

The rules we use

The use and dependability of such programs to help with diagnosis depends, however, on elucidating how decisions are actually made now—on the basis of the best of times. What rules do we follow when we decide to refer this old lady but not that one with the same condition? Why do we ask patients questions in a particular order, and what difference does it make if we change the sequence? Why is there a wide range of behaviours among general practitioners that is independent of their patients? In short, if computers are going to progress beyond being glorified age-sex registers we will have to be a good deal clearer than we are about how and why we make decisions.

In opposition to this need for logic and clarity is the fact, articulated by many speakers, that general practice by its nature deals with the fluid and complex problems of real people that are often undifferentiated into a disease entity that a computer might recognise. At its best general practice aims at seeing these issues from the patient's point of view and not just from a clinical perspective. This is often of necessity a matter of personal understanding. Reducing it to a set of logical rules is immensely difficult and perhaps impossible. Dr Paul Freeling, articulating the ghost of Halim, pointed out how dangerous organising ideas into concrete diagnoses can be. "Computers should not instruct patients in how to have their diagnosis."

This tension between the complexity and richness of the practice and the degree of logic and clarity required to produce any worthwhile computer system was a recurring theme through the conference. Both Professor Ian McWhinney and Professor John Howie pointed out that much of what general practitioners do is inevitably implicit—it is not necessarily a failure to be unable to state exactly why we do things. To try and see the world from the patient's point of view perhaps means that, by definition, hard and fast rules, decision trees, and protocols have only a limited place in general practice.

The difficulty, however, of trying to accept the best that new technology has to offer without getting lumbered with the worst seems to be a task that as a society we are extremely bad at. Too often the advantages and drawbacks come as a single indivisible package, and to refuse new technology is seen as refusing progress. As Mike Fitter, from the Medical Research Council's social science research group, said: "What is so special about general practice that will prevent us going the same way as we now doing breed the corner grocer?" Interestingly, the consensus seemed to be that there were many aspects of practice where computers, no matter how "smart," would always be inappropriate—a point underlined by Ann Cartwright, who hoped that general practitioners would not become so enamoured with their new toys that they spent even less time with their patients.

Computers, however, were not at the heart of this conference. Their long shadow might have been there, cast back from the future and concentrating our minds, but many of the most

interesting papers and discussion focused on how we make decisions in the mundane and unexciting. Professor James Gale, an educational psychologist, and Dr Phillip Marsden, a consultant neurologist, presented work from their recent book about how we actually formulate diagnoses. By using careful and detailed stimulated recall of video recorded consultations they found that doctors, from house officers to consultants, start constraining information from patients as soon as they get it. None of us, it seems, waits till we have enough data and then begins to formulate hypotheses, but rather from the first moment we begin to put particular meanings and constructions on the information we get and this in turn guides our next question. This is not at all the way that computer programs have thus far worked.

Dr Ben Essex, a general practitioner from London, produced a fascinating paper that was in the best tradition of idiosyncratic, creative research in general practice. For every patient seen during nine months he recorded the problem, his management, and any factors that he felt had influenced him while formulating his decisions. From this large amount of work he had distilled out over 300 "rules of thumb" about how and why he took decisions as a general practitioner. These were surprisingly general. For example: reassurance may be appropriate only when following the aetiology of the anxiety; decisions to assess compliance should precede decisions to evaluate treatment. Many of his "rules" had a ring of truth to them, and here, it seemed, was a new way in which to try and bring understanding to some of the areas we normally feel are inaccessibly complex. The computer buffs, too, were drawn like bees round honey to such a rich source of personal knowledge already distilled into potentially computer compatible form.

One of the most hopeful things about the conference was the openness of the computer experts who were there. Far from pushing their theories or expectations of what computerised diagnostic aids have to offer, they were interested to learn what general practitioners' real needs might be. In fact the most important aspect of the conference was that it brought these two groups together. The novelty of the technology means that no one is quite sure what is possible. That general practitioners must participate in the gestational phase of the next generation of programs is vitally important: we will get only the computer systems we deserve, and without planning and help from practising doctors we are likely to end up with elegant but useless toys.

This conference was an important step on the road to ensuring that we end up with useful systems that genuinely improve care without frightening off other patients or their general practitioners.

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ONE HUNDRED YEARS AGO Hinton's plaster-of-Paris bandage-machine. This invention is for the purpose of impregnating bandages with dry plaster-Paris, and rolling them at the same time, and is a very much cleaner method than at present employed, namely, rolling them by hand; besides, the plaster-Paris is more evenly spread in the meshes of the bandage. The machine, which has been patented, consists of a suitable framework, on which is mounted a box, or hopper, for containing the plaster-Paris. At the bottom of the hopper, there is an elongated slit, within which is placed a roller. On the end of the spindle on which the roller is placed, there is a pulley mounted, driven by means of a belt or strap from another pulley mounted on the end of a horizontal shaft of small diameter, supported by the framework, and provided with a crank-arm or handle on which a bandage is wound. The bandage is to be impregnated with the dry plaster-Paris as passed under the machine, and brought round the roller at

the back of the hopper; it then passes under the hopper, and under a stretcher which is placed there for the purpose of spreading the plaster evenly in the meshes of the bandage. The bandage is rolled up what the plaster is being incorporated with it, just in the same manner as it is wound up by an ordinary bandage-machine. The bandage, after being rolled, is removed, and only requires soaking in water a few minutes, when it is ready for use, or a number can be made at once, placed in a dry tin, and kept for use when required. By this machine, the plaster is more equally distributed in the bandage, and the bandages are more easily made. It has been used largely at the Royal Albert Edward Infirmary, Wigan, for some time, and it is found to answer the purpose for which it is intended. Mr. Hinton will be glad to supply the machine, or furnish testimonials and particulars respecting it, if communications be addressed to him at the above Infirmary at Wigan. (*British Medical Journal* 1864;1:106).

Discussion

The results show that there was an appreciable number of men in the practice population with undetected, untreated hypertension. There was also an appreciable number of men with a diastolic blood pressure that required annual checking. Obesity together with lack of exercise seemed to be a major problem. Despite considerable efforts at almost every consultation and major campaigns with pamphlets and notices in the waiting room, nearly a third of the men smoked. The level of immunity to tetanus in the practice was not good but was evenly restricted. The fees for service accruing for the tetanus immunisations more than covered the 30% of the nurse's wages paid by the practice for the time spent in the clinic. The results confirm that a trained nurse working to a protocol can carry out a large amount of preventive care and can suspect the presence of organic disease either from symptoms or from observation of physical signs. She may then refer the patient to a doctor for diagnosis.

Our findings also show that regular attendance to see a doctor—two thirds of the men examined had seen their doctor in the previous 12 months—in a reasonably careful general practice that has espoused the concept of preventive care in the past few years does not necessarily result in effective preventive care. The men who attended—and their wives, who had often encouraged them to attend—considered the clinic to be a welcome adjunct to the overall practice care. They were surprised to find it running without charge as part of the National Health Service. The clinic continues and is here to stay.

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Medical rehousing

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Abstract

A local authority and its medical adviser collaborated to assess the needs of applicants who have special requirements for medical rehousing. Some characteristics of the applicants were examined, together with how successfully their needs were met. Over half the applicants were aged over 65. Some three years after their initial application 45% of applicants considered to have medical priority had been rehoused compared with 36% of those with no medical priority.

Introduction

The adverse effects of substandard housing on health have long been recognised. The proportion of dwellings in disrepair or lacking standard amenities has now declined (decennial census reports 1951-81 of the Office of Population Censuses and Surveys). Medical advisers to local authorities have therefore concentrated on giving advice on how to meet the needs of those who for medical reasons have special requirements for rehousing. I report here a study of applications for rehousing in Portsmouth.

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which has a population of 175 000, of whom 104 000 live in owner occupied dwellings, 25 000 in privately rented accommodation, and 41 000 in council owned dwellings. In addition, the city owns dwellings housing 60 000 people in a neighbouring borough.

Procedures and policies

Applicants on the waiting list for housing are awarded points by the housing department on the basis of, for instance, overcrowding, disrepair, lack of standard amenities, and length of time on the list. About one-third of the applicants for rehousing and 70% of the applicants for transfer apply for priority on medical grounds (Portsmouth City Council, minutes of health and housing committee, 1982-3). These applicants are asked to complete a form stating their medical grounds and this is forwarded in confidence to the Portsmouth and south east Hampshire community health services department to be processed by a senior clinical medical officer.

The senior clinical medical officer may: (1) refuse priority rehousing on medical grounds; (2) award points on a scale of one to 20 based on a patient's medical condition; (3) award a strong recommendation, which implies early rehousing outside the points system; (4) defer assessment and request a report from the general practitioner with the written consent of the applicant; or (5) inform the environmental health department when a private tenant alleges disrepair or the housing department when a city tenant alleges disrepair.

The points awarded are added to the applicant's points total. The criteria for awarding priority on medical grounds were agreed by agreement with the housing department and are as follows: "An

Practice Research

Well man clinic in general practice

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Abstract

The establishment of a well man clinic run entirely by a nurse in general practice showed an appreciable number of men to be hypertensive, smokers, or overweight. It also showed some previously undetected disease. Efforts were made either to treat or to counsel men in whom these findings were made. A well man clinic may have greater value than a well woman clinic.

Women live considerably longer than men. All general practitioners are aware that the women aged over 70, and especially over 80, in their practices greatly outnumber the men. It is therefore paradoxical that most of the enthusiasm for screening well people seems to be directed at women, the more so because women are screened routinely far more regularly than men. Women are screened, firstly, in association with contraceptive usage, especially the pill; secondly, during antenatal and postnatal care; and, thirdly, concurrently with regular investigations for cervical cancer. The paucity of screening of men is therefore surprising. In addition, women of all ages consult their general practitioner more often than men. Every consultation presents an opportunity, at least, for bringing health preventive measures up to date.¹ It cannot, of course, be assumed—nor indeed is it the case—that screening and attending the doctor result in longer life. Nevertheless, it would not be an unreasonable assumption that if men were screened as rigorously as women at least a small number of them might be prevented from dying early, particularly from cerebrovascular and cardiovascular disease.² In view of our current practice, which had established a well woman clinic in 1976, belatedly set up a well man clinic in 1983.

Method and results

Discussions within the primary health team at house committee meetings concluded that the work could be done by a nurse. Doctors would participate only in the general organisation and the screening protocol because they do not find preventive health care challenging and their training in recent decades has not prepared them for it. The recent plethora of publications from the Royal Society of General Practitioners has attempted to rectify this, but many doctors still consider that the most realistic way to give a higher priority to improving the clinical standards of care for sick

people.³⁻⁵ Conversely, nurses seem far more enthusiastic about preventive care and have appropriate training, knowledge, and skills. Above all, they are happier to work to a protocol and by rote than are doctors. The excellent antenatal care that is carried out by midwives is a good example of this. In addition to having attached district nurses our practice had employed a practice nurse for 16 years. She had pioneered the well woman clinic and subsequently carried out the well man clinic.

The clinic, for well men aged 30-69, was advertised as part of National Health Service care by posters in the waiting room. In addition, the practice doctor and the practice nurse were taken on different days and at different times of day. If the blood pressure settled they were advised to have yearly checks. Men with a diastolic blood pressure persistently of 100 mm Hg or more or with one recorded increase in blood pressure but with a bad family history of cerebrovascular or cardiovascular disease had blood taken for biochemical profile and measurement of cholesterol and triglyceride concentrations. They were then referred to their general practitioner. The nurse was free to initiate investigations such as measurement of haemoglobin concentration in patients showing pallor or tiredness or electrocardiography in patients with cardiac irregularities.

The first 100 men were analysed. Thirty were from social classes I and II, 61 from social class III, and nine from social classes IV and V. Of 29 men who were 15% or more overweight, eight were 25% overweight. Of 29 smokers, 10 smoked more than 10 cigarettes a day. Nineteen men were found to have an elevated blood pressure of 100 mm Hg or more, and 14 had a persistent diastolic blood pressure of 100 mm Hg or more. No appreciable urine abnormality was found in any of the men. Sixty patients attended a booster immunisation injection, and two were given a primary course. Fifty five patients had consulted their doctor in the past six months and 63 in the past 12 months. Twenty one patients were referred to the doctor, most for hypertension. One early case of Parkinson's disease was detected, and one possible case of thyrotoxic abnormality with irregular pulse needed investigation. In one confessed heavy drinker liver function tests yielded abnormal results.

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application may be given priority on the housing or transfer list on medical grounds if the applicant or any person living at the same address suffers from a disability or illness which renders the present dwelling unsuitable because of its size, position, condition, or lack of amenities. Priority may also be given where it is desirable for an applicant to move in order to care for a relative who is disabled or elderly and it is likely that rehousing would mitigate the severity of the illness or disability or its effects on the lives of the applicants or relatives.⁶ A distinction is thus made between cases in which there are medical factors relevant to rehousing (when points are awarded on medical grounds) and those in which housing conditions are defective (when applicants are awarded points by the housing department without any need for medical advice).

Methods of study and results

Every year some 2000 people apply for rehousing and transfer on medical grounds, so that a sampling procedure was necessary for this study. A sample using every tenth applicant from the alphabetically filed records was selected because some of the applications would have been too recent for the outcome of the application to be assessed. It was decided to use the first 100 applicants for housing and the first 100 applicants for transfer in 1980. The number of applications does not fluctuate during the year, implying that the sample drawn from the beginning of the year is equally representative.

Table I shows the age distribution of the applicants as stated by the housing department, table II shows the type of housing requested, and table III shows alleged defects in existing housing. Of the 100 applicants for rehousing, 24 made repeated applications: 13 applied twice, six three times, and four four times. Of the 100 applicants for

TABLE I—Age distribution of applicants

Age	Rehousing (n=100)	Transfer (n=100)	Total (n=200)
0-4	5	1	6
5-9	2	1	3
10-14	4	2	7
15-19	1	1	2
20-24	2	1	3
25-29	2	1	3
30-34	10	1	11
35-39	10	1	11
40-44	13	4	17
45-49	13	2	15
50-54	10	1	11
55-59	10	1	11
60-64	10	1	11
65-69	10	1	11
70+	10	1	11
Unknown	0	2	2

TABLE II—Type of housing requested

	Rehousing (n=100)	Transfer (n=100)	Total (n=200)
Ground floor flat or equivalent	40	31	71
More to be seen in separate table	1	1	2
Flat suitable for wheelchair	5	1	6
Flat with 2 bedrooms	1	1	2
Flat with 3 bedrooms	1	1	2
Flat with 4 bedrooms	1	1	2
Flat with 5 bedrooms	1	1	2
Flat with 6 bedrooms	1	1	2
Flat with 7 bedrooms	1	1	2
Flat with 8 bedrooms	1	1	2
Flat with 9 bedrooms	1	1	2
Flat with 10 bedrooms	1	1	2
Not stated	28	5	33

TABLE III—Alleged defects of existing housing

	Rehousing (n=100)	Transfer (n=100)	Total (n=200)
Small	29	27	56
Overcrowding	12	11	23
Noisy	1	0	1
Widened	1	0	1
Too large	1	0	1
Too small	1	0	1
Overheated	1	0	1
Too cold	1	0	1
Overheated	1	0	1
General housing	19	17	36
Not stated	0	0	0

TABLE IV—Type of housing recommended

	No. recommended	Total
Ground floor flat or equivalent	38	21
Flat suitable for wheelchair	2	4
Flat with 2 bedrooms	2	4
Flat with 3 bedrooms	1	2
Flat with 4 bedrooms	1	2
Flat with 5 bedrooms	1	2
Flat with 6 bedrooms	1	2
Flat with 7 bedrooms	1	2
Flat with 8 bedrooms	1	2
Flat with 9 bedrooms	1	2
Flat with 10 bedrooms	1	2
Not stated	12	19
Total	54	57

TABLE V—Outcome three years after initial application

	No. medical grounds	Medical grounds	Total
No rehousing	20	22	42
Rehousing	11	17	28
Transfer	11	17	28
No rehousing	34	39	63

transfer, 35 made repeated applications: 22 applied twice, five three times, two four times, four five times, and two six or more times. Fifteen applications for rehousing were referred to the environmental health department because of alleged defects in current housing. Twenty applications for transfer were referred to the housing department for alleged defects in accommodation owned by the council.

Table IV shows the type of housing recommended, and table V gives the outcomes three years after the initial applications were made. Of the 82 applicants for housing and transfer whose ages were stated, 45 (55%) were over 65. Out of 167 applications for a specific type of housing 72 (43%) were for a ground floor flat or equivalent, 21 (12%) for housing near a caring relative, seven (4%) for a flat with a warden, and five (3%) for a flat designed for the user of a wheelchair. This implies a degree of immobility or dependence, or both, in 105 of the 200.

Fifty three applicants (27%) did not advance medical reasons. Thirty four applicants (17%) alleged disability, which is not in itself an indication for rehousing or transfer as the most effective solution is to rectify the defect. Nineteen applicants (10%) complained of overcrowding, which in the absence of any related illness is not a ground for medical priority as the housing department awards points for it anyway. Many applicants made multiple requests for consideration despite being asked to reapply only if their circumstances changed.

Discussion

At first sight the system of awarding points for medical priority appears to have little effect on the chance of an applicant being rehoused or transferred. The award of points, however, increases the applicant's points total and thus, to a certain extent, must accelerate rehousing or transfer. Applicants with special housing requirements are possibly more difficult to place than those without. Our experience with the success of rehousing people contrasts with that of Gray, who found that fewer than 4% of applications were successful.⁷ This difference is probably due to the fact that in Portsmouth the number of medical points that may be awarded is a higher proportion (40%) of the average threshold level required for rehousing or transfer. In this respect Portsmouth lies in the middle of the range quoted by Thomas and Yarnell.⁸

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