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Six-year follow-up of kidney function and analgesic consumption. W. E. Waters, P. C. Elwood, A. W. Asscher, and Margaret Aberseth. Department of Community Medicine and Primary Medical Care, University of Southampton and Epidemiology Research Unit, Cardiff

The evidence that analgesics, particularly phenacetin, affect kidney function is based largely on clinical rather than epidemiological evidence. A survey of analgesic consumption and urinary tract symptoms in nearly 3,000 women living in the Rhondda Fach in 1967 included kidney function tests on various subsamples. The results of this survey gave no definite evidence that analgesic consumption was associated with decreased renal function (Lancet, 1973, 1, 341).

In 1973, the 56 women with the highest analgesic consumptions in 1967 were followed up along with 100 controls. The response rates were satisfactory, and data from a standard questionnaire and urine and blood tests were obtained from about 90% of those still living in the area. The analysis showed that those taking analgesics had a higher prevalence of symptoms though this may, in part, be related to personality differences. Tests of renal function, such as plasma urea, plasma creatinine, and concentrating ability after overnight dehydration, showed slight differences between the two groups which were mainly not statistically significant but suggested, if anything, a possible decrease in kidney function in the analgesic group.

People migrating between Scotland and England and Wales—some aspects of their mortality experiences. H. McDonnell. Department of Community Health and General Practice, University of Leeds

The home population in Scotland experiences higher overall mortality compared with that of England and Wales. This is particularly true in the case of ischaemic heart disease, cerebrovascular disease, and carcinoma of the lung. In this study the mortality experience of migrants between the two areas was examined and the main findings were described.

The migrant populations have been enumerated in the 1961, 1966, and 1971 censuses. The enumeration in the latter was on a 100% basis, yielding a promise of accuracy greater than that available before. About three-quarters of a million Scottish-born people live in England and Wales and a quarter of a million English and Welsh-born live in Scotland.

Since the early part of 1969 the place of birth has been recorded on the death certificate, and, using unpublished data from the Office of Population Censuses and Surveys, it has been possible to examine the mortality experience of the migrants in both areas for the years 1970, 1971, and 1972 and to compare them with the expected rates (from the Registrar General’s unpublished data).

Migrants were found to have a mortality pattern different from their native home-based populations. This was particularly the case in the cardiovascular and cerebrovascular disease groups. The Scottish-born living in England and Wales revealed an advantage, whereas the English and Welsh-born migrants showed disadvantage, compared with their expectations had they lived and died in their country of origin.


The study showed that in 1972 admission rates to hospitals for coeliac disease were approximately three times greater in the Republic of Ireland than expected if the same rates occurred as in England and Wales, whereas the admissions for cystic fibrosis were only slightly higher in Ireland and in Scotland than in England and Wales. Admission rates for coeliac disease were as high in the south and east of Ireland as in the west.

In Ireland the potato and not wheaten bread was the staple diet of the Irish before the famine, and in the past therefore coeliac disease would not have been as disadvantageous in Ireland as in England where bread was the staple diet. This could account for a better survival of those who had inherited coeliac disease in Ireland than in England which could result in a higher gene frequency in the Irish.

Influence of environmental factors on variations in daily mortality. Alison MacFarlane. MRC Air Pollution Unit, St. Bartholomew’s Hospital Medical College, London

In earlier work it was shown that episodes of severe air pollution in Greater London were accompanied by sudden short-term increases in daily deaths, but these
became progressively rarer during the 1960s as the pollution declined. For the original studies data were available only for London but since April 1969 it has been possible to obtain daily death totals for all England and Wales, enabling the study to be extended to the northern conurbations, some of which are still relatively polluted. Another new aspect of the study is that the effects of pollution are being considered in conjunction with those of influenza and extremes of temperature. Further, there is now access to more powerful computing facilities, both for graphical display of the data using a microfilm plotter and for statistical analysis. Preliminary graphical results indicating the age and disease groups most affected by environmental factors were discussed.

An international controlled trial in the multifactorial prevention of coronary heart disease. G. Rose (on behalf of a WHO Collaborative Group). St. Mary's Hospital Medical School, London.

Centres in Belgium, Italy, Poland and the UK are collaborating under WHO auspices in a randomized controlled trial set up in order to estimate (1) the extent to which the main risk factors for CHD can be modified in workers in industry, using primarily a health education approach and with a realistic level of resources; (2) the effect of such changes on CHD incidence and mortality; and (3) the consistency of results between different countries. The allocation units are factories or other large occupational units, which permit a community as well as individual approach. The subjects are men in all grades of employment aged 40-59 at entry. The intervention measures are (1) cholesterol-lowering diet, (2) cessation of cigarette smoking, (3) physical exercise, (4) control of overweight, and (5) drug treatment of hypertension. So far 48,000 subjects in over 60 factories have entered the study, which is expected to continue for a total of five years' follow-up.

Medicine and sociology—a study in ambivalence. MARGOT JEFFERY. Social Research Unit, Bedford College, London.

Most British medical schools have made some effort to introduce a course in sociology as applied to medicine following the recommendations of the Royal Commission on Medical Education (1968); but the innovation is frequently undertaken without enthusiasm or strong conviction by all the parties which have some interest in or influence upon the shape of medical education. There are three main interest groups external to the medical school which might be expected to exert some influence on the content of medical education: the practising profession, the consumers of medical services, and the employers of medical personnel (i.e., in this country the state at central and regional level). Each of these three groups is heterogeneous and has potentially conflicting interests. Some subgroups are anxious to broaden the content of medical education to include psychosocial sciences or training in the management of scarce resources; but none has been able or willing seriously to challenge the educational hegemony of the medical schools. Within these latter there are also three broad interest groups—the teachers, the students, and the intended invaders—the social scientists. Those responsible for the teaching of the well-established sciences and clinical skills are naturally reluctant to innovate if it involves reducing their own teaching input. Students, however motivated to learn about the social context of medical knowledge and practice—and many are, have to cope with perceived overload and react by shelving subjects which they suspect are regarded as least relevant by the examiners. Social scientists, too, are likely to be ambivalent. They may be envious of the high status enjoyed by the medical profession and resent having to undertake 'service' teaching and research rather than teaching and research fundamental to their own discipline. For these and many other reasons, innovation may be less successful than is desired by those who are anxious to increase the social science component of basic medical education.

An overview of medical sociology teaching in British medical schools today. UNA MACLEAN, Department of Social Medicine, University of Edinburgh.

A peripatetic survey was recently undertaken (autumn 1973) into the teaching of whatever is termed 'medical sociology' in British medical schools. Certain of these findings were briefly summarized and attention was drawn to the very wide range which currently exists in the length, content, placing, and teaching methods of undergraduate courses.

In all 27 schools only a small minority are without any plans for teaching in this area, many are in the process of introducing it into the curriculum, while 11 schools, nine of them provincial, already feature well-established courses. However, these differ in regard to the specification of instructional objectives, the background, experience, and affiliation of the teachers and the degree of genuine integration with related subjects.

Although in many places the relationship of medical sociology to social and community medicine is explicit and rewarding, this is not necessarily the case, some schools having chosen to emphasize the epidemiological aspects of the earlier discipline which, not so long ago, was itself experiencing problems of identity.

While the overall state of medical sociology may well be symptomatic of the prevailing uncertainty about the main aims of medical education, its actual form in particular places seems rather to depend upon local history and geography and the interplay of professorial personalities.

Theoretical assumptions in planning a sociology course for medical students. D. TUCKETT, Social Research Unit, Bedford College, London.

The main aim of a sociology course for medical students is to attempt to broaden students' attitudes—particularly since the training they have received at school and in the pursuit of knowledge in physics, chemistry, and biology often seems to have been inadequate in helping them to think in a creative and critical way.
There are three ways in which an attempt has been made to broaden students’ attitudes:

1. by exposing them to the world outside their ‘common sense’ experience, and familiarizing them with what it feels like to be an immigrant, of the working class, a woman or chronically sick;

2. by introducing them to new ways of looking at their familiar experience (for example doctor-patient relationships seen as conflicting rather than co-operative; medicine seen as a form of social control; illness seen not as something ‘given’ but as something created by a set of values, etc.);

3. by inculcating a creatively critical attitude towards the way inferences are drawn from evidence in science, and how sociological behaviour can be systemically investigated.

Causes of spontaneous abortion. Eva Alberman. Paediatric Research Unit, Guy’s Hospital Medical School, London.

It is thought that one in four or five conceptions ends as a spontaneous abortion. There has been surprisingly little interest in the cause, but it has recently been realized that this is an important source of information about reproductive hazards, and accordingly it has formed the basis of a recent survey in London.

Two thousand six hundred and twenty mothers admitted to hospitals, having spontaneous abortions, were interviewed, and, where possible, products of conception were examined macroscopically and, in 977, chromosomally. Of those karyotyped 29·1% were chromosomally abnormal, about half being trisomic and one-fifth of a 45X constitution. The proportion of abnormal to normal varied considerably with several maternal factors. It went up steeply with maternal age, and this increasing risk of chromosomal anomaly probably accounts for much of the rise of crude incidence of early pregnancy loss with age. In contrast, the proportion of chromosomally abnormal abortions fell with two factors known to be associated with an increase of crude risk of early loss, namely, habitual abortion and maternal smoking. The latter factors are therefore presumably associated with the loss of apparently normal fetuses. The proportion of chromosomal anomalies also varied with maternal race, being lowest in mothers of African origin and highest in Asians and Caucasians.

In the absence of a better measure, a monitoring of the proportion of abnormal to normal fetuses may prove a useful method of investigating the causes of early pregnancy losses. Such investigations are of continuing interest because of their bearing on causes of perinatal loss or congenital handicaps.


Some 50,000 babies weighing 2·5 kg or less are born every year, and these represent a considerable part of the problem of neonatal care in terms of the use of health services resources. The proportion of small babies among those born is not constant from year to year, and prediction of the magnitude of this problem requires information for all female groups classified by age and parity at least. It is possible to relate these variables for the post-war period and these data were presented.

The trend in the birthrate this century presents something of an enigma, spanning as it does two world wars and a major depression. It is difficult to say more than that man does what he wants to do despite medical and sociological knowledge, but inferences may be drawn about some of these trends by analogy with recent events where information is more adequate.

Affluence: its effect in Rhodesian Africans on known risk factors of ischaemic heart disease. Win M. Castle. Department of Social and Preventive Medicine, University of Rhodesia.

There are well-documented risk factors associated with ischaemic heart disease. How big is the gap between Africans and Europeans? Are the risks of coronary artery disease in the urban area increasing as the European way of life impinges on that of the more prosperous African in particular?

A system for dividing the urban African population into six socio-economic classes was used for grouping 290 adult male volunteers. The upper class Africans were compared with those of the lower social classes as well as with 110 European volunteers. The risk factors compared were diet, the cholesterol-lipoprotein complex, hypertension, cigarette smoking, glucose intolerance, uricaemia, obesity, physical fitness, tachycardia, mental tension, and post-exercise electrocardiography.

The low class African ran higher risks so far as tachycardia and mental tension were concerned. Contrasting the upper class African with the European, the risks were equal for cigarette smoking, insulin levels, uricaemia, and obesity and were higher in the African for mental tension, tachycardia, sedentary life style, and ECG changes after exercise. The Africans were protected by lower cholesterol, beta and prebeta lipoproteins, and glucose levels.

A study of the after-effects of female sterilization. R. J. Donaldson. Extension Training Centre, London School of Hygiene and Tropical Medicine.

A sample of 109 women aged 40 years and under who were sterilized between June 1968 and September 1970 was interviewed in depth using a semistructured questionnaire. A control group was found by matching each woman in the sample for age and parity with a woman from the same area who gave birth to a child within three months of the sterilization date of her counterpart. Interviews of the sterilized women and their matched controls took place at almost the same time so that the interval between the operation/delivery and the interview date should have corresponded.

For both sample and control groups, certain factors were examined before and after the operation (or delivery) date. These factors related to social and economic
conditions, health, and libido. Four aspects of sexual behaviour were assessed by scales: frequency of intercourse, satisfaction with frequency, sexual interest, and sexual satisfaction (8-10). Both groups were also asked about religion and contraceptive practice. In addition, the sample of sterilized women gave their reasons for wanting the operation and were asked about their knowledge of it. The incidence of regret was also examined.


All in-patient admissions (ca. 12,000) of Glasgow residents to mental hospitals and psychiatric units during the three years 1970-72 were analysed by diagnosis, age, sex, place of residence, and admission order. Age-standardized admission rates for different diagnostic groups exhibited distinctive geographical distributions and characteristic patterns of relationships with demographic and socio-economic variables and indices of social pathology. Data on first and subsequent admissions of schizophrenic and alcoholic patients, in particular, were examined in the light of current controversies on the role of social factors in aetiology. The nature of psychiatric disorder in a city with multiple problems of social and environmental deprivation was considered.

Use of psychiatric services in Camberwell and Salford— a joint register study. Anthea Hailey. MRC Institute of Psychiatry, De Crespigny Park, London.

For the first time two psychiatric case registers have produced a planned series of population statistics in comparable form. The populations showed many similarities. Day prevalence, episode and year prevalence figures were presented for five years from 31 December 1967 to 31 December 1972 and attention was drawn to the main differences between the two areas. The outpatient rate was very much higher in Camberwell, but the difference may partly have been accounted for by more social work in Salford. Salford had more long-stay in-patients but currently discharges new admissions more quickly than Camberwell. The patterns of attrition and accumulation of old and new long-stay patients were presented and discussed. Speculation was offered as to the reasons for the different use of psychiatric facilities.


This paper was based on epidemiological studies conducted in Lambeth in 1967, 1968, and 1969. The samples were drawn from the population identified in the St. Thomas’s Hospital sample census of 1966 (Bennett and Kasap, 1970). The prevalence of psychological disturbance in a population of disabled males and females was compared with that in two control groups, one suffering the same range of physical impairments but not disabled and the second suffering no identifiable impairment or disability. Self-administered questionnaires included the short 20-question version of Foul’s Personal Disturbance Scale (1965) and Goldberg’s General Health Questionnaire (1970).

The prevalence of psychological disturbance for both sexes was significantly higher among disabled respondents than among impaired or fit respondents and for ages 35 to 74 years was significantly higher in the younger age groups. The prevalence of psychological disturbance increased with increasing limitation of mobility but was not affected by the nature of the physical impairment. The data suggested that it is more likely that the onset of psychological disturbance occurs after the development of disability in those people suffering a physical impairment than before.

There was suggestive evidence that this disturbance was partly attributable to a sense of loss similar to a bereavement reaction and partly that disabled people have less control over the course of their lives. Medical and social care should thus aim to facilitate the healthy resolution of the bereavement reaction and to assist the disabled person to retain as much responsibility for his own life as possible.

Life expectancy and cause of death in the mentally retarded. T. Fryers. Department of Community Medicine, Manchester Medical School.

Data have been accumulated from 1961 to 1974 on mental retardation in Salford for planning and evaluation of services.

Severe retardation has increased 30% in administrative prevalence in 13 years, probably due to increased survival from early infancy, and into later ages. The prevalence in children of school age (5-14) has more than doubled since 1961.

Mild retardation has rapidly fallen in administrative prevalence due to changes in the structure, policy, and practice of the service agencies.

There were 164 deaths in 13 years. Of 121 recorded in the severely retarded, about one third died as young children but many survived to an older age. They died predominantly of respiratory disorders with low rates for neoplasms and circulatory disorders. The mildly retarded showed intermediate patterns except for an excess of accidental deaths.

The prevalence of severe retardation at 1 January 1974 was very high—3·2 per 1000 for all ages (Down’s syndrome 0·7) with 4·7 per 1000 for 5-14 years (Down’s 1·3) and 4·8 per 1000 for 25-34 years (Down’s 1·1).

Health care in Liverpool and elsewhere: some international comparisons. R. Kohn and R. F. L. Logan. London School of Hygiene and Tropical Medicine.

International comparisons help to prevent us from becoming either too smug about our health institutions or too despondent about recurring crises, some of which we share with other health care systems. An international study of medical care utilization was carried out in 12
selected and heterogeneous study areas in seven countries in Europe and the Americas in 1968/69. The study area in the UK was the Liverpool Hospital Region. A household interview survey was conducted, and data relating to the study areas and the prevailing health care systems were collected. Conclusions from Liverpool's performance to the NHS as a whole are limited because of this region's peculiarities, such as high supply of beds and high per capita cost, but certain features can be ascribed to the pervasive characteristics of the NHS. Comparisons were made at two levels: first, showing the Liverpool experience against the median for all 12 study areas; second, Liverpool against four other metropolitan areas in North and South America, Scandinavia, and Eastern Europe. The latter type of comparison controls to some extent for characteristics of large urban areas and sites of medical centres. The results presented in the paper may lead to the following interpretations, all expressing relative standings only.

Liverpool has a more equitable distribution of primary care resources; more so than elsewhere people see a doctor when they seem to need one most, which also goes for hospital use; there seems to be a better developed referral system or regionalization among hospitals; children fare relatively better in some respects than adults, the latter lagging in some aspects of prevention and hospital care. Liverpool seems to achieve its equilibrium between need and resources with relatively less manpower but, due to its high supply of hospital facilities, more beds. Within manpower and facilities, it appears to have a more rational balance between high and low cost resource categories. Other data related to differential morbidity patterns and health and illness behaviour and attitudes.

Errors affecting the value of microbiological laboratory reports. MARGARET J. PARKER. Department of Community Medicine, Middlesex Hospital Medical School, London.

A pilot study for part of an investigation into the value of microbiological laboratory reports was carried out in one centre. The aims were to identify and to explore sources of error at two stages in the total process of clinical microbiological investigation: first, during the collection and transport of specimens from patient to laboratory and, second, during the transmission of reports to the clinician.

The transportation system and the reception in the laboratory of 938 specimens were observed and 43 errors were detected (4.6%). Errors were defined and data concerning their nature and frequency were presented.

These data and an analysis of a standard questionnaire, completed by interviewing sisters/staff nurses, identified two primary sources of error:

1. failure to educate staff adequately; and
2. failure to provide suitable equipment.

Report forms which could not be delivered were checked. The main problems were failure to complete essential information on the request form and the use of ambiguous abbreviations.

The practice in all five participating centres will be compared to identify critical errors and their causes and to suggest how practice might be improved.

The work reported formed part of a research programme promoted by a Working Group on the Value of Microbiological Tests and supported by a grant from the Department of Health and Social Security.

A simple cost-benefit study in the field of cervical cytological screening. D. MAY. Department of Community Medicine, University of Manchester.

The age at which women should first be offered a cervical cytological screening service, and the frequency with which the offer should be repeated, are extremely uncertain. This study attempted to identify the optimum balance of cost and benefit by first defining various models of the natural history of cervical carcinoma, then defining a criterion by which benefit per unit cost can be measured, and finally determining that measure for a variety of screening procedures applied to each of the models.

The conclusion was reached that maximum cost-benefit follows from offering each woman one screening test at an age dependent on the model of natural history. Although many simplifying assumptions were incorporated in the study, relating to error rates and response rates and also limiting the concepts of cost and benefit to narrow areas, it was considered that the clearcut nature of the conclusion provided useful guidance towards the future direction of screening policy.

Estimation of the requirement of beds for terminal care nursing. D. L. HOLMES and A. W. M. WARD. Trent Regional Health Authority, and Department of Community Medicine, University of Sheffield.

The estimate was based on two sources:

1. a survey of the type of care actually received, i.e., at home or in hospital, by Sheffield residents who died of selected sites of cancer, and the impact of the opening of a 25-bed nursing home. This provided data for an estimate of the upper limit of demand, as it was possible to determine what proportion of patients, on medical and social grounds, would have been most appropriately cared for in hospital, at home, or in the special nursing home.

2. a simulation model of the admission of patients to this nursing home.

The model required information on the frequency with which this type of care is requested and the distribution of the patients' survival times. The model predicted the proportions of patients admitted or dying before they could be admitted given different levels of accommodation and different rates of appearance on the waiting list, and showed the use made of beds in any of these situations.

The results obtained were dependent on the way people operate the system of terminal care nursing. Currently the 25-bed nursing home is subject to a revealed demand of 1.09 applicants/million population/day with the result that about 30% of the applicants die on the waiting list before they can be admitted. From the survey it was estimated that a latent demand of 1.67 people/million
population/day required this facility. If similar operating characteristics continue with an increased provision of beds, about 35 beds would be required. However, further use of the simulation model will indicate different ways of controlling some of the variables in the system, decisions on which will be the responsibility of the Director of the nursing home.

Grading disability: an approach using cumulative scaling.
R. G. A. WILLIAMS and MARIE JOHNSTON. Department of the Regius Professor of Medicine, Oxford.

Grading of overall disability is increasingly important in estimating need for income, compensation, and services, in evaluating the outcome of new treatment regimes, and in planning and predicting the care pattern required by individual patients.

Scaling of disability in these contexts needs to meet three requirements: (1) items should represent the full scope of the natural units of daily activity between which the disabled make their choices; (2) there should be a generally agreed order of disadvantage for the group scaled; (3) it should be possible to identify individuals for whom the generally agreed order is not valid and to find alternative evaluation and prediction methods for them. Existing findings of disability do not meet these requirements. This paper developed an approach based on unidimensional cumulative scaling as pioneered by Guttman and used for some years in the social sciences. If confirmed as valid, it enables non-arbitrary inferences to be made about the degree of disadvantage, identifies non-scaling cases, and provides methods of predicting the progress of both scale-conforming and non-scaling individuals.

Guttman scaling of two sets of data was presented, the first of 88 men and 157 women from St. Thomas's survey of disability in the community in Lambeth during 1967, and the second from 31 women post-surgical patients. Internal tests of error in the scaling hypothesis, replication, and the fulfilment of predictions of individual change were among the tests used which all confirm the existence of Guttman scale patterns in disability. The approach also enabled factors involved in scale variation to begin to be identified.

The Cardiff Cervical Cytology Study. Response, error and prevalence rates. JOYCE B. LANDSMA N and P. SWEETNAM. MRC Epidemiology Unit, Cardiff.

In 1965 a cervical cytology screening study was set up in Cardiff. The study population comprised all ever-married women aged 25-69 who resided within the city boundaries. The object of the study was to assess the efficacy and acceptability of screening for cancer of the cervix.

Personal visitation was used to compile a register of the study population, and women were encouraged to accept a cytology test at special clinics set up throughout the city. The study population totals some 71,000 women of whom about 65% accepted a test. In each social class the response rate fell steadily with age, and at all ages the response rate decreased with decreasing social class.

Follow-up by regular re-testing at two-yearly intervals was aimed at but was not achieved for women entering the study after 1967. Reasons for this included the recall at intervals of less than two years of the 10% of women with any cytological abnormality. In addition, approximately 4,000 women were recalled within one month to check the reproducibility of the whole screening procedure. The second response rate was 80%. Change of address accounted for approximately 15% of loss to follow-up after prevalence testing, 18% of women refused further testing, and almost one-third failed repeatedly to keep appointments made by personal visiting.

The prevalence rates for unsuspected invasive cancer of the cervix, microinvasive cancer, and carcinoma-in-situ were shown in relation to age and social class, and possible biases in the age-specific prevalence as a result of selection were indicated.

An estimate of the false negative error rate was given and its effect on prevalence and incidence was discussed.

Cot deaths, immune deficiencies, and leukaemia. ALICE M. STEWART. Department of Social Medicine, University of Oxford.

The group characteristics of various causes of infant mortality suggest that sudden and unexplained deaths of infants and young children have non-specific infections as terminal causes and a congenitally defective immune system as the underlying cause. They also suggest that maldevelopment of the immune system is typical of the RES cancers which prove fatal during the first half of infancy.

The data showed that cot deaths are a special risk of children who are born in the second half of the year (July to December) and that the births of children who die during the first half of infancy are skewed in the same direction when they are ascribed to respiratory diseases and in the opposite direction when they are ascribed to leukaemia or lymphoma.

Accuracy of death certificates of patients treated for bladder cancer. JOAN M. DAVIES and DAVID M. WALLACE. Chester Beatty Research Institute, London.

The certified causes of death for 809 patients who were treated for bladder tumours at a cancer hospital during 1958-67 and died before 1972 (258 in this hospital, 308 in other hospitals, and 243 at home or elsewhere) were examined.

For 200 of the 809 deaths some disease other than bladder cancer was entered as the underlying cause, but assessment of clinical and necropsy data showed that in 50 of these cases the certified cause was incorrect and that bladder cancer was the true underlying cause. Most of these certification errors were avoidable, and about half were procedural errors involving the entry of bladder cancer under Part 2 as a contributory cause instead of under Part 1 as the underlying cause of a terminal bronchopneumonia or a pulmonary embolism. A hospital or coroner's necropsy did not necessarily ensure a correct certificate. Very few deaths were mistakenly assigned to bladder cancer when they were in fact due to other...
diseases, and the net effect of all the errors was a 7.4% understatement of the mortality from bladder cancer in this series of patients. An examination of national death certificates mentioning bladder cancer suggested that procedural errors may occur generally to a similar extent.

Bladder cancer risk of INH and criteria for prophylactic use. CAROLINE T. MILLER. Faculty of Medicine, University of Ottawa, Canada.

A study of bladder cancer patients and controls demonstrated a weak association between previous INH treatment for tuberculosis and carcinoma of the bladder in males.

The expected number of deaths from tuberculosis preventable by prophylactic treatment with INH at specific ages was calculated from life-tables, age-specific tuberculosis mortality rates, and the observed reduction in incidence of tuberculosis during chemoprophylaxis trials of tuberculin-positive subjects. The increase in risk of death from carcinoma of the bladder that would just balance the saving of lives by tuberculosis prevention was then calculated for each age group. This 'tolerable cancer risk' was 10-fold smaller than the observed increase in relative risk associating previous INH treatment and carcinoma of the bladder in males.

The distribution of antituberculosis chemoprophylaxis by age and reason for treatment was tabulated. There was negative correlation between computed 'tolerable cancer risk' and age-specific frequency of INH chemoprophylaxis.

Co-incidence of primary tumours in breast and cervix. PATRICIA PRIOR. Regional Cancer Registry, Queen Elizabeth Medical Centre, Birmingham.

A survey of multiple primary tumours carried out at the Birmingham Regional Cancer Registry included an investigation into the development of subsequent tumours in a series of breast cancer patients and also in a series of patients with cervical cancer. A more precise method to account for the apparent excess of simultaneous diagnoses was proposed.

In view of the contrasting epidemiological factors known to be associated with tumours at these sites a deficit of subsequent tumours might have been predicted. The results suggested that such an effect was offset by another factor, possibly a hormonal abnormality common to both breast and cervical carcinoma. In general, observed numbers of second primary tumours were found to be close to or above expectation.