Aspects of Audit

4: Acceptability of audit

CHARLES D SHAW

Summary and conclusions

Whether or not audit is accepted in Britain will be determined principally by how it is controlled, how much it costs, and how effective it is. The objectives of audit have been defined as education, planning, evaluation, research, and anticipatory diplomacy—that is, starting internal audit before external audit is imposed on the medical profession. Published reports suggest that in Britain internal audit would be more effective and less expensive than the complex professional standards review organisation devised by the Federal Government in the United States.

Introduction

Arguments about how acceptable and workable medical audit is in Britain are based as much on conjecture as on practical evidence, owing both to the lack of experience in Britain and to the natural fertility of folklore. Moreover, because of the many different meanings ascribed to audit and the various methods used, generalisations cannot usefully be made.

The debate on the acceptability of audit focuses on three questions: *how is it controlled? what does it cost? does it work?* The last question, probably the most difficult one, carries the assumption that certain objectives can be fulfilled and that these may then be used to measure the effectiveness of audit. There is disagreement, however, even about the objectives.

Objectives of medical audit

It is generally agreed that education is the main purpose of medical audit. The Birmingham Research Unit of the Royal College of General Practitioners describes this more specifically: "curiosity, organised by [medical audit] is basically a process of self-education." Planning may be considered a second purpose and include information on how resources are used. A third objective of audit is to evaluate medical care, a fourth to add to medical knowledge, and a fifth to forestall, by anticipatory diplomacy, external audit being imposed on the medical profession from outside.

Some authors believe that the first objective of medical audit is to improve standards of care. It is extremely difficult to show such an effect, however, except in terms of changes in the process of care. To assume that an improvement in care follows automatically from changes in the way care is given is an attractive argument. Indeed, this assumption is inherent, therefore unproved, in many informal activities of postgraduate medical education.

These objectives are generally acceptable to the profession and are not greatly contested. That the profession has a duty to review its own work is implicit in medical practice: so implicit that, according to Dudley (1975), we are embarrassed to talk about it. The divisive issue is whether more formal audit should replace the traditional forms of review.

Dilemma

In its evidence to the Royal Commission on the NHS, the BMA said, "We are not convinced of the need for further supervision of a qualified doctor's standard of care." The commission subsequently reported, "We are not convinced that the professions regard the introduction of medical audit and peer review with a proper sense of urgency." As stated in editorials in the *British Medical Journal* (1976) and the *Practitioner* (1979), some would rely on the "innate sensitivity of the profession" to maintain standards rather than the "chopping block of medical audit."

Others argue that isolated debate and conventional review have no effect on how medicine is practised, and that formal analysis and feedback are necessary to prevent the same mistakes recurring. Moreover, there is evidence that traditional continuing medical education is unlikely to resolve existing problems. A study by Ashbaugh and McKean of 5400 patients' records in the United States suggested that 94% of the deficiencies were failures of performance rather than of knowledge.

But such evidence may not apply here in Britain. Even if it did the complex systems of audit in the USA would not. The motivation for audit and the structure of health care are quite different in Britain. The now dominant professional standards review organisation (PSRO) was set up in the USA to control increases in costs, fees, and unnecessary surgery. In Britain the problem is to get necessary surgery done. The open access for medical staff in most hospitals in the USA allows a wide variety of doctors to see inpatients, whereas in Britain the traditional referral system from general practitioners, a salaried, hierarchical hospital staff, and a "professional bureaucracy," ensure that, for example, all patients for surgery are supervised by fully qualified surgeons and anaesthetists. (But this should not encourage the common misbelief that doctors in the USA are totally free agents; on the contrary they work under more explicit regulations than British doctors.) Naish pointed out that audit facilitates control in the USA where the distances between places are so vast, and Matthews suggested that the popularity of audit is inversely proportional to reverence for authority.

Gloucestershire Area Health Authority, Cheltenham GL50 2QN, Gloucestershire

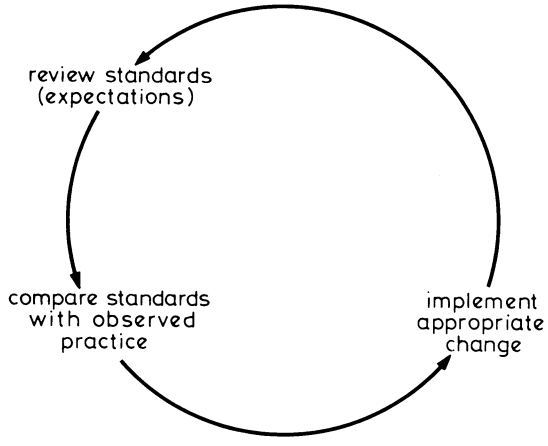
CHARLES D SHAW, MB, BS, senior registrar in community medicine (previous appointments: representative for the Canadian Council on Hospital Accreditation, Ottawa, Canada, and medical director, King Edward VII Memorial Hospital, Bermuda)

Characteristic attitudes

Although Matthews offered his hypothesis to explain the different attitudes toward audit between Britain and the USA, it may also explain differences within these countries. Metcalfe has said that young doctors show a greater enthusiasm for audit than established doctors. This may reflect irreverence for established practice, a greater need for reassurance, or the effect of continuous assessment during training. This generation gap is also shown by newly qualified doctors relying on laboratory rather than clinical data, which sometimes causes problems in agreeing on the appropriate management of a patient. Hall took the point further by suggesting that terms such as peer review, monitoring, and assessment were "intoxicating to the sado-masochistic academics and the new breed of MRCGPs."

Effectiveness of audit

Effective audit may be regarded as a three-part cycle of setting standards, evaluating care, and modifying practice in the light of the evaluation (figure). Many audits fail in the last stage because there is no formal feedback of information and no formal decision to remedy the deficiencies that are discovered. Without feedback and remedy "orphan data" merely accumulate. This has been the fate of many PSRO studies, and Nelson says that this is because the clinicians whose work is being audited reject the standards used for evaluation because they did not help to formulate them—a problem inherent in any system of audit that is not internal. Brook and Williams showed that by adding educational feedback to the PSRO system these same audits were effective in modifying behaviour. Williamson, however, had previously shown the opposite: that doctors who had failed to respond to unexpectedly abnormal screening results performed no better after taking part in a specially designed awareness programme.



The cycle of audit

In general the studies of McSherry, Nelson, and Kessner in the USA, that have been quoted as showing that audit does not work, referred to the specific shortcomings of a system that is unlikely to reach Britain and not to audit itself. Brook and Avery recognise that some of these failings are not sufficiently great to justify abandoning the concept altogether, even in the USA.

McSherry concluded that audit failed to identify educational needs at Cornell, but studies in Canada and in Britain suggest that this is not a universal rule. Experience in Britain has likewise shown the value of audit in planning and evaluating medical services, though there is conflicting evidence on the effectiveness of audit in influencing change. Some studies showed that audit was not followed by an appropriate modification in clinical practice, while others showed that it was. In particular, Gruer *et al* noted that after starting audit in a surgical department the clinical diagnostic accuracy of acute abdominal pain improved and the number of negative laparotomies decreased.

In short, the evidence that medical audit can be effective is not overwhelming, but it suggests that audit has a brighter future in Britain than PSRO has in the USA.

Control of audit

Even if there is some reassurance that audit can be justified in terms of effectiveness, a major source of anxiety remains: who will be affected, and who will be in control? Doctors are concerned that the profession's authority, already diluted by pressure from team management, administrators, and patients, will be further scrutinised by outsiders until medicine is "practised in a goldfish bowl," as Stevens aptly put it.

CUSTOMER AUDIT IS UNPOPULAR

The public is becoming increasingly interested in medical care, and Klein argues that those who use public resources should be accountable to the public for the way in which they dispose of those resources. Many doctors feel that if audit is inevitable it should be organised by the profession before someone else fills the administrative vacuum, but some do not agree that audit is inevitable. In either event, customer audit does not seem popular, nor does the possibility of legal intervention and the "fearsomely destructive weapon of negligence," that Johnson warns of. If medical audit gave proof of a deviation from an explicit set of criteria for patient management, could this be used as legal evidence against a doctor?

CENTRALLY IMPOSED AUDIT IS MISCONCEIVED

"The Government, who pay the piper, will insist that the tune is at least audible," but a State-run audit would be unacceptable. Similarly, there is concern that a review system set up in good faith by the profession might subsequently be taken over as an external audit or that the information generated might be abused.

A centrally imposed audit would be misconceived. This is in part because there are few validated national standards of management; in part because (as has been shown in the USA) external audit has little effect on education or change; and also because audit would take on the image of bureaucracy. External audit has a limited application—for example, in quality control of clinical laboratories and in confidential inquiries into maternal mortality. With such exceptions the role of central administrative bodies and the royal colleges should be to provide assistance, advice, and information for audit. Clinicians might also turn for help to community physicians, though they have so far shown little enthusiasm for that role.

LOCAL AUDIT MAY LEAD TO RIGID STANDARDS

If a successful case is made for leaving audit to small, local groups, this too would place some restriction on clinical freedom, even if only at the very margins of clinical reason. Some fear that using explicit criteria would lead to a rigid orthodoxy of elitist standards that would ossify clinical practice and stifle innovation. Others would welcome more uniform behaviour, or they at least believe that an individual should defend the choice of a different approach. And, if clinical freedom is as

much a right of the patient as of the doctor this freedom would not justify doctors rejecting a step towards evaluating patient management.

MANDATORY AUDIT LEADS TO SANCTIONS

The final question on control is whether audit should be mandatory and whether sanctions should be imposed on those doctors found wanting. Such policing would probably be counterproductive, but it is also recognised that voluntary mechanisms of education are most used by those who least need them. It has therefore been suggested that items such as payments for seniority and vocational training should be dependent on evidence from audit that the objectives of these schemes, rather than their process, have been fulfilled. The Royal Commission on the NHS suggested that hospital training posts should be approved only in departments where an "acceptable method of evaluating care has been instituted."

Cost of audit

The prospect of any innovation that might encourage defensive medicine and overinvestigation in order to comply with explicit standards is unwelcome in the NHS but is a much less realistic hazard than in the USA. Indeed there is some evidence that audit would reduce unnecessary procedures in Britain and provide a more rational basis for the allocation of the limited resources in the NHS. Implementing the remedies suggested by audit usually requires reorganisation—for example, of communications or follow-up—rather than expenditure. However, the process of audit uses up resources: any method of audit will require the clinicians' time, even if much of the work load is carried by secretarial or clerical staff. The cost of internal audit in Britain would be nowhere near the amount quoted for running the complex American PSRO structure, but even if "a good system of medical audit is worth any number of postgraduate courses," as McWhinney suggests, this may amount to discouragement.

In 1976-7 the cost of running the PSRO programme was variously stated as having been 66, 70, and 90 million dollars—roughly 0·05% of the 150-billion-dollar-cost of the entire health system in the USA. McSherry calculated the average cost of one audit in one large teaching hospital at just under 5000 dollars in 1976. This contrasts with the combined experience of several hospitals in the Niagara Peninsula of Canada in 1977 where an average audit study required 23 hours of medical records staff time. In Britain the Birmingham Research Unit estimated that one audit had required 17 hours of secretarial time at a marginal cost to the practice of less than £10 in 1975. The amount of time required and the costs were expected to drop in both cases as systems became better established.

The limited published experience of audit in Britain suggests that it would be less costly and more effective than PSRO has been in the USA. But this reassurance alone will do little to dispel underlying doubts about the wider implications in practice. When the medical profession has ensured its own authority over audit then it may be easier to accept.

Bibliography

Abramczuk JA, Rose NM. Pre-anaesthetic assessment and the prevention of post-ECT morbidity. *Br J Psychiatry* 1979;**134**:582-7.

Acheson HWK. Medical audit and general practice. *Lancet* 1975;i:511-3.

Anonymous. Medical audit. *Lancet* 1978;i:1166.

Ashbaugh DG, McKean RS. The philosophy and use of audit. *JAMA* 1976;**236**:1485-8.

Ashton J, Oliver G, Grant A, Taylor GK. An audit of deaths in general practice. *Update* 1976;**12**:1019-22.

Aylett M. Bookings at a general practitioner obstetric unit: an exercise in peer review. *Br Med J* 1977;ii:28-9.

Birmingham Research Unit of the Royal College of General Practitioners. Self-evaluation in general practice. *J R Coll Gen Pract* 1977;**27**:265-70.

British Medical Association. Evidence of Council to the Royal Commission on the National Health Service. *Br Med J* 1977;i:299-334.

Brook RH, Avery AD. Quality assurance mechanisms in the United States. In: McLachlan G, ed. *A question of quality?* Oxford: Oxford University Press, 1976:221-52.

Brook RH, Williams KN. Effect of medical care review on the use of injections. *Ann Intern Med* 1976;**85**:509-15.

Capstick I. Need for pilot studies in general practice. *Br Med J* 1974;i:278-9.

Chisholm JW. Medical audit. *Br Med J* 1979;ii:143.

Clark MR, MacIntyre KA. Patient care appraisal as a guide for the design of continuing medical education: 10 years' experience in the Maritime provinces. *Can Med Assoc J* 1978;**118**:131-8.

Committee of enquiry into competence to practise. *Report.* Alment EAJ, chairman. London, 1976.

Counihan HE. Evaluation of medical services. *World Hospitals* 1972 Jan:184-6.

Coggan D, Goldacre MJ. Outpatient follow-up after appendicectomy. *Lancet* 1976;i:1346-7.

Devitt JE. Does continuing medical education by peer review really work? *Can Med Assoc J* 1973;**108**:1279-81.

De Lacey G. Clinical and economic aspects of the use of *x*-rays in the accident and emergency department. *Proc R Soc Med* 1976;**69**:758-9.

Duncan A. Quality assurance: what now and where next? *Br Med J* 1980;**280**:300-2.

Dudley HAF. Necessity for surgical audit. *Br Med J* 1974;i:275-7.

Dudley HAF. Can we audit cost-effectively? *Br Med J* 1974;iii:274-9.

Dudley HAF. Audit and the pathologist. *Proc R Soc Med* 1975;**68**:634-7.

Editorial. Towards medical audit. *Br Med J* 1974;i:255.

Editorial. Controlling quality. *Br Med J* 1974;iii:704.

Editorial. Audit of audit. *Lancet* 1976;ii:453.

Editorial. Audit again. *Br Med J* 1976;ii:714.

Editorial. Separating the sheep from the goats. *Br Med J* 1976;ii:1218.

Editorial. Quality control of laboratories—or of pathologists? *Br Med J* 1977;i:1180.

Editorial. Medical audit and continuing education. *Br Med J* 1978;ii:156.

Editorial. Medical audit now. *Br J Hosp Med* 1979;**22**:421.

Editorial. Medical audit in general practice. *J R Coll Gen Pract* 1979;**29**:699.

Editorial. Down with audit. *Practitioner* 1979;**223**:427-8.

Editorial. Medical audit in general practice. *Lancet* 1980;i:23-4.

Gau G. The ultimate audit. *Br Med J* 1977;i:1580-1.

General Medical Services Committee (Wales). *Report of a working party on medical audit by peer review.* 1975.

Gerber A. Medical audit. *Lancet* 1975;i:1086.

Gruer R, Gunn AA, Ruxton AM. Medical audit in practice. *Br Med J* 1977;i:957-8.

Hall GH. Say "no" to audit. *World Medicine* 1979;**14**:21-2.

Hodgkin GK. Evaluating the doctor's work. *J R Coll Gen Pract* 1973;**23**:759-67.

Horsley S. Medical audit. *Br Med J* 1979;ii:143.

Irvine D. Contemporary professional practice. In: McLachlan G, ed. *A question of quality?* Oxford: Oxford University Press, 1976;65-96.

Johnson R. Medical audit. *Lancet* 1975;i:679.

Joint working party on the organisation of medical work in hospitals. *Second report.* London: HMSO, 1972.

Kessner DM. Quality assessment and assurance: early signs of cognitive dissonance. *N Engl J Med* 1978;**298**:381-6.

Kirk C, Lee-Jones M. Medical records, medical audit and community hospitals. *J R Coll Gen Pract* 1976;**26**:143-6.

Klein R. An alternative approach to audit. *Br Med J* 1976;ii:597-8.

Knowles JEA, Savory JN, Royle RA, Deacon SP. An audit of ENT referrals assessing training needs for general practice trainees. *J R Coll Gen Pract* 1979;**29**:730-2.

McColl I. Medical audit in British hospital practice. *Br J Hosp Med* 1979;**22**:485-9.

McColl I. Monitoring standards of clinical performance. In: *Putting meaning into monitoring.* London: King Edward's Hospital Fund for London, 1979:3-6.

McColl I, Fernow LC, Mackie C, Rendall M. Communication as a method of medical audit. *Lancet* 1976;i:1341-4.

McLachlan G. Monitoring health services. *Int J Epidemiol* 1976;**5**:83-6.

McSherry CK. Quality assurance: the cost of utilization review and the educational value of audit in a university hospital. *Surgery* 1976;**80**:122-9.

McWhinney IR. Medical audit in North America. *Br Med J* 1972;ii:277-9.

Matthews MB. Self-assessment programmes and aspects of audit. *J R Coll Physicians Lond* 1979;**3**:139-42.

Metcalfe DHH. Medical audit. *Br Med J* 1974;iii:327.

Mourin K. Auditing and evaluation in general practice. *J R Coll Gen Pract* 1976;**26**:726-33.

Murray JH, Swanson AL, Knauf C. Canadian Council on Hospital Accreditation project shows clinical appraisal can be satisfying. *Can Med Assoc J* 1977;**116**:200-5.

Naish JM. Medical audit. *Br Med J* 1974;i:514-5.

Nelson AR. Orphan data and the unclosed loop: a dilemma in PSRO and medical audit. *N Engl J Med* 1976;**295**:617-9.

Porterfield J. Peer review—answers to some of the questions posed. *Med J Aust* 1977;i,suppl 3:29-33.

Rees AM, Roberts CJ, Bligh AS, Evans KT. Routine pre-operative chest radiography in non-cardiopulmonary surgery. *Br Med J* 1976;i:1333-5.
Reilly PM, Patten MP. An audit of prescribing by peer review. *J R Coll Gen Pract* 1978;**28**:525-30.
Royal College of Surgeons of England. Evidence to the Royal Commission on the National Health Service. London, 1977:part II.
Royal Commission on the National Health Service. Measuring and controlling quality. In: *Report of the Royal Commission.* London: HMSO, 1979:173-7.
Ryan MP, Buchan IC, Buckley EG. Medical audit—a preliminary report from general practice. *J R Coll Gen Pract* 1979;**29**:719-22.
Secretary of State for Social Services. A sound management structure. In: *National Health Service reorganisation: England.* London: HMSO, 1972.
Shackman R. Medical audit. *Br Med J* 1974;i:388-9.
Sheldon MG. Self-audit of prescribing habits and clinical care in general practice. *J R Coll Gen Pract* 1979;**29**:703-11.
Smart GA. Monitoring in medicine. *J R Coll Physicians Lond* 1975;**9**:355-70.
Stevens JL. Quality of care in general practice: can it be assessed? *J R Coll Gen Pract* 1977;**27**:455-66.
Stott NCH, Davis RH. Clinical and administrative review in general practice. *J R Coll Gen Pract* 1975;**25**:888-96.
Thould AK. Medical audit necessary, but rigidity greatest danger. *Br Med J* 1974;i:279-80.
Tomlin PJ. Intensive care, a medical audit. *Anaesthesia* 1978;33:710-5.
Verby JE, Holden P, Davis RH. Peer review of consultations in primary care: the use of audio visual recordings. *Br Med J* 1979;i:1686-8.
Williamson JD. Quality control, medical audit and the general practitioner. *J R Coll Gen Pract* 1973;**23**:697-706.
Williamson JW, Alexander M, Miller GE. Continuing education and patient care research. *JAMA* 1967;**201**:118-22.
Wilson LL, Larkins N. Peer review. *Med J Aust* 1977;i,suppl 2:7-24.

This is the fourth in a series of five articles on medical audit.
Specific references may be obtained from the author.
No reprints will be available.

MATERIA NON MEDICA

Sauna

Invited to Helsinki to speak at a conference I was housed in great comfort at an expensive hotel. A fellow speaker, an amiable Swede, ascended with me in the lift and commented on the advertised hotel sauna. Feeling as if I were confessing virginity I said I had never taken a sauna. The Swede was astounded and announced that this must be corrected forthwith. After suitable premedication with gin I soon found myself undressing in company with this almost unknown man. He asked casually if my blood pressure was normal. Thinking that this was a reference to my weight I noted that he was not all that thin and had a tendency to gynaecomastia. Nudity presented no embarrassment but I did wish my athlete's foot was not so obvious. The room we changed in was the tepidarium, though I found it uncomfortably hot and humid. We showered in another room, where I tried not to speculate on the purpose of a large rubber-mattressed bed. The Swede opened a cupboard door which apparently lead to a furnace. We climbed in.

It was semidark with wooden seats built round a charcoal burner on which stones glowed red. The heat was intense but totally dry. The sweat stood thick but did not run, it evaporated so quickly; as I tried to gulp the hot air my pulse raced and even while sitting I began to feel hypotensive. My companion threw a ladleful of water on to the stones; steam hissed and the temperature shot higher still. There were footsteps outside. The cupboard door burst open and a strident female voice shouted something. Like two small boys caught at indecency we descended the dais. The Swede she caught by the arm, me she pushed back to cook a little longer. There were noises off and ecstatic male grunts. The Swede threw open the door, shouted "This is the best yet," and was gone leaving me wondering sweatily. I emerged faint and blinking at the light which shone cruelly on the flaccid enlargement of my super-heated genitals. The lady was efficient, uncommunicative, and not very attractive. When I asked if she spoke English the answer was clearly negative. I had no choice but to lie on the rubber bed and submit to being scrubbed with a loofah all over, but *all* over.

The Swede had disappeared for another dose of heat, where I joined him for a few more minutes before relaxing in the tepidarium over beer and a discussion of the common stress which the mixture of academic life and general practice subjected us to. The woman came back with a tray of lotions and deodorants, our nakedness was now quite unembarrassed, the beer was good, this unknown man was now a friend, and fatigue drained away. We swam in a warm pool beside which there was a cold plunge. Not to be outdone by a Scandinavian I leapt into it. I sank through eight feet of liquid ice. Momentarily I was numb, then, urged by cremasteric spasm, shocked gonads huddled back to the erstwhile warm safety of the abdomen and were very painful. The first time I missed the handrail and went down again, the cold pouring into me, panicking about the viability of my arteries. A few seconds later I was prancing, clutching my genitals, around the swimming pool. The Swede, laughing, warned that this way many people put their blood pressure up to over 300 systolic, so precipitating coronaries and strokes. So that was why he asked me about my blood pressure!—F M HULL (clinical tutor in general practice, Birmingham).

Mankind, ever the same

For 2 rupees and 13 annas (mercifully, no pice), I obtained a copy of *The Vision of Piers Plowman* from a Madras bookseller, and great pleasure has it given me since.

To refresh the memory of those who were introduced at school to this remarkable work, and for those who have yet to discover, it is believed to have been written by William Langland, who lived, so it is thought, between 1332 and 1400. Langland hurled invective at the England of Chaucer's time like an Old Testament prophet with an English humour. He lashes with sharp wit, dishonesty, corruption, greed, and above all idleness.

Readers of *A Distant Mirror* by Barbara W Tuchman (Macmillan, 1979) are made aware of the intriguing similarities between the fourteenth and twentieth centuries. She says in her foreword that the genesis of her book was a desire to find out what were the effects on society of the most lethal disaster of recorded history—the Black Death of 1340-50, which killed a third of the population living between India and Iceland. Given the possibilities of our own time, the reason for this interest is obvious. The answer proved elusive because the fourteenth century suffered so many "strange and great perils and adversities" (in the words of a contemporary) that its disorders cannot be traced to any one cause. There were the hoof-prints of more than the four horsemen of St John's vision.

The parallels have also been applied by another historian to earlier years of this century. Comparing the aftermaths of the Black Death and of the first world war, James Westfall Thompson found all the same complaints: economic chaos, social unrest, greed, profiteering, depraved morals, and indolence. That wage restraint was tried in the fourteenth century may not be as widely known as it deserves, or that it ended in the Great Peasants' revolt of 1381. I wonder whether the sixth centenary will be commemorated next year.

To return to Piers Plowman. He had considerable influence with the Almighty, and a labour problem. He called on Hunger for help:

> "There be no plenty in the land and the plough lieth still,
> 'Avenge me of these wastrels that make this world so dear.'
> Hunger came in haste, took wastrel by the mouth,
> Wrung him by the womb, brought water to his eyes. . . .
> Many a beggar became ready to sweat for beans,
> Ready as a sparrow-hawk to do Piers bidding.
> Flapping away with flails, from morning to evening.
> 'I am well avenged,' saith Piers, 'on these wastrels
> 'Yet I pray thee, what is best to be done
> 'For well I wot when hunger is gone, ill will they work.' "

What indeed. It is taking a long time to find out. Doctors escaped neither hunger nor the lashing tongue:

> "Physik shall sell his furred coat to get him food
> And shall pawn for his dinner, his Italian cloak
> and fain let his physik go and labour with his hands.
> For many Doctors be murderers (God mend them)
>
> And men die through their Drinks, ere Destiny would have it."

So that is another problem that has been going on a long time too.—I S HODGSON-JONES (consultant dermatologist, Kettering)