doctors found it difficult to complete and return the data collection forms saying that many requests were received at other venues, in the car etc.

This was an important question for audit but the method of data collection proved to be inadequate. Our simultaneously performed audit on bed utilisation has led to an increase in our ability to accept urgent requests for admission. A re-audit has been deferred until after the rearrangement of the oncology beds to accommodate the new Avon haemato-oncology unit.

#### **6.2.9.5 Neutropenia Sepsis (In-Patient Management)**

*Dr J Bowen*

This project monitors the antibiotic management of patients for the duration of their admission and on their discharge to ensure that cultures are taken on admission and results reviewed so that appropriate changes are made in the antibiotic regime. The audit reviewed the records of 20 neutropenic septic in-patients over an eight week period. The results were presented and discussed in the directorate audit meeting, and the following proposals for change were made: (1) some changes needed to be made to the BOC protocol particularly in relation to routinely requested investigations, selection of patients for CXR etc; (2) regular reviews with microbiology department regarding antibiotic policy should be considered; (3) critical investigations should always be performed; (4) reasons for non-compliance with

guidelines/protocol should be recorded in the case-notes. Guidelines for antimicrobial therapy in febrile neutropenic patients: *Definition:* Pyrexia  $>38^{\circ}\text{C}$  for over one hour duration or  $>39^{\circ}\text{C}$  on one occasion. *Examination:* Full clinical examination but note particularly: blood pressure, pulse, mouth, chest, perineum, line sites, skin, fundi. *Investigations:* blood tests and swabs listed. *Treatment:* protocol for drugs and doses written up. Neutropenic sepsis is a major cause of morbidity and bed occupancy in oncology patients undergoing chemotherapy. Regular auditing of practice against locally agreed guidelines which themselves need to be updated regularly in accordance with research evidence is mandatory. This audit identified areas where improvements can be made, particularly in the area of documentation. Re-audit will take place in 1 year.

## **Ophthalmology**

### **6.2.10.1      Emergency surgery at Bristol Eye Hospital *Frances Forest, Consultant Anaesthetist***

An audit undertaken to quantify the workload of out-of-hours emergency surgery, the type of emergency surgery undertaken and the delays encountered waiting for surgery.

34 emergency operations were reviewed, on 8.5 operations per week 46% were Bristol Eye Hospital patients and 54% Regional referrals. 14/34 were admitted over the period Friday-Sunday, reflecting the trend towards weekend closure of the eye units in the South West.

This audit illustrated the out-of-hours workload of BEH and illustrated our role as Regional Unit for weekend emergencies. Plans were laid to facilitate “routine” emergency surgical lists.

**6.2.10.2 Post operative endophthalmitis**  
***Mr Chris Illingworth (Registrar)***

All cases of endophthalmitis following surgery were identified, presenting over one year period (1996-97). There were a total of 26 cases (out of 4,781 intra-ocular procedures) giving an incidence of 0.54%. The individual rates per surgeon were studied, with a range of 0-4 cases per surgeon. Visual outcome was circulated and guidelines to reduce infection rates in the future drawn up.

**Pathology**

***Chemical Pathology***

**6.2.11.1 “Blunder” Review - The department has an on-going system of “blunder” reporting where errors have been made. All “blunders” are reviewed at the audit meeting to identify correctable causes**  
***Ken Jones, Laboratory Manager, Tel 928 2554***

Identification of errors and evaluation of their causes is an important tool in improving quality. The implementation of a “blunder” reporting system allows this to take place. “Blunders” are acted on immediately, but are further reviewed at the audit meeting to provide a wide forum to formulate policy to prevent recurrence. This has provided a significant impetus to changes in practice and the maintenance of quality.

**6.2.11.2 External Quality Assurance (EQA) Monitoring - To ensure that all assays in the department conform to recognised external quality assurance standards and address issues of poor performance**  
***Ken Jones, Laboratory Manager, Tel 928 2554***

Compliance with Clinical Pathology accreditation requires that all assays provided by the department should participate in an external quality assurance scheme if one is available. As part of routine audit meetings any poor performance identified to the laboratory manager in these schemes is reviewed. Reasons for poor performance are identified and an action plan produced to bring performance back into acceptable criteria produced. Follow-up occurs on a monthly basis until performance is satisfactory.

Helps to maintain acceptable analytical quality and acts as an information dissemination forum for the department.

**6.2.11.3 Out of hours thyroid function test (TFT) requests. - TFT request rates on admission have increased. Many of these are inappropriate, this audit was educational to try and reduce these**  
***Dr David Stansbie, Consultant Chemical Pathologist Tel 928 2592***

This was a joint audit with A&E Department BRI. The audit’s objective was to reduce the number of out of hours TFT requests through an educational approach. All staff logging onto the Chemical Pathology computer were asked to complete an on-line questionnaire.



Questions were designed to assess knowledge of the limitations of thyroid function tests in hospitalised patients and the growth in demand in TFT requests.

The responses indicated a lack of appreciation of the frequency of abnormal TFT due to non thyroidal illness, although the low frequency of true thyroid disease was known.

There was an appreciation that there has been a growth in demand for TFT requests. It was thought that this was in part due to the pressure on junior doctors to have undertaken all investigations that may be required.

Feed back of the results of the questionnaire were provided at a hospital grand round presentation. This increased awareness of the problem. A re-audit will take place to assess the impact of this approach on TFT request numbers.

The audit demonstrated the value of the on-line questionnaire as a means of consulting laboratory users. It also provided the opportunity to educate users of the service in a novel and non-judgemental way.

**6.2.11.4 Coeliac Serology - Screening for coeliac disease involves antigliadin and endomysial antibody tests followed by biopsy. This audit reviewed a strategy for testing and its implications**

*Dr Janet Stone, Clinical Scientist, Tel 928 5317*

Coeliac Serology - Coeliac disease is a gluten induced enteropathy leading to malabsorption. Screening involves antigliadin (IgA and IgG). and endomysial antibody tests followed by biopsy. Antigliadin antibodies are provided in-house and are relatively inexpensive whereas endomysial antibodies are sent away and are expensive. April 1995-1997 154 patients were investigated for coeliac disease. All had gliadin antibodies and 289 (56%) endomysial as well. 92% of endomysial antibodies were negative. Of those patients with positive endomysial antibodies only 2 had normal gliadin antibodies. Positive endomysial antibodies were confirmed by biopsy in 13 (62%) of cases. 48 patients had negative endomysial antibodies and positive gliadin antibodies. Of these 58% had normal IgA antigliadin and all increased IgG.

This data combined with a review of the literature suggests that a number of the endomysial antibody tests could be reduced if a suitable protocol could be developed in conjunction with the paediatric gastroenterologists. Discussions are in progress to produce a protocol. This audit identified a significant area where potentially unnecessary tests are being carried out.

**6.2.11.5 Cancer Antigen-125 (CA-125) - CA-125 is used in the diagnosis and monitoring of ovarian cancer. This audit aimed to assess the quality of our recently introduced in-house service**

*Dr Paul H Thomas, Clinical Scientist, Tel 928 2828*

315 Ca-125 requests were examined over the period 15th May-Sept 97. Of these 50% came from the Bristol Oncology Centre and 35% from the gynaecologists at St Michael's. Over this time period 77% of individuals only had one test, this may suggest the majority are done for diagnosis rather than monitoring. For 40/315 requests other tumour markers were requested at the same time. A combination with CEA being the most common. Turnaround was measured and showed that 17% of samples were reported on the day of receipt increasing to 66% by two days. <1% took more than 7 day. This was deemed acceptable. Review of internal quality control showed that the CV% for the assay was within quoted specifications.

The audit was able to confirm in a systematic and critical way the appropriateness of our in-house assay service. There were limitations in that the audit focused primarily on the laboratory aspects of the service.

### ***Histopathology***

#### **6.2.11.6 Post Mortems: causes of death, clinical requests**

***Dr E Sheffield, Consultant Senior Lecturer in Histopathology, BRI Ext 3198***

In 1997 there were 610 post mortems (1200 deaths)(560 Total Coroners, 279 Brought in dead, 282 BRI requests, 39 Hospital post mortems). In 1994 there were 830 post mortems (69 Hospital post mortems). There was a higher rate of post mortems done if requested by Patient Affairs Officer. (In 30% of deaths House Officer did not ask for a post mortem. In 5% of deaths Patient Affairs Officer did not ask for a post mortem).

Post mortems undertaken are crucial to the Trust to enable teaching. The biggest change is the decrease of Hospital post mortems which are referred by the Oncologists.

It is concluded that the change in number of post mortem referrals between 1994 and 1997 is likely to be due, to a great extent, to the increased experience of the Coroner.

It was recommended that we should:

- (1) give a SNOMED code for causes of death;
- (2) ask the Mortuary staff to increase their involvement in administration.

#### **6.2.11.7 A review of C3 and C4 diagnoses from Breast Cytology**

***Dr Caroline Calder, Consultant Histopathologist/Cytopathologist, Tel 928 2705***

This audit involved one Consultant and two MLSOs. The aim was to review C3/C4 diagnoses made between January and June 1996 and to identify any problem areas.

115/736 aspirates were C3/C4 (16%), screening cases 26% suspicious (CQA target 25%). 26 cases reclassified C2 or C5.

Problem areas: (1) fibroadenomas - lack of typical pattern or marked pleomorphism; (2) tubular and well differentiated carcinomas - cells tend to be cohesive and tubular groups were under recognised; (3) sub-optimal aspirates - a recognised problem when there are multiple aspirators. Feedback has been given to aspirators on this problem. For the same period in 1997 the C3/C4 rate was 79/648, 12%.

The audit demonstrated improved diagnostic accuracy in breast cyto-diagnosis.

#### **6.2.11.8 Colorectal reporting (prompted by Calman Report)**

***Dr M Moorghen, Consultant Senior Lecturer in Histopathology, Tel 928 3199***

It was concluded that at present we are not describing the relationship of the tumour to the peritoneal margin fully enough or the relationship to the pectinate line or the involvement of the apical node as a matter of routine.

A comparison can be made with a big review by Cardiff of colorectal reporting of a large number of laboratories. According to their findings the figures for the best laboratories were:

No of lymph nodes mentioned in 48.9% of reports; involvement of circumferential margin mentioned in 78.1% of reports; measurement from radial margin mentioned in 28% of reports. According to this comparison our performance is good. It was recommended that we should use a printed summary protocol at the bottom of the report. This recommendation has now been actioned.

**6.2.11.9      The value of cytogenetics in paediatric tumours**  
*Dr Adrian Charles, Consultant Senior Lecturer in Histopathology, Tel 928 5687*

Of 1700 surgical reports (All 1996-1997 reports) 41 (2.4%) had samples sent for cytogenetics (every malignant tumour). Of these 41: (1) 39% - no growth; (2) 8/41 - informative; (3) 1/41 - ? misleading; (4) 2/41 - possibly helpful. Costs: £20,000 pa (bill goes to clinicians) = £250 per result.

It was concluded that although diagnostic yield is not high, Cytogenetics is useful nevertheless. A review is needed of whether needle biopsies are particularly difficult to grow. It was recommended that we should review the histology slides before sending a sample for cytogenetics.

***Microbiology Department / PHLS***

**6.2.11.10      Is advice concerning the microbiological grounds for rejecting donor heart valves sound and consistent with those applied by other centres?**  
*Dr John Leeming, Clinical Scientist, Tel 9282557*

Advice offered by microbiologists locally was reviewed and condensed into written guidelines.

A review of the microbiological screening results from the first year of the operation of the valve bank was undertaken by search of the pathology computer database and compilation of result forms returned to the bank. With the exception of viral serology for HIV, HBV and HCV, no national guidelines were available against which to compare local guidelines, but comparison with other centres demonstrated that Bristol criteria for rejection were as stringent as most and more stringent than several units.

The level of valve rejection on the grounds of microbial contamination (all bacterial in nature) was approximately 11%. This figure is broadly comparable with the experience of other centres and was considered acceptable by the valve bank.

Results of this audit were reported to and discussed at a meeting of the Microbiology Department (12/2/98) and are due to be disseminated nationally at a meeting of the British Association of Tissue Banks in April 1998

**6.2.11.11 Infections following sternotomy**  
*Dr Emma Williamson, Senior Registrar Tel 928 2567*

Staff Involvement: Patients identified by medical and nursing staff on wards 5B and 5A. Significant microbiological results identified by medical staff at Bristol PHL, from laboratory records and computer search.

Objectives: (1) To determine the incidence of deep sternal infections (mediastinitis and sternal osteomyelitis) in patients undergoing median sternotomy for cardiac surgery at UBHT. (2) To identify causative bacteria and document their antibiotic sensitivity profiles. (3) To assess whether current recommendations for prophylaxis and treatment are suitable, given local levels of antibiotic resistance.

Standards: Results compared with published single-centre studies from the last decade.

Findings: (1) The local incidence of deep sternal infections (approx 2%) is close to published figures from large centres in Europe and USA. (2) The majority of infections were caused by Gram-negative bacilli, two-thirds of which were resistant to cefuroxime.

Recommendations: (1) Prophylaxis with gentamicin (in addition to flucloxacillin) should be given to all patients. (2) The current protocol for empirical treatment of deep infections (flucloxacillin + ciprofloxacin) is satisfactory.

**Haematology Department**

**6.2.11.12 Ongoing National audit of blood bank stock**  
*Dr Geoffrey Scott, Consultant, Tel 928 2597*

Aim: To produce a set of guidelines for blood bank stock levels.

UBHT is one of 5 hospitals in the S&W Region participating in this audit.

It is suggested that wastage rates should be: (1) less than 3 - 4% for Red Cells (UBHT rate is currently 1%)

(2) less than 7 - 8% for Platelets (UBHT rate is currently 4%).

The National Blood Authority will be drawing up guidelines in due course.

UBHT is participating in important work that will lead to the establishment of national guidelines. Reducing blood stock wastage, and thus maximising a limited supply of NHS blood products, is both cost and clinically effective.

**Radiology**

**6.2.12.1 How many attempts does it take to complete a routine anomaly  
Ultrasound scan in pregnancy?**  
*Diane Hall*

If a routine scan cannot be completed at the first attempt, it is our normal practice to try again on the same day, rather than rebooking straight away. A complaint that was partly about the number of tries it took to complete a scan had been received, so it was decided to do a survey to see how often this occurred and how many patients were re-booked.

Methodology: A record of how many attempts were needed to complete each routine scan over a period of 25 days. A simple tick sheet was devised to record the number of attempts and whether patients were re-booked.

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Findings: 50% of scans were completed at the first attempt, 39% required 2 attempts, 10% required 3 attempts, 1% needed 4 or 5 attempts. 9% patients had to be given another appointment for the scan.

Conclusions: Agreed this was a fair sample of patients scanned by staff with different levels of experience. Many patients will not have the routine scan completed at the first attempt. There are many reasons for this.

Action: Staff were informed of the findings so that they can reassure patients that it is often not possible to complete the scan at the first attempt.

**6.2.12.2 A follow up study of isolated choroid plexus cysts visualised at the anomaly scan performed at 20 weeks gestation**  
*Saerah Ahmed, Senior Radiographer*

Aim: To determine whether the presence of choroid plexus cysts are significantly associated with Trisomy 21, or other chromosomal abnormalities.

Methodology: At the time of the routine ultrasound scan, the choroid plexus is visualised. (the routine scan is performed at 20 weeks gestation). If cysts were visualised within the choroid plexus, hard copy images were taken to record the number, size and position of the cysts. These images were stored with a copy of the scan report until the baby had been delivered. After delivery, the neonatal notes were analysed with the scan reports to determine if any follow-up investigations or complications had occurred, eg. Karyotype results, SCBU notes.

Findings: During 1996, 67 routine scans showed choroid plexus cysts. Of the 67, all were isolated cases except one which had numerous structural abnormalities characteristic of Trisomy 18. Of the remaining 66 cases, none were found to have any other abnormalities pre or postnatally. One pregnancy was terminated at the request of the patient and another resulted in a stillbirth at term.

Conclusions: None of the isolated cases of choroid plexus cysts resulted in any abnormality pre or postnatally, particularly Trisomy 21.

Actions: To continue following the current departmental protocol, to check all fetal anatomy thoroughly. To continue follow up on all cases for comparison with existing results.

**6.2.12.3 The use of gonad protection in radiography of the hip and pelvis**  
*Fiona Swanborough*

Aim: To investigate the current use of gonad protection and to introduce guidelines for its effective use.

50 pelvis and hip radiographs were pulled from file and assessed.

Gonad protection was used on 85% of films.

The correct device was used on 83% of films, but 5% were too big, 12% were too small.

Correctly placed - 61%, but 24% too low (mainly boys), 15% off centre (mainly girls).

Conclusions: There are currently no guidelines governing the use of gonad protection. Gonad protection is sometimes used inappropriately and inaccurately, i.e. first time pelvic x-rays in girls and A&E referrals in both boys and girls. This audit also highlighted inconsistencies in the views undertaken.

Actions: (1) To produce guidelines for the use of gonad protection. (2) To introduce the use of fenestration protection. (3) To produce guidelines for the views to be undertaken, related to the clinical information and nature of the referral.

**6.2.12.4 Comparison of peri-operative and post-operative images of fractured neck of femur**  
*A Porteous*

The images of 100 patients were studied. In 30 cases, the per-operative lateral image was of better quality than the post-operative image. In 5 cases, there was a change in appearance

between the per-operative and post-operative films but this made no difference to the management of the patient.

Conclusions: Post operative x-rays of fixed fractured neck of femurs are unnecessary when per-operative images have been taken.

Actions: Present the audit at the Orthopaedic Audit meeting with the aim of stopping post-operative x-rays on these patients. Need to re-audit.

**6.2.12.5 IVC Filter Outcome**  
*M Thornton, Suite C, BRI*

12 out of 14 IVC filters followed up. No evidence of further PE's in any case.

3 deaths - one cardiac failure; two malignancy

IVC filters valuable, but under-utilised in this Trust. To be referred to Nursing Policy Group.

**6.2.12.6 Quality of ITU mobile chest x-rays**  
*L Demmery*

100 chest x-rays done during normal working hours were evaluated by A (1) Radiographer who performed x-ray; A (2) Referring clinician; B Reporting radiologist; C Independent radiographer.

Findings:	<u>Acceptability Rating</u>
Part A (1) Radiographer who performed x-ray	96%
Part A (2) Referring clinician	87%
Part B Reporting radiologist	83%
Part C Independent radiographer	87%

Conclusions: Quality of films was good. Could be improved by (1) checking previous more carefully, (2) moving artefacts, (3) clinicians making requests clearer - this was their comment.

Actions: (1) Encourage radiographers to check previous films when selecting exposures, accept however, that condition of patient's chest can change between films. (2) Nursing assistance is often required for good positioning, so it should be enlisted. (3) Collimation often not possible on big patients, impossible in the bed trays. (4) Move as many artefacts as possible. (5) Markers to be used. (6) Ask clinicians/ward staff to put request cards in x-ray envelopes when patient moved.

**6.2.12.7 Specificity of reports on GI Barium Studies**  
*Dr J Virjee*

To assess whether (and how often) histological (via biopsy) confirmation is necessary when a confident diagnosis has been given radiologically.

Methodology: The reports of 100 consecutive cases, where a diagnosis of carcinoma of the rectum and colon was made, were examined retrospectively. These were divided into those that indicated certainty or probability.

The pathological reports were obtained on ALL the cases where these were available, ie sigmoidoscopic biopsies, colonoscopic, operative specimens etc.

Where the pathological report was not available the notes and x-rays were re-examined at the Gastrointestinal Meeting with the clinicians involved and "final" diagnosis agreed.

Findings: 99 reports of carcinoma. 72 “certain” reports that had Pathology reports agreed with “carcinoma” in 70. Of the other 2, one was reported as villous adenoma, the other “inflammatory”. Both were resected by surgeons and agreed they were carcinomas. There were 7 with missing pathology reports, all were agreed by the physicians/surgeons to be malignant.

Conclusions: Further investigation unnecessary when positive (certain) diagnosis of carcinoma is stated by consultant gastrointestinal radiologist. The importance of clinicoradiological meetings was stressed.

#### **6.2.12.8 Follow up for fetal stomachs that were absent or small and slow to fill on first routine ultrasound scan**

*A Robertson, Senior Radiographer*

Aim: Record number involved. To compare ultrasound findings with postnatal findings - to see if there was any indication of TOF or problem with swallowing.

Methodology: Over a period of 10 months Jan to Oct 1995, a record was kept of: All fetuses at first routine scan where the stomach was not visualised. All fetuses at first routine scan where the stomach was small and slow to fill. These patients were rebooked for follow up appointments or scanned several times on the same day. Once the stomachs were seen, no further appointments were made. All these patients were then follow up postnatally (using neonatal notes) to confirm normality.

Findings: 18 patients included. 9 where stomach not seen, 6 of these stomach visualised on rebooked scan, 3 seen on 2<sup>nd</sup> rebooked scan. All normal. Of those with small stomach, (4) 2 had no follow up scan, 1 had normal stomach on rebooked scan. 1 had small stomach on rebooked scan. 1 had delayed filling but was normal. Only 1 case of small stomach associated with other neonatal abnormalities died at age 1 month. All other cases babies fed normally postnatally, no abnormalities.

Conclusions: 14 extra U/S examinations performed. Is it necessary to rebook these patients where stomach not seen on 1<sup>st</sup> routine scan? Action: Longer follow up of neonates needed to ensure no delayed complications. Reassure mothers of likely normal outcome. Need greater numbers.

#### **6.2.12.9 Study to determine the typing accuracy of x-ray reports**

*Gail Oliver,*

A confidential study was carried out over one working week of all plain film x-ray reports typed.

Reports were checked by randomly selecting radiographers for: (1) accuracy of typing; (2) correct patient and examination; (3) number of typing errors and how they affect interpretation of report

Results: 116 reports were checked. There were three errors.

No examples of typing errors which compromised the interpretation of the x-ray report.

Whilst clearly reports on the higher Kerner group x-rays need to be checked, is there a place for non-signing of plain film x-ray reports in order to speed up the receipt times especially for general practitioner requested x-rays which fall into the lower Kerner groups. (Higher Kerner groups entail a more complex study than plain films).

### **Specialty Services**



**MEMO**

**6.2.13.1 Benchmarking assessment of servicing methods within UBHT**  
*P H Smithson*

The audit involved reviewing service practice in UBHT for a) IT equipment, b) Anaesthetic equipment to look at trends for response and turnaround times. Some development work was necessary to set standards for some of the tasks assessed.

Local guidelines were set and compared between service teams. Changes in practice are necessary to correctly capture relevant data. Improvements are starting to occur

The results were published at a national IPEM meeting.

**Surgery**

**6.2.14.1 Pre-operative assessment of colorectal cancer patients: are we achieving the guidelines?**  
*R J Davies*

The 1996 Royal College of Surgeons' guidelines advocate a strict protocol for the pre-operative assessment of patients with colorectal cancer. The guidelines recommend patients to have a full blood count, urea and electrolytes, chest x-ray, and computerised tomography (CT) or ultrasound of the liver. In addition, rectal carcinoma should be imaged with CT, magnetic resonance imaging (MRI) or endoluminal ultrasound. The audit aims to determine the success of achieving the standards set by the guidelines in the unit.

A retrospective review of patients undergoing potentially curative elective surgery for colorectal cancer between April 95 and June 96 was performed, followed by a review of patients for 6 months following publication of the guidelines. Patients identified from hospital computer system. Data acquired from case notes, laboratory and radiology computer databases.

There is an improvement in pre-operative assessment in the 6 month period following guideline's publication. There remains, however, a deficiency in fulfilling the RCS guidelines.

A process of education by presentation of audit data and communication of the guidelines to all grades of surgical staff was undertaken. The audit cycle was continued with re-evaluation of clinical practice over subsequent six months.

