information system still collects simple data. The press release that accompanies the Department of Health and Social Security's bulletin misleads when it suggests that activity represents quality. It does no such thing. The DHSS should be more aware of the need to measure effectiveness of health service activities to encourage improvement in the quality of health care.

ROBERT R WEST

Senior Lecturer in Epidemiology,
University of Wales College of Medicine,
Cardiff CF4 4XN

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Multiple births

We know little about the causes of either monozygotic or dizygotic twinning, although the causes of the latter are multifactorial and include a genetic element. Maternal age and parity, ethnic group, maternal nutrition, height, fecundity, and concentrations of follicle stimulating hormone have all been associated with the risk of dizygotic twinning, the peak prevalence being in mothers in their 30s, with the rates being highest in African and lowest in some Asian populations.^{1,3} The frequency of monozygotic twinning seems to be constant. The incidence at conception of multiple births may be much higher than that at birth, the loss of only one twin appearing to be more common than was originally thought.⁴

A family history of multiple births may also be associated with the occurrence of some chromosomal anomalies,⁵ possibly reflecting a familial tendency to errors of cell division. Independently it has been associated with neural tube defects in the same sibship.⁶ Certainly congenital malformations of most kinds are more common in multiple than single births, but this is probably a direct complication of the multiplicity.⁷

Whatever the causes the consequences of multiple births are substantial, with a definite rise in virtually all the complications of pregnancy and delivery, including pre-eclampsia, preterm labour, growth retardation, placental anomalies (particularly in monozygotic twins), and malpresentations, and a consequent increase in the rate of neonatal problems.² The risk is less for dizygotic twins, especially when one or both twins are girls, and for the first baby of a set delivered.⁸ A recent review found that in England and Wales the 2% of all births which are multiple make up 9% of all perinatal deaths.³ This is largely due to the general shift downwards of the distribution of their birth

weight, so that they account for about one in five of all liveborn infants weighing under 1500 g. At these low weights the mortality risks of multiple births are slightly lower than those of singletons. Nevertheless, the high proportion of multiple births among very low birthweight infants underlines the need to keep neonatal intensive care units sufficiently unoccupied to allow for sets of two or more sibs to be admitted at a time—events which can impose a severe strain on even well staffed units.

One of the unanswered questions is why trends in birth prevalence have varied over time; in many countries rates of dizygotic twinning fell between 1956 and 1980, and in Britain and elsewhere they have risen since then—particularly for orders higher than twins.³ Much of this last feature may be attributable to the increasing use of fertility drugs and in vitro fertilisation. Whatever the reason, the combination of a rise in birth prevalence and a fall in mortality means that an increasing number of infants delivered at multiple births are surviving.³

The physical, mental, and financial strain on young parents of coping with two or more young babies, often with all the problems that preterm birth brings, must be substantial. It is good that a new survey is being launched to look into the long term effects of multiple births on both parents and children.⁹ Its results cannot fail to interest parents and professionals alike, and I hope that the response to the survey will be generous.

EVA ALBERMAN

Professor of Clinical Epidemiology,
London Hospital,
London E1 1BB

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Aspiration cytology of the thyroid

Enlargement of the thyroid gland is a common problem. A survey from the north east of England reported a prevalence of palpable goitre of 15.5%, with solitary thyroid nodules being found in 3.2% of women and 0.8% of men.¹ Similarly, in the United States of America clinically apparent nodules are present in 4.7% of adults.² The development of goitre is a concern to both the patient and the doctor because of the fear that the swelling may be malignant. Most goitres, however, are benign, and even in solitary nodules selected for surgery on clinical grounds malignancy is found in only around 10%.²

The traditional approach to investigating a patient pre-

senting with a thyroid nodule or goitre is by radioisotope or ultrasound scanning. Thyroid uptake scans with technetium-99m or iodine-123 indicate whether a nodule or area of a gland is "hot" or "cold"—that is, whether it takes up the isotope or not. In a review of cases in which all patients underwent operation malignant disease was found in 16% of cold nodules, 9% of warm nodules, and 4% of hot nodules.³ Therefore a cold nodule has the greatest probability of being malignant, but most are benign, and finding a hot nodule does not exclude malignancy. The value of isotope scanning is thus limited by its poor differentiation of benign from malignant disease. Similarly, no sonographic criteria can reliably distinguish benign from malignant thyroid tissue. Though ultrasound examination will classify goitres or nodules accurately as being solid, semisolid, or cystic and fewer cystic lesions than solid lesions are malignant, some carcinomas undergo cystic degeneration.

In contrast to these scanning techniques, which give an indirect indication of the nature of the lesion, fine needle aspiration provides a means of obtaining thyroid tissue for direct cytological examination without the need for surgery. The procedure, which is well tolerated and easily performed in an outpatient department, has been used extensively in Scandinavia for over 25 years. A skilled cytologist can achieve excellent diagnostic accuracy. Reviewing published comparisons between cytological and histological findings at surgery in over 3500 patients, Lowhagen *et al* found that false negative diagnoses occurred in fewer than 10% of cases and false positive ones in fewer than 2%.⁴ Similarly, British experience showed false negative and false positive rates of 6.3% and 0.6%, respectively, in 373 patients with histological confirmation of the cytological diagnosis.⁵

In our own series of 109 euthyroid patients with thyroid enlargement presenting consecutively to a joint medical and surgical clinic the clinical and cytological diagnosis was of benign colloid goitre in 58 patients. Two patients underwent thyroidectomy because of the size of the goitre; lymphocytic thyroiditis was found in nine patients, six of whom were positive for thyroid antibodies, none being treated surgically. Fluid was aspirated from thyroid cysts in 29 patients, all of whom had solitary nodules clinically; the nodules disappeared after aspiration in 22 cases, seven cysts requiring two aspirations—a "cure rate" of 76% during the review period. Cytological examination of the cyst fluid showed no malignant cells in any case. Similarly, Edmonds and Tellez report that 11 of 22 simple cysts disappeared after aspiration and that recurrent cysts could be treated successfully with the injection of tetracycline (p 529).

Suspicious or frankly neoplastic cytological findings were reported in 13 of our 109 patients. Three cytological diagnoses (anaplastic carcinoma, lymphoma, and metastatic oat cell carcinoma of the bronchus) spared the patients surgery, and among 10 patients referred for thyroidectomy follicular, papillary, or medullary tumours were confirmed histologically in seven. One initial false negative cytological report has emerged in a patient with a follicular adenoma during a mean follow up of 16 months.

Fine needle aspiration cytology has replaced radioisotope and ultrasound scanning in our practice; the financial saving for the technetium-99m scans no longer performed is £35 for every new patient seen with thyroid enlargement. More important, however, is the reduction in the number of operations for removal of non-neoplastic disease, both in our own clinic and in those of others.^{2,4,6} For example, Al-Sayer *et al* found a 25% reduction in the frequency of operation for

isolated thyroid swellings and an increase in the proportion of operations for neoplasia from 31% to 50% after they had introduced aspiration cytology.⁷ In our own series neoplastic tissue was removed from 41% of patients undergoing thyroidectomy compared with a predicted rate of 12% if all cold or solid lesions had been removed.

The limitations of fine needle aspiration cytology include its inability to distinguish benign from malignant follicular neoplasms—which needs surgical excision to provide a histological diagnosis—and a finite false negative rate, owing largely to sampling error. None the less, in their decision analysis of the management options in patients with thyroid nodules Molitch *et al* showed that aspiration cytology, followed by selective surgery, results in a lower eventual morbidity and mortality when compared with subtotal thyroidectomy in all patients.⁸ Finally, a further important benefit of fine needle aspiration is the prompt reassurance which the results can often give to both the patient and the doctor.

JAYNE A FRANKLYN
Lecturer

MICHAEL C SHEPPARD
Professor

Department of Endocrinology,
Queen Elizabeth Hospital,
Birmingham B15 2TH

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AIDS and tuberculosis

Highly pathogenic organisms, such as *Mycobacterium tuberculosis*, may infect patients with the acquired immune deficiency syndrome (AIDS) or the AIDS related complex early in the disease, before immune deficiency has fully developed.¹ In contrast, organisms of low virulence, such as *M avium-intracellulare*, strike later when immune deficiency has fully developed. Tuberculosis may thus precede AIDS by several months—as occurred in 14 of 29 cases reported from New Jersey² and in 18 of 30 cases from New York³—but often the two conditions are diagnosed concurrently.

The risk of a patient with AIDS acquiring tuberculosis depends on the prevalence of the disease in the local population. Thus in one series 27 of 45 patients with AIDS who came from Haiti, where tuberculosis is common, were infected with *M tuberculosis* compared with only one of 37 non-Haitians.⁴ In parts of central Africa where AIDS has become epidemic there is also a high rate of associated tuberculosis.⁵

Intravenous drug abusers appear to be at special risk of acquiring tuberculosis, and a high rate of infection in this group was reported well before AIDS began.⁶ This