

Organizational assessment in general practice: a systematic review and implications for quality improvement

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Abstract

Background Quality improvement of organizational aspects in general practice is receiving increasing attention. In particular, the impact of effective organization on preventative care has been recognized. Organizational assessments are typically used as part of professionally led accreditation schemes where there is a tension between externally led quality assurance and internally led quality improvement. The aim of this article is to inform the debate by reviewing the international-peer-reviewed literature on organizational assessments used in general practice settings. **Design** Systematic literature review. **Methods** The literature was searched for articles relating to organizational assessment. Titles and abstracts were examined by two independent reviewers and relevant articles obtained. Bibliographies were examined for follow-up references. Data were extracted on the development and use of assessment methods. **Results** Thirteen papers describing five organizational assessment instruments were included for detailed appraisal. **Conclusion** This review discovered a developing field containing different approaches to the measurement of organizational aspects of general practice. Whilst professionally led accreditation is well-developed and dependent on externally led quality assurance, approaches to internally led quality improvement are less well-developed. There is a need for organizational assessment tools designed for the purpose of stimulating internal development.

Introduction

Organizational assessment is an integral part of quality assurance and quality improvement activity in general practice, but it remains unclear whether assessments designed to be used for externally led

quality assurance can also be used for internally led quality improvement and vice versa. Changes related to the systems and structures of health care may lead to improvements in patient care (Moss & Garside 1998; DOH 2000, 2001; Committee on Quality of Health Care in America 2001; Grol *et al.* 2004), thus

organizational assessment is becoming an accepted feature of life in a general practice (Huntington *et al.* 2000; Walshe *et al.* 2000; Buetow 2003). Integrating infrastructure, human and financial resources, information technology and quality improvement activity can enable a practice to target its resources to the needs of its patients particularly with respect to preventative care (Hulsher *et al.* 1997; Flocke *et al.* 1998) and also to the needs of staff with respect to a satisfactory working environment (Firth-Cozens 1998).

Externally led quality assurance and internally led quality improvement are not distinct activities and can be viewed as two end points along a spectrum (Table 1). The degree to which quality assurance and improvement activities are integrated within a country's health system is determined by many factors that operate differently in different countries. These include the historical context for the locus of clinical and policy decision making, insurance coverage, purchasing behaviour, and the status of the medical profession (Ferlie & Shortell 2001).

Organizational assessment for the purpose of quality assurance lies at one end of the spectrum. It is reliant on external assessment, based on evidence and primary stakeholders are typically governments and health insurance companies. Examples include assessing whether a practice achieves a minimum standard, is eligible for payment as part of an incentive scheme or is to be given permission to deliver an enhanced range of clinical services.

A previous review of the literature suggests that the middle ground of the organizational assessment spectrum is occupied by professionally led assessment mechanisms in Australia, New Zealand, Canada, the UK and the Netherlands (RACGP 1996; Booth *et al.* 1998; Van den Hombergh 1998a; RNZGP 2002; Royal College of General Practice Scotland 2002; Royal College of General Practitioners 2002; Miller 2003; Macfarlane *et al.* 2004). In these countries, accreditation mechanisms are used both to recognize past achievements and to catalyse future quality improvement. The Quality Practice Award, offered by the Royal College of General Practitioners in the UK, is a practice accreditation system recognizing high standards for the organization of the practice service. Accreditation is the process of giving official endorsement or approval and typically applies to general practitioners' (GP) work settings in recognition of a service delivered (Buetow 2003). Characteristics of accreditation include review, external involvement, publication of standards, measurement and results reporting (Walshe *et al.* 2000). Certification is typically the end point of an accreditation process.

At the other end of the spectrum, organizational assessment is conducted for the purpose of practice-driven quality improvement. The emphasis is on continual development, self-assessment, local identification of problems and their likely solutions. Organizational assessments are triggered by practice

Table 1 Nomenclature to position QA and QI activities relative to each other

	←————→ Externally led quality assurance/assessment		Internally led quality improvement
Stakeholder:	Government	Professional body	Practice
Whose agenda is:	Quality assurance	Quality assurance and improvement	Quality improvement
Based upon:	Entry (threshold) standards	Superior (maximal) standards	Local service-specific criteria
That are:	Nationally defined	Professionally defined	Practice defined
Describing:	Historical competence	Historical and future competence	Future competence
And assessed by:	External assessors	External assessors combined with Internal (self) assessment	Internal (self) assessment
Emphasis:	Primary care led	GP led	Practice led
Mechanism of assessment:		Accreditation	Practice determined
Purpose:	Summative	Summative and formative	Formative
End point:	Licensing	Certification	Local criteria achieved

QA, quality assurance/assessment; QI, quality improvement; GP, general practitioner.

teams matching the skills and resources of team members with local initiatives or opportunities. The purpose is to foster collaboration and to motivate team members to try new ways of doing things. Improvements may not turn out as originally planned and there may instead be novel, unforeseen developments (Miller *et al.* 2001; Campion-Smith & Riddoch 2002). The need for a structured approach to making changes is still important, but both the planning and structure for achieving improvement are driven and owned by the practice.

Any one approach to improving the quality of health care on its own is unlikely to make a sustained impact (Grol *et al.* 2004). However, the need for multiple strategies for achieving change (Solberg *et al.* 2000) also brings with it a tension between externally led quality assurance and internally led quality improvement (Walshe *et al.* 2000; Buetow 2003). The concern is that external assessment stifles the potential for internally led quality improvement (Buetow 2003). On the other hand, an over-reliance on internally led improvement does not enable practices to compare with and learn from each other, nor does it reassure external stakeholders (Crabtree *et al.* 2001). Nowhere is this tension more apparent than in the middle ground occupied by professionally led accreditation schemes. One proposed solution is to keep quality assurance and quality improvement as separate activities within a 'co-ordinated systems based framework' (Buetow 2003). There is some evidence that professional bodies are addressing this point. For instance, the Quality Team Development Award is designed to complement the Quality Practice Award from the Royal College of General Practice in the UK, placing much more emphasis on stimulating local, continuous development, owned by the practice. The question then arises, however, as to whether it is possible to use organizational assessments developed for the purpose of externally led quality assurance for internally led improvement and vice versa.

This is not a well-developed area in research terms. Addressing this question involves understanding the science of change underpinning the use of organizational assessment for quality assurance and improvement. This requires studying change processes in the 'real world' of general practice health care (Grol *et al.* 2004). The extent to which such scientific study has

been undertaken is unclear to date. Thus, the purpose of this paper is to systematically review organizational assessments that have been used in general practice settings, critiquing them from a theoretical, psychometric and practical perspective to better understand the role of organizational assessment in promoting quality assurance and quality improvement.

Method

Design

A systematic literature review was undertaken, based on the criteria recommended for systematic reviews of the effectiveness of quality improvement strategies and programmes (Grimshaw *et al.* 2002). A multidisciplinary review team was formed consisting of academic GPs (A.E., G.E., P.v.d.H., M.M.), an organizational psychologist (M.R.) and a health scientist (Y.E.). A protocol for a systematic review was agreed upon and inclusion and exclusion criteria specified. Electronic databases were searched, reference lists of identified studies were examined and correspondence with subject experts was undertaken to search for relevant studies. Data were extracted from included studies for information about their theoretical basis, psychometric data and practical development data of the instruments concerned.

Data sources and search strategy

The electronic databases Medline, Cinahl, Embase, HMIC and Psychinfo were searched. The search strategy for Medline required articles to match against (i) one or more MeSH or textword terms relating to organizational assessment, (ii) MeSH or textword terms describing methods of assessment. The search covered studies between the years 1996 and 2003, as the science and development of organizational assessment have only been evident since this time (Rhydderch *et al.* 2004). The search strategy for Medline was adapted for use with other databases. Full details of the search strategy are available from the authors.

Criteria for considering studies

This area is not well indexed and therefore we used a strategy designed to achieve high recall/sensitivity

rather than precision/specificity (Grimshaw *et al.* 2002).

Inclusion criteria were for all of the following to be met:

- 1 Assessments of organization used in primary care;
- 2 Purpose of the assessment is quality improvement or quality assurance;
- 3 Assessments where at least two or more different aspects of general practice organization were measured;
- 4 Some feasibility, validity and reliability data were available;
- 5 Data were published in the peer-reviewed literature.

We assumed the term 'organizational assessment' to cover an instrument and the method by which it was used. We defined 'primary care' according to an accepted definition as 'the first point of contact for patients seeking health services, provided in a community setting, by healthcare professionals who are generalists rather than specialists, in ways that promote continuity of care over time or longitudinal contact between patients and healthcare professionals' (Walshe *et al.* 2000). Thus the unit of analysis in this review is general practice organizations in the UK and equivalent (family medicine) in other countries.

We defined the phrase 'organizational aspects' as covering human, financial, information resources, infrastructure or quality improvement activities. This definition was derived from a review of the organizational change literature (Porras & Silvers 1991).

In addition to failure to meet one of the above criteria, exclusion criteria were:

- 1 Instruments that measure just one aspect of organization, for example, Team Climate Inventory (West & Slater 1996);
- 2 Patient evaluations, where the aim is to measure satisfaction with the service, for example, Europep (Grol *et al.* 2000), primary care assessment survey (Cassady *et al.* 2000), practice accreditation and improvement survey (Greco 2001).

Selection process

All references identified by the electronic search were considered for inclusion against the criteria

independently by two reviewers (from M.R./A.E./G.E.). Full texts were obtained where at least one reviewer felt that a reference merited further consideration. The full-text references were reviewed independently by two reviewers (from M.R., M.M., P.v.d.H., Y.E.). Follow-up references were identified from included articles, correspondence with key experts and from hand searching those journals that had been a source of three or more articles resulting from the electronic search. The follow-up references were treated in the same way as the full-text reference to determine whether inclusion was appropriate.

Data extraction

Data extraction was carried out by M.R. and A.E. Firstly, descriptive features of each instrument were collected and are summarized in Table 2. Box 1 contains four types of theory that describe the role of organizational assessments in the quality improvement process in general practice (Rhydderch *et al.* 2004). Included instruments were compared against this conceptual framework. Secondly, the methodological issues that determine the quality of

Box 1 Summary of organizational change theories and their application to organizational assessments

Organizational assessment based on:

- systems theory, relies on valid and reliable measurement, involving external assessment, standards and feedback loops. Goal setting is the trigger for improvement.
- organizational development theory, relies on the participation of motivated team members and thus engaging the practice team is viewed as important. People are the trigger for improvement.
- complexity theory, relies on trying multiple approaches and feedback any data for interpretation and judgement by the practice team. Improvements are continually evolving in general practice and organizational assessments are only a small part of that process.
- social world theory, relies on providing information about characteristics, values or principles of general practice. Making different expectations transparent triggers improvement.

Table 2 Descriptive data for organizational assessments

<i>Instrument, reference, country</i>	<i>Purpose of instrument</i>	<i>Method of assessment (who makes assessment)</i>	<i>Aspects of organization assessed</i>	<i>Conceptual framework</i>
Primary care assessment tool, provider edition, PCAT (Starfield <i>et al.</i> 1998), USA	To assess the extent to which family medicine units reflect established principles of primary care.	A survey instrument (practitioners assess their organization)	Accessibility Longitudinality Comprehensiveness: services available Comprehensiveness: services provided Co-ordination: integration of care Co-ordination: medical records Family centredness Community orientation Cultural competence	Principles of primary care as defined by the American Institute of Medicine (Committee on in America 2001) Underlying theory was not identified
Visit in practice method, VIP (Van den Hombergh 1998c; Van den Hombergh <i>et al.</i> 1998, 1999), Netherlands	To assess and improve management in general practice	External assessors during a practice visit (external assessment)	Premises and equipment VIP Delegation and collaboration Service and organization Record keeping Organization of quality improvement Workload and job stress	The conceptual framework for practice organization to be assessed was defined by expert interviews, literature study, consensus procedure (Van den Hombergh <i>et al.</i> 1995) Underlying theory was not identified
Multi-method assessment process, MAP (Crabtree <i>et al.</i> 2001), USA	To assess practice characteristics associated with preventative service delivery	Researchers conduct the assessment, (team interpret assessment)	Features of: community, practice, staff, patients, that were felt to be important to the researchers and practice team	To understand the practice as an organization and its relationship to the larger community and health system. Underlying theory was identified as complexity (see Box 1)
Clinical microsystem survey (Mohr & Batalden 2002), USA	To assess practice characteristics associated with 'Microsystems'	Self-assessment by team member of organization (team rate their practice)	Constancy of purpose Investment in improvement Alignment of role and training for efficiency and staff satisfaction Interdependence of the care team to meet patient needs Interdependence of the care team to meet patient needs Integration of information and technology into workflows measurement of outcomes Supportiveness of the larger community to enhance care delivery and extend influence	Microsystems are conceptually defined as small organized groups of providers and staff caring for a defined population of patients (Nelson <i>et al.</i> 2002) Underlying theory was identified as combining elements of systems and complexity theory (see Box 1)

Table 2 Continued

<i>Instrument, reference, country</i>	<i>Purpose of instrument</i>	<i>Method of assessment (who makes assessment)</i>	<i>Aspects of organization assessed</i>	<i>Conceptual framework</i>
Standards and a method for assessing Australian general practice (Booth <i>et al.</i> 1998), Australia	Practice accreditation (minimum standard)	Practice visit External assessment	Access and availability Diagnosis and management issues, illness prevention Content of medical records Continuity of care Integration with other health services Communication Respect for patients' rights, confidentiality Staff training and credentials Regular review of practice Staff roles Medical records system Practice facilitates Equipment Physical access	Aspects to be assessed were defined by expert interviews, literature study, consensus procedure Underlying theory was not identified

instruments are summarized in Table 3. They concern the development of the instruments (and their items), the acceptability of the assessment to practices and the extent to which validity and reliability have been assessed.

Results

The search identified 3208 abstracts excluding duplicates (Medline 603, Embase 1655, HMIC 83, Cinahl 352, Psycinfo 515). After assessment, a total of 13 papers describing five organizational assessment instruments were included for detailed appraisal.

Scope of included instruments

Five organizational assessments were found, three from the USA, one from the Netherlands, and one from Australia. Descriptive details and an analysis of their development, validity and reliability data are provided in Tables 2 and 3, respectively. It was observed that despite the number of organizational assessments in use as part of professionally led accreditation processes in different countries (RACGP 1996; Booth *et al.* 1998; Van den Hombergh

1998a; General Practice Scotland 2002; RNZGP 2002; Royal College of General Practice Scotland 2002; Royal College of General Practitioners 2002; Miller 2003; Macfarlane *et al.* 2004), only information about the Australian, Dutch and US processes could be located in the peer-reviewed literature.

The instruments

Primary care assessment tool (PCAT) (Starfield *et al.* 1998)

This instrument is designed to measure whether family medicine units provide good quality health care according to established principles of primary care. Such principles are well defined by the Institute of Medicine (Committee on Quality of Health Care 2001) and others, and focus on continuity of care, community focus, comprehensiveness and accessibility. Further work was conducted in Canadian family medicine, to determine whether PCAT scores in training practices and whether physician, practice and practice population characteristics are associated with desirable practice attributes (Rowan *et al.* 2002). The method of completing PCAT is self-assessment usually administered by postal survey.

Table 3 The development, validity and reliability of assessments

<i>Instrument, reference, country</i>	<i>How was the tool first developed?</i>	<i>Feasibility and acceptability from a practical perspective</i>	<i>Reported validity and reliability assessments</i>
Primary care assessment tool, provider edition, PCAT (Starfield <i>et al.</i> 1998), USA	PCAT was developed by Starfield and tested using a sample of 46 US primary care providers and facilities. Other versions were designed for use by consumers (PCAT adult and PCAT child version)	No data found	Tested by the author and found to have validity and reliability. Construct validity confirmed through testing in 134 family medicine preceptorships (training practices) (Rowan <i>et al.</i> 2002). Preceptorships scored most highly on co-ordination of care, longitudinality and comprehensiveness of services available and less well for cultural competence. The reliability scores are low suggesting that other factors might account for variation in PCAT scores. Max-adjusted reliability score = 0.1927
Visit in Practice Method, VIP (Van den Hombergh 1998a), Netherlands	VIP was developed to provide a valid, reliable, feasible and acceptable method to assess the management and organization of general practices in the Netherlands	A comparison of visits and feedback by peers and non-physician observers that GPs may have a more effective role in the observation of a peer, yet data collection and giving feedback by a non-physician observer was better appreciated. Both programmes differing little in acceptance to GPs (Van den Hombergh <i>et al.</i> 1998a)	Content validity was established by developing items through, practice visit (110 practices), questionnaire to GPs and consensus methodology (Van den Hombergh <i>et al.</i> 1999). VIP is capable of discriminating between single-handed and large practices with respect to equipment and premises. It is also able to discriminate between practices with respect to tasks undertaken by the practice assistant [35 indicators (5% or 95%)]. VIP has also been found to be a useful tool for helping (Committee on Quality of Health Care in America 2001) practices to plan and prioritize quality improvement activity at the practice and at district level (Geboers <i>et al.</i> 2002).
Multi-method assessment process, MAP (Crabtree <i>et al.</i> 2001), USA	MAP was designed to help understand general practice through intensive direct observation of the practice environment and patient care.	The authors content that broader implementation is difficult without considerable resources and a research team with diverse skills	Researchers spent 4 weeks or more taking notes while observing practice and clinical encounters, interviewing staff, collecting office documents and auditing patient charts. Observer checklists were used, floor plans analysed and artifacts collected. Researchers feedback to practice team after 2 weeks enabling their observations to be interpreted by team members. No psychometric data published.
Clinical microsystem survey (Mohr & Batalden 2002), USA	This tool was first published as part of a series of articles on the concept of a 'Microsystem' (Nelson <i>et al.</i> 2002) and its application to primary and secondary care.	No data available	No psychometric data published. Authors point out that validity and reliability work is needed.

Table 3 Continued

<i>Instrument, reference, country</i>	<i>How was the tool first developed?</i>	<i>Feasibility and acceptability from a practical perspective</i>	<i>Reported validity and reliability assessments</i>
Standards and a method for assessing Australian general practice (Booth <i>et al.</i> 1998), Australia	This work was part of a project on the design of entry standards in Australia, the development of which are described in Royal College of Australian General Practice published reports (RACGP 1996)	90% of both surveyors and practices regarded most of the criteria as acceptable and achievable. Feasibility assessed in terms of logistics, cost of recruitment, training and assignment of surveyors. 88% of practices continuing to run reduced service during visits.	Content validity: 90% of surveyors agreed that 88% of criteria reflected good practice. Inter-rater reliability was 0.75. They rated 89% of practices as worthy of accreditation although the standards suggested that 55% were worthy. Of the 48% who did not meet the standard it was only in one or two minor aspects.

GP, general practitioner.

Visit in practice method (VIP) (Van den Hombergh 1998a)

Van den Hombergh's assessment tool VIP is designed to assess 'practice management', a term which is defined as 'all aspects of the GP's task to achieve good care, excluding clinical care or treatment of patients'. The emphasis is on the assessment of individual GP activity as well as practice activity. This reflects the context of delivery of primary care where often there is no formal role for practice managers and a limited role for nurses, although there is a role for practice assistants. Practice assistants traditionally combine basic clinical and administrative tasks. As the name of the instrument indicates, the method of assessment is based upon practice visits – a long-standing method of improving quality in many countries (Eliasson *et al.* 1998). Practices are assessed against a set of standards during a practice visit. The instrument is designed to be formative with an emphasis on quality improvement and much of the psychometric work indicates the acceptability of this approach to GPs (see Table 3).

Multi-method assessment approach (MAP) (Crabtree *et al.* 2001)

The aim of MAP is to describe multiple aspects of family medicine, to identify new insights grounded in the actual experience of practice participants and to foster collaborative change. Thus the aims of the assessment instrument and method are to achieve

improvements by fostering relationships and motivating people to make changes. MAP has been developed to answer the following research questions:

- 1 How does the organizational context support effective preventative services?
- 2 What are the competing demands imposed by carrying out clinical prevention and illness care?

It is based on previous research into understanding family medicine organizations using direct observation techniques (DOPC writing group 2001) where the emphasis was on quantitative data collection. MAP is a more qualitative approach, providing an in-depth description and understanding of the competing demands in family practice and to evaluate factors affecting preventative service delivery. Assessment decisions are reached by combining observations by field researchers and practice team members. The authors use complexity theory to guide the design of their organizational assessment.

Clinical microsystem survey (Mohr & Batalden 2002)

The microsystem assessment survey is designed to assess the functioning of clinical teams and to identify potential areas for improvement. It is used both in primary and secondary care and thus reflects health care organization in the USA where these provider units often combine under one organization, for example, Kaiser Permanente. The assessment tool is briefer than the other included instruments. It assesses characteristics such as integration, alignment, connection, supportiveness and interdepen-

dence of one organizational aspect with another. Data about a clinical team are collected by asking team members to complete a brief questionnaire.

Australian standards and method for assessment (Booth et al. 1998)

Unlike the previous instruments, this published 'instrument' is simply referred to as 'national standards for general practice'. The standards describe minimum performance and the article describes the development of the standards and a practice visit protocol to assess them. It is designed to be used by Australian General Practice Accreditation Organization as the basis for accrediting minimum standards for general practice organization. A recently completed PhD has further developed this work (Miller 2003).

Validity and reliability testing of instruments

The development of instruments to evaluate organizational aspects of general practice assess constructs (PCAT, Microsystems, MAP) and content (VIP and Australian standards). Both Starfield and Rowan found robust validity and reliability evidence for the design and use of PCAT (Starfield *et al.* 1998; Rowan *et al.* 2002). The evolution of the VIP instrument has moved from its initial development within an educational setting to becoming integrated as part of a professionally led approach to accreditation. VIP has peer-reviewed publications describing its original design, its use with different types of practices and different types of practice visitors, its acceptability to GPs, the feasibility of its assessment process and its inclusion as part of a quality improvement programme (Van den Hombergh *et al.* 1995, 1998a; Van den Hombergh *et al.* 1999). The Australian standards report robust evidence of content validity of the standards along with evidence of acceptability (Booth *et al.* 1998). The MAP assessment is difficult to evaluate using traditional approaches to reliability and validity assessments (Crabtree *et al.* 2001). The microsystems survey was developed by analysing the performance of the effective clinical team (primary and secondary care) (Nelson *et al.* 2002). However, the authors contend that further psychometric validity and reliability work is necessary. Overall, when compared to the standard psychometric methods of

instrument development and evaluation (Streiner & Norman 2000), only VIP has peer-reviewed publications covering each stage in the design and development process.

Discussion

Principal findings

This review indicates a developing field describing different approaches to the measurement of organizational aspects of general practice. An important finding is the relative lack of peer-reviewed literature available on the many organizational assessments that are in use in different countries. This reinforces the reported lack of peer-reviewed literature available in contrast to the number of organizational assessment schemes in use in general practices found in an earlier review (Van den Hombergh 1998b). There is an evolving area of research and a PhD thesis has recently been completed on the development of the Australian standards (Miller 2003). In addition, a peer-reviewed publication evaluating the acceptability and use of Quality Team Development Award is in press (Macfarlane *et al.* 2004).

Published organizational assessments vary with regard to the focus of the assessment, who developed the assessment, the level of detail to which the assessments went, the extent to which validity, reliability, acceptability and feasibility data were available, and the contribution of theory to the assessment process. The instruments that met our criteria emphasize different perspectives on the relationship between organization and quality improvement. PCAT (USA), asks clinicians to assess the extent to which their practices uphold general principles of primary care. VIP (Netherlands), assumes that quality improvement depends on well-organized structures and routine processes and combines self-assessment with external assessment using a practice visit to ensure that assessment is combined with educational aims. MAP (USA), emphasizes the importance of local ownership by a practice team to understand the relationship of the practice to its wider context. The clinical microsystem survey (USA), assesses characteristics of effectively performing teams that are common to both secondary and primary care. The Australian standards tool is similar to the approach

taken by VIP with its focus on assessing a wide range of practice organization through external assessment, although this tool focuses on minimum standards to assure quality whereas VIP is designed to assess best practice.

Strengths and weaknesses

This study has systematically searched for peer-reviewed assessments of general practice organization. This area is not however, sufficiently clearly or consistently indexed, thus, in spite of the systematic approach to searching, the authors acknowledge that recall may be limited. Given the existence of organizational assessments in use that are not described in the peer-reviewed literature, the full extent of experience with organizational assessment in general practice may not be evident in this review. However, the restriction to peer-reviewed literature means that some interpretation and positive inferences can be drawn and discussed. In addition, the assessments found appear to provide coverage of critical partitions within the literature using previous work by the authors mapping out the basic theoretical foundations for organizational assessments in general practice (Rhydderch *et al.* 2004).

Implications for the debate between quality assurance and quality improvement

The goal of this review is to use information about organizational assessments located in the peer-reviewed literature to address the issue of whether organizational assessments can be developed for both externally led quality assurance and internally led quality improvement. Previous work on this question has suggested that it is important to separate organizational assessments designed for quality improvement from those that were designed for quality assurance and to co-ordinate their use within an overall framework (Buetow 2003). It has also been argued that a key skill is to select a method for organizational assessment that addresses the purpose of conducting the assessment (Walshe *et al.* 2000).

In this review, those assessments that take account of theory appear to be better able to state assumptions that they are making about the nature of general practice and the types of problems they can best

address. For example, MAP assumes that general practices are complex organizations and it helps practices find local novel solutions to quality problems. Microsystems combine complexity and systems theories by combining the principles of measurement and feedback to provide data to stimulate team-based solutions. Both are potentially effective methods for stimulating internal development. PCAT, VIP, Australian standards assessments do not make links to specific organizational change theories. However, PCAT makes assumptions about general practices that are similar to assumptions made by social world's theory, describing the values associated with a primary care service (Rhydderch *et al.* 2004). VIP and the Australian standards assessments combine data measurement with practice visits to stimulate improvement, and thus use methods aligned with both systems and organizational development theory.

A key finding is that some but not all organizational assessments are based on theory. Theory can help ensure that the design of the assessment is aligned with the purpose of the assessment and the type of problem to be addressed. There are four major theories of organizational change and assessments should be explicit about which theory or combinations of theories they use. Complexity and organizational development theories are aligned with assessments and methods to stimulate internal development (Koeck 1998; Plsek & Greenhalgh 2001). Systems theory is aligned with assessments and methods based on the type of standard setting associated with externally led quality assurance (Van de Ven & Scott Poole 1995).

Implications for policy and practice

The dominant approach to improving quality in general practice is to use professionally led accreditation systems that rely on comprehensive measurement using external assessment and benchmarked feedback to assure minimum performance and to reward excellence. This needs to be balanced by organizational assessments that have been designed specifically to stimulate internal development. The challenge for such assessments is to be sufficiently robust from a psychometric perspective to be used widely in different practice settings, whilst at the same time being responsive to the local needs.

From this review, it appears that quality improvement and quality assurance initiatives operate in a context of different and sometimes conflicting demands on practices. This review found organizational assessments that are available to address the following demands on practices to:

- 1 achieve a minimum standard of core competence (Australian standards) (Booth *et al.* 1998);
- 2 be able to demonstrate excellence as a mechanism for marketing themselves, improving their remuneration, demonstrating to colleagues and other stakeholders their commitment to quality (VIP) (Van den Hombergh *et al.* 1999);
- 3 move forward incrementally, continually improving and therefore raising minimum and maximum standards (Microsystems) (Mohr & Batalden 2002);
- 4 become future-focused, skilled at dealing with complexity and ambiguity in their environment, taking advantage opportunistically to improve quality (MAP) (Crabtree *et al.* 2001);
- 5 develop organizational cultures and philosophies in keeping with those of their primary care health system, for example, continuity of care, community focus (PCAT) (Starfield *et al.* 1998).

A key issue for policy makers is the lack of attention given to developing an evidence base to inform the use of organizational quality assessments in primary care. The review suggests a current lack of investment in the development of valid reliable organizational measures. If we had widened our inclusion criteria beyond peer-reviewed publications in journals to include reports, book chapters and PhD theses, we would have found more examples of assessments, but we believe that the process of peer review is an appropriate benchmark to assure the quality of an evidence base.

Conclusions

This review discovered a developing field containing different approaches to the measurement of organizational aspects of general practice. A key finding is the relative lack of peer-reviewed literature available on the organizational assessments that are in use in different countries. It is important that those involved in developing professionally led accreditation assessments, submit the design and

development of such assessments for peer-reviewed publication.

It has been argued by others that separating externally led quality assurance from internally led quality improvement is important (Walshe *et al.* 2000; Buetow 2003). Whilst professionally led accreditation is well developed and dependent on external assessment, separate approaches to internal development are less well developed. There is a need for organizational assessment tools designed for the purpose of stimulating internal development, by paying attention to increasing motivation and ownership of the quality improvement agenda by practices. The organizational assessments found in this review, demonstrate that it is possible for professionally led accreditation to be supported by psychometric data, that organizational assessments can be designed with internal development as stated purpose and that a theoretical basis for design of organizational assessments is both possible and advantageous.

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