

Practice characteristics associated with audit activity: a medical audit advisory group survey

BRUCE LERVY

KATHIE WAREHAM

WAI YEE CHEUNG

SUMMARY

Aim. A survey of general practices in West Glamorgan was carried out to assess the development of record systems and practice organization and to relate this to audit activity.

Method. Following mutual agreement practices were visited by two assessors. Visits were conducted using an agreed protocol and practice data were recorded on a semi-structured questionnaire, which had been sent to the practices in advance of the visits. Practices varied from single handed practices to group practices with six partners.

Results. Fifty seven of the 63 practices in the county suitable for inclusion were visited (90%). Data were analysed from 54 practices (three visits were regarded as a pilot). The practices more likely to be involved in audit were those with three or more partners and which had modern medical record systems. Audit activity had occurred in 87% of practices who kept clinical summaries in the notes (compared with 38% who did not), in 87% of practices with long-term medication summaries in the notes (compared with 40% with no summaries) and in 85% of practices with a computerized age-sex register (compared with 50% with no register). All training practices had undertaken audit compared with 63% of non-training practices.

Conclusion. The survey enabled the medical audit advisory group to identify the type and degree of audit undertaken locally and highlighted the characteristics which encourage this activity. As a consequence the group is able to target practices who have limited or no involvement in audit and to offer assistance and advice on record modification likely to enhance audit activity.

Keywords: practice organization; records management; practice management; audit.

Introduction

At a meeting of the West Glamorgan medical audit advisory group (MAAG) in April 1991, it became apparent to members that they had little information upon which to develop a rational audit strategy for general practice in the county. Members were unaware of their colleagues' knowledge of the audit process and of the degree to which audit methodology was already being applied.

An initial questionnaire sent in October 1991 to all practi-

tioners in the county yielded a 25% response, and the content of the replies did not resolve the group's uncertainties. The difficulty of making comparisons between general practitioners has been recognized by previous exercises in peer review.¹ It was therefore decided that a survey would be carried out in which every practice would be invited to receive a visit from a MAAG visiting team to determine the level of involvement in audit. For the purpose of the visit audit was defined as any formal evaluation of performance in any aspect of practice which had resulted in a change in the future performance of that activity.² The aims of the survey were to visit all practices in West Glamorgan to introduce the concept of audit; to obtain baseline data on the structure of primary health care in West Glamorgan practices, clinical records in terms of structure and content, the use of computers and the current and proposed audit activity; to relate practice characteristics to existing audit activity; and to offer educational support for audit or in relation to any perceived learning need identified by audit.^{3,4}

Method

There are 66 general practices in West Glamorgan; 63 of these were suitable for inclusion in the study (two practices were in the process of merging and one practitioner was chronically ill).

The MAAG coopted to itself an equal number of volunteer general practitioners from practices in the county which did not have any members of the MAAG. The linkage of practitioners in the visiting teams was structured so that any single-handed practitioner was paired with a doctor from a group practice. Teams containing a single-handed practitioner were selected to visit single-handed practices. The group of practitioners from which the teams were selected included a spectrum of age, sex and ethnicity. Each visiting team contained one MAAG member.

A protocol for MAAG visits was established by the expanded group in an attempt to standardize the visit by each team. Training visits to practices of MAAG members were videoed and the presentations analysed by the group in a further attempt to attain uniformity in the visits. These three pilot visits were excluded from the final analysis.

All 63 practices were distributed evenly between the eight MAAG visiting teams. It was agreed that the pilot practices would not be re-visited during the first year, but the linkage of practices and visiting teams was established for continuity in future years. The MAAG member was regarded as team leader and was responsible for making arrangements for a visit at a time convenient to the practice. These arrangements were usually made by telephone. One week prior to the visit a MAAG information pack was sent to every practice, addressed to the senior partner. The pack included: a list of the West Glamorgan MAAG membership; the names of the members of the MAAG visiting team assigned to the practice; a covering letter from the MAAG chairman describing the purpose of the visit and inviting the practice to select an alternative visiting team if desired (no one made such a request); a questionnaire asking for details of the structure of the practice; and instructions for an audit of the diagnosis and treatment of pernicious anaemia, including data collection forms. Two hours of postgraduate education allowance was approved for all doctors participating in the visit (the practitioners who attended and the visiting teams). All partners were

B Lervy, FRCGP, senior lecturer in general practice; K Wareham, RGN, SCM, clinical research scientist; and W Y Cheung, BSc, MPhil, PhD, research scientist, School of Postgraduate Studies in Medical and Health Care, University of Swansea.

Submitted: 17 September 1992; accepted: 3 August 1993.

© British Journal of General Practice, 1994, 44, 311-314.

encouraged to be present for the visit, and some practices opted to invite other primary health team members, particularly practice managers.

The pattern of the visits followed the agreed protocol:

- Introduction of visitors and practitioners.
- Explanation of the voluntary nature of the visit.
- Check that MAAG pack had been received (if not, another set was offered).
- Invitation to practice to give their concept of audit.
- Explanation by the MAAG member of the audit process, enlarging upon or correcting any perceived misconceptions.
- Answering any questions posed by the practice.
- Check through questionnaires, clarifying any uncertainties.
- Discussion of any completed audits or the opportunity of converting data collection into audit.
- Discussion of areas of practice which may be suitable for audit.
- Discussion of opportunities for collaborative audit.
- Presentation of audit methodology book and audit file.
- All practices were offered a meeting with the senior lecturer in general practice at the University of Swansea to discuss specific audits or any other learning needs identified as a result of the visit.

The arrangements for and content of the visits were assessed by the practices using an anonymous confidential report form. The form was left with the practice with the intention that it should be completed collaboratively by those practice members present during the visit and returned by post to the MAAG office.

Statistical analysis

Owing to the nature of the data it was not always possible to perform statistical analysis. Where analysis was possible a number of tests were employed: chi square test with correction for continuity, the independent *t*-test with separate variance estimate and one way analysis of variance with multiple ranges test.

Results

Fifty seven of the 63 practices (90%) were visited during the period February to April 1992; 137 of the 181 general practitioners in the 57 practices (76%) attended these meetings. Data from the three pilot visits were excluded and data from the remaining 54 practices are reported here.

Of the six practices not visited by April 1992, one practice had indicated that a visit was not acceptable owing to the majority of the practice patients living in an adjacent county; the remaining five practices indicated that they would accept a visit at a later date.

Of the 54 practices, 39 (72%) described to the visitors audit activity that had occurred within the previous two years. A total of 68 audits were recorded. In some practices this activity had been documented as a report which included details of meetings, decisions and data analysis, in others more informal data collection had occurred without subsequent completion of the audit cycle. The remaining 15 (28%) gave no details of recent audit activity. Audit activity appeared to be related to practice size — practices with three or more partners were more likely to have participated in a recent audit project than smaller practices (Table 1).

The majority of practices (49, 91%) either had an attached nurse or employed a nurse, and 38 (70%) had both. All five practices without a nurse were single handed (Table 1). Forty five practices (83%) had a practice manager; again this was related to practice size (Table 1). Forty one practices had a computer.

All 54 practices used one or more of three medical record systems — Lloyd George medical record envelopes, A4 folders or computers. Thirty four practices (63%) were using more than one method of recording (Table 1). Twenty five practices (46%) were using A4 records either alone or in combination with one or both of the other two systems. There was a difference in the occurrence of audit activity between the practices with different recording systems; the only significant difference ($P < 0.01$) was between the 14 practices using only Lloyd George envelopes (57% involved in audit) and the 34 practices using a combination of systems (85% involved in audit).

Thirty one practices (57%) included a summary of clinically

Table 1. Practice characteristics, by partnership size.

| | Number of practices, by number of partners | | | | | |
|---------------------------|--|---------------|------------------|------------------|--------------|----------------|
| | 1 (n = 14) | 2 (n = 11) | 3/3.5 (n = 8) | 4/4.5 (n = 9) | 5 (n = 9) | 6 (n = 3) |
| Recent audit performed | 7 | 6 | 7 | 8 | 8 | 3 |
| Practice nurse | | | | | | |
| Employed | 8 | 10 | 8 | 9 | 9 | 3 |
| Attached | 8 | 9 | 6 | 6 ^a | 9 | 2 ^b |
| None | 5 | 0 | 0 | 0 | 0 | 0 |
| Practice manager employed | 9 | 7 | 8 | 9 | 9 | 3 |
| Medical records | | | | | | |
| LGE | 4 | 3 | 3 | 2 | 1 | 1 |
| A4 | 2 | 1 | 0 | 1 | 2 | 0 |
| Computer/A4 | 3 | 4 | 1 | 3 | 1 | 0 |
| Computer/LGE | 3 | 2 | 3 | 2 | 4 | 1 |
| A4/LGE | 2 | 1 | 1 | 0 | 1 | 0 |
| Computer/LGE/A4 | 0 | 0 | 0 | 1 | 0 | 1 |
| Age-sex register | | | | | | |
| Manual | 5 | 3 | 1 | 0 | 1 | 0 |
| Computer | 4 | 6 | 3 | 6 | 4 | 3 |
| Computer/manual | 2 | 1 | 3 | 3 | 3 | 0 |
| Total | 11 | 10 | 7 | 9 | 8 | 3 |
| Training practice | 1 | 2 | 3 | 1 | 6 | 1 |

n = total number of practices in group. ^aData unavailable for two practices. ^bData unavailable for one practice. LGE = Lloyd George envelope.

significant conditions in their medical records and a further 13 (24%) were in the process of developing such summaries. Of the 31 practices who had summaries, 27 (87%) were involved in audit compared with 10 of the 13 practices (77%) who were developing summaries and three of the eight (38%) without summaries (two practices did not answer this question).

Summaries of long-term medication were kept in patients' notes by 23 practices (43%) and 13 (24%) had access to such summaries through their computer system. Of the 23 practices who kept summaries 20 (87%) participated in audit as did 11 of the 13 (85%) who had access by computer. Of the three practices who occasionally kept summaries of long-term medication two (67%) participated in audit. Audit was conducted in six of the 15 practices (40%) who did not keep summaries of long-term medication.

Fewer than half the practices (26, 48%) had an agreed policy for the routine recording of blood pressure, smoking history, alcohol consumption and body mass index. Thirty practices reported that they recorded blood pressure routinely and 10 occasionally, 27 recorded smoking habit (eight occasionally), 27 body mass index (seven occasionally) and 26 alcohol consumption (seven occasionally). Twenty seven practices (50%) reported recording both blood pressure and smoking habit routinely.

Of the 54 practices, 48 (89%) had an age-sex register (Table 1). Of the 26 practices which used only a computer system 22 carried out audit (85%), as did 10 of the 12 practices which used both a manual and computer age-sex register (83%). Only four of the 10 practices with a manual age-sex register (40%) performed audit. Among the six practices who did not have an age-sex register, three had performed recent audit (50%).

Fourteen of the 54 practices were training practices (26%) (Table 1). All of these training practices reported recent audit activity while of the 40 non-training practices 25 had undertaken audit (63%).

No significant difference with regard to audit activity was noted when practices were grouped according to the type of practice premises. Of 29 practices in single site surgeries 21 performed audit (72%) and of 22 practices with one or more branch surgeries 16 performed audit (73%). Two of the remaining three practices based solely in health centres performed audit (67%).

The confidential visit assessment reports revealed that the arrangements for and content of the visits were acceptable to 98% of the 54 practices and the visits were found to be friendly by 100%. All 54 practices reported that they were more likely to participate in audit as a result of the visit.

Discussion

Medical audit has been endorsed by several royal colleges,⁵⁻⁷ but even so some might regard such scrutiny as a threat to clinical freedom. Whitehouse has suggested that the time is right to identify benchmarks in clinical practice.⁸ In other counties various methods have been used to obtain information including both questionnaires and personal visits (Doncaster MAAG newsletter, July 1991; Gateshead MAAG newsletter, August 1991). Owing to the poor response to the questionnaire in West Glamorgan it was decided that introduction of the process should be undertaken by personal contact. The 90% access obtained to practices in this study compares with a mean response of 76% by questionnaire (range 58-92%) or a mean of 82% through informal visits by audit facilitators (range 48-100%) (reported in MAAG newsletters). The confidential visit assessment reports revealed that the method was acceptable, found to be friendly and that practices were more likely to participate in audit as a result of the visit. A total of 103 audits covering a wide range of subjects have been undertaken by the practices since the initial visit

(when 68 audits were recorded). The study has produced baseline data about audit and practice structure which will allow comparison in future years. Medical audit in various guises — peer review (unpublished report of Welsh GMSC working party, 1973), performance review, practice assessment⁹ and clinical accounting¹⁰ — has been proposed by the profession for 20 years. During that time, however, formal audit activity has been a minority interest, and much audit that has taken place has been an in-practice activity.¹¹

The 1990 general practitioner contract encouraged the development of health promotion clinics. In West Glamorgan 326 prevention and disease management clinics were undertaken by 45% of practices (West Glamorgan FHSA returns, 1991). It was anticipated that this health promotion activity would have resulted in practices developing policies for recording patient data in a structured fashion. In 1985 Fleming and colleagues reported on two studies conducted in Oxfordshire in 1980 and 1982.¹² They showed an appreciable difference for cervical cytology and blood pressure recording when screening by case finding compared with opportunistic screening, yet 10 years on fewer than half of the practices in this survey had a screening policy for recording a range of health risk identification data.

Summaries of illness in patients' notes and details of long-term medication, together with a policy of routinely recording anticipatory data, are regarded as an indication of good practice performance; they are included in the requirements for appointment as a training practice (University of Wales College of Medicine, Criteria for approval and reapproval of GP trainers, 1993). The results of these visits confirmed that training practices and those which have developed their record systems are more likely to become involved in audit activity. Although the survey confirmed that all the training practices conducted audit, only 26% of practices in West Glamorgan were training practices, which is much lower than the proportions found by Fleming¹² in 1982 and Baker¹³ in Gloucester, Avon and Somerset in 1990 (68% and 44%, respectively). The finding that 91% of practices had a nurse is in accord with Baker¹³ who reported that 96% of practices had a practice nurse. Baker¹³ reported that 15% of practices were using A4 records (and presumably 85% were using Lloyd George envelopes) whereas in this study 46% of practices were using A4 records either alone or in combination with computer records and/or Lloyd George envelopes. This shows a marked change in record keeping over the two years between the studies. In Baker's study 59% of practices had a computer compared with 76% in West Glamorgan, which again shows the trend in the two years between the studies. Baker¹³ found that 62% of practices had an age-sex register; the figure of 89% found here probably reflects a change in practice generally.

The results of this survey were in agreement with the findings of Baker¹³ in that the greater the practice size the more developed the practice. It was found that practices with three or more partners were more likely than smaller practices to employ a practice nurse and a practice manager, and to undertake audit. Only 38% of the practices with three or more partners were training practices and we conclude that in West Glamorgan it is not training *per se* that is indicative of innovative practice.

As a result of the visits 10 practices requested meetings related to audit. Three of these practices were identified as having record systems which were undeveloped. An individual tutorial was arranged for each of these three practices with the senior lecturer in general practice. The practices recorded episodes of care but lacked modifications such as summaries of illness and treatment and age-sex registers. In discussion it became apparent that these practices were not achieving immunization and cervical cytology targets. The practices are now participating in a programme of

postgraduate training related to record systems.

As only 50% of the practices in this study recorded blood pressure and smoking habit routinely it was regarded as a priority to encourage such recording. Advice on methods of recording anticipatory care data was prepared by the School of Postgraduate Studies, University of Swansea and circulated to all practices. Preliminary results in a subsequent survey indicate that the majority of practices in West Glamorgan will achieve band three of the new health promotion targets.

References

1. Cobb JS, Chambers J. The difficulties in constructing a common denominator for peer review in general practice. *J R Coll Gen Pract* 1986; **36**: 106-110.
2. Lyons C, Gumpert R. Medical audit data: counting is not enough. *BMJ* 1990; **300**: 1563-1566.
3. Smith T. Closing the feedback loop is vital [editorial]. *BMJ* 1990; **300**: 65.
4. Bastone GF. Educational aspects of medical audit. *BMJ* 1990; **301**: 326-328.
5. Hoffenberg R (chmn). *Medical audit: a first report*. London: Royal College of Physicians, 1989.
6. Royal College of General Practitioners. *Quality in general practice. Policy statement 2*. London: RCGP, 1985.
7. Chalmers I, McIlwaine G. *Perinatal audit and surveillance. Protocols of the eighth study group of the Royal College of Obstetricians and Gynaecologists*. London: RCOG, 1980.
8. Whitehouse JMA. Best documented practice [editorial]. *BMJ* 1989; **289**: 1536-1537.
9. Baker R. *Practice assessment and quality of care. Occasional paper 39*. London: Royal College of General Practitioners, 1988.
10. McGuinness BW, Froom R. The Weaver Vale system of clinical accounting. *Physician* 1985; **4**: 290.
11. Smith RR (ed). *Practice profile: describing and recording general practice*. London: Royal College of General Practitioners, 1990.
12. Fleming DM, Lawrence MST, Cross KW. List size, screening methods, and other characteristics of practices in relation to preventative care. *BMJ* 1985; **291**: 869-872.

13. Baker R. General practice in Gloucestershire, Avon and Somerset: explaining variations in standards. *Br J Gen Pract* 1992; **42**: 415-418.

Address for correspondence

Dr B Lervy, School of Postgraduate Studies in Medical and Health Care, Maes-y-Gwernen Hall, Morriston Hospital, Swansea SA6 6NL.

RCGP Publications OCCASIONAL PAPERS

63 PORTFOLIO-BASED LEARNING IN GENERAL PRACTICE

This document comes from a College Working Group which was set up by the Education Division of the College to explore how higher professional education might be provided, and recognized, in general practice. The paper not only describes the essential features of portfolio-based learning, such as modularization and the use of a mentor, but offers concrete examples of their application both in vocational training and continuing medical education.

The above can be obtained from RCGP Sales, 14 Princes Gate, Hyde Park, London SW7 1PU. Tel: 071 823 9698 (or 071 225 3048, 24 hours, for Access and Visa orders only). Cheques should be made payable to RCGP.

The Conference Unit



Department of Mental Health Sciences
St. George's Hospital Medical School

Department of Mental Health Sciences
St. George's Hospital Medical School

WORKING ACROSS CULTURES

Catering for whose needs?
Is change needed?

Friday 7th October 1994
£85.00

Britain is increasingly a multi-racial and multi-cultural society. The majority of health care professionals who come into contact with people from varied cultural and racial minorities are white. Health professionals have long recognised that health beliefs contribute to the response patterns which may be shown by the sufferer and his/her social network - an observation which highlights the complexity of mental health care across cultures.

The conference is designed for managers, health care professionals and carers who are interested in addressing the issues surrounding the effects of race and culture in assessment, diagnosis and treatment in mental health care.

DEPRESSION

It's diagnosis, it's diversity
and it's treatment

15th & 16th November 1994
£150.00

Depression afflicts many in our society with a high proportion of individuals needing medical and psychological help at some point.

The conference will highlight problems in recognition, diagnosis and treatment of depressive disorder. It will look at the latest research, along with practical help for diagnosis and identification. We will look at different paradigms of treatment from drug therapy to various forms of psychotherapy and counselling.

This conference is aimed at all mental health professionals plus those who work in allied fields including GPs, psychiatrists, psychotherapists, counsellors, social workers, teachers, and clergy.

THE 3RD EATING DISORDERS CONFERENCE

Engaging the 'patient'
6th and 7th March 1995

£150.00

This conference will build on the success of the last two. It will address the practical issues involved in caring for the eating disordered person, be this obesity, anorexia nervosa, or bulimia nervosa. There will be input about the St. George's approach, about community and primary care programmes and about various counselling and therapeutic approaches that are available. Some of the conference will be given over to workshops to show how to use these therapeutic approaches effectively in your work.

PGEA accreditation is sought
for all of our conferences.
We also have a wide range of
publications available.

For further information or to obtain programmes for any of the above conferences, please contact :
Philippa Weitz, The Conference Unit, Dept. of Mental Health Sciences, St. George's Hospital Medical School,
Cranmer Terrace, London SW17 ORE. Tel.: 081-725 5534 Fax.: 081-725 3390