

Standardization of core data for practice annual reports: a pilot study

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SUMMARY. *To investigate the feasibility of a standardized practice annual report, nine general medical practices in Grampian region collected data over a four month trial period. The definitions for core data used were arrived at after considerable consultation and discussion. They were found to be workable indicators of practice activity enabling comparisons to be made between practices. Three practices reported that they were completing forms more accurately and that this had led to increased item of service income. The results from this study show smaller variations than have been previously reported and there is a case to be made for the pooling and collation of such defined core data. Analysis of this practice activity would provide the stimulus for further research.*

Introduction

IN the white paper *Promoting better health*, the government signalled its intention for general practitioners to be able to demonstrate that they had fulfilled their obligations to provide primary care services and also that they were responding to consumer led demand.¹ This implies that the provision of primary care services should be planned and monitored by the profession. This concept has been reinforced in the most recent white paper *Working for patients*, with its proposals for peer review and medical audit advisory committees.² The fact that this self-monitoring process in gaining acceptance, as demonstrated by the number of practices producing annual reports, is seen by the government as a positive step.¹

The number of practices producing reports has been steadily increasing over recent years for a variety of reasons. McGuiness argued that the business of general practice in financial terms alone required an annual report,³ and in today's climate of financial budgeting for the National Health Service this takes on an even greater significance. As the number of people employed by the practice increases in line with the number of services offered, so the report becomes increasingly important as a management resource.⁴ Other benefits of practice reports include better communication both inside and outside the practice,⁵ improved teamwork^{5,6} and comparison of practice activity with that of other practices.^{3,5}

Variety is seen as one of the great strengths of the UK system of general practice, yet there is a common core content to all general medical practice. A review of annual reports from differing practices illustrates this.⁷ Many authors have argued for

a standardization of such information which would allow comparison between practices³⁻⁸ but for this to be effective there must be agreement about the collection and expression of data.

This pilot study was designed to identify a core content for annual reports within the Grampian region and to collect and collate core data for a four month trial period and provide feedback to participating practices.

Method

The most recent annual reports from ten local and two other general practices in Scotland were reviewed and a common core content was determined. Principles for the collection of data and prototype definitions were then developed. The prototype definitions were discussed with interested parties including the health services research unit, the health economics research unit and the department of general practice at Aberdeen university, the unit manager (community services) of Grampian health board and the north east of Scotland faculty board of the Royal College of General Practitioners. They were all in agreement as to the content and the direction of the pilot study.

The Grampian young trainer group was approached to recruit practices which would collect the data retrospectively over the three month period, April to June 1988, and prospectively over a continuous four week period during July and August 1988 (to minimize the disruption caused by summer holidays). All practices joining the study were provided with a model annual report containing the definitions and were required to present their data in the agreed format. We describe in this paper the core data which we consider should be common to all practice reports and should be presented in a standard form. In other cases the data in the model annual report were descriptive or the definitions were self evident. At the end of the study period, the data were collated and feedback provided to the practices. Later in the year an evening meeting organized by the education division of the local faculty of the Royal College of General Practitioners provided a forum for the practices concerned to meet and discuss the study.

Definitions used in the model annual report

Figure 1 shows the definitions used for the core data of the model annual report, most of which need no elaboration.

The 12-month period for an annual report was defined as the period covering 1 January to 31 December of the report year. For the purposes of this pilot study the workload figures referred only to staff employed by the practice and not to community attached staff. The exception was the treatment room nurse (practice nurse) who is employed by the health board (family practitioner committee) but provides services to the registered practice population.

Practice contact rate was used to provide the most realistic measure of practice activity. This is because some practices run special clinics, for example antenatal or paediatric screening, whereas other practices provide these services during normal surgery appointments. Practice contact rate overcomes this variability and reflects the work carried out for the patients by other staff employed by the practice.

Prescribing information is available from the latest return from the Prescription Pricing Bureau and from any computerized prescribing data for the practice. When the equivalent of the

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© *Journal of the Royal College of General Practitioners*, 1989, 39, 463-466.

Item	Definition	Item	Definition
<i>Population</i>			
Practice list size	Number of patients registered with the practice at 1 July of report year	Number of routine appointments offered	[Usual number of appointments available with doctors each week × 52] – appointments lost when doctors are absent from the practice
List size per principal	Practice list size ÷ number of principals	<i>Referral rates</i>	
Patient turnover	[(Total annual number of patients joining list + total annual number leaving list) ÷ practice list size] × 100	List size referral rate	[Total annual number of referrals ÷ practice list size] × 1000
<i>Premises</i>			
Size of premises	Number of consulting rooms	Workload referral rate	[Total annual number of referrals ÷ total annual number of doctor-patient contacts] × 1000
<i>Practice staff</i>			
Medical staff	Number of partners (partner defined as in the <i>Statement of fees and allowances</i> , paragraph 2.2)	<i>Obstetric services</i>	
Ancillary staff	Number of full time employed staff (employed by the practice for a 37 hour week, measured as practice full time staff) + number of part time staff (employed for less than 37 hours per week and measured as a percentage of practice full time equivalent staff)	Birth rate	[Total annual number of births ÷ number of women aged 15-49 years] × 1000
Nursing staff	Number of full time + number of part time employed staff as above but for a 37.5 hour week	<i>Contraceptive services</i>	
<i>Workload</i>			
Total number of doctor-patient contacts	Total annual number of doctor-patient contacts in the surgery, at clinics or at home	Rate of ordinary contraceptive services	[Total annual number of claims on form GP102 or FP1001 made annually ÷ number of women aged 15-49 years] × 1000
Consultation rate	Total annual number of surgery and clinic consultations with medical staff ÷ practice list size	Rate of IUCD fittings	[Total annual number of claims on form GP103 or FP 1002 ÷ number of women aged 15-49 years] × 1000
Home visiting rate	Total annual number of home visits by medical staff ÷ practice list size	<i>Cervical cytology</i>	
Practice nurse contact rate	Total annual number of contacts with the practice nurse ÷ practice list size	Cervical smear rate	[Total annual number of cervical smears carried out ÷ number of women aged 15-64 years] × 1000
Practice contact rate	Consultation rate + home visiting rate + practice nurse contact rate	<i>Infant immunization</i>	
<i>Appointment system</i>			
Utilization of appointments	[Total annual number of patients seen by appointment ÷ annual number of routine appointments offered] × 100	Diphtheria/tetanus/pertussis and polio or diphtheria/tetanus and polio immunization rate	Number of two year olds fully immunized at 31 December ÷ number of two year olds on list × 100
		Measles or measles/mumps/rubella immunization rate	Number of three year olds fully immunized at 31 December ÷ number of three year olds on list × 100
		<i>Mortality</i>	
		Mortality rate	[Total annual number of deaths ÷ practice list size] × 1000

Figure 1. Definitions used for the core data of the model annual report. IUCD = intrauterine contraceptive device.

prescribing analyses and costs (PACT) scheme is available in Scotland, a more detailed analysis of prescribing by the practice will be possible.

The 22 indices reported here (Tables 1-4) were calculated from 24 items of information. Fifteen were supplied by Grampian health board's department of primary care to the practices as a normal part of their function. A further two were routinely supplied by the Prescription Pricing Bureau. The information relating to workload including the taking of cervical smears was collected by the practice themselves. All the data expressed as annual figures were obtained by multiplying the data recorded in the four month study period by three.

In the model report practices were asked to provide additional information covering the type of premises; details of ownership; accommodation for staff and patients; access and facilities for the disabled; equipment for office, diagnostic and treatment use. Further information about the practice was also requested — whether a rural or urban practice, whether a training practice, the booked appointment length in surgeries and the percentage of patients over 64 years of age.

Results

Of the 12 practices who initially agreed to take part in the pilot study, nine completed and returned reports. Two practices failed to complete their reports in time and one practice withdrew from the study as the general practitioners held a different opinion as to what constituted a practice report. The nine practices consisted of 47 general practitioners with a combined list size of 82 579 patients. This constitutes one sixth of the population of north east Scotland. The practices were known to the authors to be interested in data collection and practice reports.

The practices reported that the most difficult part of the study was the setting up of data collection systems and assigning tasks to staff.

Seven of the practices were urban practices and two were rural; all were training practices, except one urban practice. All the practices had list sizes per principal of less than 2200 (Table 1). In all but one practice there was at least one consulting room per principal and staffing levels were near the maximum permissible to obtain 70% reimbursement of wages. Patient turnover varied by a factor of about two and was not linked to practice location. Of the three practices with a turnover of 20% or more, one was suburban, one city centre and the other a rural practice.

Appointments were booked at between six and 10 minute intervals (Table 2). The percentage utilization of appointments shows whether practices kept to planned appointment times, whether more appointments needed to be offered, or whether the allotted appointment time was not fully used. It varied from

Table 1. Characteristics of the practices.

			Mean (SD)	
	Lowest	Highest	(n = 9)	
List size per principal	1502	2108	1757	(221)
% annual patient turnover	9.6	24.8	16.5	(5.0)
Number of consulting rooms per principal	0.9	1.3	1.1	(0.1)
Number of practice staff (full time equivalents per principal)	1.4	2.0	1.7	(0.2)

SD = standard deviation. n = number of practices.

Table 2. Patient contacts and referrals.

	Lowest	Highest	Mean (SD) (n = 9)
Number of patients booked per hour	6	10	8.1 (1.4)
Annual % utilization of appointments	86	119	100 (10)
Annual consultation rate	2.3	3.4	2.9 (0.4)
Annual home visiting rate	0.2	0.7	0.5 (0.1)
Annual practice nurse contact rate	0.4	1.4	0.9 (0.4)
Annual practice contact rate	3.3	5.1	4.2 (0.6)
Annual list size referral rate (per 1000 patients)	128	253	186 (37)
Annual workload referral rate (per 1000 consultations)	42	96	67 (16)

SD = standard deviation. n = number of practices.

14% under-utilization to 19% over-utilization. Practice contact rates varied by a factor of 1.5, list size referral rates by 2.0 and workload referral rates by 2.3.

Table 3 gives details of the obstetric, gynaecological and family planning workload. The data show little variation in the proportion of women seeking contraceptive advice except for the fitting of intrauterine devices. Birth rates in seven out of the nine practices were very similar. The annual cervical smear rate gives an indication of workload; it does not indicate how many women had a cervical smear. If every woman had a cervical smear once every five years, an annual cervical smear rate of 200 per 1000 women aged 15–64 years would be obtained. Rates greater than 200 on Table 3 indicate that practices were carrying out routine smears every three years or that a considerable number of women were receiving cervical smears at much shorter intervals.

There appeared to be a direct relationship between the proportion of patients over 64 years of age in a practice and mortality rates (Table 4). There was also a negative correlation between the proportion of older patients and practice contact rate. Immunization rates were uniformly high (Table 4) but only marginally higher than the mean for the region.⁹ The mean cost of prescriptions varied by a factor of 1.9 (Table 4).

All the participating practices were represented at the feed-

Table 3. Obstetric, gynaecological and family planning workload.

	Lowest	Highest	Mean (SD) (n = 9)
Annual birth rate (per 1000 women aged 15–49 yrs)	39	87	51 (15)
Annual rate of ordinary contraceptive services (per 1000 women aged 15–49 yrs)	208	330	266 (37)
Annual rate of IUCD fittings (per 1000 women aged 15–49 yrs)	1	32	16 (11)
Annual cervical smear rate (per 1000 women aged 15–64 yrs)	133	260	198 (43)

SD = standard deviation. n = number of practices. IUCD = intrauterine contraceptive device.

Table 4. Mortality rates, immunization rates and prescribing data.

	Lowest	Highest	Mean (SD) (n = 9)
Annual mortality rate (per 1000 patients)	5.6	14.8	10.1 (3.5)
% of patients over 64 yrs old	10.6	17.9	12.9 (2.4)
% of 2 yr olds immunized for DTP + P or DT + P	90	100	97 (4)
% of 3 yr olds immunized for measles or MMR	85	100	93 (5)
Mean number of prescriptions (per 100 patients for month)	41	61	55 (8)
Mean cost of prescriptions (£ per patient per month)	1.6	3.0	2.4 (0.5)

SD = standard deviation. n = number of practices. DTP + P = diphtheria/tetanus/pertussis + polio. DT + P = diphtheria/tetanus + polio. MMR = measles/mumps/rubella.

back session when these results were discussed. Three practices reported that as a result of this study they were completing forms more accurately and this had led to increased items of service income. The practices were all keen to turn the project into a year long study.

Discussion

This pilot study involved a group of practices interested in annual reports and in comparing information with each other. The practices were required to show that they could collect data and use it to express information in a standardized form. The information that they collected for this pilot study represents only a starting point for practice reports. A complete report could contain financial statements, minutes of practice meetings, performance reviews, practice policies, staff news, reports from attached community staff and so on. This additional information would be specific to each practice.

An administrative infrastructure has to exist within a practice to enable it to collect data efficiently. Staff must be assigned specific tasks in order to increase their motivation and interest. The information derived from health board sources will be inaccurate if claims are not being submitted. A practice should consider the possibility of missed claims if it earns below the mean income for a particular item of service and it may wish to contact a practice with a high item of service fee income in order to compare office procedures. Three practices reported that as a result of this study they were completing forms more accurately and this had led to increased item of service income.

The data collected here show less variation in areas such as referral rates than some previous studies have suggested.¹⁰ This may be because all the practices in this study had a mean list size of less than 2200 and all but one were training practices. It is also of note that for those indices with a defined subpopulation as the denominator, for example birth rate or cervical smear rate, there is a numerical variation of the order of two, which is small. The single exception is the rate of fitting of intrauterine contraceptive devices and this may be a consequence of the general practitioners' training.

Some of the indices illustrated here have been suggested as performance indicators. However, the variations that exist are extremely difficult to interpret even with a small number of practices. It is interesting to note that of the 330 performance indicators proposed by the Fullerton report¹¹ which forms the

basis of the Scottish performance indicators package (SCOT-PIP)¹² only three relate to general practice (mean list size per doctor for health board area, percentage inflation of list size and cost of general practitioner services per 1000 population) and these are of limited use to general practitioners.

Although much of the information contained in the practice report comes from health board data the report is an in-house document. Once the data has been collected and collated, practices can discuss and review the work performed during the year. The benefit of using agreed definitions is that practices can see how their data relate to the mean values for the region. However, there is a danger that the use of a mean value can imply good and bad practice. There is no measure of quality inherent in the data; the figures show how hard doctors and their practices are working and only in this context can they be regarded as performance indicators. This takes on particular importance in the light of the current white paper which suggests that the 'general results' from practice reports should be provided to health boards or family practitioner committees.²

If a practice finds a reason for a wide variation from the mean and is satisfied with this, a greater level of understanding of a particular feature of that practice will have been reached. If the practice is unhappy with the variation, then change might be possible. All the indices quoted here are means for each practice. If a practice wishes to look at inter-doctor variation within the practice, then the advantages and disadvantages of such a move should be carefully considered.

The well attended feedback session was very encouraging. All the practices were enthusiastic to continue the project for one year. Practices not involved in the pilot project were also keen to become involved and to date 31 practices have agreed to participate in this extended study. This demonstrates a continuing interest in a highly topical area of practice management. At this meeting the core data were expanded to include referrals subgrouped into agreed specialties both for adult and paediatric referrals, a breakdown of mortality rates into cause and place of death, item of service income per patient, new and repeat home visits and basic information about incidence of disease.

Recent emphasis has been placed on information systems throughout the health service.^{1,2} While practice reports are essentially instruments enabling the practice to manage change, there is a strong argument for the pooling and collation of this data both locally and nationally. Perhaps there is a role here for the Royal College of General Practitioners and its faculty structure. This information could then be used for and by general practitioners and their representatives.

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Acknowledgements

The authors wish to acknowledge the work of all participating doctors and their staff. Thanks is also due to Mrs M. Balchin whose help in the production of this paper was invaluable.

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