

# A survey of audit activity in general practice

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## SUMMARY

**Background.** Since 1991, all general practices have been encouraged to undertake clinical audit. Audit groups report that participation is high, and some local surveys have been undertaken, but no detailed national survey has been reported.

**Aim.** To determine audit activities in general practices and the perceptions of general practitioners (GPs) regarding the future of clinical audit in primary care.

**Method.** A questionnaire on audit activities was sent to 707 practices from 18 medical audit advisory group areas. The audit groups had been ranked by annual funding from 1992 to 1995. Six groups were selected at random from the top, middle, and lowest thirds of this rank order.

**Results.** A total of 428 (60.5%) usable responses were received. Overall, 346 (85%) responders reported 1257 audits from the previous year with a median of three audits per practice. There was no correlation between the number of audits reported and the funding per GP for the medical audit advisory group. Of 997 audits described in detail, changes were reported as 'not needed' in 220 (22%), 'not made' in 142 (14%), 'made' in 439 (44%), and 'made and remeasured' in 196 (20%). Thus, 635 (64%) audits were reported to have led to changes. Some 853 (81%) of the topics identified were on clinical care. Responders made 242 (42%) positive comments on the future of clinical audit in primary care, and 152 (26%) negative views were recorded.

**Conclusion.** The level of audit activity in general practice is reasonably high, and most of the audits result in change. The number of audits per practice seems to be independent of the level of funding that the medical audit advisory group has received. Although there is room for improvement in the levels of effective audit activity in general practice, continued support by the professionally led audit groups could enable all practices to undertake effective audit that leads to improvement in patient care.

**Keywords:** questionnaire survey; audit; general practice.

## Introduction

SINCE 1991, all general practices have been encouraged to undertake clinical audit. It is appropriate to assess the return on investment of money and time in clinical audit.<sup>1,2</sup> However, it is difficult to gather evidence about the impact of audit on the quality of routine patient care.<sup>3</sup> One important measure of the effectiveness of audit is whether appropriate changes in care are

made. Systematic reviews confirm that different methods of implementing change can be effective.<sup>4,5</sup> In general practice, trials of some methods (for example, those involving facilitators or outreach visits) have led to changes.<sup>6-8</sup> Furthermore, evaluations of audit in primary care indicate that levels of participation have increased and that audit groups are exploring the use of a wider range of implementation strategies.<sup>6,9</sup>

Surveys of medical audit advisory groups show that 86% of practices are taking part in audit activities.<sup>10,11</sup> However, the number of audits undertaken by practices, the proportion followed by appropriate improvements in care, and the perceptions of general practitioners (GPs) on the future of audit are unclear. A few local surveys of practices have been undertaken,<sup>12-14</sup> but some of these were only carried out very soon after the creation of medical audit advisory groups or did not investigate the improvements stimulated by the audits. In addition, audit activity may be influenced by the amount of funding made available locally. To assess the achievements of audit in general practice, a national survey of practices is required.

As a result of a report on the future of clinical audit in primary health care<sup>15</sup> and new guidance from the Department of Health,<sup>16</sup> medical audit advisory groups are currently adapting their roles to meet the demands of the restructured health authorities.<sup>17</sup> Evidence about the impact of audit is needed to inform these developments at both local and national levels. This study aimed to determine the level of audit activity in general practice and the perceptions of GPs on the future of clinical audit in primary care.

## Method

Medical audit advisory groups (MAAGS) were ranked according to their level of funding per GP, based on results from a preliminary survey. This survey asked all 104 MAAGs in England and Wales for details of annual funding received from their local health authority over the years 1992-95. A random sample of six groups was selected from each of the top, middle, and lowest thirds of the distribution of funding, giving a total sample of 18 (17%) medical audit advisory groups.

A questionnaire was devised, which asked GPs about the audit activities in their practices and their attitudes to audit. The questionnaire was based on interviews with four GPs and was piloted with 18 practices, one from each area in the sample.

The questionnaire asked for practice details and numbers of individual practice-based or multipractice audits undertaken in the past 12 months. Details of the topic and whether changes were made and remeasured were requested for eight audits. Over the lifetime of the MAAG, information was sought on changes in the practice, changes in interest in audit, confidence in undertaking audit, understanding of audit, quantity of audits, and effectiveness of audit activity, followed by an open question on views about the future of audit in general practice.

The questionnaire was addressed to the audit contact or senior partner and sent to 40 practices, to allow for non-responses, in 16 of the 18 MAAG areas in the sample. The remaining two areas had fewer than 40 practices, and so questionnaires were sent to all practices. Up to two reminders were posted to non-responders. A further copy of the questionnaire was sent to the partners of any remaining non-responders. Single-handed doctors and any remaining non-responders were interviewed by telephone.

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## Results

The initial questionnaire on levels of funding had 92 (91%) responses. For each MAAG, the mean funding per GP over four years ranged from £72.19 to £767.65. The lowest third of the groups had funding of £215.76 or less, and the highest third had funding of £356.49 or more. The 18 groups in the study sample had funding per GP ranging from £128.57 to £767.65.

The questionnaire on audit activities was sent to 707 practices, and 428 (60.5%) usable responses were received. A further 152 (21.5%) replied that they did not wish to respond, and 128 (18%) did not respond. The mean list size of responding practices was 1984 per GP, which is higher than the national means of 1887 for England and 1730 for Wales.<sup>18</sup> The number of fundholders was 143 (34%), with a 95% confidence interval of 29.4–38.4%,<sup>19</sup> which is higher than the figure of 21% for practices in England and Wales in 1995.<sup>20</sup> The distribution of number of partners in the sample was not significantly different from the national distribution (chi-square test,<sup>21</sup>  $P > 0.1$ ).

A total of 346 (85%) responders identified 1257 audits from the previous year with a median value of three audits per practice (interquartile range two to five). The number of audits reported by fundholders was (just) not significantly different from that reported by non-fundholders (Kruskal–Wallis  $H$ -test,<sup>21</sup>  $P = 0.05$ ). The Spearman rank correlation<sup>22</sup> between the total number of audits reported and the funding per GP for the medical audit advisory group was only 0.011 ( $P > 0.9$ ).

Changes were classed as 'not needed' in 220 (22%) of the 997 audits for which this question was answered, 'not made' in 142 (14%), 'made' in 439 (44%), and 'made and remeasured' (completing the audit cycle) in 196 (20%). Thus, 635 (64%) of the audits described were reported to have led to changes. Responders describing four or more audits reported changes made in 71% ( $n = 391$ ), whereas those describing only one audit reported changes made in 68% ( $n = 195$ ). These rates were not significantly different (chi-square test,<sup>21</sup>  $P > 0.05$ ).

The topics given in 1064 audits were classified into four of the categories used by the Oxford MAAG.<sup>23</sup> There were 853 (81%) audits on clinical care (acute, chronic, and preventive care, prescribing, referrals, investigations), 115 (11%) on access (appointments, premises, telephone, out of hours), 37 (4%) on communications (with patients, within practice, records), and 23 (2%) on professional values (education, workload, finance). In addition, 25 (2%) were classified as audits undertaken across the interface with secondary or community care and 11 (1%) were not classified.

Changes in attitudes to audit are shown in Table 1. The open question inviting views on the future of audit in general practice was answered by 369 (86%) responders, who made 577 comments. A total of 242 (42%) comments expressed positive views; for example, 'Audit is a good procedure and useful if not forced upon us', and 'Audit is definitely the way forward'. There were 152 (26%) comments expressing negative views; for example, 'Audit is more difficult than I thought', 'I accept it as a necessary evil', and 'Should be scrapped'. Twenty-four (<1%) responders

said they had no views on the future of audit, and 126 responders gave unclassifiable views; for example, 'Should be optional', 'Should be evaluated', and 'Needs more resources'.

## Discussion

The responses from general practices showed that 85% of responding practices carried out one or more audits in the year before this survey, which confirmed the positive findings reported by the Audit Commission.<sup>11</sup> The median number of audits was three per year. Two-thirds of the audits were reported as having led to change, and one-fifth of all audits as having completed the cycle and been remeasured.

However, these results were the self-reports of a sample of practices that were more 'developed'<sup>24</sup> than average. There were more fundholding practices in this study than in the population of practices in England and Wales, although the number of audits was not higher for fundholders in our sample. The number of active refusals to answer the questionnaire and the persistence required to gather sufficient usable responses suggest that many GPs do not regard their audit activity as a topic of great importance.<sup>25</sup> Therefore, we must be cautious in concluding that the results of these audit activities can be extrapolated to all general practices. The data reported probably represent the upper end of the distribution of audit activity in general practice.

It is encouraging to discover that, in 64% of audits, the participants reported that changes occurred as a result. The declared purpose of audit is to make changes to improve care and these results suggest that at least two-thirds of audits are having some effect on care. It must, of course, be recognized that the social desirability<sup>26</sup> of reporting that one's audits lead to improvement raises the need to confirm these results with more independent data. The characteristics of practices that achieve effective improvements could also be investigated.

In only 20% of audits was the cycle completed by remeasuring, which suggests that this is not a priority for most people undertaking audit and may not be seen as a good use of time and resources. The definition of change was left to the responders and may have included changes that were not measurable; for example, perceived improvements in relationships or teamwork. Unfortunately, lack of remeasurement means that the effectiveness of audit is seldom assessable.

The audits were mostly on clinical topics, and few concerned access or other aspects of care. This confirms the findings in Oxfordshire.<sup>23</sup> It is possible that the topics that came most easily to mind for responding GPs were clinical and that audits on other topics were omitted.

Understanding, interest, and confidence in audits, and the number and effectiveness of audits were felt by nearly half the responders to have improved during the life of the MAAG. This suggests that attitudes to audit have become more positive, and the levels of effective audit activity have increased, at least for some GPs. The views expressed on the future of audit in general practice were very mixed and may reflect the normal distribution of attitudes to audit. Nevertheless, concerns were expressed

**Table 1.** Numbers (% of row total) of responses identifying each change in attitude in the practice since the creation of the MAAG.

	Increased	No change	Decreased	Total
Interest in audit	204 (49%)	187 (45%)	22 (5%)	413 (100%)
Confidence in undertaking audit	191 (46%)	209 (51%)	10 (2%)	412
Understanding of audit	208 (51%)	194 (47%)	9 (2%)	411
Quantity of audits	181 (44%)	212 (52%)	18 (4%)	411
Effectiveness of audits	162 (40%)	229 (56%)	14 (3%)	407

about the time and resources needed to conduct audit in primary care.

It can be concluded that the level of audit activity in general practice is reasonably high, and higher than some may have expected. The number of audits per practice seems to be independent of the level of funding that the MAAG has received and of whether the practice is fundholding. Although there is room for improvement in the levels of effective audit activity in primary care, the views of GPs suggest that the support provided by the professionally led MAAG has contributed to the development of audit thus far. Continued support is required to enable all practices to undertake audit that leads to improvements in patient care.

## References

1. Maynard A. From an ivory tower. Case for auditing audit. *Health Services J* 1991; 18 July: 26.
2. Spencer J. Audit in general practice: where do we go from here? *Quality Health Care* 1993; 2: 183-188.
3. Warden J. More scope for audit, say MPs. *BMJ* 1996; 313: 250.
4. Grimshaw JM, Russell IT. Effect of clinical guidelines on medical practice: a systematic review of rigorous evaluations. *Lancet* 1993; 342: 1317-1322.
5. Davis DA, Thomson MA, Oxman AD, Haynes RB. Changing physician performance. A systematic review of the effect of continuing medical education strategies. *JAMA* 1995; 274: 700-705.
6. Hearnshaw H, Baker R, Robertson N. Multidisciplinary audit in primary healthcare teams: facilitation by audit support staff. *Quality Health Care* 1994; 3: 164-168.
7. Bryce F, Neville R, Crombie I, et al. Controlled trial of an audit facilitator in diagnosis and treatment of childhood asthma in general practice. *BMJ* 1995; 310: 838-842.
8. Feder G, Griffiths C, Highton C, et al. Do clinical guidelines introduced with practice based education improve care of asthmatic and diabetic patients? A randomised controlled trial in general practices in east London. *BMJ* 1995; 311: 473-478.
9. Humphrey C, Berrow D. *Medical audit in primary care. A collation of evaluation projects*. London: Department of Health, 1994.
10. Baker R, Hearnshaw HM, Cooper A, et al. Assessment of the work of medical audit advisory groups in promoting audit in general practice. *Quality Health Care* 1996; 4: 234-239.
11. National Audit Office. *Clinical audit in England*. London: National Audit Office, 1995.
12. Chambers R, Bowyer S, Campbell I. Audit activity and quality of completed audit projects in primary care in Staffordshire. *Quality Health Care* 1995; 4: 178-183.
13. Wilson A, Fraser R, Farooqi A, Shapiro J. Medical audit in Leicestershire 1982-1991: from innovation to mainstream activity. *Audit Trends* 1994; 2: 97-100.
14. Lewis C, Coombes D. Is general practice audit alive and well? The view from Portsmouth. *Br J Gen Pract* 1996; 46: 735-736.
15. Clinical Outcomes Group. *Primary Health Care Clinical Audit Working Group report on clinical audit in primary health care*. London: Clinical Outcomes Group, 1994.
16. National Health Service Executive. *Arrangements for clinical audit in primary health*. Leeds: Department of Health, 1996.
17. Teasdale S. The future of clinical audit: learning to work together. *BMJ* 1996; 313: 574.
18. Royal College of General Practitioners. *Profile of UK practices*. Information Sheet Number 2. London: RCGP, 1996.
19. Gardner M, Altman DG. *Statistics with confidence*. London: BMJ Publications, 1989.
20. Royal College of General Practitioners. *Fundholding*. Information Sheet Number 6. London: RCGP, 1995.
21. Howell DC. *Statistical methods for psychology*. Boston: Duxbury Press, 1982.
22. Altman D. *Practical statistics for medical research*. London: Chapman and Hall, 1991.
23. Lawrence M, Griew K, Derry J, et al. Auditing audits: use and development of the Oxfordshire Medical Audit Advisory Group rating system. *BMJ* 1994; 309: 513-516.
24. Baker R, Thompson J. Innovation in general practice: is the gap between training and non-training practices getting wider? *Br J Gen Pract* 1995; 45: 297-300.
25. MacPherson I, Bissett A. Not another questionnaire!: eliciting the views of general practitioners. *Fam Pract* 1995; 12: 335-338.
26. Pennington DC. *Essential social psychology*. London: Edward Arnold, 1986.

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