Quality in general practice and involvement in teaching; is there an association?

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ABSTRACT

This study examined the relationship between involvement with teaching in general practice and the score achieved on an objective measurement of quality in general practice. The results of the quality scores of 176 general practitioners on an objective measurement of quality were analysed. The study examined the quality scores of 57 general practitioners that were involved with undergraduate or postgraduate teaching and compared these with 119 general practitioners with no such teaching commitment. The results of a statistical analysis demonstrated that general practitioners with a teaching commitment scored significantly higher ($p<0.05$) on an objective measurement of quality. The conclusion is drawn that there is a statistical correlation between quality in general practice and involvement with teaching.

(NZFP 2004; 31:314–316)

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Introduction

There is an increasing international trend towards community-based undergraduate education.[1] A growing body of research supports the notion that community-based training is capable of delivering a high standard of undergraduate teaching that rivals or surpasses that available in the more traditional hospital setting.[2] Patients who participate in such teaching report generally positive experiences with both altruistic and personal benefit.[3] General practitioners also report positive experiences from involvement with teaching, particularly in areas such as morale and clinical knowledge.[4] Factors that create a successful teaching and learning environment, such as shared teaching responsibility and personal motivation, have become clearer.[5] The literature would suggest that involvement in teaching is of benefit to both teacher and learner. However, these experiences have been described primarily from a qualitative perspective. Of further interest are objective assessments of the relationship between involvement in teaching and the overall quality of the teaching practice. The concept of quality in general practice is complex. Research indicates that different participants in a health system can have very different views on what constitutes quality.[6] Health funders, health providers and users of health services have differing and sometimes conflicting beliefs as to what constitutes good quality in general practice services. This study was designed to compare teaching and non-teaching general practitioners from the perspective of objective measures of practice quality and focuses on internal practice systems. The definition of quality used is therefore one more congruent with the values of health funders and providers than that of health consumers.

Methods

This study was undertaken in New Zealand. An objective method of measuring quality of practice for individual general practitioners was required. For this reason, all practitioners belonging to a single primary health care organisation and who therefore participated in the same quality plan were included in the study group. The Quality Improvement Score was chosen as an objective measure of quality and reflects the internal systems and processes in a practice. It should be noted that this study was opportunistic; the quality plan from which the Quality Improvement Score is de-

Overview

What is already known

Although assumptions have been made that involvement with teaching is of benefit to the quality of practice of the teacher, there has been little in the way of supporting evidence.

What this study adds

This study demonstrates that in general practice there is a statistically significant association between involvement with teaching and higher scores on objective measures of quality.

Suggestions for further research

It is unclear if this association between involvement in teaching and quality of practice is due to cause and effect or whether both are the outcome of the nature of the practitioner.

rived was not designed for the purpose of comparing teaching with non-teaching practices. The Quality Improvement Score is calculated from a number of separate components that are objectively assessed and marked out of a maximum score of 100 (Table 1). This process has been a fundamental component of quality improvement in the organisation and was designed to produce an objective score that attracts additional funding to the practice depending on the score.

The scores of the quality plan that ran from February 2002 to February 2003 were used as an objective assessment of the quality of practice for each individual general practitioner. After the collection of quality data, all practitioners were requested by the researcher for permission to use their quality plan scores on an anonymised basis for comparison between teaching and non-teaching practices. There were no abstentions and therefore the data analysis was undertaken on all practitioners participating in the quality plan. Practitioners were not aware of the intent of the research during the time period in which the quality data was collected.

Those assessing the quality scores were blind to the teaching status of the practitioner. Numerical data was submitted from computerised practice management systems and process requirements such as development of a complaints procedure were verified by sighting copies of processes developed. Thus there was no unverifiable self-reported data.

For the purpose of this study, a teaching practitioner was defined as a general practitioner that worked in a practice where either final year medical students or general practice registrars had been placed between the date of commencement and date of completion of the quality plan. One or more attachments of either a final year student or a registrar were required to meet the criteria. Most teaching consultations with final year students begin as an interaction between student and patient after which there is input from the teaching practitioner. General practice registrars consult alone in the majority of cases they see and participate in one with one protected teaching with the GP teacher.

The study was designed as a comparison between two related groups on a linear scoring system. After the quality data had been collected, practitioners involved in teaching were identified. The quality scores for all general practitioners were stripped of identifying data and divided between teaching and non-teaching practitioners. The scores for these variables were entered into an SPSS database for analysis.

Results

Data was available for all 176 general practitioners who were members of the organisation during 2002. Of the 176 general practitioners, 119 had no involvement with teaching as defined above, leaving 57 practitioners with teaching involvement. The quality scores achieved by each general practitioner were calculated with a result out of a possible score of 100. The mean result for the non-teaching practitioners was 88.7. The mean quality score for the teaching practitioners was 95.

The scores for both groups resulted in distributions that were not parametric. To determine if the difference between the two groups was statistically significant, statistical advice was sought. The Wilcoxon Signed Ranks test was applied to the quality scores in both groups because of the non-parametric nature of the data. The null hypothesis was that there was no statistical difference between the two groups. The result was a p value of 0.005 where $p<0.05$ was significant. This would indicate that the difference between the two groups was statistically significant.

Discussion

As previously stated, this research occurred as a result of the opportunity to utilise an existing measurement of quality in practice. The quality score was not designed with the objective of studying a comparison between teaching and non-teaching practitioners.

This research was undertaken in an area with both rural and urban practices. The relative isolation of some practices may be a confounding variable. Rural areas have greater logistical problems such as distance from a teach-

Table 1

Objectives	Points available
Screening data submitted during year	8
Immunisation target reached	4
Cervical screening target reached	4
Report of influenza vaccinations	2
Smear taker adequacy reports	2
Breast screening target reached	5
Disease coding target reached	9
Smoking status target reached	8
Ethnicity coding target reached	8
Contaminated waste and sterilisation procedures developed	10
Storage of controlled drugs, needles and syringes procedure developed	2
Occupational Safety and Health requirements met	3
Staff continuing professional development	21
CPR training for practice staff	5
Vaccinator training	2
Critical incident reporting	3
Complaints procedure demonstrated	4
TOTAL POINTS	**100 max**

ing hospital, workforce issues etc. that make involvement with teaching more difficult. Therefore some practitioners may not have had the opportunity to become involved in teaching. This could underestimate the effect of teaching status on quality scores.

The definition of a teaching practice used was one where either undergraduate or postgraduate teaching was undertaken. There are differences in the teaching style and practice requirements between undergraduate and postgraduate teaching where the interaction between registrar and teacher is more intense and of longer duration. The presence of two differing teaching styles that have been amalgamated into one group needs to be considered when interpreting the study results.

Although this study used the quality score achieved in a quality plan as an objective assessment of the quality of practice, other variables that constitute quality have not been measured. These variables would include communication skills, diagnostic skills, access to health service, and cost of service. These aspects of quality are more obvious to those who seek health services, whereas the quality plan as outlined above more accurately reflects the quality of the internal systems of a general practice. It must also be recognised that the quality score used as an assessment of quality has not been validated.

Other variables that need to be considered would include the payment to teachers for teaching commitment, the educational sessions available only to teaching practitioners and the selection process that teaching practices undergo prior to being accepted. However, these variables may be considered as possible contributing factors to the outcome and do not detract from the conclusion that teaching practitioners have significantly higher quality scores than non-teaching practitioners.

Table 2

	Non-teaching practice	Teaching practice
N	119	57
Mean score*	88.48	95.27
Median	93.00	98.00

** Maximum possible quality score = 100*

Further caution is needed when interpreting the conclusions of this study in terms of cause and effect. It may be argued that the process of teaching was responsible for the higher quality scores by encouraging practitioners to have greater focus on issues of quality. Alternatively, it could be argued that those practitioners who score highly in quality measures are more likely to be interested in teaching. It is not possible to draw conclusions as to causality from this study.

This research supports the conclusions from two previous studies. A comparison between training and non-training practices concerning practice development from 1982 to 1990 in England found that training practices were more likely to have developed better practice organisation, educational activities, clinical activities and equipment.[7] A further English study found significantly better performance on the quality markers of prescribing, immunisation and cervical cytology when comparing teaching and non-teaching practices.[8] However, involvement in teaching may have an adverse effect on quality from a consumer's perspective. A study of practice characteristics influencing patient satisfaction indicated that training practices were associated with decreased levels of general satisfaction and decreased satisfaction with availability and continuity of care.[9]

Conclusion

Although there has been a widely held belief that involvement in medical teaching correlates with better quality of care, there has been little objective evidence to support this notion to date. This study demonstrates that in general practice there is a statistically significant association between objective quality scores and involvement with teaching. Further research may clarify the role of variables such as rurality of practice, gender and age of the practitioner and the influence of solo versus group practices. This study also raises the question of cause and effect. Are general practitioners who become involved in teaching more likely to score well in objective measures of quality or does involvement with teaching increase attention to issues of quality?

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