



# Managing chronic disease: what makes a general practice effective?

FINDINGS FROM THE PRACTICE CAPACITY RESEARCH PROJECT\*

**What are the best ways to set up a general practice to manage chronic disease effectively? Individual GPs' medical skills, or systems to implement clinical guidelines, on their own, do not ensure effective prevention and management of chronic disease. New research highlights the importance of practice capacity; the way a practice is organised to provide quality care.**

Some key organisational factors for effective chronic disease care have been identified in research conducted overseas, with the most successful practice systems involving combinations of these:<sup>1,2</sup>

- Systems to ensure that patients' clinical information is readily accessible in a useful format. This includes setting up and maintaining registers of patients with chronic disease conditions, and effective systems for recalling patients.
- Systems to assist the doctor in making the right clinical decisions (in addition to the doctor's clinical expertise)
- Providing patients with effective education and support in managing their own medical conditions
- Establishing and maintaining good linkages with community resources and services
- Effective teamwork between health providers.

Important aspects of practice capacity include organisational infrastructure (e.g. clinical and patient services, staff management, financial systems, facilities), systems for improving the quality of services (e.g. clinical audits, use of the 'Plan, Do, Study, Act' model of change), and working relationships between everyone involved in providing patient care, both within and beyond the practice.

The Practice Capacity Research Study was designed to measure the degree to which selected aspects of practice capacity are associated with the quality of care for patients with any of the following chronic conditions: type 2 diabetes,

moderate-to-severe asthma, hypertension and/or ischaemic heart disease.

Four aspects of practice capacity were studied:

1. Multi-disciplinary team working within the practice (involving GPs, nurses, practice managers, receptionists and allied health professionals)
2. Practice-based clinical linkages with other providers and services
3. Information management systems and the extent to which the practice uses information technology to maintain these systems effectively (IM/IT maturity)
4. Business and financial management in the practice.

Clinical care was assessed according to:

(a) adherence to evidence-based clinical guidelines, (b) patients' health status, (c) patients' perception of the quality of care, and (d) GPs' and practice staff members' job satisfaction (See study design on page 2).

*Continues on page 3*

## BACKGROUND TO THIS RESEARCH

The prevalence of chronic disease is increasing, due to population ageing, lifestyle factors and increased life expectancy.

The detection and management of chronic disease is best coordinated by general practice, yet its structure and services have been set up primarily to provide episodic care – without systematic follow-up or an emphasis on the patient's role in self-management.

Australian Government initiatives such as the Enhanced Primary Care (EPC) package, the Practice Incentive Payments (PIP), the Practice Nurse program, the Allied Health Item Numbers and Chronic Disease Management (CDM) Item Numbers have been introduced to help practices set up the systems necessary for chronic disease care, supported by Australian Divisions of General Practice. It is not known which organisational systems work best.

**A large cross-sectional study investigating organisational systems that support chronic disease management was recently undertaken in general practices across Australia.**

**Participants included 247 GPs, 403 practice staff and 7,505 patients with diabetes, cardiovascular disease or moderate-to-severe asthma. The study design is described on page 2.**

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\*The Cross Sectional Study of the Capacity of General Practices to Provide Quality Chronic Disease Care (2002–2005) was jointly conducted by the University of New South Wales (UNSW) and the University of Adelaide, supported through a funding agreement by Australian Department of Health & Ageing with the Centre for General Practice Integration Studies, UNSW.

## Study design

- **Stage 1:** Background information was gathered for the study from Australian and overseas literature, consultations with key general practice stakeholders in Australia and focus groups with GPs, consumers, practice staff and allied health professionals. The study design was developed in consultation with state-based general practice organisations, divisions of general practice and GPs.
- **Stage 2:** New research instruments were developed and validated, and the research methods were tested in a pilot study among 11 practices in New South Wales and South Australia. (The symbol # indicates methods that were purpose-developed in Australia for this study.)
- **Stage 3:** Participants were recruited through divisions of general practice. Each practice selected a random sample of up to 180 patients (up to 60 patients with each diagnosis: type 2 diabetes, ischaemic heart disease and/or hypertension, and moderate-to-severe asthma). Surveys and interviews were undertaken with 250 GPs and 400 practice staff, and 7,505 patients, representing a cross-section of general practice in New South Wales, South Australia, Victoria, Tasmania, Queensland and the Australian Capital Territory. Of the 97 participating practices, approximately 65% were metropolitan and the remainder regional or rural, 59% had fewer than four GPs, 84% were Australian General Practice Accreditation Limited (AGPAL)-accredited, and approximately 51% employed practice nurses.
- **Stage 4:** The results were shared with participating practices and have been the basis of quality improvement activities carried out with the assistance of divisions of general practice. A workshop was held in December 2004 to provide training for the participating Divisions of General Practice in the use of the practice capacity measurement tools. The National Forum on Practice Capacity was conducted in April 2005 to launch the results of the research study. The results of this study are now being publicised throughout Australia.

### Measures of practice capacity

#### 1. Teamwork within the practice

- Team 'climate' within the practice (the culture of the practice, e.g. extent to which staff share team objectives, support for new ideas, monitoring each other's work quality)
- Team structure, roles and functions
  - Functions of practice nurses within chronic disease management (e.g. recall systems, screening, patient education, delegated clinical tasks)
  - Roles of administrative staff in supporting chronic disease care (e.g. processing documentation associated with CDM Medicare items, administration of recall systems, practice management, meetings and communication systems within practice)

*Methods used:* Team Climate Inventory (UK),<sup>3</sup> Multidisciplinary Team Working Practice Profiling Interview<sup>#</sup>

#### 2. Practice-based clinical linkages with other providers and services

- Referral links (e.g. established relationships with specialists for referral or advice)
- Collaboration with other providers in Shared Care arrangements and Care Plans\*\* (e.g. diabetes shared care, ischaemic heart disease shared care)
- Involvement in community access and awareness initiatives

*Method used:* Clinical Linkages Practice Profiling Interview<sup>#</sup>

#### 3. Information management, including the use of information technology

- The use of computers to store and access clinical records (e.g. diagnoses, pathology reports)
- The use of computers in patient education
- 'Advanced' information technologies, defined as the use of Public Key Infrastructure systems (e.g. HIC online), paper-free office systems and electronic old files
- Computer-based administration (e.g. billing systems, financial records, payroll)

- Computerised clinical tools (e.g. decision support systems, discharge summaries, guidelines)

*Method used:* IM/IT Practice Profiling Interview<sup>#</sup>

#### 4. Business management systems

- Administrative processes (e.g. patient recall systems, Chronic Disease Initiatives registration, accreditation by AGPAL)
- Staff management and development (e.g. staff appraisals, job description reviews)
- Market analysis (e.g. regular assessment of the practice as a business using the Strengths, Weaknesses, Opportunities and Threats [SWOT] analysis method)
- Business development (e.g. risk management strategies, systems for tracking and managing stock)

*Method used:* Business and Financial Maturity Practice Profiling Interview<sup>#</sup>

### Measures of the quality of chronic disease care

#### a. Quality of chronic disease care

Adherence to established clinical procedures and measures of disease control in:

- type 2 diabetes and cardiovascular disease (e.g. assessment of blood pressure, lipids, HbA1c, microalbumin, eye examination, body mass index, foot checks)
- moderate-to-severe asthma (e.g. use of spirometry, checking the patient's inhaler technique, patient education about trigger factors, assessment of severity and impact of asthma on everyday activity, written asthma action plans)
- risk factor assessment (smoking, nutrition, alcohol use, physical activity)
- care planning
- registers, monitoring and completion of cycle of care.

*Method used:* General Practice Clinical Care Interview<sup>#</sup>

#### b. Patient-reported quality of care

Patients' assessment of their general practice (e.g. accessibility, reception services, continuity of care, GP's communication skills, quality of personal care by GP, quality of care by practice nurse)

*Method used:* General Practice Assessment Survey<sup>4</sup>

#### c. Patient-reported health status

Patients' overall assessment of their health (e.g. general health, physical function, mental health, pain status, emotional aspects)

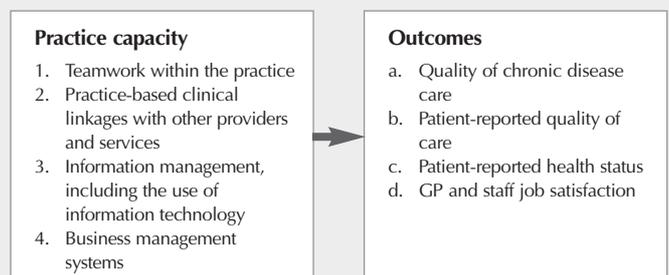
*Method used:* SF-12 health survey<sup>5</sup>

#### d. GP and staff job satisfaction

Practice members' views of the job (e.g. work conditions, income, the amount of responsibility given, freedom in the job, variety, work colleagues, opportunity to use abilities, recognition and hours of work)

*Method used:* Modified Job Satisfaction Scale (UK)<sup>6,7</sup>

### Analysis



Statistical analysis allowed investigators to measure how much variation in the quality of care (outcomes a to d) could be explained by the aspects of practice capacity (1–4). It ensured that other factors like size of practice and geographical area were taken into account.

\*\*EPC items in use prior to July 2005, including Multidisciplinary Care Plans, were current at the time of this study.

### A well-organised practice is good for patients' health

The quality of chronic disease care, as measured against evidence-based clinical guidelines, varied significantly between practices but not between divisions of general practice. Overall, results for the quality of clinical care indicated that there is room for improvement, with average scores highest for diabetes assessment and lowest for asthma assessment (Figure 1). Practices also differed in each of the four areas of practice capacity. Scores reflected relatively well-developed practice capacity in some areas, but suboptimal capacity in some areas, especially multidisciplinary team work.

Within each of the four areas of practice capacity, the researchers then looked at specific components and assessed their effect on quality of chronic disease care. They identified those aspects of practice organisation most strongly associated with high quality evidence-based clinical care (Table 1):

- **IM/IT maturity:** the use of computers to support clinical care, e.g. for decision support, accessing discharge summaries, case finding and clinical guidelines
- **Business management and financial planning:** evaluation of the financial viability of introducing system changes, risk management strategies, stock control, practice meetings, professional development for staff
- **Team working:** systems for monitoring and training staff, involvement of administrative staff in systems that support clinical care (e.g. maintaining register/recall systems, organising case conferences/health assessments, ordering

Table 1. Aspects of practice that influence quality of care

Practice capacity area	Components	Component most strongly associated with quality of clinical care
Team working	<ul style="list-style-type: none"> <li>• Clinical team roles</li> <li>• Administrative support roles and systems</li> <li>• Practice management structures</li> <li>• Communication between team members</li> </ul>	Involvement of administrative staff in systems that support clinical care
Information management/information technology	<ul style="list-style-type: none"> <li>• Computer-managed clinical records</li> <li>• Computer-based administrative processes</li> <li>• Advanced IM/IT (See methodology on page 2)</li> <li>• Computer use in clinical care</li> </ul>	Computer use in clinical care, e.g. decision support, guidelines, case finding, discharge summaries
Business and financial systems	<ul style="list-style-type: none"> <li>• Organisational and administrative processes</li> <li>• Staff management and skills development</li> <li>• Market analysis</li> <li>• Business development and planning</li> </ul>	Systems that support business development and planning
Practice-based clinical linkages	Links with other providers for: <ul style="list-style-type: none"> <li>• shared care</li> <li>• access to community services</li> <li>• referral and advice</li> </ul>	Established systems for working with other organisations and care providers

patient education materials, liaising with other health providers for referrals, maintaining service directories).

However, patient care was best when practices also worked effectively with other outside organisations and care providers – to plan shared care, arrange referrals and obtain specialist advice, provide patient education and promote community awareness, and to facilitate access to services. The quality of practices' linkages was strongly related to the quality of chronic care they provided.

#### Practice size

- Quality of care was found to be related to both the size of the practice and to practice capacity factors. Compared with larger practices (other factors being equal), those with one to four GPs showed higher scores for quality of clinical care in type 2 diabetes, cardiovascular disease and moderate-to-severe asthma (Figure 2).
- However, larger practices scored higher on measures of practice capacity, which were positively related to quality of clinical care (other factors being equal).

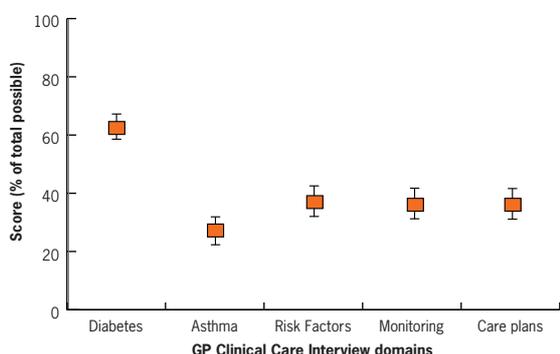


Figure 1. Quality of clinical care measured using a purpose-designed measure of best-practice care according to published guidelines (the General Practice Clinical Care Interview)

**Diabetes:** quality of diabetes assessment; **Asthma:** quality of asthma assessment; **Risk factors:** assessment of chronic disease risk factors; **Monitoring:** extent to which the practice uses patient registers and monitors the cycle of chronic disease care; **Care plans:** Planning for multidisciplinary chronic disease care.

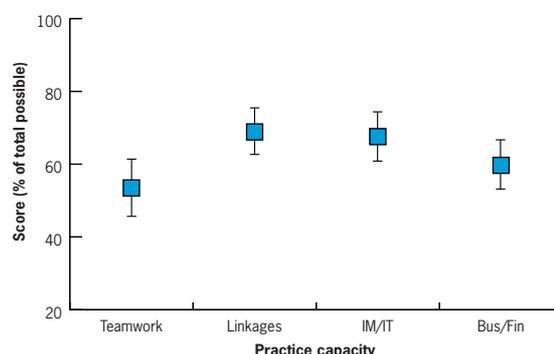


Figure 2. Practice capacity measured according to four aspects.

**Teamwork:** multi-disciplinary teamwork within the practice; **Linkages:** links with other providers and services; **IM/IT:** IM/IT maturity; **Bus/Fin:** business and financial management

This meant that greater practice capacity compensated for the negative effect of greater practice size.

- While patients rated the care provided by practices very highly overall, smaller practices (fewer than four GPs) were seen as providing better access to medical care, better receptionist services, and better continuity of care.

#### Other factors affecting patients' evaluation

- Practices with good clinical linkages with other services for shared care, referral or advice and community awareness were rated by patients as offering greater access to care, after adjusting for practice size.
- Patients expressed greater overall satisfaction with practices that scored well for team climate among staff. Practices with good team climate were

also rated higher by patients on quality of receptionist services. As expected, team climate was strongly associated with job satisfaction for GPs and staff.

#### Roles of practice nurses

- After controlling for the effect of practice size, there was no difference in the quality of chronic disease management between practices with practice nurses and those without.
- In practices in which nurses ran CDM clinics, the quality of diabetes assessment was significantly better than in practices where there were no nurse-led CDM clinics.
- Assessment of diabetes, asthma and general risk factors for chronic disease, and overall care of patients with diabetes, asthma or cardiovascular disease, was significantly better in

practices where nurses were responsible for managing disease registers and recall systems.

#### Implications for Australian health care

These results indicate that the Australian health system would benefit from an investment in supporting practices to develop:

- team roles, information systems and business development processes to achieve evidence-based care
- team climate within the practice
- effective links with outside providers and services, to ensure that patients with chronic diseases can access the services they need over time.

Achieving this will require coordination of policy and programs at national, state and local levels.

## The practice capacity research study found:

- Practice organisation is important for good clinical care: the quality of chronic disease care in general practice is related to the level of teamwork among staff, the use of computers to enable effective medical record management and patient follow-up, and attention to business planning.
- The quality of clinical linkages with other providers beyond the practice is also important: practices' scores on this measure correlated with overall quality of chronic disease care and patients' assessment of the care received.
- Smaller practices tend to achieve better clinical care (other factors being equal), but larger practices can overcome this by better organisational systems.
- Practice nurses can make an effective contribution to chronic disease management.

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