

PRACTICE OBSERVED

Practice Research

Disagreement among general practitioners regarding cause of death

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Death certificates are well known to state poorly the pathological processes leading to death.¹⁻⁴ Hospital specialists using complex investigative equipment often fail to make accurate diagnoses before death, and thus not surprisingly general practitioners with fewer diagnostic aids at their disposal often disagree on the cause of death in a particular case. In addition, even when in agreement general practitioners often differ in the exact terminology they use when completing death certificates. Apparently minor differences in wording or ordering entries on the certificate may result in the assignment of entirely different diagnostic codes on the rules of the International Classification of Diseases (ICD) are applied.⁵ In an attempt to quantify this real and apparent diversity of opinion we have surveyed a random sample of general practitioners practising in England and Wales.

Methods

We studied principals in general practice from four regions of England and Wales (North Western, Wales, East Anglia, and South Western). From each region, a family practitioner committee (FPC) was randomly selected (Rochdale, Gwent, Suffolk, and Devon respectively). General practitioners from each FPC were divided into three groups according to the year that they qualified (obtained from a medical directory), and 13 names were chosen randomly from each

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group. Ten fictitious patient histories that we compiled were sent to each doctor. Most of the cases were based on patients whom we had seen but were modified to ensure anonymity and sometimes to create ambiguity. A covering letter guaranteed confidentiality and emphasised the absence of a "correct" diagnosis for a particular case. The general practitioners were asked to complete the certificates even if they would have informed the coroner under normal circumstances. To improve the response rate a follow-up letter was sent four weeks after the first letter, and after six weeks a random sample of general practitioners who had not replied was contacted by telephone.

Death certificates were coded according to the ICD⁶ by the Office of Population, Censuses and Surveys (OPCS) in their standard manner. The results were analysed for the underlying cause of death given in each case.

Results

The response rate among the general practitioners was 62%. Analysis of the replies by area and by the doctor's year of qualification showed a similar response rate from all subgroups. The number of different underlying causes of death given for each case ranged from seven to 26 among the 97 general practitioners (median of 11.5). Many of the diagnoses given were apparently similar, but differed enough to be assigned unique ICD rubrics. Non-specific diagnoses, such as senility (ICD 797) and myocardial degeneration (ICD 429.1) were found more frequently on certificates completed by general practitioners who had qualified before 1955.

To illustrate the diversity of diagnoses given for individual "patients" (table) the results for selected cases are provided but the clinical histories have been condensed. Readers may find it interesting to make their own decisions on the causes of death in the case studies before looking at our results.

Case 1—A 78-year-old man with cancer of the prostate treated with stilbestrol had become forgetful and confused. Years ago he had a swollen left leg. On examination his blood pressure is 160/105 mm Hg. He has lost skin and gynaecomastia. Rectal examination shows no sign that the cancer has spread beyond the

prostate. You diagnose deep vein thrombosis. Next day he is found dead in bed.

Case 2—A 65-year-old collier has sudden onset of shortness of breath and coughs up blood. He is on a 50% disability pension from the Pneumoconiosis Board. He smokes 20 cigarettes a day and regularly coughs up yellow sputum. He has been discharged from the services with a 15% pension. On examination he has central cyanosis, right ventricular hypertrophy, and a gallop rhythm. His jugular venous pulse is raised 2 cm, and there is dullness at the right base. You diagnose cor pulmonale with pneumonia and give diuretics and antibiotics. He dies in coma after four days.

Case 4—A 68-year-old woman with diabetes has been treated with oral medication. Despite adequate control of her blood sugar concentration the developed diabetic retinopathy and was blind. In 1978 a foot was amputated because of diabetic gangrene. Recently her creatinine

Underlying causes of death given by 97 general practitioners on death certificates (number and %)

Case 1: 18 doctors (20%) would have informed the coroner				
Pneumonia	32	1	5	1
Deep vein thrombosis	56	1	5	1
Myocardial infarction	133	1	5	1
Case 2: 46 doctors (48%) would have informed the coroner				
Cor pulmonale	50	2	22	2
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Case 3: 11 doctors (11%) would have informed the coroner				
Respiratory disease	58	1	3	2
Diabetes	31	1	3	2
Case 6: 73 doctors (75%) would have informed the coroner				
Asbestos bronchitis	34	14	3	2
Alcoholism	17	14	3	2
Case 7: 63 doctors (66%) would have informed the coroner				
Alcoholism	26	1	1	1
Coronary heart disease	20	1	1	1
Case 10: 84 doctors (87%) would have informed the coroner				
Coronary heart disease	26	1	1	1
Cardiac	26	1	1	1

96 doctors completed certificates

nine concentration was 300 mmol/l (3.4 mg/100 ml). Yesterday she developed a cough productive of rusty sputum and had a shaking chill. Her temperature was 40°C. There were rales present in her left chest. She died shortly after your arrival.

Case 6—A 64-year-old man has had "weezy bronchitis/asthma" for years. He is taking slow-release theophylline 250 mg twice daily, prednisone 5 mg twice a day, and uses a salbutamol inhaler. He has had bilateral amputations for ischaemia. He smokes 20 cigarettes a day. His maturity-onset diabetes was controlled with chlorpropamide and diet. He developed glaucoma treated with pilocarpine drops, but recently the hospital changed these to timolol twice a day. This morning he died in bed and was found clutching his salbutamol inhaler.

Case 7—A 60-year-old man has been unemployed for five years owing to severe rheumatoid arthritis. He has been drinking at least four bottles of spirits a week. Recently he has been complaining of indigestion. A local physician diagnosed "hepatic decompensation" and said that he probably had oesophageal varices and a duodenal ulcer. He refuses to stop drinking and takes antacids for his ulcer. He had signs of hepatic failure when you saw him last week. He was found dead, having vomited a lot of blood.

Case 10—A 64-year-old man collapsed and died within minutes. You had seen him regularly for hypertension. Most recently he had been treated with clonidine, a thiazide diuretic, and propranolol. The patient was, however, a poor pill taker, perhaps because of his

heavy alcohol intake. An electrocardiographic examination two years ago showed non-specific changes. His blood glucose concentration last year was 9 mmol/l (162 mg/100 ml). Last week you saw him because he had fallen off a ladder and his head after his left leg had suddenly gone weak. Examination at that time showed entirely normal findings except for the odour of alcohol on his breath.

Discussion

As predicted, the more complex case histories had greater numbers of coded "causes of death." When a "patient" died and more than one organ system was affected less than half of the doctors agreed on the underlying cause of death, even after the diagnoses were grouped into broad categories such as "renal disease" or "cerebrovascular disease." The least complicated cases produced only 50% agreement among the general practitioners.

It has been known for some time that death certificates under-report chronic diseases such as cancer and diabetes mellitus.⁷⁻¹¹ In case 1, for instance, cancer of the prostate was coded as the underlying cause of death on only 33% of the certificates, and in case 4 diabetes mellitus was listed in a similar percentage. For all cases of diabetes mellitus presented to our doctors (cases 4, 6, and 9), 87% of certificates would not have had diabetes coded as the underlying cause of death.

In case 6 beta-blocking eye drops may have contributed to the death, but only 5% of doctors mentioned this anywhere on the certificate. Only 3% gave an adverse drug effect as the underlying cause. Adverse effects of treatment with stilbestrol or clonidine might have been concerned in cases 1 and 10, but neither drug nor its adverse effects was coded as the underlying cause of death on any certificate, though 10 general practitioners mentioned an adverse effect of stilbestrol elsewhere on the certificate for case 1. This confirms the widely held belief that adverse drug reactions, whether fatal or not, are seldom recorded.

The rules for informing the coroner are explicit and readily available.¹² Stigmatising diseases such as suicide and alcoholism are believed to be underreported¹³ to save the relatives unnecessary distress.¹⁴ In cases 7 and 10 alcoholism should have been reported to the coroner: in case 7, 33 doctors would not have done so; in case 10, where there was considerable doubt as to what transpired, only 13 doctors would not have informed the coroner. This suggests that it may be more acceptable to be uncertain of the diagnosis than to report a stigmatising illness. That this behaviour may be harmful to relatives is illustrated in case 3 where there are two reasons to inform the coroner—the patient is in receipt of a war pension and also suffers from an industrial disease. Eleven doctors would have failed to inform the coroner, which would have caused financial deprivation to the surviving family.

The differences in the coded causes of death we have shown might be due to two factors: either there were justifiable differences of opinion among the doctors as to the cause of death in the cases, or, as the OPCS, in using standardised coding rules, assigned diagnostic codes that did not reflect what the doctors considered to be the "true" underlying cause of death. From our own medical training we believe that few doctors are taught to complete death certifications, and fewer still know how these certificates are coded for statistical purposes. The OPCS usually code the lowest completed line on part 1 of the certificate as the underlying cause of death. Few doctors are familiar with the *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death*,⁶ and fewer still own one. Most doctors are thus unable to complete a certificate with a final coding in mind. The resulting inaccuracies in certification may have important repercussions. Governmental and other agencies use death certificates in three main areas: health care planning, resource allocation, and for epidemiological information. To carry out successfully these purposes death certificates must be as accurate as possible.

We believe that doctors should take more care when complet-

ing death certificates. Doctors should be made aware of the coding rules used by the OPCS so that they may more accurately designate what they believe to be the underlying cause of death. Such instruction is best achieved in undergraduate training, but there is also a need to inform doctors already in practice of these rules.

Conclusions

Ninety-seven general practitioners completed death certificates on 10 case histories. Many different causes of death (as distinguished by ICD codes) were given for each case history, ranging from 7 to 26 for each case. When diagnoses were grouped into broad ICD categories and when the case history concerned only one organ system 90% of doctors agreed on the cause of death. If more than one organ system was concerned in the case history, however, less than half of doctors were in agreement. The percentage of doctors who elected to inform the coroner also varied widely. We suggest that the practice of death certification should be improved by teaching students and informing postgraduates about the need.

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Pathology of Partnerships

Partnerships can be fun

CYRIL JOSEPHS

Partnerships and single-handed practices are becoming more and more popular, and single-handed doctors seem to be a dying breed. Nowadays the medical student and young doctor come down squarely on the side of group practice and hardly consider working single-handed or with one partner. I think that this shows a resistance to working under archaic conditions. That family practice—as called a "vocation" necessarily implied that the doctor worked for 24 hours a day, 365 days a year, and for little money. Young doctors will not work under such conditions, and they are quite right. I have long advocated a sane view of a doctor's work. Many of my beliefs, for which I have fought, have been fulfilled—for instance, abolition of the pool system of payment, acceptance of deputising services, and acknowledgement of the need for a doctor to have leisure time and adequate holidays. I still believe that a doctor should work an eight-hour day and a five-day week. This may come about, but not in my time. There are, of course, many who disagree with me. Some general practitioners pretend that they are still in favour of never being off duty. I am not against encouraging this view to laymen and the press, especially when I am "proving" how we continue to be overworked and underpaid. But among ourselves I prefer to be realistic.

In return for more time off duty and better holidays and the comradeship and friendliness in one's daily work, working in

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everyone else. Good luck to him: he worked for it. But the constant night work resulted in him falling asleep between consultations. I think that the grumbles of the other partners were justified, but it took ages to get him to bed before the erring (but wealthy) partner was persuaded to go.

I believe that the formula for financial peace is to pool all money and divide it equally. The exceptions should be few and limited to money earned from spare-time interests that are unlikely to compete seriously with the normal income. Fees for occasional lectures, radio or TV appearances, or for writing articles or books might be safely exempt from the "pool," provided that these activities are carried out during time off duty from the practice. Cars cause less trouble now than before. Most doctors in partnership have learned that it is much better for each member to provide his own transport even though this is a necessary expense that arguably could be financed by the partnership. This provides the need for each partner to have an identical car to avoid being personally disadvantaged. Tax relief is not lost by a doctor claiming his car as a personal expense. "Keep cars and spouses out of practice matters" is a useful axiom.

Personalities

Many financial problems would never arise if there were no personality clashes between partners. It is too much to expect—and undesirable—that all partners be exactly alike. Matters must be decided in a democratic and friendly way. Usually at least one partner believes that every problem arises because each of his partners "thinks" he is right, while he alone "knows" he is right. There is a little of this in all of us—"I am not always right, but I am never wrong" is an attitude that may start as a cloak and develop into a skin if it is not scotched early on. I have always been strongly against bouncing children: I am in favour of occasional bouncing of partners. Done with forthright honesty it breeds mutual respect—the keystone of a happy partnership.

Holidays are a frequent source of irritation in group practices. The youngest partner should not always be given the least number of weeks nor the dates that the others do not want. I know of a young partner who proclaimed to his long-suffering wife that the impending retirement of the elder partner meant that at long last he would not be on duty on Christmas day and would actually have some say in when he could take holidays. The days when seniority meant extra holidays have gone, I hope. But the young partner should have this clearly written into his agreement.

I have worked single-handed, then with one partner, and later with a large group of six doctors—so I have seen the potential

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partnership produces problems. Some are big, some are little, and minor problems can break a partnership as effectively as major ones. Many problems stem from doctors being highly individualistic—a doctor is a loner whether or not he admits it. Notice how fiercely he defends his own views, and how quick he is to see the unlikelihood of other opinions. Financial problems are high on the list—usually because partners do not take the trouble to set everything out clearly at the outset. There should always be a written agreement: even the most stable partnership has been known to come apart. Few people would buy a house without obtaining the deeds, yet doctors still join partnerships expecting them to be for "life" without written documents setting out all the arrangements.

Money

A common cause of discontent is the earnings that accrue to one doctor for work done outside the practice. Many doctors believe that you should do what you like with your free time and keep whatever you earn in that time. I do not subscribe to this view. I have heard of partnerships suffering smouldering discontent over money problems. The smouldering discontent invariably erupts into overt battles and in many cases a partnership was dissolved. In one case a partner took on night emergency work to increase his income. These fees rapidly rose to equal what he received as a partner in the group practice. His partners had no legitimate grouse, though understandably they were not delighted that one of them was earning about twice as much as

for difficulties in very different situations. Group practice should provide enormous advantages. I use the word "should" because I suspect that these advantages are easier to state than to affirm. I said before that the single-handed doctor is in danger of extinction. I hope that the breed can be conserved because so many of them are robust, happy, dedicated individuals who treat their patients well. The frequent associations with colleagues in rota system and emergency relief services (what a battle that was) have helped to slow his disappearance. He can and does enjoy some of the advantages of his colleagues in group practice.

Sickness

One great advantage of group practice is that one can be closely liked. There is no doubt that several doctors working closely together can more easily close ranks to do the work of one sick partner. But in fact doctors continue to work when they should be at home in bed. Repeated absences by one partner cause irrational irritation to the others, usually quite unjustifiably. Everyone assumes that the eldest partner will be the one most often off sick. This is by no means always the case, and many a partner in his 70s has a better health and work record than his younger colleagues. Perhaps this is in part due to his "tougher" upbringing in the days of really hard work in general practice. The partnership agreement should clearly state what arrangements are to be made to cover short and long-term sickness, bearing in mind that even long-term sickness is not the prerogative of the elderly and that a partnership cannot be expected to keep a place open indefinitely.

The list of potential partnership problems is endless—retirement, replacing a partner, selecting staff, altering and allocating rooms, what equipment to buy and which is the waste expense, which research project is worth doing, how to run practice meetings, who should teach students and trainees and how this should be done, who should be allowed extra leave to attend courses, etc. In the final analysis a partnership has to be worked at all the time; in that sense it is akin to marriage. I knew of a partnership of two doctors who did not speak to each other for over a year, communicating only by notes left on each other's desk: a truly deplorable state of affairs that ended in one doctor suffering a breakdown before the partnership was dissolved.

Providing that partners respect each other—even develop a genuine affection for each other—and aim to please, all problems can be amicably resolved. It is essential that each cultivates a large dose of humility, develops a good sense of humour, and takes everything seriously except himself. General practice is a most rewarding and enjoyable way of life, the pleasure reaped being directly proportional to the effort expended. Even partnerships can be fun.

To renew the breathing, a strong person may blow his own breath into the patient's mouth with all his force; he can, holding his breath at the time. When it can be perceived by the riling of the chest or belly that the lungs are filled with air, the person ought to defile from blowing, and should press the breath on gently as to expel air against and thus operation may be repeated for some time, alternately raising and depressing the lungs so as to imitate natural respiration.

If the lungs cannot be inflated in this manner, it may be attempted by blowing through one of the nostrils, and at the same time keeping the other closed. Dr. Monro for this purpose recommends a wooden pipe fitted at one end for filling the nostril, and at the other for being blown into by a person's mouth, or for receiving the pipe of a pair of bellows, to be employed for the same purpose if necessary.

When air cannot be forced into the chest by the mouth or nose, it may be necessary to make an opening into the wind-pipe for this purpose. It is needless, however, to spend time in deflating this operation, as it should not be attempted unless by persons skilled in surgery.

(Bachan's Domestic Medicine, 1786.)