pulmonary embolism, haemorrhage, and caesarean section, but will be coded only to pulmonary embolism.

Deaths are classified as true maternal deaths when the main cause is directly due to pregnancy or childbirth, or as an associated death, when the main cause is some illness such as heart disease, even though the pregnancy or childbirth has brought to light or aggravated the condition leading to maternal death.

Avoidable Factors

One of the chief features of the inquiry is the assessment of any avoidable factor or factors in the circumstances of the death. It is not suggested that a death with avoidable factors could necessarily have been prevented, only that the risk of death might have been materially lessened.

There may have been delay in treatment or failure to provide adequate services; or there may have been failure to take advantage of the services provided—for example, a hospital bed for a high-risk patient, the obstetric flying squad in the event of haemorrhage, or consultant help in an abnormal case.

Failure in diagnosis or clinical mismanagement may sometimes be regarded as an avoidable factor. It has never been the function of the inquiry to attribute blame to any particular individual, but only to draw attention to errors which can be made.

An avoidable factor may be attributed to the patient because of failure to attend for antenatal care, or she may refuse medical advice about admission to hospital. An avoidable factor is also attributed to women who have had illegal abortion. In no case has failure to use contraceptives or to accept termination of pregnancy been regarded as an avoidable factor.

Because of the undoubted improvement in maternity care it might be expected that the percentage of maternal deaths with avoidable factors would have been reduced, but in fact this has not occurred because the views of the assessors on avoidable factors has tended to become more strict.

Causes of Death

The four main causes of true maternal deaths—abortion, pulmonary embolism, toxæmia, and haemorrhage—have received particular attention in these triennial reports, and there has been a considerable reduction in the number of such deaths. Deaths from other causes such as anaesthesia, ectopic pregnancy, sepsis, amniotic fluid embolism, and ruptured uterus have therefore become relatively more important and are now receiving greater attention. A separate chapter is concerned with deaths occurring in relation to caesarean section.

Maternal deaths occur from a large number of associated causes, of which cardiac disease is the most important. This has always been discussed in a separate chapter, but recently greater consideration has been given to other associated causes, including diabetes, renal disease, intracranial haemorrhage, and suicide, in the hope that the facts will be of some value, even though avoidable factors are not often considered to be present in these cases.

The confidential inquiry into each death by the doctors concerned and the writing of each confidential report when conscientiously undertaken (and the majority of the forms are carefully completed) must be a valuable and instructive exercise. The triennial reports are of statistical value, but in addition the lessons learnt by individual inquiries should become more widely known, so that they can have a greater effect in improving maternity care.

Reference

- ¹ Reports on Confidential Enquiries into Maternal Deaths in England and Wales, 1952/54, 1955/57, 1958/60, 1961/63, 1964/66, 1967/69, Dept. of Health and Social Security. H.M.S.O.

Hospital Topics

Hospital Pharmacy Committees in England: Their Structure, Function, and Development

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Summary

A total of 150 chief and group chief pharmacists in England took part in a survey of the structure and role of pharmacy committees in hospitals. Just over half of the hospitals had such a committee. About two-thirds of

these dealt only with pharmacy matters and one-third dealt also with other matters. The number of new committees set up increased slowly until 1967 and then showed a sharp rise. Their terms of reference, membership, and manner of appointment varied greatly. Among subjects dealt with the cost of drugs and the introduction of new prescribing sheets were prominent. Many of the respondents believed that the work of the committees, often with the help of smaller, more specialized groups, had significantly improved various aspects of the local supply and use of drugs.

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Introduction

Hospital pharmacy committees are not new, especially in

teaching hospitals, but these, rather informal, committees work very much on their own, knowing little or nothing of the experience of similar committees elsewhere. Since their functions of facilitating the supply and rationalizing the use of drugs in hospitals are important it seemed desirable to analyse these activities. A particular reason for doing so was the reorganization of the National Health Service, which affects the structure and function of many of the committees, though this seems to be inadvertent rather than intentional.

Methods

A questionnaire on the development, structure, and methods of working and subjects dealt with was distributed to hospital pharmacists by the regional pharmacists of 13 of the 14 N.H.S. regions of England. Completed questionnaires were returned direct to us.

Results

Replies were received from 150 hospitals, a response rate of about 80%. Of these 70 had a committee dealing with drugs and related matters. Altogether 72% of the teaching hospitals and large, non-teaching hospitals had committees as compared with only 30% of the smaller hospitals. Forty-eight of the 70 committees dealt only with pharmacy and drug-related matters; the remainder had additional functions—for example, "medical matters" or "hospital expenditure." The type of committee was not related to the size of the hospital.

The first committee which dealt with pharmacy matters was set up in 1948. The number of committees increased steadily until 1968 and then more rapidly (see fig.). Of those set up after 1968 three-quarters dealt with pharmacy matters only.

Number of pharmacy committees in sample of 150 hospitals in being between 1947 and 1973.

ADMINISTRATIVE ASPECTS AND STRUCTURE

Of the committees dealing exclusively with pharmacy matters 28 (58.3%) were responsible to the medical committee, while of those with an additional function 13 (59%) were responsible to the then hospital management committee. Some committees were responsible to more than one body, while two (one dealing solely with pharmacy matters and one with an additional function) were allegedly responsible to no-one.

The terms of reference and number of members varied greatly. Most pharmacy-only committees existed to give advice

on pharmaceutical services, while among those with an additional function a principal aim was to involve the medical staff in management. Many committees of both types, however, had not been given explicit terms of reference.

The size and composition of the pharmacy-only committees are shown in table I. Twenty-nine of them included a pharmacist, a doctor, a nurse, and an administrator. Of the other 22, 16 did not include an administrator and 13 did not include a nurse;

TABLE I—Composition of Pharmacy-only Committees

No. of Members	
18	 D8 N3 P5 A2
16	 D6 N3 P6 A1
15	 D4 N5 P3 A3; D3 N4 P3 A5
14	 D10 N2 P1 A1; D7 N1 P4 A2
13	 D9 N1 P2 A1; D8 N2 P2 A1; D5 N5 P2 A1
12	 D6 N5 P1; D6 N2 P2 A2
10	 D7 P2 A1; D4 N3 P2 A1; D4 N3 P1 A2
9	 D7 N1 P1; D5 N3 P1; D5 N1 P1 A2; D5 P2 A2; D4 N3 P1 A1; D3 N3 P2 A1(2); D2 N5 P1 A1
8	 D5 N1 P1 A1; D4 N2 P1 A1; D4 N1 P2 A1; D3 N1 P1 A3; D2 N2 P1 A3(2); D1 N5 P1 A1
7	 D6 P1; D6 A1; D5 N1 P1(2); D4 N1 P1 A1(2)
6	 D5 P1; D4 N1 P1; D4 P1 A1; D3 N2 P1; D3 N1 P1 A1(2); D2 N1 P2 A1
5	 D4 P1; D1 N1 P2 A1; P5
4	 D3 P1(2); D2 N1 P1; D2 P1 A1
3	 D2 P1; P3

D = Member of medical staff, N = Nurse, P = Pharmacist, A = Administrator. Figures in parentheses indicate how many committees had that particular composition

there were two committees without a doctor and one without a pharmacist. Most of the medical members were consultants. Their specialties were not mentioned in all the replies, but 25 committees for which details were given included among their members 48 consultant physicians, 18 anaesthetists, 17 surgeons, and smaller numbers of paediatricians, microbiologists, psychiatrists, and radiotherapists. Only four members were described as clinical pharmacologists but probably a few more were mentioned in another capacity. The members were usually nominated by another body—for example, the medical committee—or were holders of a particular post, such as chief pharmacist, hospital secretary, or chief nursing officer. There was often no limit to the period of appointment of some or all members even when a committee had a formal constitution. Over half of the

TABLE II—Subjects Dealt with by Committees. Numbers of Committees are Given in Parentheses

Drug Use in General	
Rationalization of prescribing (14)	
Policy on prescribing new drugs (2)	
Review of drug costs (16)	
New prescribing systems (22)	
Non-equivalence, bioavailability, and substitution (5)	
Supply of drugs for clinical trials (2)	
Information systems, including issuing of bulletins (7)	
Drug Use in Detail	
Amounts of drugs to be supplied to patients on leaving hospital (1)	
Repeat prescriptions (1)	
Self-prescribing and self-medication by hospital staff (3)	
Prescribing by medical students (1)	
Verbal orders for drugs (1)	
Metric prescribing (1)	
N.P. labelling (3)	
Prescribing for addicts (1)	
Amphetamine prescribing (3)	
Use of phenacetin (1)	
Administration of anaesthetic solutions (1)	
Guidelines for use of intravenous infusions and addition of drugs to them (15)	
Development of disinfectant policies (5)	
Standard formulation of mixtures (1)	
Emergency drug kits (4)	
Organization of Pharmaceutical Service	
Review of pharmacy services (5)	
Pharmacy staffing (5)	
Drug ordering (1)	
Manufacture of drugs and of sterile fluids (6)	
Quality control (3)	
Supply of drugs to wards (7)	
Ward pharmacy (5)	
Security of drugs (13)	
Use of EC10 (HP) (3)	
Use of S.I. units (1)	
Drugs and the Patient	
Drug history of patients (1)	
Drugs brought into hospital by patients (3)	
Disposal of unused medicines (1)	
Warning cards for patients (2)	
Monitoring of adverse reactions (1)	
Other	
Policy concerning visits from drug-firm representatives (2)	

committees were on some occasions attended by people other than committee members.

The number of meetings a year ranged from one to 12. Over half of the committees met four to six times a year and only a few met more often. Most of these dealt with non-pharmacy matters. For about half of the committees business was usually prepared by one person, while for the others this was done by a group of people.

SUBJECTS DEALT WITH

The most common subject dealt with was the introduction of new prescribing systems (table II). Fifty-five of the 70 committees believed that they had accomplished important work, but our method of inquiry did not allow us to attempt an assessment of their achievements. Many of the remaining 15 had only recently been constituted.

While many pharmacy matters are dealt with direct by pharmacy committees some are considered by subcommittees or special working groups. Most of the 80 hospitals which had no pharmacy committee had had such subcommittees or working groups but over 25% had no evident mechanism for discussing drug-related matters. Of the hospitals with a pharmacy committee, 80% at various times also made use of subcommittees and other special groups; the remainder presumably dealt with all the business themselves.

Discussion

There were no obvious differences in scope or organization of work between the two types of committees. Though some committees were responsible to the medical committee and others to the hospital management committee, governors, or an administrator their terms of reference, where these had been defined, were broadly similar. The size and composition of the committees seemed to be unrelated either to their terms of reference or to their position in a hospital's committee structure but were greatly influenced by a variety of local factors. For example, one committee consisted of six doctors and one administrator. The absence of a pharmacist and a nurse was a matter of constitution but, in fact, the chief pharmacist and a nurse were present at all meetings, though "in attendance." Three committees consisted entirely of the chief pharmacists of the hospitals in a group.

Preparation of business by a group can help to focus and speed the work of the committee. At The London Hospital the work of the committee has been more effective since the agenda began to be prepared routinely by a small informal group of its members, the "pharmacy advisory group." This provides an opportunity for preliminary discussion and clarification of issues on which the committee must take decisions.

New pharmacy committees have been set up at an increasing rate since 1968. A possible explanation for this may have been the issue of an official circular on measures for controlling drugs on the ward¹. New prescribing sheets were also being introduced at the time. The subjects dealt with by the committees were very varied (table II).

Our results confirm that hospital pharmacy committees serve a useful function in promoting the rational use of medicines. This

has long been the experience in the United States and more recently in Sweden. In the U.S. hospital formulary committees seem to have had little contact with one another, as in England. In Sweden, however, hospital medicines committees have worked together to a considerable extent, and in November 1973 about 70 members of committees from central provincial and district hospitals met to discuss their organization and work². This symposium was so successful that it is planned to make it a regular event.

After the reorganization of the N.H.S. last April most hospital pharmacy committees are having to reconsider their sphere of influence and thus their membership. Until now these committees have operated within a hospital or a small group of hospitals. This has enabled them to be small enough to be effective and to tackle the work briskly and efficiently. Now the district will in many cases be the appropriate unit of operation for a hospital pharmacy committee, which will then often be concerned with more hospitals than before. The first task will be to add representatives from the new hospitals without making the committee too large. Important issues on which agreement can be reached relatively easily should obviously be tackled before equally important ones over which there are wide differences between the constituent hospitals.

In multidistrict area health authorities it would be desirable to co-ordinate the activities of the district hospital pharmacy committees so that there is optimal compatibility between them and the decisions they reach.

When a hospital pharmacy committee is to be established for the first time additional factors should be considered. Firstly, there is a tendency to recruit the medical members entirely from the division of medicine and the department of pharmacology or therapeutics where one exists. Though it is essential to include these groups we believe it important that the divisions of surgery and anaesthesia should also be represented. Secondly, the membership should include representatives of nursing and pharmacy. Whether an administrator should be a member or "in attendance" will depend on what is expected of him.

The reorganization of the N.H.S., the major changes in hospital pharmacy committees, and the enthusiastic but haphazard development of hospital pharmacy committees all indicate that the time has come for the D.H.S.S. to recognize these committees and to make recommendations on their terms of reference, composition, and mode of operation. Pharmacy committees were not mentioned in *Management Arrangements for the Reorganised National Health Service*³ and such recommendations would repair this omission.

We are grateful to Miss Sheila Benson, of the London School of Economics, for helping us design the questionnaire; to the regional pharmaceutical officers who distributed it; and to the hospital pharmacists who took so much trouble to reply.

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- ³ Department of Health and Social Security, *Management Arrangements for the Reorganised National Health Service*. London, H.M.S.O., 1972.