A REVIEW OF SURGICAL SERVICES

IN

HEREFORDSHIRE HEALTH AUTHORITY

A COMMISSIONED PROJECT UNDERTAKEN BY

THE KING'S FUND COLLEGE
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FINAL REPORT BY

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1.0 INTRODUCTION

1.0.1 This report describes the approach, and recommendations made, by a team coordinated from the King Edward's Hospital Fund College working with senior staff of the Herefordshire Health Authority.

1.0.2 The King's Fund team (see appendix 1) was asked to review the General Surgical services provided in Herefordshire, in particular the outstanding waiting list problems, the overall organisation and management of all the district's operating theatres, and to report to the Authority.

1.0.3 In 1975 the then Secretary of State, in a review of national waiting lists, set targets for the health service which called for all urgent cases to be admitted to hospital within one month of first consultation and all non-urgent cases within one year. Whilst in the majority of cases, these criteria have been met in Herefordshire, throughout the 1970s and into the 1980s there has been an outstanding general surgical waiting list in excess of 1000 cases.

1.0.4 At intervals throughout this period working groups have been established to review the general surgical waiting lists and report on possible ways in which the numbers of people awaiting treatment could be reduced. In addition, resources have been made available within the district to improve the facilities for surgery.

1.0.5 In recent years there have been several initiatives from central government directly concerned with improving the efficiency and effectiveness with which health services are provided at all levels within the organisation. These have included the introduction of regular regional and district reviews and the publication of comparative performance indicators for the whole country. Waiting list data are considered in both these contexts, and represent one dimension of the services for which Health Authorities are increasingly accountable. Nonetheless, the selection of cases and the decisions about those patients who should wait remains firmly a responsibility of the consultants concerned.

1.0.6 Nationally there are longstanding clear trends of improved efficiency in patient throughput in hospital acute services. In addition there are persistent pressures to reorganise and develop new services in priority care areas whilst remaining within strictly controlled cash limits. The result is that improvements in acute services must more frequently be achieved by greater efficiency than by increased resource use.

1.0.7 In these circumstances, when changes to services are to be predominantly achieved by redistributing resources between areas of care, service developments must make sense within a strategic context. The contribution that each innovation makes to the overall strategic direction must be carefully planned, negotiated, coordinated and implemented.

1.0.8 In any district a major reshaping of services happens fairly slowly since health care provision is dependent upon the availability of many groups of trained staff, facilities and buildings. Strategic plans will often involve dismantling some services, reproviding and developing others and will always involve the search for greater efficiency and mobilisation of under-used resources. Responsibility for reshaping services within cash limits rests with the health authority at the local level, but the process of implementation must always take into account the changing professional and public expectations concerning the appropriate quantity, balance and mode of health care provision.

1.0.9 In Hereford, we note that much effort, and commitment has already been shown by the various groups who have examined the waiting list problem associated with surgical services in the district. Changes in resource deployment, methods of working and staffing the service have been devised as partial or potential solutions to the waiting lists associated with many of the surgical specialties. Nonetheless, the problem has remained essentially unchanged.

1.0.10 This report examines the problem and makes recommendations.

1.1 TERMS OF REFERENCE

1.1.1 Terms of reference for the study were formulated by the District Management Team for Herefordshire and agreed by the Herefordshire Health Authority following a paper presented to them on 9 September 1983. The terms of reference are as follows:

a) Review the workload and unmet demand in general surgery in relation to the resources and facilities available;

b) Specifically, to review the organisation and management of the operating theatres at the County, General and Eye Hospitals;

c) To review the organisation and management of resources available for surgical services in Herefordshire as in a) and b) above with a view to establishing where the resources need changing and where improvements in the effective use of existing resources could be achieved;

d) The Review Team will be expected to consult with those members of staff directly affected by the review; should receive evidence from Health Service personnel in Herefordshire wishing to offer it and may consult any such of their choosing;

e) To make recommendations to the Herefordshire Health Authority.

1.1.2 Other aspects of the brief

It was noted that the original recommendation for a review to be conducted by an outside agency had arisen from the District Medical Committee. The detailed proposals had been discussed with the Unit Management Group and the senior medical staff most directly concerned. The proposals had received some support and had produced no objections before they were approved by the Health Authority on 9 September, 1983.

1.1.3 It was acknowledged within the Health Authority that the local waiting list problems are not exclusively associated with general

surgery but also occur in relation to ENT, plastic surgery and orthopaedic surgery; the specific exclusion of these other surgical services from the review was prompted by the DMT's belief that to widen the scope of the review would require a survey team too large and cumbersome to be effective. Examination of the organisation and management of the whole district's operating theatres organisation was to be undertaken, however, in the hope that the problems in the wider context could be resolved in the future.

1.2 THE ORGANISATION OF THE PROJECT WORK

1.2.1 Membership of the Review Team

The membership of the Surgical Services Review Team proposed by the King's Fund College was agreed by the Herefordshire Health Authority as follows:

Brenda Baxter	Senior Nurse Commissioning
Brendan Devlin	Consultant General Surgeon
Ray Flux	King's Fund Associate Fellow (Resources and Information)
Jonathan Secker Walker	Consultant Anaesthetist
Iden Wickings	King's Fund Fellow in Health Service Systems and Policy and the coordinator of the consultancy team for the review.

A brief biographic note for each team member is included as Appendix 1.

1.2.2 Timescale for the Project

An outline for the programme of work was agreed which in addition to various individual visits by team members comprised an initial visit by the complete team to Hereford for two days in early December, followed by a period of a few weeks while the team considered what they had learnt and sought further information or consultation with individual members of staff in the district.

After these initial visits, the programme incorporated a period during which the Review Team met to consider the analyses they were preparing, again to make individual visits and prepare for the second visit, by the whole team, to the district, which would last for a week and would conclude with a presentation of the Review Team's conclusions on the 2 March.

1.2.3 Finally it was agreed that members of the Review Team would visit the district again on 16 March to discuss their recommendations in detail after members and staff in Herefordshire had had time to consider them. A summary list of the visits and contacts made, and the primary sources of data used is included as Appendix 2.

1.2.4 The Review Team would also produce a final report for submission to the Herefordshire Health Authority.

1.2.5 Method of Working

Five stages characterised the involvement of the King's Fund team with the Herefordshire Health District:

Firstly, there was an initial period of familiarisation necessary so that an adequate understanding of the district's facilities and services formed the basis of our further work. The main components of this familiarisation process were visits to the relevant hospital sites, meetings with the principal participants in the delivery of general surgical services and an examination of the extensive relevant documents and records. The multidisciplinary composition of the team contributed significantly to the speed with which this familiarisation process could occur. A reasonably detailed knowledge and deeper understanding of the local situation were gained throughout the project period.

1.2.6 The second stage of the project work comprised an analysis of the workload and resource provision relevant to general surgery in Herefordshire HA and exploring relevant comparisons with services provided elsewhere. The Review Team were aware of the dangers of indiscriminate comparison with external averages and norms, but there is a growing pool of nationally available data and associated commentary which can provide a useful context for understanding a service provided at local level, particularly where this source of information is used in conjunction with local consultation. The analyses of Hereford and the profile of the service they present are described in some detail in section 3 of this report.

1.2.7 Thirdly, through discussion with those mainly responsible for providing general surgical services in Hereford, a range of options for improving and reshaping the surgical services was formulated. Inevitably this involved the interaction of the general surgical service not only with the services provided in other surgical specialties, but with the working of the district as a whole. It is at this stage that the Review Team pooled their ideas for improving the throughput of patients in general surgery so that these could be tested for robustness both within the team and by the local members of staff in each discipline. The consistency of the proposed options with the district's strategy was also considered. At this stage some possible modifications of working practice were rejected as being non-viable.

1.2.8 In the fourth stage those options which, in the opinion of the King's Fund team remained viable, were examined for their potential impact upon the central issue of improving the district's position in relation to its waiting lists in general surgery, and the organisation of its surgical services generally. Both the anticipated impact on this central issue and any associated consequences for other services or resource deployment were considered.

1.2.9 Finally, the selected options were drawn together for presentation to the district's senior officers in the form of a seminar. This provided an important opportunity for feedback from those with local knowledge before the King's Funds' recommendations were finalised for inclusion in the report to the Health Authority.

1.3.0 Acknowledgement

We should like to thank all those we met for their courtesy and cooperation during the period of our study. To have visitors questioning long held beliefs and practices is unsettling for any organisation and it is a tribute to all those we met that they responded so willingly and helpfully.

2.0 THE PRESENTING PROBLEM

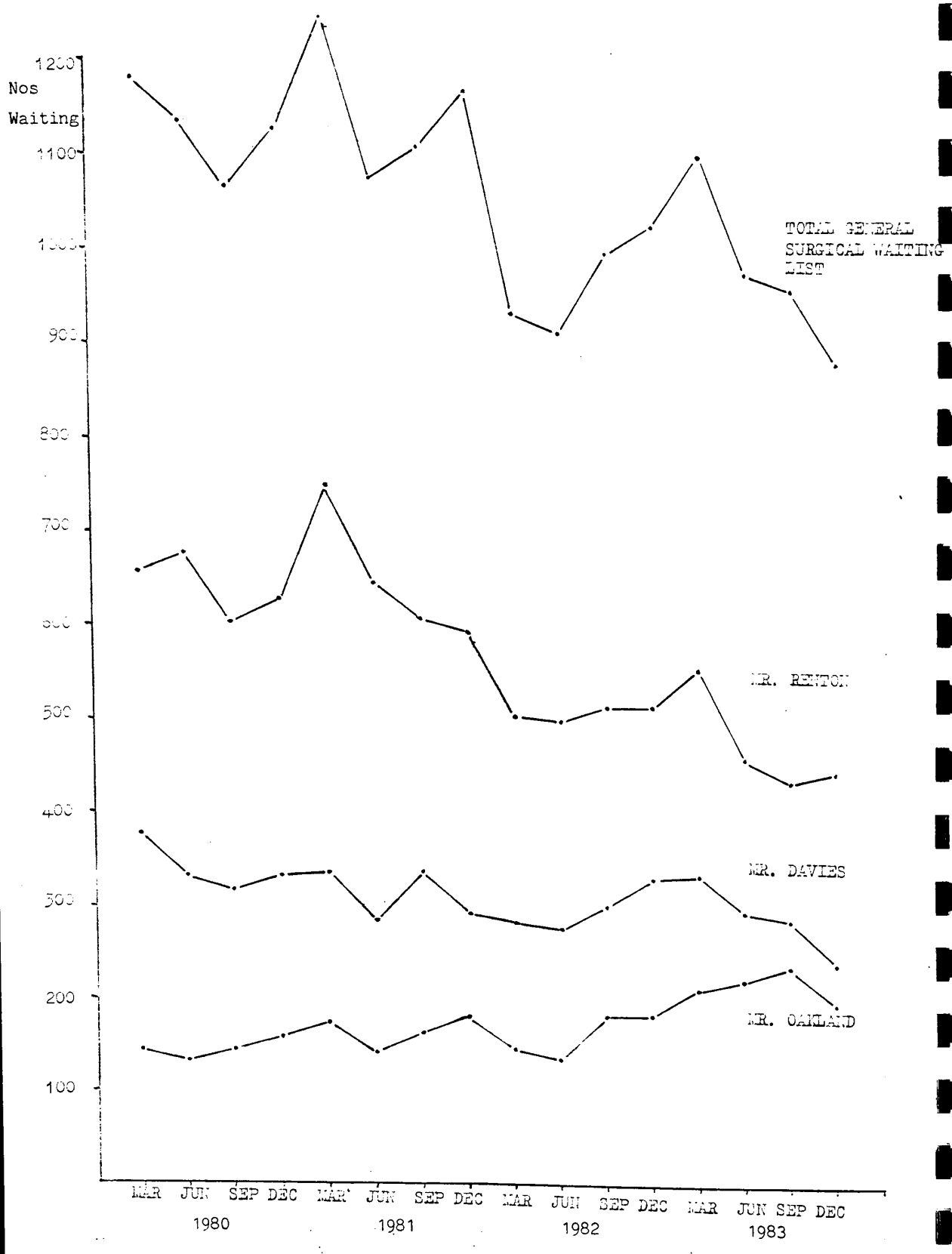
2.0.1 As part of our introduction to the review of surgical services in Herefordshire, we have familiarised ourselves with the reports which have previously been made available to the DMT, the analyses used and the recommendations which they contained. They indicate that the problems we are currently being asked to consider have a long history with proposed solutions either being unacceptable, failing to be implemented or only serving to stabilise the problems. The following paragraphs briefly summarise the recent history of the review process in relation to general surgery.

2.1.0 Waiting Lists

2.1.1 In May 1976 the District Management Team received a report on waiting lists which showed that the most substantial waiting list problem in the district was in the general surgical specialty.

2.1.2 In October 1977, following a period of no improvement in the general surgical waiting list, the DMT called for a further review. This reported in October 1978 noting that the Secretary of State's general requirement that urgent cases be admitted to hospital within one month of first consultation and non-urgent cases within one year, was generally being complied with in the first instance, but not so in the latter. The review identified the problem with the waiting list as being essentially one of a 'rump' of patients who have been on the list for more than a year and who have little prospect of early admission. It was noted that in December 1972 there were 1,096 cases on the general surgical waiting list and in December 1977 there were 1,212. The size of the waiting list for general surgery for each quarter of the 1980s to date has been plotted as Figure 1 overleaf. This graph shows that during the 1980s the overall number of patients waiting has declined (but not in a steady progression) and at 31 December 1983, the numbers of patients waiting was still close to 900.

Figure 1: Waiting list for Admission



2.1.3 Data available from the Management Services Research Unit, University of Birmingham, shows that in the sample year, 1981, Herefordshire HA was amongst the highest 10 districts in the country for the number of people awaiting general surgery per 1000 catchment population. We therefore confirm that for general surgery overall the district does have a waiting list problem.

2.1.4 Within this overall problem, the greatest part of the waiting list is associated with Mr Renton's practice, as can be seen from Figure 1. The greater part of the improvement in waiting list numbers is also evident in Mr Renton's list, and there has been a steady rise in Mr Oakland's list over five quarters to September 1983. We therefore note the contribution made by each general surgical practice to the overall waiting list size.

2.1.5 The October 1978 report concluded that:

- More throughput could be achieved within existing resources;
- An increase of £25,000 recurring revenue expenditure would allow two extra surgical lists to be undertaken which should reduce the five year waiting time to twelve months within a four year period;
- A number of conclusions about the costs and benefits of appointing a fourth consultant general surgeon gave rise to the recommendation that a decision should be postponed for five years (ie to the autumn 1983);
- An extensive survey of information systems and local practices for planning cold admissions should be undertaken.

2.1.6 We have found no record that two additional operating lists were undertaken as a result of this report or that any improved throughput was achieved within the resources available. (See Analysis)

2.2.0 <u>The Potential Contribution of a 5-day ward</u>

2.2.1 In November 1981 a review of bed and theatre use was undertaken, again against the background of no significant improvement in the general surgical waiting lists. The conclusion of this review was that one 5-day ward together with three remaining 7-day wards

should be able to absorb the workload of the four 7-day wards in existence, primarily as a result of the reduced bed occupancy arising from shorter lengths of stay. A further study of the distribution of required male and female beds identified operable options for the mix of male and female beds which would be distributed in the three by 7-day and one by 5-day ward configuration.

2.2.2 The estimated revenue saving of £40,000 to £50,000 per annum derived from operating a one 5-day ward was estimated to be sufficient to fund one extra operating list.

2.2.3 A further study also conducted in February 1982 recognised that if a 5-day ward were to operate efficiently within the district, that the distribution of case work throughout the week would need to be coordinated with this. This study showed that at the time most day case work was performed in the operating theatre sessions on Mondays and Wednesdays, whereas the requirement for efficient use of a 5-day ward would be for day case work to be concentrated in the latter half of the week. In particular, the report identified the need for Mr Davies and Mr Renton to shift the balance of their surgical work so that major cases were undertaken on their lists in the early part of the week.

2.2.4 A number of other items were identified as being necessary for the introduction of a 5-day surgical ward to increase the throughput of patients and reduce the general surgical waiting list. These were:

- To develop systems for reviewing waiting lists;
- A calling system for cold admissions;
- Maintaining records of used and lost theatre time;
- A system for recording and predicting the future balance of beds to meet the requirements for emergency and cold admissions.

2.2.5 The 5-day ward proposal was not implemented and the extra operating list was therefore not available. We have found that none of these supporting systems are in place to cover <u>all</u> the surgical services

and that no single firm has developed and adopted these practices. We comment upon this further.

2.3.0 The potential contribution of mixed sex wards

2.3.1 The potential role of mixed sex wards (using different bays within acute ward areas) for producing higher throughput of patients was recognised. Indeed, a district guideline on the introduction of mixed sex wards had been ratified in 1978 in line with the Regional and Area Health Authority guidelines.

2.3.2 One particular model for bed distribution was considered in which each of the three consultant general surgeons had a male ward with side rooms for a few female beds and in addition there was one common female ward. It was calculated that with this array all four wards would have to be 7-day wards in order to accommodate the necessary female bed days required assuming current methods of practice. This option was felt to be attractive because each consultant would have his own mixed sex ward, and that if a fourth consultant surgeon were appointed, with further alterations, the fourth common ward could be adapted for mixed sex use so that each consultant had one ward available.

2.4.0 The potential contribution of additional outpatient throughput

2.4.1 Again in 1982, consideration was given to the outpatient accommodation available at the County Hospital and it was noted that the facilities which would be available with the opening of the new antenatal clinic in the summer of 1982 would be more than sufficient to allow one of the existing consultant general surgeons a second clinic per week and a fourth consultant general surgeon a further two clinics per week, should one be appointed.

2.4.2 At present we notice that the number of general surgical outpatient sessions performed remains at four per week, these all being held in the outpatient department, and the time waited for a routine outpatient appointment has generally deteriorated during the 1980s.

Details of the waiting time for routine outpatient appointments are given in Figure 2 overleaf and commented upon in Analysis 2.

2.5.0 The potential contribution of additional theatre accommodation

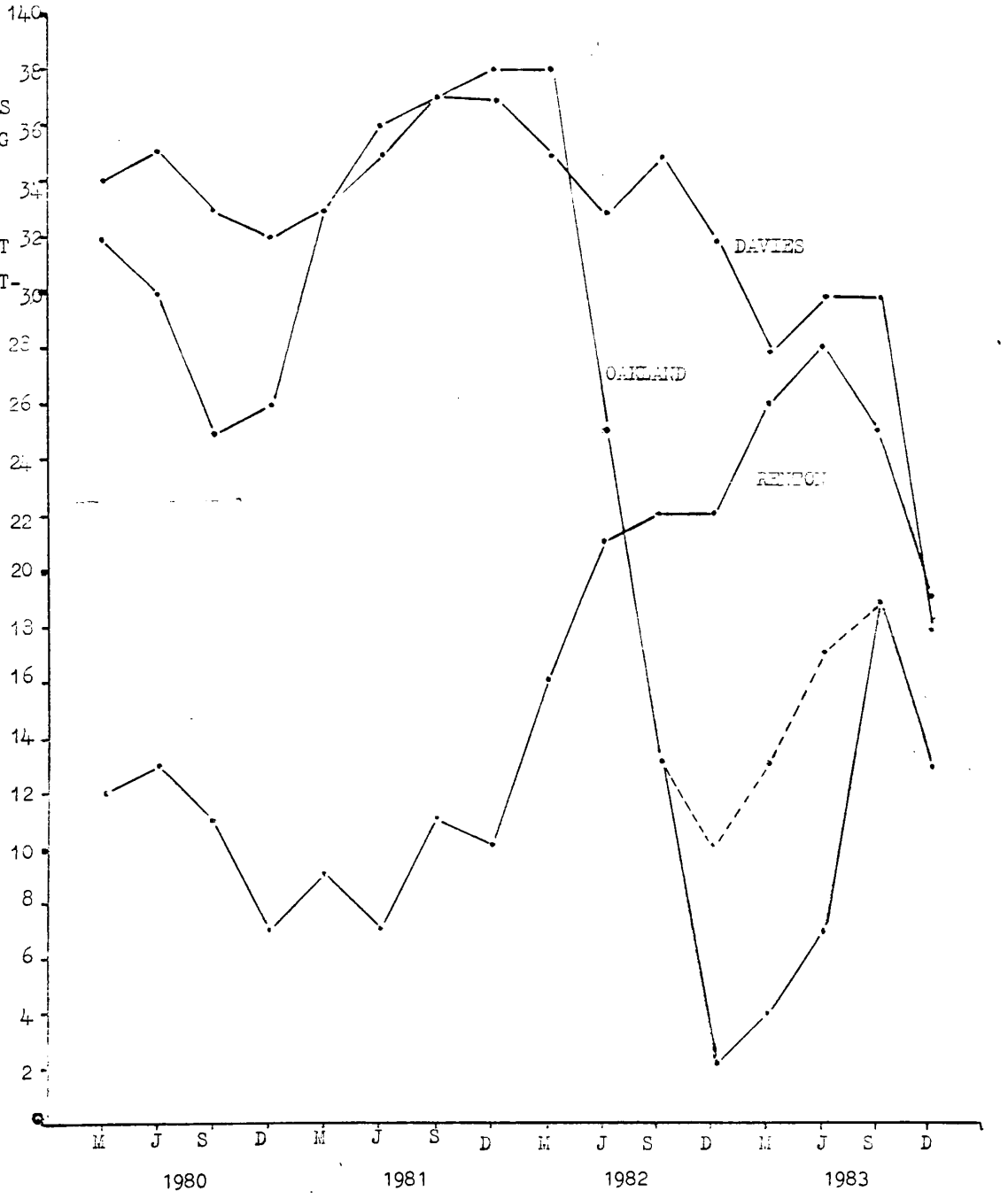
2.5.1 A report in May 1982 considered the availability of theatre accommodation to the general surgical specialty. The provision at that time was 15 of the 20 available sessions at the twin theatres were used for general surgery and 5 of these 15 lists were performed by registrars. Of the remaining 5 available sessions, two were used for dental surgery, one for plastic surgery and two for theatre maintenance, leaving no spare sessions in the twin theatre. In addition the inadequacy of the gynaecology theatre was recognised. Against this pattern of availability of theatre sessions at the County Hospital, it was noted that one of the existing consultant general surgeons wished to work one extra operating list and again the appointment of a fourth consultant general surgeon was anticipated and emphasised the inadequacy of the provision at that time.

2.5.2 Three possible ways of meeting this requirement were identified:

- To provide a second pair of twin theatres was considered to be an ideal solution but was considered to be beyond the financial means of the District Health Authority. It was also felt that attempting to proceed with this might undermine the Region's programming of the Phase 2 development of the District General Hospital.

- Provision of a minor operating theatre by conversion of the bottled water store adjacent to the twin theatres which was estimated would cost less than £20,000 plus the cost of providing alternative bottle storage. This option was attractive because of the low cost, the likelihood that the scheme would proceed quickly, the imminent availability of ten extra sessions per week, its geographical location and its suitability for diverting some of the less sophisticated operating work from the facilities of the twin theatre.

Figure 2: Waiting time for routine Outpatient Appointment



- The provision of an obstetric theatre in the maternity department which would provide emergency obstetric facilities and therefore free spare sessions in the gynaecology theatre for use for general surgery. This option was not favoured since it required conversion of one of the four labour wards, it provided only four extra spare operating sessions in the gynaecology theatre, and involved using space within the maternity department which was considered to be at a premium.

2.5.3 This report therefore concluded that the preferred option in the short term was to convert the bottled water store into a minor operating theatre and the ideal solution in the longer term would be the provision of a twin theatre as part of the Phase 2 DGH development.

2.5.4 At the time of our current review the bottled water store has not been converted into a minor operating theatre and a variety of options for upgrading or re-providing theatre facilities are being considered by the medical staff and the Unit Management Group given that £250,000 has been earmarked for providing improved theatre accommodation in 1984/5.

2.6.0 Other possible factors

Reviews were also conducted of the procedures for coordinating emergency and cold admissions and for reviewing waiting lists and calling patients for cold admission from the waiting list.

2.7.0 The findings of the General Surgical Services and Waiting Lists Working Party

All these different reviews were drawn together in a report of the Working Party looking at General Surgical Services and Waiting Lists and the following summary of principal conclusions and recommendations was made in August 1982.

1) The possibility of closing one of the four general surgical wards at weekends should not be further pursued.

2) The creation of a fourth consultant general surgeon post is central to the reduction of the general surgical waiting list to acceptable proportions.

3) It should not be necessary to increase the number of general surgical beds with the appointment of a fourth surgeon, but priority should be given to converting all four general surgical wards to mixed sex accommodation to permit more flexibility in the use of beds.

4) The need for additional theatre capacity will be best met by the creation of a Minor Operating Theatre, preferably in the existing bottled water store.

5) There should be no difficulty in providing outpatient accommodation for the existing surgeon who wishes to run an extra clinic, and for the fourth consultant general surgeon.

6) A number of supporting staff will be required with the appointment of a fourth consultant general surgeon.

7) Changes are being made in arrangements for reviewing waiting lists and for calling in cold admissions.

8) There is a need for an overview/coordinating function for admissions for the unit as a whole. This activity would be facilitated by the location of offices in planned accommodation adjacent to the twin theatres.

9) There is no scope for a significant increase in the number of day cases.

2.8.0 Summary of the Presenting Problem

The presenting problem must be considered in the light of these analyses which have been produced locally. A variety of options have been identified and recommendations and preferences have similarly been produced. However, the terms of reference and the graphs Figures 1 and 2 show that the waiting lists for admission in general surgery and the waiting time for a routine outpatient appointment are still unacceptably long. Our familiarisation with services provided in the district has shown that few of the conclusions of the Surgical Services Working Party have been implemented and we therefore, not only have to consider the analyses and the recommendations that were made, but also identify, if possible, a way forward for the district which will increase the likelihood of the recommendations being implemented with a resultant improvement in the services offered to patients.

3.0 STATISTICAL PERSPECTIVES UPON THE SURGICAL SERVICE IN HEREFORD

3.0.1 The Terms of Reference for this review and the analyses available from documents referred to in section 2.0 assert that there are substantial periods of waiting for patients requiring either routine outpatient appointments or routine admissions. Figures 1 and 2 have identified that the periods of waiting required vary according to the clinical consultant firm awaited.

3.0.2 In this section of the report a number of the supporting analyses we have done to examine in more detail the nature of the waiting list problem, are described. In addition to the contribution they have made to our understanding of the management of the general surgical caseload, they may also be of value when monitoring the effects of implementing our recommendations and when the district considers waiting lists associated with other surgical specialties.

3.1 Analysis 1: Cross boundary flows of patients

3.1.1 The cross boundary flow of patients to and from the Health Authority is sometimes used as an indicator of the adequacy and comprehensiveness of local services. The flow of patients from Herefordshire to general surgical services elsewhere is unexceptional:

- In 1981, 3536 residents received general surgical inpatient treatment, and of these 89% received the treatment in Hereford.
- In 1982, 3458 residents received general surgical inpatient treatment, and 88% of these were treated in Hereford.

The main destinations of external referrals are Worcester Health Authority, Central Birmingham Health Authority and London Hospitals.

3.1.2 The distance that residents would need to travel for alternative services outside the district makes it particularly important that services within Herefordshire are sufficient for the presenting appropriate demand. Patients who choose to seek private medical help are not recorded comprehensively in the statistics which we have collected from recognised NHS sources.

3.2.0 Analysis 2: Access of new patients to outpatient clinics

3.2.1 The time which new patients wait before being seen in outpatient clinics has been one aspect of the waiting list problem in general surgery. This is considered to be unacceptably high and was identified to us as a matter of concern by local GPs.

3.2.2 The waiting time in weeks during the 1980s is shown for each consultant general surgeon in Figure 2. It is noticeable from the graph that changes have occurred during the period reviewed: Mr Renton's once quite accessible clinics have been overloaded and consequently waiting time has increased. Mr Oakland's waiting time reduced rapidly during 1982 when he arranged occasional additional outpatient clinics. At the time of reporting the next available routine new outpatient appointment for each consultant was: Mr Davies - August, Mr Oakland - mid May, Mr Renton - mid June.

3.2.3 The new outpatient referral rate was identified in the data for Regional review as being within the bottom 5% of the national sample of districts. The average number of new outpatients seen per session in general surgery was: in 1980 10.53; 1981 9.04; 1982 8.79 patients. This declining trend is in itself worrying. Discussions with the outpatient booking clerks identified all consultants intending to see 12 or more new outpatients per session, but retaining some of these 'slots' for urgent cases. The result of this arrangement is clearly that staffed available sessions are not being fully used.

3.2.4 There is supporting evidence for this in the examination of the number of patients waiting and the time before a next routine appointment is available. For example, if on 31 March 1983, the wait for the next routine outpatient appointment was 28 weeks and 125 patients were waiting, then only 4.5 routine patients were being booked into the available slots. The average numbers of routine new outpatient cases being booked per session for each consultant for 1981, 1982 and 1983 are given below.

	1981	1982	1983
Mr Davies	4.6	4.7	4.5
Mr Oakland	5.0	5.2	6.3
Mr Renton	10.5	8.6	7.7

3.3.0 Analysis 3: Outpatient Follow up

3.3.1 Given that a limited amount of outpatient clinic time is available to see patients, one way in which the waiting time to first routine outpatient appointment can be reduced is by increasing the number of new outpatients seen relative to the total number of patients seen ie reducing the number of visits per new case. This option is particularly available where the supporting services offered by GPs are recognised to be of a high quality as they are in Hereford.

3.3.2 Comparative statistics available from the Regional review show that in general surgery Herefordshire is in the top 15% of the national sample of districts in terms of the high number of return visits that outpatients are required to make. (See Apprendix 3)

3.3.3 Within the district there are variations between the consultants in the average number of visits per new case:

	March 83	June 83	Sept 83	Dec 83
Mr Davies	3.14	2.81	3.26	2.88
Mr Oakland	1.62	1.65	2.03	1.48
Mr Renton	2.94	2.83	3.16	2.55

3.3.4 Local GPs have suggested that they would prefer earlier discharge of out patients and earlier access of new patients to consultant sessions. If the number of return visits per new patient were reduced, more clinic time would be available for new outpatient referrals.

3.4.0 Analysis 4: Numbers of patients awaiting admission

Considering the district's overall waiting list for admission in general surgery, two comparative studies confirm the extreme nature of the problem.

3.4.1 The Performance Indicators data for 1981 used for Regional Reviews identified Hereford's waiting list in relation to its population to be the twelfth largest in the country from a sample of 188 districts. (See Appendix 3)

3.4.2 This extreme position was confirmed in the data available from the Health Services Management Centre at the University of Birmingham.

3.4.3 The large waiting list is documented as having existed consistently since 1972 and the overall position during the 1980s was given in Figure 1. This graph also showed the contribution made by each consultant general surgeon to the total waiting list and the recent trends in those individual lists.

3.4.4 The waiting lists of each of the general surgeons have been examined in detail considering those waiting particularly in relation to

- their age
- their time waited
- their sex
- their diagnosis

and the total number waiting.

And we comment upon some aspects of the waiting list membership in section 5.1.

3.4.5 Figures 3, 4 and 5 show analyses of the individual consultants' waiting lists, analysed by the time that each patient has waited since joining the list. From these it can be seen that the 'rump' of the waiting list problem is associated with Mr Renton's practice where additions to the waiting list have consistently exceeded the capacity to admit and treat them.

FIGURE 3

Mr Davies: Number of Patients = 221

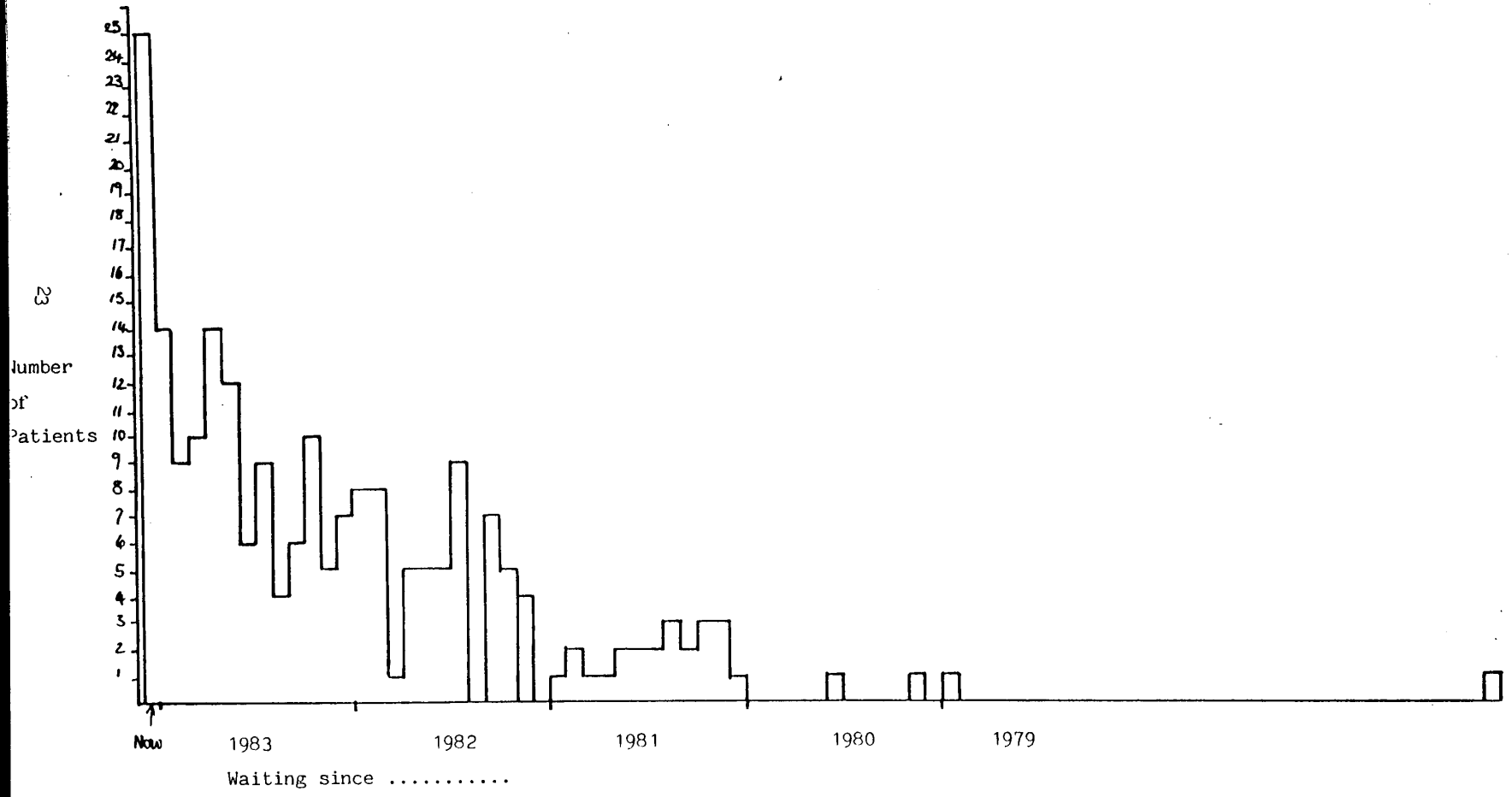


FIGURE 4

Mr Oakland: Number of Patients = 168

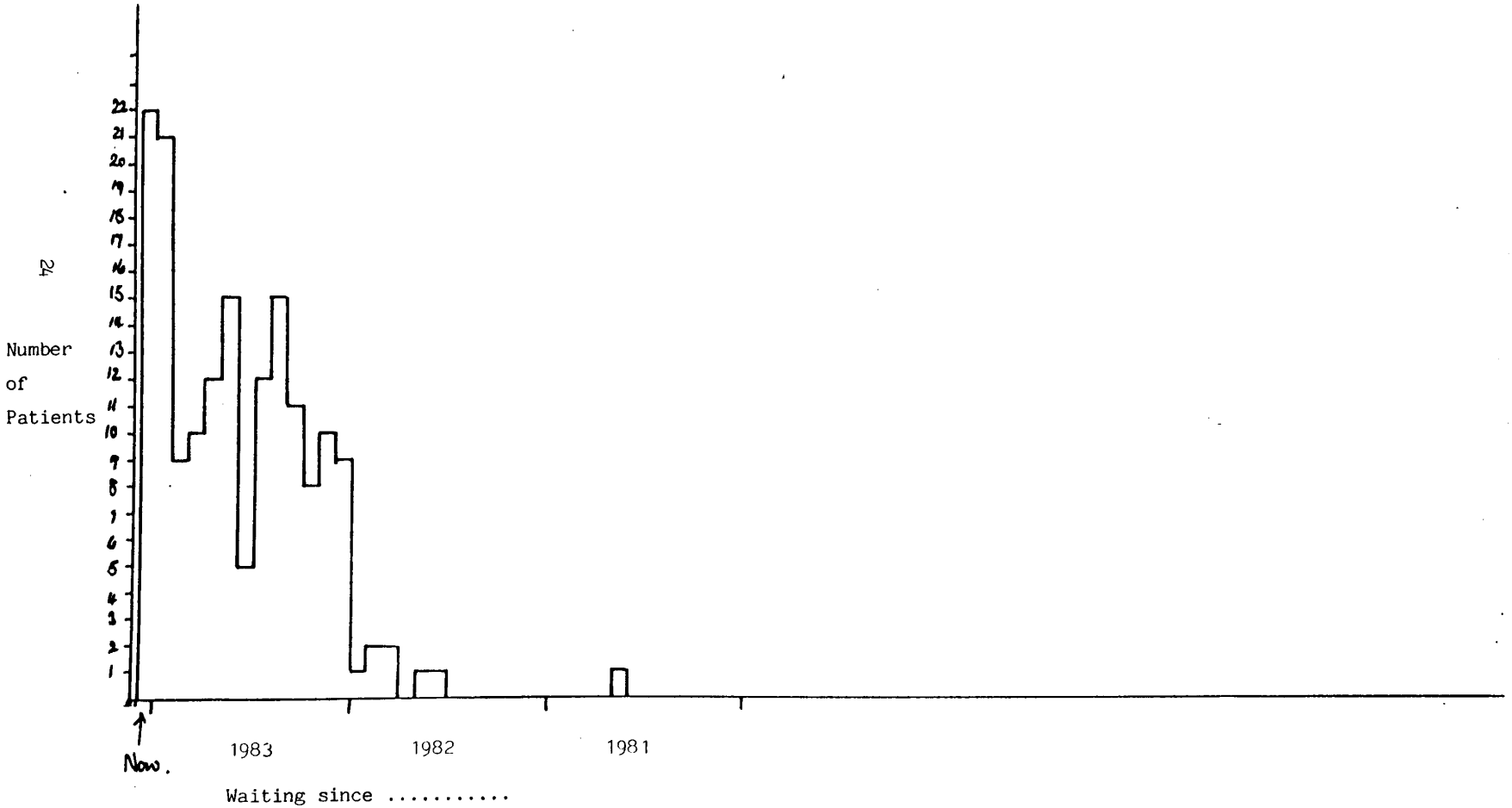
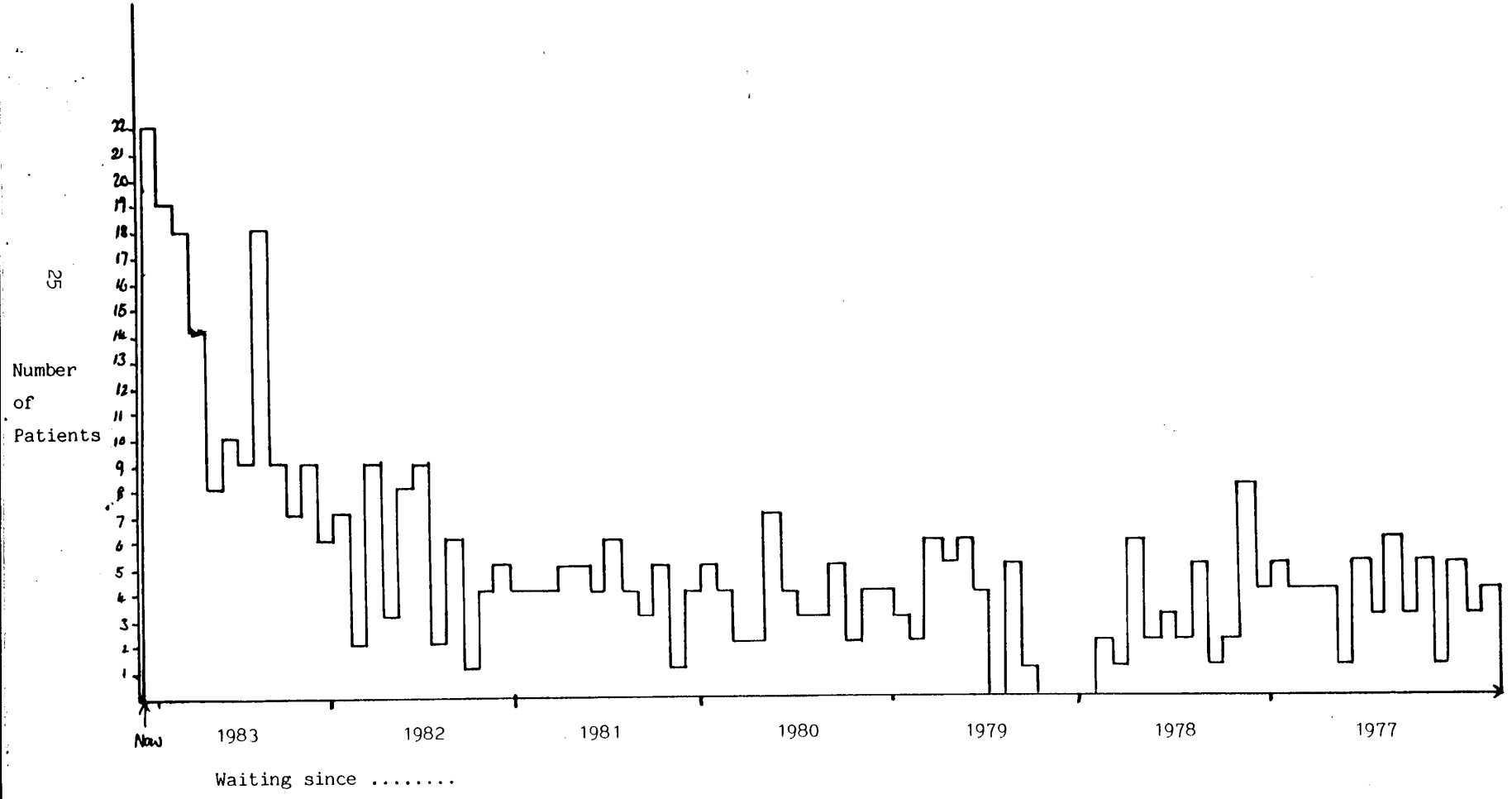


FIGURE 5

Mr Renton: Number of Patients = 400+



3.5.0 Analysis 5: Use of Inpatient Resources

3.5.1 Given that there is apparent demand for inpatient services beyond the historic rate of delivery, the use of the capacity available requires examination. The main dimensions of capacity considered were:

- operating sessions
- beds
- nursing staff
- consultant staff

and within this section we consider particularly the use of operating sessions and beds.

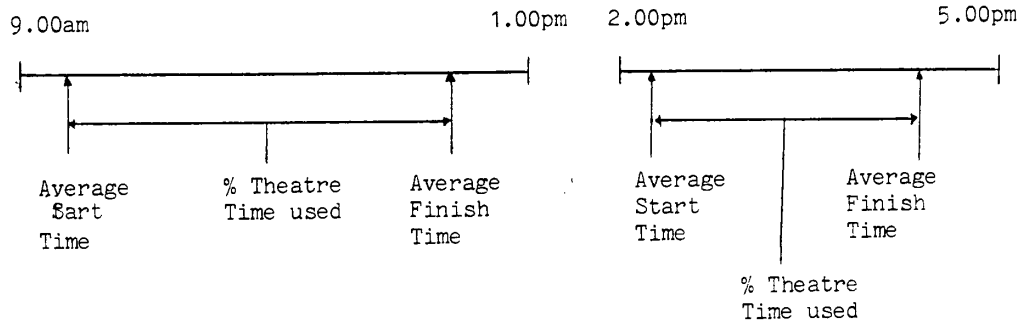
3.5.2 The detailed examination of the use of operating sessions was based upon four sample months, May, September, October and November 1983. During this period, the analyses considered were:

- the lists lost (for whatever reason)
- the variation in start and finish times for sessions
- the number of operations undertaken

3.5.3 The scheduled lists lost in the sample period total 23 and allowing for the different lengths of morning and afternoon sessions and the rates of operating of different teams, we estimate that this reduced the number of operations potentially undertaken by 85-90 cases and pro rata, by 250-270 cases per annum. The legitimacy of conditions under which lists are cancelled will vary, but we felt that where such pressing waiting list problems exist, every effort should be made to use or re-deploy operating sessions.

3.5.4 The start and finish times for all sessions which ran in the sample months were examined and the results are given as Figure 6. The difference between the average start and finish time gives the average available list time used and therefore identifies spare capacity in each session. Of particular interest, however, is the variation in the average start and finish time as measured by the standard deviation(SD). This indicates how closely the list has been planned to fill the available operating time, and it is clear

Figure 6: Use of Allocated Theatre Time



Mr Davies		Av. Start Time (SD)	Av. Finish Time (SD)	% Use
Theatre 1	Mon am	9.11 (14 mins)	12.57 (52 mins)	94
"	Mon pm	2.18 (16 mins)	4.57 (71 mins)	88
"	Wed pm	2.13 (16 mins)	5.24 (36 mins)	106
"	Thurs am	9.24 (26 mins)	12.43 (43 mins)	83
" 2	Thurs am	9.07 (8 mins)	12.42 (29 mins)	90
Mr Oakland				
Theatre 1	Tues am	9.19 (14 mins)	12.25 (55 mins)	76
Theatre 2	Tues am	9.05 (11 mins)	12.12 (51 mins)	76
Theatre 1	Tues pm	2.12 (14 mins)	4.29 (40 mins)	78
Theatre 1	Fri am	9.09 (10 mins)	12.00 (56 mins)	71
Theatre 2	Fri am	9.15 (44 mins)	12.30 (49 mins)	81
Mr Renton				
Theatre 2	Mon am	9.05 (4 mins)	12.38 (33 mins)	89
Theatre 1	Wed am	9.06 (5 mins)	12.18 (26 mins)	80
Theatre 2	Wed am	9.07 (7 mins)	12.45 (35 mins)	91
Theatre 2	Wed pm	2.26 (21 mins)	4.38 (42 mins)	73
Theatre 2	Thurs pm	2.04 (12 mins)	5.5.1 (38 mins)	126

that in many instances the time when the surgeon will start and finish is extremely difficult to predict. A list of allocated theatre sessions is at Appendix 4.

3.5.5 The number of operations undertaken will vary substantially according to the mix of major and minor cases, and the interference which planned lists have undergone as a result of emergency cases. Taken over the four sample months, Figure 7 shows the number of major and minor operations performed by each general surgical team, and the number of emergency operations undertaken during our sample 4-month period.

			Emergency	
	Major	Minor	Major	Minor
Mr Davies' team	75	236	22	46
Mr Oakland's team	77	210	11	50
Mr Renton's team	73	152	17	29

Figure 7

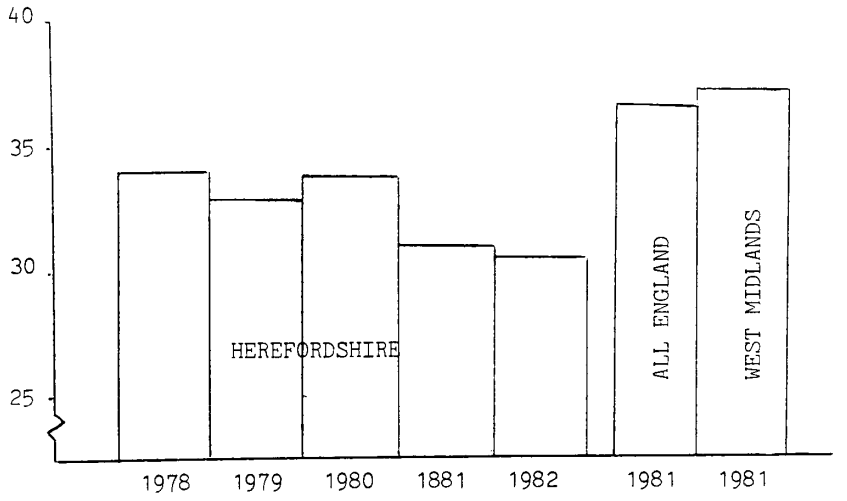
3.5.6 The number of operations undertaken is clearly linked with the rate at which patients are admitted and discharged. The other analyses open to us therefore were considerations of the provision and use made of general surgical beds.

3.5.7 The Regional norm provision of beds for general surgery identifies a requirement for 5 children's beds and 62 beds (50 GS and 12 urology) per 100,000 total catchment population. On this basis, with a population of 154,900, the district should have approximately 96 beds. The recorded staffed provision has been between 91 and 94 beds during 1981 to 1983 and is therefore considered to be adequate. It should be noted that many health authorities work satisfactorily on fewer beds.

3.5.8 The Health Authority has recently received a report which indicates that on average there were 21.4 beds empty on the general surgical wards each day in 1982.

3.5.9 This recorded low occupancy occurred in spite of evidence in the Performance Indicators for 1981 that Hereford had a relatively high average length of stay in general surgery (1.1 days longer than the Regional and National average of 7.7 days) and that the position deteriorated further in 1982 when the district's average length of stay increased to 9.4 days. (Appendix 3, SH_3 1982)

3.5.10 These factors taken together indicate a relatively slow throughput of patients in general surgery, a fact which is evidenced in Figure 8 below. The DHSS Performance Indicators for 1981 showed that from a sample of 189 districts the general surgical throughput in Herefordshire ranked 163rd and the quoted throughput of 30.8 cases per available bed compared poorly with an overall West Midlands Regional figure of 36.9 cases and an all England figure of 36.6 cases per available bed. (Appendix 3)



3.5.11 If the consultant surgeons in Herefordshire were able to increase their throughput per available bed to the national average and were able to use all of the 93 beds available to them, this would increase the number of patients who could be treated by approximately 550 extra cases per year.

3.6.0 Summary

A suggestion from these analyses is that neither beds nor operating sessions currently limit the rate at which patients are treated within the district; our consideration of the sufficiency of consultant, nursing and anaesthetist time available as discussed elsewhere.

4.0 FURTHER ASPECTS OF THE PRESENTING PROBLEM

4.1.0 Our perspective upon the area of work to be addressed has been shaped, not only by the Terms of Reference and our own statistical analyses of the problem, but also by our review of earlier documents which have been made available, our visits and discussions with members of staff in the district.

4.1.1 A summary list of the visits and staff who have been consulted is available as Appendix 2, and some of these contacts were repeated throughout the study period and by different members of the Review Team.

4.1.2 We have written separately to the Chairman describing some of these observations and the ways in which they have contributed to our main recommendations below.

4.1.3 The following section (5.0) contains our main recommendations to the Health Authority in response to the problems which we have been asked to consider.

5.0 KING'S FUND TEAM RECOMMENDATIONS

There are three aspects of the King's Fund Team's recommendations:

- Waiting list management and admissions policy in general surgery (section 5.1 below)

- Developing and improving theatre organisation and practice (section 5.2)

- Concerning the advancement of the District's strategy for all surgical services (section 5.3)

Each of these is dealt with in the following pages.

5.1 WAITING LIST MANAGEMENT AND ADMISSIONS POLICY IN GENERAL SURGERY

5.1.1 Our recommendations in this section of the report address those problems in general surgery which we identified from our analyses and from discussions with managers and those clinical staff associated with delivering care in the district.

5.1.2 We have discussed all our findings and our major recommendations with each of the general surgical consultants and with nursing and other managers. We are sure that the recommendations below will substantially improve the surgical waiting list situation over the next few months. The three consultant surgeons have been most helpful to us in drawing up these proposals and have advised us of local problems and pitfalls which we now hope to have avoided. We consider that achieving the high standards of patient care which we have identified is quite practical in Hereford if there is adequate coordination within the surgical department.

5.1.3 With respect to waiting list management we propose that:

Recommendation 1 — An immediate exercise be carried out to weed the waiting lists. This should ensure that these lists only contain living patients who still would benefit from the surgical intervention. Thereafter such reviews should take place at least annually.

Recommendation 2 — The surgeons themselves should review their criteria for including patients on a waiting list, for instance a patient with varicose veins who has remained on a waiting list for ten years probably did not need to be placed on the waiting list initially; similarly a female in her sixth decade with a multinodular goitre and who is still on the waiting list ten years later probably does not require thyroid surgery: We realise these are clinical decisions which the individual consultant has to take but we would urge the consultants

to review these diagnoses and to constantly review the threshold at which they advise surgical interventions.

Recommendation 3 — The three general surgeons should themselves, in future, read ALL general practitioner referral letters WHEN THE LETTERS ARRIVE. The surgeons should themselves allocate clinic priorities with urgent patients being given appointments within two weeks on the basis of the general practitioners' referral letters.

Recommendation 4 — The general practitioners should receive, monthly, from the HA details of the waiting times for non-urgent conditions for each consultant's clinic.

Recommendation 5 — Each of the surgeons should review the numbers of new patients seen and increase the number of new patients in each clinic so that the overall rate for general surgery rises to the national level. If that cannot be achieved within the existing clinics each of the general surgeons should undertake additional clinics to achieve again the situation which existed prior to the late seventies. We note that Mr Renton has already resumed this good working practice which is of considerable benefit to the patients and general practitioners in Hereford.

Recommendation 6 — In view of his DMT commitments, Mr Renton should have a clinical assistant appointed to his team to ensure a steady processing of outpatients even in his absence.

Recommendation 7 — The consultant general surgeons should review their criteria for discharging patients from inpatient and outpatient care back to their general practitioners, particularly where general practitioners are willing to receive earlier discharges and have suitable facilities to provide adequate care such as community hospital beds.

Recommendation 8 — To facilitate early discharge in appropriate instances, general practitioners should be asked to state in their referral letters whether the patients' home or other circumstances are suitable for early discharge.

Recommendation 9 — Before patients are added to the waiting list, or admitted as routine cases, arrangements should be agreed with them about their subsequent discharge.

Recommendation 10 — With respect to improving the coordination of admissions and making better use of expensive resources such as beds and operating theatres, we recommend that a SURGICAL COORDINATOR be appointed who will be responsible for the following activities:

(a) Maintaining a calendar of consultant general surgeon/anaesthetist availability. This would enable operating schedules to be planned at a minimum four weeks ahead.

(b) Publishing one month in advance rosters of surgical consultants and junior staff and coordinating these.

(c) The coordinator would liaise with the nursing service and with the administration about availability of surgical facilities etc.

(d) The coordinator would be the final common pathway for ALL general surgical admissions.

(e) The coordinator would therefore require from each surgeon each patient's details, including the provisional diagnosis, the proposed operation and its anticipated duration and the anticipated postoperative stay.

(f) With these details, and in close liaison with the individual surgeons etc, the coordinator would plan operating lists and bed utilisation.

(g) Emergency admissions will complicate the situation and the coordinator will be responsible for making the administrative arrangements for these patients during office hours and for allocating beds for out of hours admissions.

(h) We realise that the surgical coordinator will need to be fair between the competing consultants; if the system is to work the consultants will need to relate to each other and to the coordinator and accept 'bargains made' as binding. This would be facilitated if the surgeons would accept one of their number as 'arbitrator' for a finite time. We would recommend that each general surgeon do this task in turn for six months at a time. We would suggest that frequent resort to the 'arbitrator' (except during the initial settling-in period for the system) would indicate a general lack of cooperation between the participating teams.

(i) In due course, it would be sensible for the coordinator to design and maintain a centralised system for managing the waiting lists, ensuring that each surgical firm had ready access to details of their patients waiting and that bed availability was adjusted to match the demands upon each consultant.

(j) Several districts now have such a surgical coordinator in post, but arrangements could easily be made for a visit to North Tees if that would help to familiarise Hereford's Medical Records Officer or a newly appointed surgical coordinator with the system.

Recommendation 11 — To facilitate the maximum utilisation of surgical beds all four surgical wards should be used according to the availability of operating surgeons/time and no beds, or maximum number of beds should be designated as 'belonging' to any one surgeon. The policy of using two surgical wards for emergencies for alternating three-monthly periods should be reviewed, wards should take emergencies on alternate days continuously to even out the workload.

Recommendation 12 — We believe that the present arrangements for annual leave for consultants are less than satisfactory and this should be discussed with the Region. It is essential that the district is notified of a leave application at the same time as the Region. All leave applications should state the arrangements that have been agreed locally to ensure that patient treatments are minimally disrupted. In the case of

general surgery, where a known problem of unmet need exists:

(a) the surgical coordinator should be notified at least one calendar month in advance of any proposed annual or study leave;

(b) the surgical coordinator should ensure, where possible, that alternative arrangements are made locally to continue to provide full services;

(c) where this is not possible then early consideration of the desirability of appointing consultant locum cover should be given, and appropriate arrangements be made with the Region in good time to achieve adequate continuity of patient care.

Recommendation 13

With respect to the management of day surgery we would recommend that:

(a) the day case ward be included in the bed booking policy through the surgical coordinator (already detailed);

(b) patient documentation, identification strips, consent forms, etc for day cases be completed in the outpatient clinic when the patient is advised to undergo day case surgery;

(c) arrangements for the discharge, transportation home, postoperative care, etc should be decided on and settled at the preoperative consultation and should NOT be left to the day ward sister to set up as best she can on the day of surgery;

(d) a special day case admission/inpatient assessment/ nursing process form be created to allow a speedy review of the patient after their arrival at the day case ward. This should have major headings - 'recent respiratory infection' or 'home support still adequate' - entered on it so that the houseman clerking the patient in and the nurse reviewing the care plan can do this quickly before the operation;

(e) more day care surgery, for instance including a plan to tackle the unacceptably long list of patients awaiting hernia repair, could be done if a day care system were properly set up and coordinated. There is detailed national advice on this which should provide a basis for future progress, (DHSS Good Practice No 12; Ruckley CV, 1978 British Journal of Surgery 65 1-4).

Recommendation 14 — We recommend that the nursing managers should accept a commitment to complete properly agreed and notified operating lists, except in wholly exceptional circumstances such as the inclusion of major emergencies after a list has started.

Recommendation 15 — The nursing and ODA working schedules in the theatres should be examined to achieve recommendation 14. In our view, the overall establishment is sufficient to cover the existing number of operating lists, but there are problems with the grades and individual contracts of some nurses. These should be urgently reviewed with the twin objectives of

a) maximising the number of patients who receive surgery; and

b) ensuring that planned lists are not disrupted.

Further recommendations about nursing organisation are made in section 5.2, but in view of the waiting list problems in Hereford we believe the Health Authority should leave no doubt about the objectives given to nursing managers in these departments.

(i) in view of the problems we have identified we think in-service nurse training should be increased and a specific in-service nurse education budget for theatre staff be agreed and managed by the Senior Nurse (theatres);

(j) the existing theatre committees have doubtless done good work, which should be recognised by the Authority, but we believe that a new committee as recommended is needed because it will cover three responsibilities:

(i) to determine and promulgate in writing the surgical practices that will apply throughout the district without exceptions;

(ii) to have responsibility for planning any new operating rooms and their associated areas; and

(iii) to plan and oversee the training and educational developments for theatre staff that we have identified;

(k) there is a need in our view to implement these recommendations rapidly.

5.2.6 Many of our recommendations propose the adoption of standard practices throughout Hereford that have been carefully designed and which are mandatory upon all staff.
Each surgeon that we met agreed that they would abide by the decisions of the Surgical Policy Committee that we have proposed. We believe that in the interests of high standards and achieving a well trained junior staff, the same element of standardisation should apply in regard to surgical and anaesthetic equipment. This would also be more economical - for instance there are two different sets of endoscopes in use in the district and there is a variety of anaesthetic equipment.

Recommendation 17 Accordingly, we recommend that the Surgical Policy Committee we propose should be encouraged to work towards achieving standardised equipment throughout the operating departments and that in future the Committee's consent to new equipment should be obtained before any order is placed.

5.2.7 It is because the recommendations we have made are so far reaching and will affect so many staff in different disciplines that we have proposed that the Surgical Policy Committee should report to the Health Authority Chairman for twelve months. At the end of that time it would be appropriate to reconsider the Committee's relationships with the District Management Team, the Unit Management Group, the various medical committees and the Health Authority. However, the Committee's multidisciplinary and executive functions should be retained when reporting arrangements are finalised.

5.3 CONCERNING THE ADVANCEMENT OF THE DISTRICT'S STRATEGY FOR ALL SURGICAL SERVICES

It was no part of the Team's role to review the Health Authority's strategic goals as set out in their strategic plan, but it may be noted that not only do we support the Authority's objectives but our recommendations below could help to bring some of these about more quickly.

5.3.1 Phase 2

Many studies have shown the NHS to be underprovided with good capital stock and Hereford is no exception. The ideal, given current standards and methods of working, would be to open Phase 2 rapidly. However, we understand that, at best, Phase 2 will not be opened for six or seven years. Knowing the pressures on major capital schemes in the West Midlands Region, it would be prudent to realise that even such a forecast may prove too optimistic.

5.3.2 It will be obvious from many of our recommendations that we believe that a number of changes need to be made urgently in the organisation of surgical services in Hereford. This section considers how the Health Authority could be reasonably certain that

(a) adequate standards could be assured in future; and

(b) that progress is made as rapidly as possible towards the achievement of the District's service strategy, independently of the major capital projects programme of the RHA.

5.3.3 It is essential that any changes made in the short term do not jeopardise Phase 2. On the other hand, in our view, the Authority should not leave surgical services dispersed as they currently are for any longer than necessary.

5.3.4 Centralisation of Surgical Work

The achievement of consistently high standards depends partly upon the specification of good practice and excellence in staff training and the Surgical Policy Committee we have recommended will make many

things possible that have been difficult so far. Nonetheless, Hereford is a rather isolated district in many respects, and it is easy for doctors and nurses working in separated operating theatres not to be adequately informed about innovations in practice. The stimulus of day to day contact with colleagues is important, just as the continual monitoring of good operating practice is much easier when all surgical work occurs in one theatre suite. We believe that all general surgical house posts should be rotated and also that a further rotation with orthopaedics could be arranged.

Recommendation 18 We recommend that surgical house posts should be organised as described above.

5.3.5 In Hereford we have had to make an exception with regard to the Eye Hospital. The excellent modern capital facilities and the obvious differences in ophthalmic work have led us to conclude that the Eye Hospital should be left undisturbed except that its operating policies and practices should be subject to the authority of the Surgical Policy Committee. We also considered whether some other 'clean' surgery should be accommodated in the Eye Hospital, but decided that the disadvantages would be too great.

Recommendation 19 Accordingly, we recommend that the above arrangement should be approved for the Victoria Eye Hospital.

5.3.6 We were aware of the wide ranging discussions about the upgrading and/or relocation of the Gynaecology Theatre. There is a need for a good quality operating area in the maternity unit for obstetric emergencies. The consultant gynaecologists have strongly argued to us that the Gynaecology Theatre should be adjacent to the maternity department. We do not agree. A number of the practices which caused us the greatest concern, which are separately detailed to the Health Authority, were encountered in the Gynaecology Theatre. We also, independently, have encountered many instances where gynaecology is undertaken much further away from the maternity unit than the 500 yards distance between the main theatres and the obstetric area in Hereford. It is undoubtedly true that there will be times when some members of the medical staff would have to leave the main theatres to go to the obstetric area to help in the management of emergencies. However, simple calculation of the

number of possible occasions when this would occur, in relation to the total number of births, makes it clear to us that this should not cause major difficulties. Furthermore, at nights and weekends, expert medical advice has to be called in from the homes of the doctors concerned and this involves much greater delay than the movement around the County Hospital site involves. The number of obstetric emergencies should not be so great as to necessitate any increase in staff numbers if our recommendation is accepted.

Recommendation 20 — Accordingly, we recommend that the Health Authority should abandon the attempt to provide new or improved Gynaecology Theatre facilities adjacent to the obstetric department and should instead provide facilities as part of the centralised operating department that we propose below.

5.3.7 The recently upgraded operating facilities for the Orthopaedic and ENT Departments clearly provide adequate facilities in the short term. We were pleased to be told that the new air conditioning plant was deliberately designed to be suitable for movement to a new location in due course. We were impressed with the standards we observed in orthopaedic and other work in the General Hospital and noted that the orthopaedic surgeons have regular, contractual contact with the centre at Oswestry, which is doubtless important in keeping them abreast of current practices. We also noted that the Accident and Emergency Department consultant is to retire shortly.

5.3.8 In our view, the Authority should not await Phase 2 before concentrating all surgery (except ophthalmic) at the County Hospital. This would mean that the orthopaedic, ENT and all accident and emergency work would also have to be transferred. There are many ways in which this could be done provided that the twin theatre suite has two new theatres added to it that are of high standard. We were shown excellent plans which have been previously prepared for these theatres and were told that this theatre development (previously regarded as part of Phase 2) has been costed at £1m. We believe that

these theatres are urgently required in Hereford and we would be willing to give our strongest support in this respect to the RHA. Furthermore, several sources have suggested to us that in the short term the RHA has a modest surplus of capital - clearly this is quite different from funding Phase 2 costed in excess of £10m. Nonetheless we accept that these theatres could not be open in under 2 years.

Recommendation 21 — We recommend that the Authority should make an urgent case to the RHA for the rapid funding of this operating theatre development, irrespective of the remainder of Phase 2, as a very high priority.

5.3.9 Whenever the new theatres are provided, which should then accommodate all surgery in the district with the exception of ophthalmology:

Recommendation 22 — We recommend that one theatre should be reserved exclusively for orthopaedic work.

5.3.10 Mobile Operating Theatre

We were informed that the Authority has an option to purchase a PHI Portable Operating Theatre equipped to a high standard and with its own ventilating plant at a cost of £90,000. Such theatres can be resold after use. In the short run we believe that the Authority should obtain this mobile theatre. This year, major rewiring works are planned for the twin theatres. In view of the waiting list problems in Hereford, the Authority should we consider, avoid lost time in theatres in every possible way. The mobile theatre which should be located adjacent to the twin theatre suite could keep much operating work going during the upgrading, and subsequently it could be used together with the existing twin theatres to achieve the transfer of gynaecology. This would also involve some modest bed reallocation (exchanging a gynaecology ward with a general medical ward) and we realise that such changes are often unpopular. However, from the limited perspective of a review of surgical and operating theatre practice, which was our task,

we believe that progress towards the centralisation of theatre work is important.

Recommendation 23 We recommend that the Authority should purchase the mobile operating theatre for use until the new twin theatre addition is available in the way described above, after which it can be resold.

5.3.11 Accident, Orthopaedic and ENT work

When the theatre suite with four high quality operating rooms is available, it will be desirable to transfer all accident, orthopaedic and ENT work to the County Hospital. This would not only allow the surgical developments we have discussed above to be achieved, but would allow the closure of St Mary's Hospital (producing revenue and capital benefits for the Health Authority). There might also be some savings made from the transfer of all the acute work to the County Hospital, for example it seems unlikely that the full complement of X-ray rooms that now exists would be needed. However, if new theatres were to be fully used, at that stage extra nursing and other staff would be needed.

5.3.12 There are a variety of ways that such a transfer, before Phase 2 could be achieved. For example if new Accident and Outpatient Departments were constructed between the existing Medical Records, Bulmer Annexe and X-ray Departments, this could free the Medical Records 'wards' to provide an orthopaedic unit of 60 beds. This unit would be adjacent to the new Accident and Emergency Department. The ENT adult inpatient services would share wards with the general surgeons. The question is 'could this be afforded without jeopardising Phase 2?'

5.3.13 We have been informed that the cost of upgrading two normal wards to a good standard would be £180,000. The proposed Orthopaedic Unit would be larger, perhaps costing £220,000. This work could not take place before 1985/6 because the records' staff and the clinics would have to be rehoused.

5.3.14 The District Treasurer has informed us that provided the Health Authority regarded the changes we proposed as sufficiently important then £500,000 could be made available in 1984/5 due to largely fortuitous circumstances. It is impossible for us, with our inevitably limited perspective, to judge the other pressures on the Authority, for example to develop priority services. However, it does appear that a combination of events has given the Authority opportunity to make extremely rapid strides towards some of its strategic objectives provided that the RHA undertakes to fund the operating theatre extension. Our difficulty is that if the short term availability of funds is to be utilised, extremely rapid decisions by the statutory authorities and subsequent action would be needed. The timetable in outline would be:

<table>
<tr><th></th><th>1984/5</th><th>1985/6</th><th>1986/7</th></tr>
<tr><td>Hereford HA Funds</td><td>OPD, A & E and Records accommodation provided at County (£500,000)

(Short term use of Mobile Theatre bought at £90,000 and subsequently resold)</td><td>Orthopaedic Unit constructed £220,000</td><td rowspan="2">CHANGE COMPLETED</td></tr>
<tr><td>RHA Funds</td><td colspan="2">Twin Theatre extension constructed £1 million</td></tr>
</table>

5.3.15 We realise that introducing changes is never easy. There is room to transfer the X-ray Department to the County Hospital but we have included no funds for this in the above schedule. It may be that open access radiology would have to be restricted to the General Hospital for a period and that perhaps some ENT and orthopaedic outpatient work would also have to remain temporarily at the General Hospital. Again, consideration would have to be given to the location of the hearing aid clinic and the

rehabilitation department in the short term. We must point out that none of the cost estimates with which we have been provided, have been checked by the King's Fund Team. However, in broad terms, the changes we have described look possible and cost estimates appear of approximately the right magnitude. Therefore;

Recommendation 24 — We recommend that the Health Authority should give urgent consideration to the proposed moves towards the achievement of its strategic objectives as we have outlined them above.

5.3.16 Finally, we are aware that there may be some danger to Phase 2 if the Health Authority acts in the way we have described. However, the RHA would have to be informed that no County Hospital inpatient accommodation would have been provided in a fit condition for the 21st century, the maternity unit would not have been accommodated and many of the changes being implemented could only be short term expedients. On the other hand, the services provided to Herefordshire's population from 1986 onwards would be immeasurably improved and the Operating Theatres - a key part of Phase 2 - would be available much sooner than now envisaged. An assurance could probably be obtained from the RHA that this type of 'self help' scheme would not affect the timing of Phase 2. It should also be remembered that the Region has been pressing for improvements in Hereford's acute surgical services, particularly in relation to waiting lists and patient throughput, and that these improvements are also being sought by the district's general practitioners.

6.0 CONCLUSIONS

6.1 Broadly speaking, our terms of reference required us to consult widely while reviewing the demands for general surgery in relation to the available resources and also to review the organisation and management of operating theatres in all three hospitals. We were asked to make recommendations to the Health Authority and whilst we have tried to take a comprehensive view of this brief, our recommendations are essentially simple.

6.2 To achieve better throughput, some changes in practice are needed, which we have detailed and additional expenditure of not more than £10,000 per annum is required. Otherwise the existing resources are, in total, adequate to cover present demands provided that the organisation of the work is changed in the way we have recommended.

6.3 To improve the organisation and management of the theatres there are necessary short term and long term steps. The most important step will cost virtually nothing but requires a Surgical Policy Committee, working in the manner we have detailed, to define in writing and then implement certain standardised practices. Its decisions must be binding upon all staff who work in the surgical departments.

6.4 As a further step towards assuring the continuation of good practices, we have recommended the encouragement of study leave and linked appointments. In many ways, Hereford is somewhat isolated and positive steps to keep in touch with developing practices elsewhere are needed. The costs here will be real, but relatively small.

6.5 The longer term changes we propose will cost more. They are designed to centralise all surgery, except ophthalmology, on the County Hospital site. Capital expenditure will be needed and in our view it should be authorised urgently by both the Regional and the Hereford Health Authorities. Our recommendations are in line with

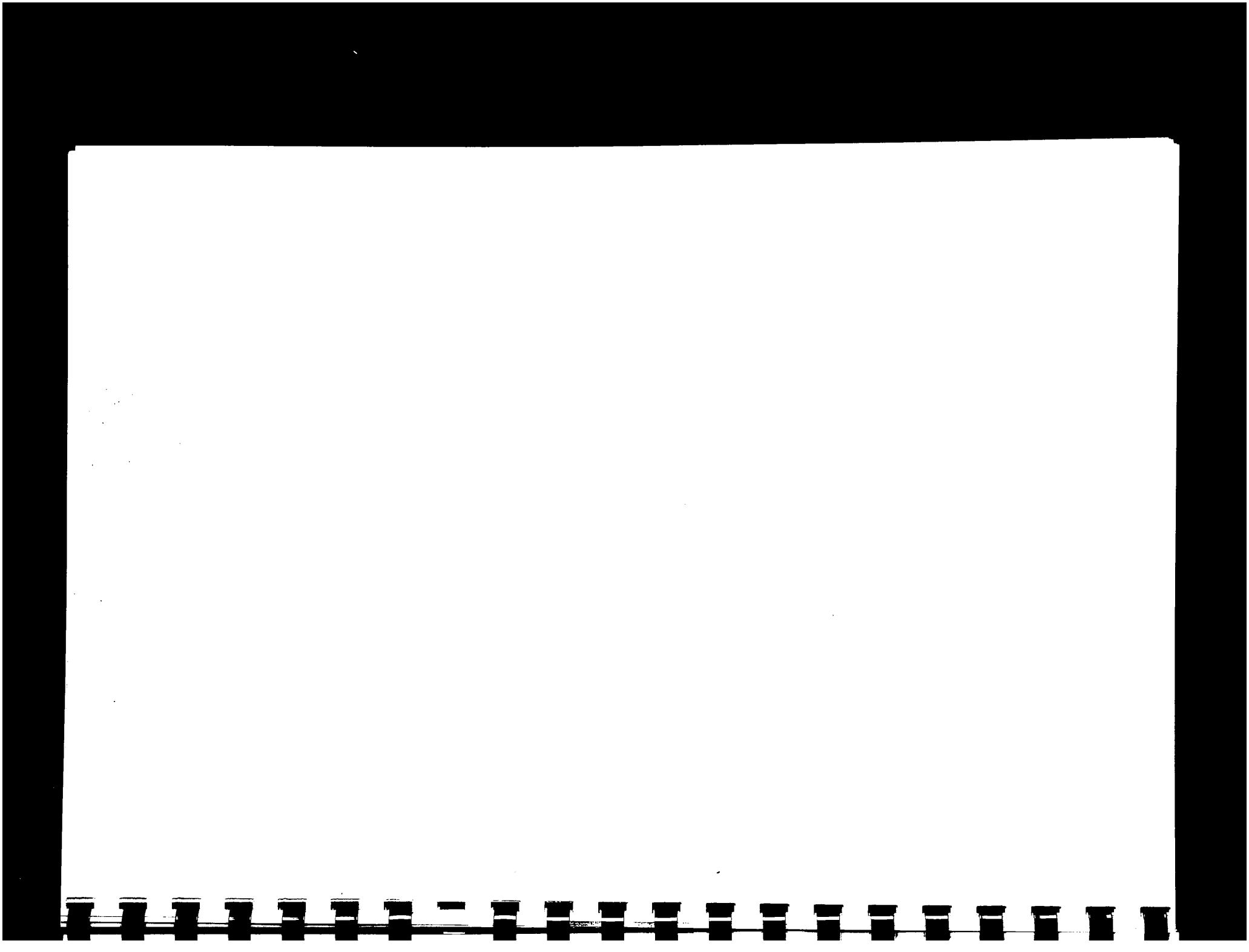
the Authority's published objectives, but would achieve some of them in advance of Phase 2. Although capital expense would be incurred, there would be a number of revenue and capital savings which would follow. We believe that changes which will concentrate the services are both urgent and essential. Without these, the problems which led to the King's Fund Team being commissioned could easily re-emerge.

6.6 We have been aware throughout that we have only been looking at a part of the district. It is for the Health Authority to decide whether other pressing needs must take precedence over our recommendations. However, we would point out that the citizens of Hereford have been badly served, due to long waiting lists, for many years and this has been frequently acknowledged. Many attempts have been made to overcome the problems, but thus far without avail. An opportunity now exists which could achieve the improvements required, but unfortunately it does need decisions to be taken in almost unreasonable haste, if potentially available funds are to be used.

6.7 A further complementary decision that the Authority could make is to decree that extra resources should not be devoted in future to improving the facilities for surgery in locations where surgical practice should be short-lived; instead all available resources could be directed towards bringing about the Authority's strategic objectives for acute services as rapidly as possible.

6.8 We would like to commend the Authority and its staff for inviting 'outsiders' to undertake this review. This required courage and we also record with gratitude that we were greeted courteously and cooperatively everywhere. It would have been difficult, and perhaps impossible, for such a review to have been undertaken by those working locally. We hope that the results are satisfactory. The King's Fund Team is prepared to return to Hereford if our recommendations do not achieve what is needed, and to find out why steps that have worked elsewhere are proving difficult locally.

6.9 Finally, it is inevitable that a visiting team will have omitted something or someone from consideration and that we will have made some mistakes due to a lack of familiarity with local details. For these errors, we apologise and hope that they will not affect balanced consideration of our major recommendations.



APPENDIX 1

Brenda Baxter

Brenda Baxter gained her SRN in 1966 from the South Tees Side Group and her SCM in 1967. Following training in theatres at Manchester Royal Infirmary she went on to become a theatre sister at University College Hospital London in 1969 and a Theatre Nursing Officer at King's College Hospital in 1971. Brenda joined Brent Health Authority in 1974 as Senior Nursing Officer, where she was responsible for the District theatres, accident units and the outpatient departments. she was with Brent until 1983.

Her present position is as Senior Nurse - Commissioning with the Paddington and North Kensington Health Authority. She serves on several British Standards Institutes and is currently vice chairman of the National Association of Theatre Nurses.

Brendan Devlin

Brendan received his Fellowship of the Royal College of Surgeons in Ireland in 1960 and the Royal College of Surgeons in England in 1961. He is currently Consultant Surgeon in North Tees Health Authority and a lecturer in clinical surgery at the University of Newcastle upon Tyne. He is an examiner in both applied physiology and surgery for colleges in England, Ireland and abroad and is a referee for several journals of surgery. Brendan has himself published many articles on developments in surgical technique and the organisation of surgical services.

Ray Flux

Ray Flux graduated in Psychology and Physiology from the University of Nottingham in 1976 after working for a year at the RAF Institute of Aviation Medicine. He then joined the National Coal Board Institute of Occupational Medicine and coordinated field research on several aspects of mining work. In 1979, Ray became manager of a project in Brent Health Authority developing district wide systems for specialty and clinical costing. This work was the subject of a thesis for which he gained an MPhil in 1982. He has worked on projects with the DHSS with members of BIOSS and with the CASPE Research unit at the King's Fund College before joining the College Faculty as Associate Fellow in 1983. He is an Associate Member of the Institute of Personnel Management.

Jonathan Secker Walker

Jonathan trained as an anaesthetist and became a consultant in 1975. He is currently a member of the Unit Management Team for the UCH/Middlesex Hospital Unit of Bloomsbury Health Authority. He has been the budget holder for the Anaesthetic Department and has coordinated equipment purchases and maintenance since 1979. He is also a senior lecturer to nurses and to recovery room staff and has for a period in his career specialised in anaesthetic support to intensive care units.

Iden Wickings

Iden Wickings held various posts in the St Mary's and King's College Hospital Groups before going to Westminster Hospital where he was Deputy House Governor from 1969 - 1974. During this period he started research into giving financial information and budgets to Clinical Teams. In 1974 he went to Brent Health District in North West London where he was District Administrator until early 1979.

Since 1979 he has been Director of CASPE Research which is based at King Edward's Hospital Fund College where he also holds the appointment of Fellow in Health Service Systems and Policy. He is Honorary Senior Research Fellow at Brunel University in the Institute of Organisation and Social Studies, and Associate Fellow in the Centre for Research in Industry, Business and Administration at Warwick University.

APPENDIX 2

LIST OF VISITS AND MEETINGS CONTRIBUTING TO OUR REVIEW

Visits were made on repeated occasions to each of the acute hospital sites, and in particular:-

- all six main theatres were visited,
- surgical wards,
- maternity and gynaecology departments,
- radiology and anaesthetics departments,
- accident and emergency,
- outpatients at both the General and County Hospital
- medical records and surgical medical secretaries.

Discussions were held on various occasions, and by different members of the King's Fund Team with:

Mr J S Champion	- Chairman
Mr R W Dearden	- District Administrator
Mr J W Jones	- Treasurer
Miss A Frost	- District Nursing Officer
Dr R N Ovenden	- GP Representative on DMT
Dr J P Hutchby	- District Medical Officer
Mr D J C Renton	)
Mr W H Davies	)
Mr D J Oakland	)
Mr Bateman	)
Mr Reynolds	) Consultant Surgeons
Mr Slee	)
Mr Seals	)
Mr Dawson Watts	)
Dr Coleman	- Consultant in Microbiology
Dr Hardy	- Consultant in A and E
Dr Brooks	)
Dr Hine	) Consultant Anaesthetists
Dr Dallimore	)
Dr Dowling	)
Mr Williams	- DNS (Acute Unit)
Mr Webb	- Assistant DNS
Mr Lamb	- Acting Theatre Superintendent

Sr Taylor	- Charge Nurse (Twin)
Sr Thompson	- Charge Nurse (Gynaecology)
Sr Sheppard	- Charge Nurse (General)
Mrs Kent	- Clinical Instructor
Mrs Newman	- Previous Theatre Superintendent contacted, but not wishing to comment
Mr A Morris	- Assistant Unit Administrator
Mr G Morris	- Medical Records Officer
	- Superintendent Radiographer

plus a variety of staff in outpatient departments, medical secretaries, theatre and ward nursing staff and ODAs.

Dr Wickings and Mr Devlin also met the Regional Administrator, Mr K Bales, and the Regional Medical Officer, Dr A McGregor, initially to discuss locum cover for consultant posts, but also considered different resource prospects within the Region.

Clinical Performance Indicators for 1981

West Midlands Region General Surgery

	Immediate Admission Percent		Gross Admission Rate		Length of stay		Through -put		Turnover Interval		Day Cases as % of all Cases		New O.P. Referral Rate		Return to New Out Patients		Waiting list per 1000 pop		Estimated days to clear W.L.	
	PI	Rank	PI	Rank	PI	Rank	PI	Rank	PI	Rank	PI	Rank	PI	Rank	PI	Rank	PI	Rank	PI	Rank
HEREFORD	42.9	104	18.9	134	8.8	31	30.8	163	3.1	38	23.2	50	12.8	182	1.8	165	6.9	12	132.7	10
BROMSGROVE	35.2	172	21.9	76	6.8	142	42.4	36	1.8	123	28.7	24	23.8	37	3.7	8	3.6	57	60.5	65
KIDDERMINS	41.2	124	19.8	114	6.5	156	42.6	34	2.1	100	33.1	12	15.5	163	3.5	13	2.3	114	42.8	102
WORCESTER	33.9	177	21.1	90	6.9	135	38.3	76	2.7	61	19.4	79	19.5	104	1.9	155	3.7	54	64.6	59
SHROPSHIRE	45.8	77	21.3	86	8.2	56	37.7	82	1.4	153	9.6	152	17.6	135	2.0	146	7.3	10	125.5	12
MID STAFFS	55.1	19	16.9	165	6.4	162	45.1	16	1.7	135	16.6	101	16.5	154	2.1	132	7.9	6	171.2	2
N STAFFS	38.8	152	15.1	182	7.0	122	34.5	123	3.6	24	11.0	139	12.1	185	3.4	17	4.0	45	97.9	26
SE STAFFS	43.6	93	10.3	188	7.2	111	37.7	82	2.5	76	39.1	3	13.5	178	1.8	165	0.4	187	12.5	186
N WARWICKS	46.8	68	16.3	172	6.3	169	39.8	57	2.9	44	7.0	166	15.9	160	2.7	57	2.4	108	54.3	75
RUGBY	43.1	100	20.2	104	7.4	97	31.5	156	4.2	10	10.7	142	13.5	178	2.8	50	6.2	15	113.0	18
S WARWICKS	53.5	25	21.5	82	6.7	148	32.6	149	4.5	6	18.9	81	19.6	101	1.8	165	3.4	64	57.8	67
C BIRMINGH	32.6	181	21.0	94	7.9	69	38.5	74	1.5	148	7.9	163	20.7	5	3.2	24	2.5	103	42.8	102
E BIRMINGH	79.7	1	15.2	181	10.2	9	32.2	151	1.1	169	11.8	137	9.4	188	3.1	28	3.8	50	91.1	31
N BIRMINGH	49.7	47	14.3	185	7.8	71	39.2	62	1.5	148	35.4	6	18.8	119	3.1	28	3.0	75	77.4	40
S BIRMINGH	55.7	15	20.1	106	7.8	71	40.4	53	1.2	164	27.3	28	19.3	108	2.9	39	1.1	172	20.2	174
W BIRMINGH	51.7	30	19.0	133	9.6	18	29.3	176	2.8	52	20.5	74	16.7	147	2.6	68	1.2	171	23.6	168
COVENTRY	46.0	73	15.6	179	8.0	63	36.0	105	2.1	100	16.2	104	16.2	157	1.9	155	4.4	36	102.9	21
DUDLEY	49.6	48	21.3	86	8.0	63	37.2	92	1.8	123	24.7	42	15.4	166	3.4	17	3.6	57	62.2	62
SANDWELL	57.1	13	16.0	174	11.2	2	26.0	186	2.9	44	43.1	1	16.8	145	3.7	8	5.4	23	123.8	14
SOLIHULL	6.6	187	16.1	173	8.7	38	29.9	171	3.5	26	25.2	39	22.7	53	2.6	68	6.7	13	151.2	6
WALSALL	44.0	87	19.7	116	7.1	116	39.9	56	2.0	111	14.9	118	14.3	175	2.3	100	5.0	30	92.9	28
WOLVERHAMP	52.3	29	19.9	111	6.3	169	47.8	7	1.3	160	5.4	174	11.6	186	4.9	1	3.6	57	66.1	54
Region	45.9		18.4		7.7		36.9		2.2		19.0		16.2		2.8		3.8		76.0	
England	43.7	187	20.6	188	7.7	189	36.6	189	2.3	189	17.8	189	19.7	188	2.5	190	3.1	188	54.4	189

APPENDIX 3

		MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY	
		am	pm	am	pm	am	pm	am	pm	am	pm
TWIN	Theatre I	Davies	Davies	Oakland	Oakland	Renton	Davies	Davies	Dawson-Watts	Oakland	-
	Theatre II	Renton	Dawson-Watts	Reg (DJO)	Murray	Reg (CJCR)	Reg (WHD or CJCR - alt. weeks)	Reg (WHD)	Renton	Reg (DJO)	-
EYE		Quinlan (Every 3rd Monday)	-	Munro	-	-	-	Munro	-	Quinlan	-
GYNAE		Gilbert	Bateman	Devlin	Wood (Bronchoscopy list) Barnett (Plastic list)	-	-	Bateman	-	Devlin	-
GENERAL	Theatre I	Slee	Slee	Reynolds	Seal	Seal	Reynolds	-	-	ENT	Slee
	Theatre II	ENT	-	-	-	Maclaren	-	-	ENT	-	-

Allocated Sessions in Theatre: Herefordshire HA

January 1984

APPENDIX 4

Safeguards against wrong operations

This Memorandum sets out recommendations based on consultations between the Medical Defence Union and the Royal College of Nursing, and suggests precautions to avoid the risk of an operation being performed on:

A. The wrong patient; or
B. The wrong side, limb or digit.

There may be occasions when the recommendations are not followed, but it must be stressed that standardization of routine procedures will minimize errors, particularly as medical and nursing staff move from one theatre or department to another.

Efforts should be made in all hospitals and by all health authorities to agree on a routine procedure, incorporating the safeguards recommended in this memorandum. Joint committees of medical and nursing staffs should be set up locally for the purpose.

Operating on the wrong patient

1. **Potential causes of error**

1.1 Patients are not always labelled immediately on admission to hospital.

1.2 In hospitals which undertake a substantial amount of casualty work, and where emergency patients are admitted in quick succession, some of them unconscious, the clinical notes may become attached to the wrong patient. An identity label is sometimes attached to the patient's clothing immediately on his arrival in the casualty department but mistakes may occur if the labelled clothing is taken off the patient when he is admitted to the ward.

1.3 Mistakes may arise if on the day of the operation the beds are changed round. This risk is increased if the day of operation coincides with a change in the nursing staff.

1.4 Mistakes may occur when changes are made in theatre lists after the start of the operating session, particularly if such changes have not been notified to all concerned immediately they have been made. Operation lists should be altered as little as possible and never by telephone.

1.5 The absence of a reliable and routine procedure for identifying patients when they are taken to the anaesthetic room or brought into the theatre carries considerable risk. *There may be other patients of the same or similar name in the ward.*

2. **Recommended safeguards**

2.1 All patients should be labelled immediately on admission to hospital.

2.2 The identity bracelet should be of a reliable pattern and bear the patient's name, including the forenames in full, hospital number and if possible address and age. Departmental numbers should never be used in place of the hospital number.

2.3 The labelling of an unconscious patient admitted through the casualty department should be the responsibility of the casualty sister or her deputy, or at night the nurse in charge or her deputy. The identity bracelet is the most reliable means of labelling an unconscious patient.

2.4 The ward sister or her deputy should be responsible for checking that all patients who are to undergo an operation have been properly labelled.

2.5 Day patients who are to undergo any operative procedure should be labelled in the same way as inpatients.

2.6 As the case history of a child must be taken from the patient's relatives (who may not be present immediately before the operation), care must be taken to ensure that in the notes no error occurs in reference to the side, limb or digit on which the operation is to be performed. In a children's ward the identity bracelets should be of a type which can be removed only by an adult.

2.7 The ward sister or her deputy should be responsible for seeing that:

2.7.1 the correct patient is sent to the operating theatre;

2.7.2 the appropriate form of consent to anaesthetic/operation has been completed and signed;

2.7.3 the patient has received the prescribed pre-operative preparation, including premedication;

2.7.4 where appropriate, the side of the operation has been marked;

2.7.5 the correct case papers, radiographs, etc. accompany the patient to the theatre.

2.8 The operation list should be typed and photo-copied and should show the nature of the operation and the patient's full name and hospital number. A copy of the operation list should be displayed in the anaesthetic room, the operating theatre and the post-operative recovery room. The list should also be sent to all wards in which patients are awaiting operation and displayed in all places where the patient is to undergo operation.

2.9 Any alteration in the operation list must be made on every relevant copy by a designated person.

2.10 In the operating theatre one person should be responsible for sending for patients. This should normally be the senior nurse in charge of the theatres but in large operating theatre suites it may be necessary for her to delegate this responsibility to some other person, such as the nurse in charge of a particular theatre, the nurse taking the list in a particular theatre or another designated person.

2.11 Patients should be sent for from the operating theatre by name and number and never as 'the patient from such and such a ward'. Where it is the practice for a porter from the theatre to collect the patient from the ward he should bring with him a slip bearing the full name and hospital number of the patient.

2.12 When the patient is to be given a general anaesthetic the anaesthetist has a responsibility for ensuring that the right patient has been brought to the anaesthetic room or to the operating theatre. Before induction of anaesthesia he should check the consent form and examine the other records accompanying the patient to make sure that they relate to that particular patient. If the patient is not to be given a general anaesthetic the practitioner who is to perform the operation or carry out the examination should be responsible for ensuring that the correct patient has been brought to the anaesthetic room or operating theatre and that the correct side, limb or digit is identified.

2.13 The surgeon has a responsibility to see the patient before he is anaesthetized. He should make sure that the accompanying documents relate to that particular patient. If the surgeon cannot examine the patient's clinical records before the start of the anaesthetic he may delegate this responsibility to his assistant. Before beginning the operation the surgeon or his assistant should check that the patient's full name and hospital number, and the nature of the operation, as set out on the operation list, correspond with the entries in the patient's notes.

2.14 *If for any reason the identity bracelet is removed from an unconscious patient special care must be taken to ensure that no mistake is made about his identification. The bracelet should be replaced as soon as practicable.*

Operating on the wrong side, limb or digit

3. **Potential causes of error**

3.1 Wrong information on the case papers of the patients – 'right' instead of 'left'.

3.2 Failure to examine the patient clinically in the immediate pre-operative period.

3.3 Abbreviation of the words 'right' and 'left'.

3.4 Illegible writing on the case papers.

3.5 Fingers referred to by number instead of by name.

3.6 Failure to check immediately before the administration of the anaesthetic that the entry on the operation list agrees with the notes taken to the operating theatre.

3.7 Wrong case papers accompanying the patient.

3.8 Preparation of the wrong side, limb or digit.

3.9 Absence of routine procedure for marking the operation site.

3.10 Radiograph being incorrectly and inadequately labelled.

4. Recommended safeguards

4.1 The side on which the operation is to be performed should be marked before the patient reaches the operating theatre suite and the mark should be made with an indelible skin pencil which may be seen clearly by the surgeon before starting the operation. The mark may be made on or near the operation site and this is particularly important in the case of digits. A possible exception would be the accident case with obvious wounds needing attention. The side and site of operation in a small child should be marked on the child in the presence of the parent or guardian while the consent form is being completed.

4.2 Marking should normally be the responsibility of the surgeon or house surgeon. If there is no resident staff the surgeon should himself accept this responsibility.

4.3 If the ward sister or her deputy finds that the site of the operation has not been marked when the patient is due to be sent to the operating theatre, she should ensure that the surgeon who is to operate is informed but *she should not herself undertake the marking.*

4.4 If a patient is taken direct from the casualty department to the operating theatre the practitioner who decides upon an immediate operation should be responsible for marking the operation side.

4.5 The words 'right' and 'left' should be printed in full on the patient's notes and on the operation list.

4.6 In order to avoid ambiguity concerning the digit(s) on which the operation is to be performed, the following nomenclatures should always be used. The fingers should be described as thumb, index, middle, ring and little fingers and not as 1st, 2nd, 3rd, 4th and 5th, and the toes as hallux (or big), 2nd, 3rd, 4th and 5th (or little).

4.7 All reference to the operation type or site should be written in full.

Wrong operations

Year	Total	Wrong patient or operation	Wrong side	Wrong digit
1960	9	1	6	2
1961	23	3	12	8
1962	16	5	11	–
1963	13	3	5	5
1964	29	2	11	10
1965	16	4	11	1
1966	11	6	3	2
1967	26	5	16	5
1968	13	4	7	2
1969	16	3	10	3
1970	23	6	13	4
1971	17	5	8	4
1972	22	7	8	7
1973	16	8	7	1
1974	16	5	9	2
1975	22	12	7	3
1976	20	5	8	7

Safeguards against failure to remove swabs and instruments from patients

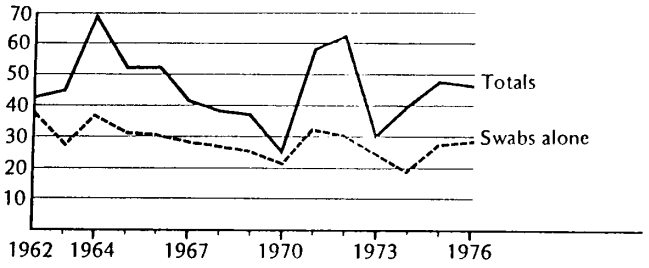
This Memorandum sets out recommendations after consultations between the Medical Defence Union and the Royal College of Nursing. While it may not always be possible to follow all the recommendations, it is stressed that standardization of routine procedures will minimize errors, particularly when medical and nursing staff move from one theatre to another during an operating session.

Unintentional failure to remove a swab or instrument from a patient's body is negligence on someone's part and provides grounds for an action against the surgeon, the health authority or both; if the patient suffers ill effects he will be entitled to damages.

The surgeon has a duty to take reasonable precautions to ensure that all swabs and instruments used during the operation are removed. The extent of his personal obligation will vary from case to case. Sometimes he may be compelled to discharge his duty in part or in whole by relying on the nurses, for example if the patient's condition becomes so grave during the operation that it is necessary to finish as speedily as possible. In such a situation the surgeon may have to cut short or even dispense with his own check and rely on the nurse's swab and instrument counts. The health authority also has a duty in this matter as the employer of the nursing staff and as the supplier of the swabs and instruments. There are steps which the health authority, as well as the surgeon, must take to avoid such a mishap. Every hospital should have an operating department committee composed of representatives of the surgical, anaesthetic and nursing staffs to keep theatre procedure under review.

Retained foreign bodies
(swabs, instruments, needles, drains and tubes)

cases reported to The Medical Defence Union



Swabs and packs

1. **Potential causes of inaccurate counts and failure to remove swabs and packs**

1.1 Emphasis on speed either for its own sake or because the patient is critically ill at the start of the operation or becomes so during the procedure.

1.2 Working under pressure.

The above may result in there being insufficient time for a careful first count or in the next patient being brought into theatre before it has been ascertained that no swabs have been left from the previous operation.

1.3 A scrub nurse who is insufficiently experienced or who has insufficient authority to insist on the surgeon following an effective procedure for the care of swabs; a dangerous situation is created if the operating surgeon is new to the hospital or inexperienced.

1.4 Failure to make an efficient check that all packs have been removed, especially when packs without clips attached have been used.

1.5 Attaching a swab or instrument to a specimen which is removed from the operating theatre during the operation.

1.6 A change in membership of the operating team during the operation.

1.7 Multiple operative procedures on the same patient.

2. **Recommended safeguards – Accounting**

2.1 A count should always be made by the scrub and circulating nurse of the swabs and packs used by the surgeon and his assistants during any operation, however minor or superficial. Whatever holds them together should be counted and checked, including rubber bands.

2.2 All swabs and packs to be used should be in bundles of FIVE and should be counted again before the start of the operation and the number recorded in accordance with the practice of the particular theatre. Each bundle should be opened and the contents counted to ensure that it contains five swabs or packs and that each has a radio-opaque marker. It should not be assumed that packs from manufacturers contain five; more or less than five have sometimes been discovered.

2.3 Before the operation wound is closed both the scrub and circulating nurses should count the swabs and packs used and satisfy themselves that the count is correct. *The surgeon must allow sufficient time for*

the check to be made. Before the completion of the operation the surgeon should ascertain by direct inquiry whether all the swabs and packs have been accounted for.

2.4 A count of all swabs and packs should be made before closing any internal cavity or organ.

2.5 If the surgeon decides to close the wound before the nurse is satisfied about the accuracy of the count or if there is an unsatisfactory count, the nurse should inform the senior nurse in charge of the theatre immediately.

2.6 After the first count has been taken and found to be correct the scrub nurse and the surgeon should keep a careful check on any swabs or packs still in use, as mistakes may occur at this time. On completion of closure and before the patient leaves the theatre a final count should be made.

2.7 Tapes and other materials used for retracting ureters or blood vessels should also be checked.

2.8 Swabs, packs and instruments should not be removed from the theatre until all incisions are closed and final checks are completed and found to be correct.

2.9 If the swab count remains unsatisfactory after all steps have been taken the relevant part of the body should be X-rayed before the anaesthetic is discontinued to ensure that a missing swab is not in the patient.

2.10 When a count shows a discrepancy the head of the nursing services should be informed by the nurse in charge of the theatre and the surgeon should inform his chief. A record of the discrepancy should be made in the patient's notes and be recorded in the theatre register.

2.11 If a mistake in the swab or instrument count is discovered after the operating session is concluded, it should be reported at once, through the appropriate channels, to the surgeon.

3. Types of swab

3.1 All swabs and packs used by the surgeon should be white and should contain radio-opaque material.

3.2 All swabs, including throat packs, used by the anaesthetist and his assistants should be coloured and contain radio-opaque material. The anaesthetist should personally be responsible for the removal of any swabs that he inserts into the patient's mouth or throat.

3.3 Variation in the size of packs and swabs should be avoided so far as possible. The use of small swabs should, in general, be avoided, or they should be clamped in swab holders. It is appreciated that in

certain types of surgery small swabs and strips of gauze have to be used.

3.4 All swabs and packs, both white and coloured, should conform to the British Pharmaceutical Codex standard.

4. During operation

4.1 Swabs used for swabbing the skin before the incision is made should contain a radio-opaque marker and be included in the count.

4.2 Packs or swabs should not be cut or divided.

4.3 In general packs should have tapes attached to which clips or forceps should be fixed by the nurse or surgeon, but it is recognized that on occasion a surgeon may have a good reason for not attaching a clip or for using packs without tapes.

4.4 The scrub nurse should control the number of swabs and packs on the table at every stage of the operation.

4.5 As an additional safeguard the surgeon should tell the other members of the team whenever he introduces a swab or a pack into a particular area of the operation field. Theatre practice should allow for this information to be recorded.

5. Post-operative procedure

5.1 Gauze containing radio-opaque material should never be used for skin dressings, as it may be misleading in subsequent X-rays.

5.2 When a patient is returned to the ward after an operation with a swab, pack or tube deliberately left in the vagina or other cavity or in a wound, this should be recorded in the notes.

5.3 All tubes and drains should have a retaining device to prevent retraction into the wound. Clear written instructions should be given about removal.

Instruments

6.1 The scrub nurse should count all the instruments on her table before the start of the operation.

6.2 The scrub nurse should check that the instruments and parts of instruments are correct before the operation wound is closed. This particularly applies to haemostats. *The surgeon must allow sufficient time for the check to be made.* He must inquire whether all the

instruments, as well as the swabs and packs, have been accounted for.

Needles

7.1 The scrub nurse should count all the needles on the table before the start of the operation.

7.2 The scrub nurse, after handing a needle to the surgeon, should not part with another needle until the used one has been returned to her.

7.3 No needle should be removed from the theatre until the final count has been made and the operation completed.

7.4 If more than one needle is in use at the same time, the scrub nurse should ensure that all the needles are returned to her. The number of atraumatic needles must correspond with the number of packets opened: the empty packets should be kept and counted.

7.5 Needles should be counted before closure of the wound and the scrub nurse should inform the surgeon at once if the count is wrong.

7.6 *The co-operation of the surgeon is essential in carrying out this count and in allowing time for it to be completed.*

8. **Special situations**

8.1 When the surgeon is working alone without the assistance of a scrub nurse, whether in an operating theatre, in the casualty or outpatient theatre or in the labour ward, it is more than ever necessary to ensure that no swab, instrument or needle is left in the patient's body.

8.2 Swabs are easily left in body cavities. The risk in operations through the mouth, such as adenoidectomy, is especially great.

8.3 In obstetric operations, where there may be considerable bleeding, it is a good rule never to put loose swabs into the vagina; a tampon with an attached tape which can be left outside is safer.

Training and instruction

9. **Nursing staff**

9.1 All nurses who work in the operating theatre must be made fully aware of their responsibilities.

9.2 A detailed routine procedure for the care of swabs and instruments should be set out in writing. Each nurse whose duties necessitate her entry into the operating theatre, whether trained or in training, should be handed a copy of the instructions and have them explained to her. The nurse should sign a statement that she has read and understood this procedure.

9.3 After each operation a record should be kept indicating that the checks were satisfactory at the conclusion of the operation. This should be signed by the nurse who has scrubbed for the case and by the circulating nurse who checked the swabs and instruments with her. This should be kept in a special column in the operation register. This is important because litigation concerning the leaving of a foreign body in a patient during an operation may not be started for months or years after the date of the operation. The names of those involved should be recorded.

10. **Surgical and radiological staff**

10.1 Where this has not already been done a theatre procedure should be agreed by the committee referred to on page 2 and be set out in writing.

10.2 All medical officers, in particular surgical registrars and house surgeons new to the hospital, should be given copies of the procedure.

10.3 The surgeon must satisfy himself that the system for counting swabs and instruments is efficient and that the persons responsible are familiar with the system and competent to carry it out. This is particularly important when the surgeon is working with a nurse who does not routinely scrub for him, and applies especially in nursing homes and private wings of hospitals where visiting surgeons operate.

10.4 *The surgeon himself must take all reasonable precautions to minimize his dependence on the nurse's swab and instrument counts and at the appropriate stage in the operation must search the operation field as far as is possible and compatible with the safety of the patient.*

10.5 All members of the surgical and radiological staff should be aware of the type of swabs and packs in use in the hospital and be familiar with their radiological appearance.

10.6 Any change in the type of radio-opaque material in the swabs and packs supplied to the hospital should be notified to the surgical and radiological staff. There is a wide variety of opaque markers. A radiograph of all the types of radio-opaque swab markers should be available and continually updated.

APPENDIX 6

Hereford District Health Authority

The Hereford Health Authority has just had a major review of its surgical services. It now wishes to appoint a Senior Nurse as Operating Theatre Coordinator. The Authority is seeking to attract a nurse capable of bringing about significant changes and improvements including relocation of the major district surgical services to one site.

There are six operating theatres in three hospitals, practice includes general surgery including peripheral vascular surgery, urology, gynaecology, orthopaedic and trauma, ear nose and throat, ophthalmic, oral and plastic surgery.

The post is an interesting and challenging one and will involve the successful applicant in the following developments within the service:-

1 Standardizing and updating theatre nursing practice in the district.

2 Developing the principles of the nursing process in the theatre suites, in conjunction with the Senior Nurse for Surgical Services.

3 Developing with the Nurse Education Resource, a modular programme for learners in the operating theatres which is based on behavioural objectives and continuous assessment.

4 Plans to concentrate all operating theatre facilities either on the site of the County Hospital or the Eye Hospital.

Operating Department Assistants form an important part of the theatre team, and their management is the responsibility of the Operating Theatre Coordinator. The Coordinator will also act as the nurse member of the Theatre Users Commiittee.

Applications are invited from Registered Nurses who have had operating theatre management experience at Charge Nurse level and above, and

preferably have successfully completed a TBCNS course in operating room nursing.

Informal visits are welcomed .....
Will be happy to arrange this .....

Application forms please contact: