A review of the general practitioner obstetric service in Colchester 1970-1979

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SUMMARY. I report here on an audit of the work of a general practitioner maternity unit situated in the same building as a consultant obstetric unit. Between 1970 and 1979, 10,588 patients were admitted under the care of general practitioner obstetricians. The perinatal mortality rate averaged 6·9. I show in the report how an audit of such a unit can be carried out, and demonstrate that general practitioner obstetricians still have a valid and useful place in a district obstetric service.

Introduction

IN 1963 the Staff Committee of the Colchester general practitioner maternity unit initiated a form of audit. It is based on a punch card system designed to record the basic details of every patient admitted to the general practitioner unit. The findings from the audit are circulated to all interested parties as an annual report. The present paper is based on figures extracted from these reports.

Method

The information recorded on the punch card includes age and parity, past obstetric history, major abnormalities in pregnancy, type of labour, complications if any, and finally, details of the baby and the duration of the patient's stay in hospital. In the early years practitioners took turns to do the punch card summaries but, with several people being involved, discrepancies inevitably appeared owing to differing interpretations of the available data. Since 1971 a retired senior midwife has undertaken the task of making the punch card record, and the analysis is now consistent from year to year.

Results

Table 1 shows the number of patients booked, admitted, delivered and transferred in the Colchester general practitioner maternity unit between 1970 and 1979.

The discrepancy between bookings and admissions to the general practitioner unit is accounted for partly by miscarriages and removals from the district, but chiefly by referrals during pregnancy to the consultant antenatal clinics. The delivery figures for the consultant unit are included for comparison, but it should be remembered that this unit serves the whole of north-east Essex and not only Colchester.

The number of admissions is made up of patients delivered in the general practitioner unit plus the number physically transferred, but the transfer rate is arrived at by adding to these transferred cases those patients delivered by the obstetric registrar in the general practitioner unit.

Perinatal mortality

The most important measurement in an obstetric audit is perinatal mortality. When our audit began in 1963 the perinatal mortality rate per 1,000 admissions was 22·4. The rate for 1979 was 6·9 per 1,000. Comparisons with the perinatal mortality rate for England and Wales and with that for north-east Essex are shown in Figure 1. The average perinatal mortality rate for the general practitioner unit during the period 1970 to 1979 was 6·9; the apparently large fluctuations (Figure 1) are due to the small number of deaths.

Every case of perinatal mortality which occurs in the area is studied in detail by the North-East Essex Perinatal Mortality Survey (Owen, 1977), and this survey is continuing. However, analysis of the cause of perinatal loss, using the Aberdeen clinicopathological classification (Baird and Thomson, 1969), fails to reveal a clear pattern. For instance, none of the four "mature, cause uncertain" losses in 1979 was considered to have had an avoidable factor.

Table 2 classifies the perinatal deaths among admissions to the Colchester general practitioner unit

Table 1. Bookings, admissions, deliveries and transfers, Colchester general practitioner unit (1970-1979).

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Bookings	1512	1549	1496	1529	1409	1386	1470	1499	1429	1506
Admissions	1094	1154	1084	1108	937	1006	940	998	1077	1155
Deliveries	1018	1058	1006	1010	894	952	875	926	1000	1039
Transfers	76	96	78	98	43	54	65	72	77	116
Consultant unit deliveries	1187	1330	1370	1443	1554	1480	1580	1556	1732	1771

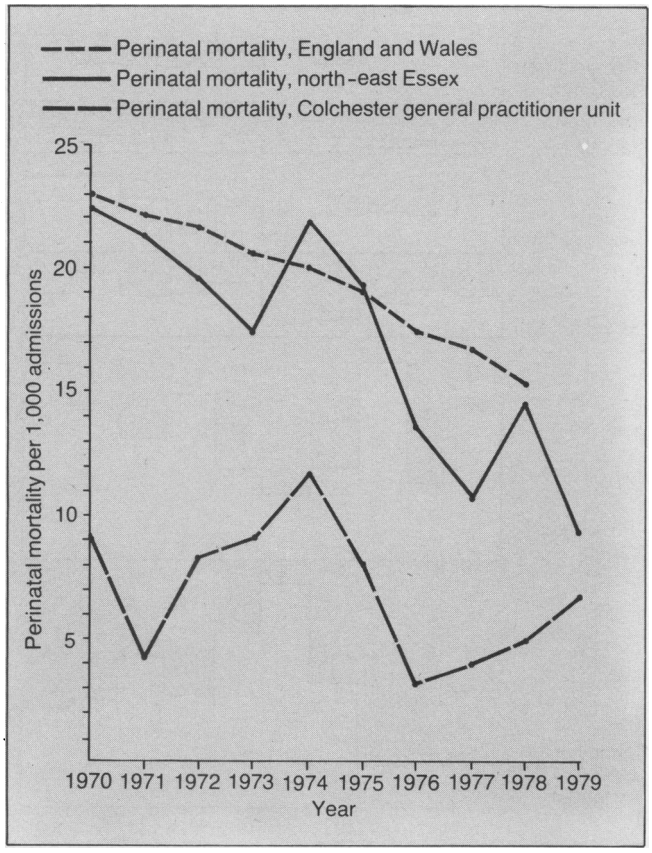

Figure 1. *Perinatal mortality rates per 1,000 births, England and Wales, Colchester general practitioner unit, north-east Essex (1970-1979).*

between 1970 and 1979. This includes those transferred to the specialist unit.

The percentage of babies dying from malformation in the whole north-east Essex area during the period 1970 to 1979 was only 20 per cent of the total loss. The fact that 40 per cent of the general practitioner unit deaths were made up of malformations suggests that high-risk groups are being properly referred to consultant antenatal clinics before admission to the general practitioner unit. The "mature, uncertain" group is made up mainly of unpredictable intrapartum accidents, and the "premature, uncertain" deaths are made up of unexplained intrauterine deaths and the loss of small preterm babies.

Accurate record keeping and adhering to rules about blood tests are additional indicators of obstetric efficiency. In 1966, 10 per cent of antenatal record cards were inadequate, but in the last five years this figure has never been higher than half of one per cent. The cases concerned are usually late or unbooked cases who have not attended for any antenatal care.

Transfers to consultant unit

About 30 general practitioners use the Colchester general practitioner unit. Each will have his or her own criteria for transferring a patient to specialist care. In 1966 the transfer rate was 2·3 per cent. In the last eight years the rate has varied between 6·7 per cent in 1974

Table 2. Perinatal deaths, Colchester general practitioner unit (1970-1979)*

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total
Malformation	2	3	3	5	4	3	1	2	3	3	29
Mechanical	0	1	1	0	1	1	0	0	0	1	5
Premature, uncertain	4	1	1	2	2	3	1	1	2	0	17
Mature, uncertain	2	0	3	3	4	1	1	1	0	4	19
Pre-eclampsia	1	0	0	0	0	0	0	0	0	0	1
Antepartum haemorrhage	0	0	1	0	0	0	0	0	0	0	1
Serological	1	0	0	0	0	0	0	0	0	0	1
Total	10	5	9	10	11	8	3	4	5	8	73
Perinatal loss/1000 cases admitted	9.0	4.3	8.3	9.0	11.7	8.0	3.2	4.0	4.6	6.9	6.9

*Figures include cases transferred to the specialist unit.

and 11·4 per cent in 1979, the mean transfer rate being 8·4 per cent.

Since 1970, it has been possible to analyse, in some detail, patient transfers in relation to age and parity, and type of problem. Table 3 shows the percentage of each age and parity group transferred and clearly confirms that the elderly primigravida is most likely to come to transfer, although after 1972, when the criteria for admission had been altered to exclude primigravidae over 35, the percentage of this group transferred fell considerably. The mean transfer rate for primigravidae aged between 19 and 29 is 12·4 per cent and that for the elderly primigravidae is 29·6 per cent. This compares with 4·1 per cent and 3·0 per cent respectively for gravida 2 to 4. Between 1976 and 1978 the transfer rate was lower for the older age group than for the 19 to 29 age group. However, very small numbers of older primigravidae are involved—only 21 were admitted in 1976, 22 in 1977 and 21 in 1979, compared with 320, 293 and 341 of the 19 to 29 age group. These figures suggest that great care is generally exercised in booking older women into the general practitioner unit.

Figure 2 illustrates the pattern of the major causes of transfer from the general practitioner unit to specialist care, and includes those cases in which the obstetric registrars helped with the forceps delivery when there was delay in the second stage.

Transfers due to failure to establish labour after ARM or after spontaneous rupture decreased dramatically after 1975. It was at this time that the use of IV Syntocinon in the unit became an accepted procedure. There are now two electronic i.v. infusion counters available, but their use is subject to there being adequate nursing staff and the practitioner who instigates the procedure being available throughout the labour.

The routine use of IV Syntocinon does not, however, seem to have reduced the numbers transferred because of prolonged labour. In the last two years IV Syntocinon has been used in approximately 10 per cent of all cases, yet transfers due to prolonged labour still repre-

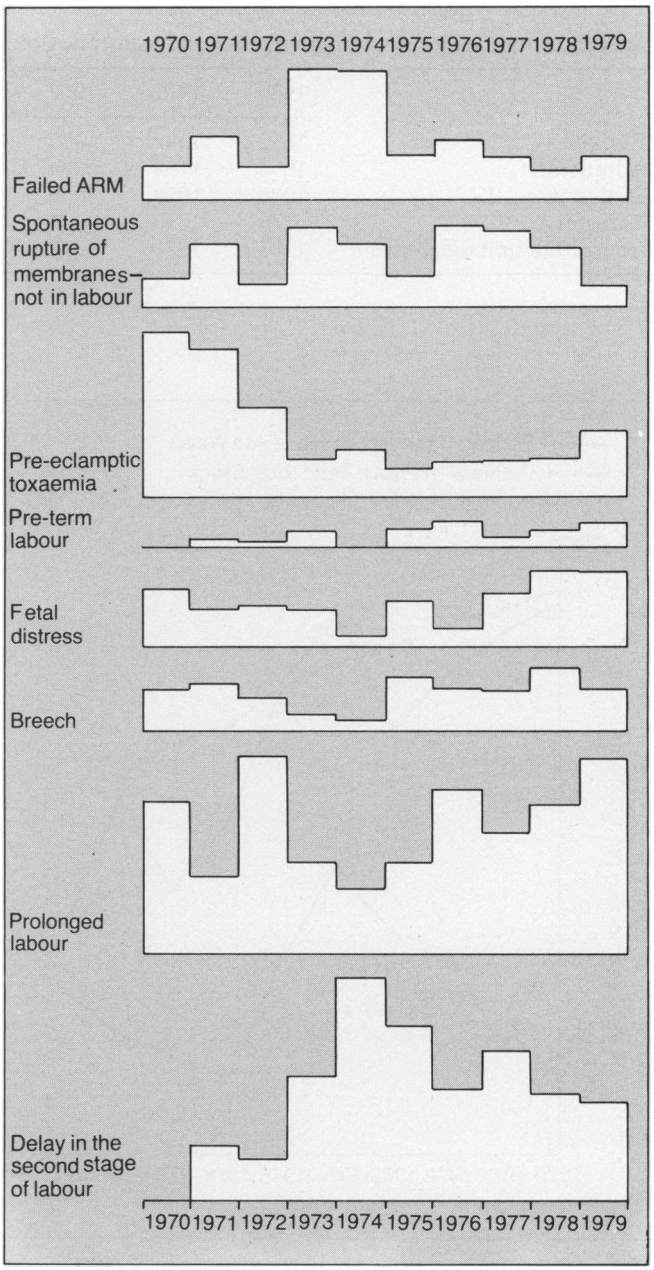

Figure 2. *Reasons for transfer to specialist care as a percentage of total transfers (1970-1979).*

Table 3. Age and parity of patients transferred to the consultant unit (1970-1979).

	Percentage transferred									
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Primigravida										
Age <19	*5.1*	*5.6*	*11.7*	*6.5*	*2.3*	—	*6.8*	*12.2*	*14.0*	*8.0*
19-29	*14.1*	*8.8*	*15.0*	*14.1*	*7.6*	*7.4*	*12.5*	*13.3*	*13.2*	*17.5*
30-39	*33.0*	*33.0*	*50.0*	*8.3*	*13.3*	*20.0*	*5.8*	*9.0*	*6.4*	*42.8*
Gravida 2-4										
Age <19	—	—	—	—	*25.0*	*33.0*	—	—	—	—
19-29	*3.3*	*2.7*	*4.9*	*8.8*	*1.9*	*3.0*	*4.3*	*4.6*	*3.4*	*8.2*
30-39	*2.9*	*4.3*	*2.9*	*2.2*	*2.2*	*3.7*	*6.4*	*4.0*	*6.0*	*4.0*
Mean transfer rate	*6.9*	*8.3*	*7.2*	*8.6*	*4.6*	*5.3*	*6.9*	*7.2*	*7.1*	*10.0*
Including registrar deliveries	*6.9*	*8.3*	*7.2*	*10.5*	*7.1*	*6.7*	*7.6*	*9.0*	*8.0*	*11.4*

sented 29·5 per cent of the cases transferred in 1979. Included in this group are cases variously classified in the punch card audit as high head at term, persistent occipito-posterior, cervical dystocia, uterine dysfunction, and disproportion. There are usually elements of all five factors in prolonged labour. The high heads and disproportions should be screened out before the onset of labour, but persistent occipito-posterior and uterine dysfunction are not so predictable.

There was a steady decline in the number of cases of pre-eclampsia transferred (PET) until 1979, when the figure reached 10 per cent. It had begun to look as though all cases of PET were being screened out and referred to specialist antenatal care, but in 1979 there were 14 cases admitted who showed toxaemia of sufficient severity to warrant immediate transfer to the specialist unit.

Delay in the second stage of labour is the second most common cause of transfer to specialist care, representing 17·4 per cent of the total number of transferred cases for the period 1970 to 1979. Approximately four fifths of this category (123 out of 158) were delivered by an obstetric registrar in the delivery suite of the general practitioner unit.

Since 1974 the percentage of cases of prolonged labour has increased, whilst there has been a drop in the incidence of delay in the second stage. There has also been a reduction in the percentage of forceps deliveries carried out by registrars in the general practitioner unit. As Table 4 suggests, it is possible to infer from these developments that there is now earlier referral in those cases that are liable to end in forceps delivery and earlier diagnosis of poor progress in labour.

Further reasons for transfer include antepartum haemorrhage, prolapsed cord, patients referred for induction, malpresentations such as brow, a meningomyelocele, and several cases of retained placenta, but the numbers involved in each problem are too small to show graphically.

Procedures

Table 5 enumerates various procedures that are carried out. It shows that there was increased use of amniotomy in the mid-decade, usually by forewater rupture, but

Table 4. Forceps deliveries by obstetric registrars; transfers due to prolonged labour and delay in the second stage (1973-1979).

	Transfers due to prolonged labour (percentage of all transfers)	Transfers due to delay in second stage (percentage of all transfers)	Forceps deliveries by obstetric registrars (percentage of all forceps deliveries in general practitioner unit)
1973	*15.0*	*20.0*	*29.3*
1974	*10.4*	*35.8*	*36.3*
1975	*14.7*	*27.9*	*24.2*
1976	*27.7*	*18.0*	*21.9*
1977	*20.0*	*24.4*	*25.0*
1978	*24.1*	*17.2*	*16.9*
1979	*29.5*	*15.1*	*20.2*

Table 5. Procedures (numbers; percentages of deliveries or admissions) (1970-1979).

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Artificial rupture of membranes										
Number	87	109	167	157	138	166	103	127	136	121
Percentage of deliveries	*(8.5)*	*(10.3)*	*(16.6)*	*(15.5)*	*(15.4)*	*(17.4)*	*(11.7)*	*(13.7)*	*(13.6)*	*(11.6)*
Syntocinon infusion										
Number	51	39	73	52	73	86	102	137	181	169
Percentage of deliveries	*(5.0)*	*(3.6)*	*(7.2)*	*(5.1)*	*(8.1)*	*(9.0)*	*(11.6)*	*(14.8)*	*(18.1)*	*(16.2)*
*Episiotomy**										
Number			566	630	613	616	604	492	492	460
Percentage of deliveries								*(53.0)*	*(49.2)*	*(44.3)*
*Second degree perineal tears**										
Number								223	218	204
Percentage of deliveries								*(24.0)*	*(21.8)*	*(19.7)*
Forceps deliveries										
General practitioners	44	54	75	53	42	43	32	54	49	63
Registrars	—	6	4	22	24	14	9	18	10	16
Total	44	60	79	75	66	57	41	72	59	79
Percentage of admissions	*(4.8)*	*(5.2)*	*(7.3)*	*(6.8)*	*(7.0)*	*(5.7)*	*(4.3)*	*(7.2)*	*(5.5)*	*(6.8)*

*Episiotomy and second degree perineal tears were recorded separately only after 1977 and not at all before 1972.

that latterly the ARM rate has been falling. The forceps rate, even allowing for forceps deliveries by registrars, remains fairly constant over the 10 years, and compares with that shown in figures published for other general practitioner units (Richmond, 1977; Marsh, 1977).

Episiotomy is performed more commonly in primigravidae than in multigravidae. However, second degree tears are more common in the latter group. This suggests that midwives perhaps hope to get away without stitches more often than they ought in multigravidae. The audit has been able to distinguish between episiotomy and second degree tears only for the last three years.

Intravenous Syntocinon is used in two ways: either in conjunction with ARM, or when labour is not becoming established after spontaneous rupture of the membranes or is just being sluggish. These cases are classified in the audit as uterine dysfunction. Table 6 shows that Syntocinon is used with ARM as often with multigravid as with primigravid patients, but that its use because of uterine dysfunction occurs twice as often in primigravid patients.

Table 6. Use of IV Syntocinon in induction and stimulation of labour (1975-1979).

	Primigravidae		Multigravidae	
	Induction	Uterine dysfunction	Induction	Uterine dysfunction
1975	32	16	30	8
1976	32	27	32	11
1977	49	29	45	14
1978	49	52	55	25
1979	54	43	50	22

Discussion

The Colchester general practitioner obstetric unit is independent of the consultant unit, although it shares the same building. Relations between general practitioners and consultants are excellent, and there is no interference on the part of the consultants. Changes in policy have evolved gradually by a process of discussion. Some changes are initiated by general practitioners and some by the consultants, but the 'cogwheel' system ensures full and open discussion before any changes are implemented.

The result is a dynamic general practitioner unit in which practitioners can offer their patients a personal service during the period of childbirth, and so strengthen the doctor-patient relationship. Knowing that her own doctor will attend her labour is often a great comfort to the expectant woman. The unit attempts to reinforce this feeling.

The pace of labour in the general practitioner unit is much gentler than in the specialist unit. There is no place for the Cardiff pump, although, as has been shown, extensive use is made of IV Syntocinon to maintain the impetus of labour. In the labour ward some of the ideas put forward by Leboyer (1975) are used—theatre lights are dimmed, and the infant is delivered direct onto the mother's abdominal wall. The body contact gives pleasure and enhances mother/baby bonding.

Labour and delivery in a general practitioner unit should encompass the best elements of a home confinement, namely continuity of care by the family doctor and a peaceful, unhurried approach by the nursing staff provided within the security of a well-equipped hospital environment. With the co-operation of our consultant colleagues we can offer our patients the best of both worlds. Because the specialist unit is nearby, everyone is confident that if a situation develops which a general practitioner cannot control, help is readily available. The importance of specialist assistance being close by is illustrated by the number of patients whose babies are delivered in the general practitioner unit by specialist registrars. However, a transfer rate of less than nine per cent for the 10 years covered by this survey does not suggest that their help is misused. The survey also shows that in delivering 1,000 or more patients each year, the general practitioner obstetricians make a significant contribution in terms of manpower which the consultant service would be hardpressed to replace.

It is important to record these observations now because in September 1978 work started on an extension to the Colchester Maternity Hospital which includes a delivery suite in which general practitioners and consultants will work side by side. It is almost inevitable that some independence will be lost, at least in as much as it may prove difficult for patients to remain specifically under the care of their general practitioner.

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