For Debate . . .

Community general practitioners

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Commemorating a giant figure whose memory is still fresh to many is a heavy responsibility. Pat Byrne was a plebeian and rejoiced in the plebs' victory represented by the introduction of the National Health Service in 1948. In 30 years of practice in Milnethorpe, a market town and former seaport of Westmoreland, Pat developed the ideal of personal, continuing primary care of the highest clinical quality then possible. He was able to look after his patients as he would have wished himself, or his own family, to be looked after.

In 1970 he became the first professor of general practice in England, in the utterly different circumstances of central Manchester. He did as much as any general practitioner, and more than most, to apply his Milnethorpe ideal to the reality of an industrial city. Though he went on to solve other problems successfully, in this particular task he was probably no more and no less successful than all the others who have broken their hearts trying to get enough clinical enthusiasm into urban industrial practice for it to achieve active, independent, unsubsidised growth. He did not, and could not, transfer Milnethorpe to Darbshire House health centre. If giants have failed to apply the rural and market town model of good general practice to urban industrial settings ordinary men and women are unlikely ever to do so. For too long we seem to have assumed that bad work in bad places can, by mighty acts of will, be changed into the good work of good places without any accompanying changes of structure or circumstance. We have attributed perfunctory care to perfunctory men instead of recognising that both are the consequence of intolerable circumstances that can and should be changed.

How things are

The former mining valleys of south Wales are its inner city, having most, but not all, of the ugly features associated with inner cities. In July 1983 a survey of a 20% random sample of households in my own practice (241 people in 101 households) showed that 52 out of 98 men aged 16-64 (60%) were not working and that one third of the children under 16 lived in homes where nobody went to work. In the 22 years I have lived in Glyncoirwg I have seen the closure of all three local coal mines; the halving of the workforce employed at the steelworks in neighbouring Port Talbot; the loss of our bank, telephone exchange, ambulance depot, Co-op, three pubs, five shops, the cinema, one chapel, and a betting shop; the demolition of one fifth of our housing stock; and a reduction in the total population of the upper Afan valley from over 10 000 in 1961 to under 7000 today. The area is usually served by four general practitioners; in my 22 years there I have seen 14 colleagues go. One died of natural causes at 66, one committed suicide, one died in a fire caused by smoking in bed while drunk, one died with alcoholic hepatic failure, two were suspended from the Medical Register for fraud, and seven

left the area as soon as they could find alternative work. Only one remained voluntarily to retirement and he retired at 55.

The area has some important advantages: Glyncoirwg is surrounded by dramatic scenery and clean air; the only serious addictive drugs are alcohol and tobacco (but addiction to them is very prevalent); and there is virtually no venereal disease, little crime, and no street violence. Above all, the area does not experience the 30% or so annual turnover in population that makes the creation and maintenance of a good system of medical records so exceptionally difficult (and necessary) in inner city practice.

Another mixed blessing is that Glyncoirwg, by British standards, is far from the district hospital and even further from a teaching hospital. Distant in space, but even more so in time: our outpatient waiting lists for most specialties in West Glamorgan now run in months or years rather than weeks. We have an ear, nose, and throat consultant and an eye consultant apparently vying for the Rip Van Winkle award for 1983, with waiting times for outpatients of three years and two months and of three years, respectively. The worst consultants in Liverpool can boast of is a wait of 10½ months for one orthopaedic surgeon. Primary care, therefore, tends in the valleys to be given either in general practice or not at all; there is a smaller tendency than in cities for general practitioners' work to be undertaken by hospital staff.

Data from inner cities shows widespread collapse of the gatekeeper function of primary care that is essential for accurate and thrifty use of specialist resources. In central Nottingham in 1976, 61% of children admitted for acute conditions were brought direct to hospital by parents without prior contact with a general practitioner or deputies.¹ In the east end of London in 1982, 85% of people attending hospital emergency rooms were found to have referred themselves without prior contact with a general practitioner or deputy, and in 39% their conditions were neither emergencies nor the result of accidents.²

Despite these leaks we general practitioners like to think of ourselves as shouldering most of the burden of medical care. For example, the brochure "General practice: a British success,"³ issued by the General Medical Services Committee of the British Medical Association, gives evidence that general practitioners "deal with over 90% of episodes of ill health treated by the NHS" but incur only 6% of the costs. Specialists, however, are equally certain that they give 90% of the care that matters and really demands medical skills. Even on simple head counting, according to the General Household Survey, about 12% of the population visit a hospital outpatient department in a span of six weeks compared with about 13% who visit a general practitioner in a span of two weeks; this comparison is difficult to interpret because of the different time bases, but it certainly does not suggest a nine to one division of labour. Episodes of major chronic illness or monitoring of risks of future disease occupy years or decades rather than days or weeks. If patients accumulate in hospital outpatient departments—even more so if they simply slide out of medical supervision altogether—they are off the back of the general practitioner. According to Fry an average general practitioner refers about 17% of his patients to some specialist department in a hospital each year; general practice is thus the principal source of the nine and a half million attendances by outpatients each year in England and Wales.⁴

Consultant or specialist?

In the market town model of medical care, in which general practitioners still play a part in hospital care and in which there is a

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persistent tradition of the etiquette of private practice, consultants are under pressure to consult and return patients quickly to their general practitioners. In the urban industrial tradition of medical care once patients are referred they may not only be followed up indefinitely on a plan of treatment not discussed with the general practitioner but may be cross referred to other specialists if their complaints or required investigations fall outside the interests of the original consultant. Etiquette, which purported to protect the interests of the patient, was in fact a regulation of trade. As trade declined in favour of institutionalised state charity etiquette disappeared. As John Horder rightly remarked, in the eyes of many specialists a general practitioner's main "task [is] to sort out what [is] minor from what [is] major, and to refer the latter to specialists."⁹ If the specialists then find major problems outside their own specialty they think it quite natural, and in the interests of the patients, to refer them to another specialist. Only if problems are minor can they be safely left to a general practitioner.

For such reasons, presumably, general practitioners who want to use their skills have to fight for the return of their patients from often redundant follow up by hospitals. Marsh studied 260 patients referred by 12 general practitioners in Teesside.⁶ In 47% of the patients there was no change in diagnosis or treatment, yet three out of four outpatients with apparently stable conditions were given further appointments and were not referred back to their general practitioners. All these general practitioners wanted to follow up their patients themselves and were duplicating the work done by the outpatient departments.

Acrimonious correspondence after the publication of Marsh's article showed why repeated calls for a reduction in redundant follow up of outpatients, which accounts for over half the outpatient load, continue to go unheeded.⁷⁻¹⁰ Many general practitioners apparently welcome transfer of care of continuing major problems, being busy enough with minor work and lacking the staff and organisation to maintain safe monitoring with active search for default. A record linkage study in north Staffordshire showed that 48% of patients attending for follow up as outpatients had had no contact with their family doctor over one year.¹¹ In Sheffield three years after a planned shift of care of diabetics not dependent on insulin from the outpatient department back to the care of their own general practitioners (who had already agreed to accept responsibility) only 59% of patients had been seen regularly and 15% had not been seen at all.¹² Of course, some exceptional practices have proved beyond doubt that long term care of diabetics¹³⁻¹⁵ and patients with hypertension^{16, 17} is feasible in general practice, with similar control and lower default than occur in hospital outpatient care; it is equally certain that these results are achieved only with staffing, record systems, and local forward planning that are better than those commonly found in general practice and considerably better than those found in urban industrial settings.

I have chosen to note routine care of hypertension and non-insulin dependent diabetes because this is at the centre of clinical medicine. If we cannot measure, or organise others to measure, blood pressures, look at fundi, test urine, detect early failure of organs and systems, explain the nature of these disorders in simple terms, or become proficient in the use of a limited range of useful drugs for their control what are we fit for? Follow up of chronic disease fails unless it is integrated with the patient's other problems. General practitioners are in the right place, and have the appropriate training, to achieve this; specialists in hospitals are not and do not. If, however, specialists see important routine work left undone who can blame them for doing it? General practice must either occupy the territory it claims as its own or allow others to do so, however absurd it may seem to see inexperienced hospital medical staff dealing with cases that, a few years later, they will leave to the care of the next generation of junior staff when they have descended to practice in the community.

Care of hypertension and diabetes

Control of hypertension from a mean diastolic threshold of 100 mm Hg halves the incidence of stroke,^{18, 19} which is the most important single cause of severe handicap in the home and accounts for about 5% of all NHS costs. It also greatly reduces the incidence of heart failure, and control in middle age would probably give us an elderly population with better heart and kidney function. High blood pressure cannot be controlled if it is not measured. An audit of general practitioners' records, however, showed that in men over 40 fewer than half had any measurement of blood pressure recorded, little more than half of those with raised pressures had been followed up

with a second reading, and treatment had been given to only half of those with an initial systolic pressure of 200 mm Hg or more and 35% of those with a diastolic pressure of 120 mm Hg or more.²⁰ None of these variables showed any improvement over the 10 years 1968-77. These figures were for north east Scotland. The only figures for an inner city, London, are much worse: on average, only 24% of records for men contained any reading of blood pressure, with individual practices ranging to as low as 4%.²¹ If a diastolic threshold of 100 mm Hg is taken, hypertension affects roughly one tenth of any general practitioner's population under 65, yielding a case load for follow up every three months of roughly 100 for each general practitioner with an average list size but 5000 for an average district hospital. Such numbers are beyond the resources of any hospital, but, with proper staffing and organisation, they would surely be within the capability of general practice.

Diabetics are a much smaller group, making up between 1% and 2% of the total population—that is, for each general practitioner with a list of average size there are about 25-30 non-insulin-dependent diabetics, who need to be seen at least twice a year for assessment of control, fundi, peripheral pulses, neuropathy, renal function, smoking habit, and weight for height. Few practices currently offer any systematic service to their diabetic patients, but hospital outpatient departments are now so overworked that some fall below minimum standards of safety and most have a high prevalence of default. A study of diabetics attending one London teaching hospital showed that 18% did not have any record of a fundus examination over six years.²² In another study records did not show any fundus examination over two years in 21% of patients or of measurement of blood pressure in 26%.²³ Finally, in a general practice population of over 20 000 Doney found that over half the diabetics were not attending either their general practitioner or the hospital clinic but were getting repeat prescriptions without medical supervision of any kind.²⁴

Potentially, management of hypertension and diabetes has been revolutionised in the past 25 years: management of hypertension by tolerable antihypertensive drugs validated by controlled trials; management of diabetes by laser coagulation for proliferative retinopathy, conclusive statistical evidence of the effect of accurate control in preventing microvascular complications, prevention of diabetic renal failure by treatment of mild hypertension in diabetics, monitoring at home of blood glucose concentrations, and reliable measurement of long term compliance by glycosylated haemoglobin concentrations; and management of both hypertension and diabetes by conclusive evidence of the accelerating but reversible effect of smoking on arterial disease, particularly coronary disease. Full ascertainment and control of hypertension from a diastolic threshold of 100 mm Hg, optimal control of diabetes with early detection of retinopathy and renal damage, and aggressive policy to change smoking habit in patients with either of these conditions are no longer simply possible options for enthusiasts but necessary tasks for us all. Medical science has created the weapons; if we do not use them we are only pretending to be doctors.

The poverty of primary care

"But how can we use these weapons," general practitioners say, "when so many people bother us with trivial ailments and get in the way? We trained for eight years to hunt big diseases, but we are overwhelmed with little ones. If all these coughs, colds, and unhappinesses would only go away and look after themselves we could get down to serious work on the few genuinely sick people who need the skills we were trained for." This frame of mind derives from undergraduate training in hospitals, where students are taught about big, exciting, end stage diseases. Out in the real world, in which these are, fortunately, far outnumbered by the little beginnings of disease, scarcely perceptible or perhaps denied by the patient, we have to teach ourselves and each other the smaller, simpler techniques of anticipatory care. An increasing proportion of people who seek our help are not yet seriously ill. Whatever prompts 66% of the population each year, and 90% in each period of five years, to contact a family doctor, these are people with varying risks of permanent damage to organs for whom relatively simple evasive action may be possible if we can only give the time to do more than meet their immediate expectations. Their wants rarely coincide with, and are usually much smaller than, their needs.

Clinical medicine in urban industrial practice has always tended to be superficial.^{25, 26} The problem is not to prevent deterioration but to establish standards resembling anything that is taught in undergraduate or postgraduate medicine. Because, as independent con-

tractors, general practitioners are responsible for nearly all primary care, organisations representing the interests of general practitioners have felt compelled to deny this general failure, though simultaneously endorsing it by complaining of a pace of work that makes good clinical standards and innovation a task for martyrs rather than a normal and necessary part of the job, as it is in hospitals.

The rather scanty data we have on time available for consultation with a general practitioner confirms its cramped circumstances, with a mean face to face time of five minutes.²⁷ Forced to pour quarts into pint pots, we become skilled in taking short cuts and making spot diagnoses, but who can deny that this trivialises the content of consultation? We see it every day: men in early middle age complaining of coughs, who are prescribed antibiotics, the modern equivalent of cough medicine, because there is no time to measure peak flow rates or take the detailed histories of smoking that would show causes and might lead to an effective plan of action; young men complaining of windy abdominal pains and morning vomiting, who are prescribed cimetidine, the modern equivalent of carminative antacid mixtures, and perhaps a request for a barium meal examination if we are not too pressed, because there is no time to measure mean corpuscular volume, γ glutamyltransferase activity, or morning blood alcohol concentration or to take the detailed drinking history that again would show causes, impress measured effects, and might again lead to an effective plan of action. As another example, elderly women complaining of transient giddiness, weakness, and falling or fear of falling may be prescribed centrally acting drugs for control of labyrinthine vertigo, or antihypertensive drugs if their blood pressure seems a bit high, regardless of the many other possible causes, such as arrhythmias, presently underreported and therefore undertreated in elderly people,²⁸ or, most often, the irreversible consequences of impaired brain function, which can be helped by walking sticks, extra bannisters, or improved lighting, all requiring relatively simple action that, however, takes up a lot more time than writing a prescription; time we have not got, so off they go, brain function further impaired by phenothiazines or methyldopa, rather more likely to fall down and break their legs than when they entered the surgery.

Professional honour has always demanded that general practitioners use all the skills they have for the care of their patients before transferring responsibility to a specialist colleague when, and only when and for so long as, specialist skills are really required. Unfortunately but inevitably, honour is defined from the top by men with time to read and even to think, supported by all the complex social machinery of the hospital at the consultant's command. At the bottom professional honour may still be professed, but it has been unworkable in practice, except when general practitioners and their families are prepared to devote almost the whole of their lives to their work and to employ or otherwise secure additional staff to at least double the present average of 1.2 whole time equivalents per principal.

A study in south Wales in 1966 of the workload of general practitioners showed that, in mining and industrial areas, general practitioners with average list sizes of 2290 saw personally an average of 30 patients at each session (assuming nine sessions a week, and including house calls).²⁹ This may be compared with statistics for outpatients in the West Glamorgan Health Authority for the quarter ending September 1983, when nine consultant general physicians, aided by an unstated number of junior medical staff in training, saw an average of 3.2 new patients and 26.4 old patients at each of an average 3.2 sessions a week.

Other data show that consultant general physicians personally undertake about half the whole case load of outpatients and over 80% of new cases, except in teaching hospitals,³⁰ so that in West Glamorgan they probably see about three new patients and 12 old patients at each session. A general practitioner who sees about 15 patients at each session, has office and nursing staff available at every session, has a fully structured and well maintained clinical record available for every patient, makes full use of direct access to the district hospital laboratory and imaging departments and the postgraduate centre, and has a reasonable library should be able to undertake most of the work now being done in general medical outpatient departments at high cost and low social efficiency. Additional resources, as well as smaller average lists, are certainly necessary to attain this standard as the norm rather than the exception in urban industrial practice. The addition, however, is finite, measurable, and by no means impossible for a nation with three or four million unemployed, many of whom would love to work in primary care, a nation able to spend more on one Trident missile than it does on its entire annual programme for renal dialysis and transplantation.

Change on the scale we need cannot, will not, and should not come principally from changes in attitude on the part of general practitioners

in industrial cities. If British doctors visiting the United States are shocked to hear the incessant pinging of cash registers, accepted as normal in American hospitals, this is not because they have personally achieved moral superiority but because they came to accept and eventually enjoy a cash free health economy, which they initially reviled as much as the most ignorant advocate of the American Medical Association.

General practitioners working in industrial cities are no more and no less personally responsible for perfunctory care than are their patients for the miserable wastelands in which they live but cannot work. If we believe in treating causes rather than symptoms in our patients, why not in ourselves and our own behaviour? We need serious investment in more staff, more room to work in, vastly improved medical records, more time for patients, and more time for reading, thinking, discussion with colleagues, postgraduate training, and participation in local planning. Investment on this scale cannot come from the doctor's pocket, nor can any more time be stolen from the families of general practitioners; the investment must come from the public we serve, directly and unambiguously for its intended purpose, not mixed up in our pockets with all sorts of other loose change so that we still have to choose between a holiday and books for the practice library at £30 a volume.

Those who ignore their own history are condemned to repeat it. General practitioners allowed themselves to be led by the consultants in root and branch opposition to Lloyd George's Insurance Act of 1911, claiming that it would end the doctor-patient relationship; in fact, it gave such a relationship to millions who had never had it before and doubled the incomes of the general practitioners who looked after them. Being too busy to consider their history, general practitioners led themselves into similar root and branch opposition to the National Health Service Act in 1948, again claiming that the doctor-patient relationship "would be lost for ever" unless we all stood firm against the Act³¹; once again it gave such a relationship to more people—in fact everyone—and abolished medical poverty and, eventually, the mutual exploitation characteristic of prewar practice. Of course, we could have done a lot better if we had not ourselves refused public investment in primary care (much to the relief of the government, which was able to blame us for what would have been its own default). We asked to be left alone, and we were left alone until general practice, above all urban industrial practice, had sunk into such squalor and had become so marginal to medicine as a whole that it looked as though it might die altogether, its work to be done at much higher cost and even lower efficiency in hospital emergency departments. We therefore got the 1966 package deal, the most significant step toward sanity in general practice most of us have ever experienced. And what was it? A massive transfer of financial responsibility from the general practitioners' pockets to the public purse and, in principle, a massive breach in independent contractor status, because, in the long run, in a democratic society, public investment must mean public accountability. To whom, and how, should we be accountable?

Ways ahead

After more than 70 years of waiting for entrepreneurial solutions to the problems of urban industrial practice, the time has arrived to consider alternatives. These alternatives must entail an end to public service as a private business so that doctors, nurses, and all other workers in primary care can concentrate on the work they were trained for, their success measured not by their personal incomes but by what they achieve in conserving the health of their patients.

Urban salaried general practitioner services exist, apparently successfully, in such familiar societies as the province of Quebec, parts of Italy, France, and Sweden, and the city of Oslo. When is the *British Medical Journal* going to tell us about them so that the General Medical Services Committee of the British Medical Association can have all the information it needs to consider its whole range of options? Opposition to salaried service is based on four premises: fear of the untried and unknown; the privileges of the self employed under present tax law; legacies of employment of general practitioners under the Poor Law and experience of administration of public health; and defence of clinical autonomy. The first two are not my concern here. Consultants seem to have prospered in a salaried service, even one with a fixed age for retirement, and their problems are certainly soluble by negotiators who actually want to solve them. A growing army of women doctors looking for sessional work in primary care may help this prospect to become thinkable.

Fear of employment by local government has historical roots, now

largely irrelevant. It is true that the public health tradition, here as in most other countries, has been impoverished by its divorce from clinical medicine, a divorce for the most part imposed by the profession itself. Under any circumstances community medicine will take time to recover from a century of banishment to the periphery of medical practice, but clinicians will also take time to recover from their ignorance of the tasks of organisation, management, local planning, and research based clinical strategy. Given good will and the right combination of confidence and humility on both sides, general practitioners and community physicians could work more effectively together than they ever will apart.

The claim that salaried service must violate clinical autonomy is not merely unconvincing (in the light of the experience of consultants and the uses to which our autonomy has all too often been put) but is the opposite of the truth. As John Robson wrote in his important review of salaried options, "The battle for clinical autonomy . . . is a battle for more and better resources rather than favoured status. . . . [It] cannot be conducted on a basis of independent contracting. The resources required are too large, the organisation of care too complex, and the task too important to be left to those who stand outside it."³² Serious public investment in primary care cannot be capricious, depending only on the preferences of individual general practitioners rather than the needs of the populations they serve; it must be planned. If we want to be a part of the planning process we have to commit ourselves to it and accept decisions to which we, and the rest of our teams, contribute. To suppose that within such a process of planning we would not have an effective voice is absurd.

Community general practitioners

Like all other health workers general practitioners mistrust planning and control from above. They have to be answerable to somebody, but few wish to answer for their work to people who have never done it themselves. Salaried public medical service is easily caricatured as an ossuary of fossilised screening techniques long drained of any blood they may once have contained and perpetuated because some bureaucrat accepts them as the only measure of work done.

The only way to limit and eventually to defeat bureaucracy is not to defend our own obsolete local despotism but to create a local participatory democracy. The essential ingredients for this are already to hand. British general practitioners serve registered populations, lists of names and addresses that are a potential local electorate and data base for audit. In a properly equipped and staffed primary care service, with trained practice managers aided by computer assisted clinical records permitting both audit of clinical activity and duplication of updated personal summaries, we could make this electorate both personally and collectively informed. If, once a year, each registered patient aged 15 and over was given both an updated summary of his personal health and a simple account of the work of the practice in relation to local health variables, with an opportunity to discuss these at an annual meeting at which a patients' advisory committee for the ensuing year would also be elected, we would have the essential machinery for local participatory democracy as well as an information system for area planning by the district team.

Community general practitioners of this kind could not and should not be introduced across the board. Any attempt to do this would fail if only because it demands a volunteer rather than a conscript army and because the entire development would not be perceived as necessary in areas where the old system appears to be working well. It could and should be introduced as an option wherever general practitioners are prepared to have a go at it, and I would be surprised if fewer than 10% of general practitioners would be interested in working in this way if the opportunity existed. That 10% would give us the pilot trial we would need before considering any more general extension.

Full spiral

The community general practitioner brings us full spiral, beyond but in the same line of ascent as rural and market town personal doctors like Pat Byrne and Will Pickles, models of what general practitioners can and should be not only for their own time but for ours, when we stand at the brink of the final abyss. At such a time, when each of us must choose whether to slide on, hoping for the best, or put our weight to a new social course, some new path entirely, we must find the courage and

imagination to pursue old objectives in a new way. The main error in Byrne's and Pickles's conception of maternalistic continuing personal care is that few general practitioners or patients ever experienced it in urban industrial practice.

We need not be ashamed of failing in a task in which it was impossible to succeed without changing the rules of the game. We know that within those rules there are no solutions. We still have time to help by writing a new set of rules and opening up a wide range of new solutions, but not much time.

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References

- Wynne J, Hull D. Why are children admitted to hospital? *Br Med J* 1977;iii:1140-2.
- Davison AG, Hildrey ACC, Floyer MA. Use and misuse of an accident and emergency department in the east end of London. *J R Soc Med* 1983;76:37-40.
- General Medical Services Committee. *General practice: a British success*. London: British Medical Association, 1983.
- Fry J. The primary care-hospital interface. *Update* 1978;20:1119-20.
- Horder JP. Physicians and family doctors: a new relationship. *J R Coll Gen Pract* 1977;27:391-6.
- Marsh GN. Are follow-up consultations at medical outpatient departments futile? *Br Med J* 1982;284:1176-7.
- Loudon ISL. A question of numbers. *Lancet* 1976;ii:736-7.
- Southgate K. A question of numbers. *Lancet* 1976;ii:854.
- Anonymous. To come again—three months [Editorial]. *Lancet* 1976;ii:1168-9.
- Anonymous. Outpatient follow-up [Editorial]. *J R Coll Gen Pract* 1976;26:792-3.
- Birmingham research unit of the Royal College of General Practitioners. Total care usage of a defined population. *J R Coll Gen Pract* 1977;27:306-14.
- Wilkes E, Lawton E. The diabetic, the hospital, and primary care. *J R Coll Gen Pract* 1980;30:199-206.
- Ruben LA, Heller RF, Jones R, Kelson M, Pearson TC, Shenouda F. Control of diabetics in general practice and hospital clinics. *Practitioner* 1982;226:266-7.
- Hill RD. Community care service for diabetics in the Poole area. *Br Med J* 1976;ii:1137-9.
- Thorn PA, Russell RG. Diabetic clinics today and tomorrow: mini-clinics in general practice. *Br Med J* 1973;ii:534-6.
- Hart JT. The practitioner's view. In: Gross F, Strasser T, eds. *Mild hypertension: recent advances*. New York: Raven Press, 1983:365-74.
- Department of Health and Social Security hypertension care computing project. A comparison of blood pressure control in hypertensive patients treated in hospital clinics and in general practice. *J R Coll Gen Pract* 1982;32:98-102.
- Management committee. The Australian therapeutic trial in mild hypertension. *Lancet* 1980;ii:1261-7.
- Veterans Administration Co-operative Study Group on Antihypertensive Agents. II. Effects of treatment on morbidity and mortality: results of treatment in patients with diastolic blood pressures averaging 90 through 114 mm Hg. *JAMA* 1970;213:1143-52.
- Ritchie LD, Currie AM. Blood pressure recording by general practitioners in north east Scotland. *Br Med J* 1983;286:107-9.
- Heller RF, Rose GA. Current management of hypertension in general practice. *Br Med J* 1977;ii:1442-4.
- Gillies-Rayburn H, Murtomaa M. The prevention of blindness amongst diabetics. London: London School of Hygiene, 1981. FSA final report for degree MSc.
- Yudkin JS, Boucher BJ, Schopflin KE, et al. The quality of diabetic care in a London health district. *J Epidemiol Community Health* 1980;34:277-80.
- Doney BJ. An audit of the care of diabetics in a group practice. *J R Coll Gen Pract* 1976;26:734-42.
- Wilkes E. Lessons from bad general practice. *J R Coll Gen Pract* 1975;25:82-91.
- Hart JT. A new kind of doctor. *J R Soc Med* 1981;74:871-83.
- Buchan IC, Richardson IM. *Time study of consultations in general practice*. Edinburgh: HMSO, 1973. (Scottish health studies No 27.)
- Hart JT. Measurement of omission. *Br Med J* 1982;284:1686-9.
- Williams WO. *A study of general practitioners' work load in south Wales 1965-6. Reports from general practice XII*. London: Royal College of General Practitioners, 1970.
- Dowie R. *General practitioners and consultants: a study of outpatient referrals*. London: King Edward's Hospital Fund for London, 1983:112.
- Foot M. *Aneurin Bevan 1945-60*. London: Davis-Poynter, 1973:172.
- Robson J. Salaried service—a basis for the future? *Br Med J* 1981;283:1225-7.

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