



THE AUSTRALIAN NATIONAL UNIVERSITY

THE AUSTRALIAN PRIMARY HEALTH CARE RESEARCH INSTITUTE



# Primary Health Care Position Statement: A scoping of the evidence



Australian Divisions of **General Practice** Commissioned by **ADGP**



THE AUSTRALIAN NATIONAL UNIVERSITY

THE AUSTRALIAN PRIMARY HEALTH CARE RESEARCH INSTITUTE

## **Primary Health Care Position Statement: A Scoping of the Evidence**

Nicholas J Glasgow, Beverly Sibthorpe, Anna Gear

### Acknowledgements

The authors gratefully acknowledge the input and assistance of the Australian Divisions of General Practice, and the staff at APHCRI for all their willing help. The Australian Primary Health Care Research Institute is supported by a grant from the Australian Government Department of Health and Ageing. The information and opinions contained in this monograph do not necessarily reflect the views or policy of the Australian Government Department of Health and Ageing.

Australian Divisions of General Practice  
PO Box 4308  
MANUKA ACT 2603

Telephone: 02 6228 0800  
Facsimile: 02 6228 0899  
Email: [adgpreception@adgp.com.au](mailto:adgpreception@adgp.com.au)  
Web: [www.adgp.com.au](http://www.adgp.com.au)

# Table of Contents

|                                                                                                                                                                |           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>Background and introduction .....</b>                                                                                                                       | <b>3</b>  |
| International context of primary health care reform .....                                                                                                      | 3         |
| “Meso level” structures in health systems.....                                                                                                                 | 3         |
| National context .....                                                                                                                                         | 3         |
| Australian Divisions of General Practice Network .....                                                                                                         | 4         |
| Australian Primary Health Care Research Institute .....                                                                                                        | 4         |
| Method .....                                                                                                                                                   | 4         |
| References .....                                                                                                                                               | 5         |
| <b>Access .....</b>                                                                                                                                            | <b>6</b>  |
| Introduction.....                                                                                                                                              | 6         |
| Q1: Does the employment/deployment of practice nurses, allied health staff, specialists, and others within organised primary health care improve access? ..... | 6         |
| Q2: Can organised primary health care improve access to after hours care through regional approaches? .....                                                    | 6         |
| Q3: Can organised primary health care improve access for particular populations?.....                                                                          | 7         |
| Youth/children.....                                                                                                                                            | 7         |
| Other cultural.....                                                                                                                                            | 7         |
| Aged.....                                                                                                                                                      | 7         |
| Rural .....                                                                                                                                                    | 7         |
| Q4: What is the evidence that fundholding or pooling by primary health care organisations can improve access to services/outcomes for patients?.....           | 8         |
| Conclusion.....                                                                                                                                                | 8         |
| References .....                                                                                                                                               | 8         |
| <b>Workforce.....</b>                                                                                                                                          | <b>12</b> |
| Introduction.....                                                                                                                                              | 12        |
| Q1: What do we know about the role of organised PHC in GP recruitment/retention/deployment/support? .....                                                      | 12        |
| Conclusion.....                                                                                                                                                | 13        |
| References .....                                                                                                                                               | 13        |
| <b>Integration.....</b>                                                                                                                                        | <b>14</b> |
| Introduction.....                                                                                                                                              | 14        |
| Q1: What do we know about the benefits of integration within primary health care and between primary health care and other parts of health care systems? ..... | 14        |
| Q2: What is known about the impact of the use of shared patient records/information (electronic) within PHC?.....                                              | 15        |
| Conclusion.....                                                                                                                                                | 15        |
| References .....                                                                                                                                               | 15        |
| <b>Chronic disease management and prevention .....</b>                                                                                                         | <b>17</b> |
| Introduction.....                                                                                                                                              | 17        |
| Q1: What is known about systematic approaches to chronic disease management and prevention (CDMP) within organised PHC? .....                                  | 17        |
| Conclusion.....                                                                                                                                                | 18        |
| References .....                                                                                                                                               | 18        |

|                                                                                                               |           |
|---------------------------------------------------------------------------------------------------------------|-----------|
| <b>Multidisciplinary teams / networks of health care providers.....</b>                                       | <b>20</b> |
| Introduction.....                                                                                             | 20        |
| Q1: What is known about the effectiveness of multidisciplinary training of health force? .....                | 20        |
| Q2: What is known about the effectiveness of health alliances/partnerships? .....                             | 20        |
| Conclusion.....                                                                                               | 21        |
| References .....                                                                                              | 21        |
| <b>Population health and health promotion.....</b>                                                            | <b>23</b> |
| Introduction.....                                                                                             | 23        |
| Q1: What do we know about organised PHC's role in health promotion and prevention?.....                       | 23        |
| Methods of intervention .....                                                                                 | 23        |
| Smoking .....                                                                                                 | 23        |
| Physical activity .....                                                                                       | 24        |
| Alcohol.....                                                                                                  | 24        |
| Nutrition.....                                                                                                | 24        |
| Q2: What do we know about organised PHC's role in screening?.....                                             | 24        |
| Q3: What do we know about organised PHC's role in early childhood? .....                                      | 25        |
| Conclusion.....                                                                                               | 25        |
| References .....                                                                                              | 25        |
| <b>Community / consumer participation .....</b>                                                               | <b>28</b> |
| Introduction.....                                                                                             | 28        |
| Q1: What is known about the impact of consumer input into organised PHC (i.e. consumer representation)? ..... | 28        |
| Q2: What is known about the involvement of client/carers in organised PHC?.....                               | 28        |
| Conclusion.....                                                                                               | 29        |
| References .....                                                                                              | 29        |
| <b>Quality and safety .....</b>                                                                               | <b>31</b> |
| Introduction.....                                                                                             | 31        |
| Q1: What is known about the role of organised PHC in improving/maintaining quality and safety?..              | 31        |
| Conclusion.....                                                                                               | 32        |
| References .....                                                                                              | 33        |
| <b>Indigenous health .....</b>                                                                                | <b>35</b> |
| Introduction.....                                                                                             | 35        |
| Q1: What do we know about organised PHC working with and in indigenous communities? .....                     | 35        |
| Q2: What do we know about organised PHC and indigenous clients/patients?.....                                 | 35        |
| Conclusion.....                                                                                               | 35        |
| References .....                                                                                              | 36        |

# Background and introduction

## International context of primary health care reform

Many countries are embarked on reforms aimed at improving the quality, equity, efficiency, effectiveness and responsiveness of their health systems. There is now good evidence that systems with strong primary health care (PHC) are associated with *“improved population health outcomes for all-cause mortality, all-cause premature mortality, and cause-specific premature mortality from major respiratory and cardiovascular diseases.”*<sup>1</sup> This, and other evidence summarised in the recent WHO Health Evidence Network publication, underpins the emphasis governments are placing on the primary health care components of health systems in their reform processes.

## “Meso level” structures in health systems

Over the last 15 years, a manifestation of this increasing emphasis has been the development of middle or “meso” level organisations with strong primary health care orientations that sit between the micro levels of the system where clinical care for individual patients is delivered, and the macro levels of the system where national policy, funding and public health infrastructure activity occurs. They are variously known as “primary health organisations”, “primary care organisations”, “primary care trusts”, and “independent practitioner associations” and, in some forms, “health maintenance organizations”. The populations they serve are often defined by geographic regions, but may also be defined by criteria that are not regionally constrained. The forms and functions these organisations take vary within and between countries,<sup>2, 3</sup> but most will include a number of the functions listed in Table 1.

## National context

The Australian Government is undertaking reform of the primary health care system. It has identified the following strategic goals to improve primary care:<sup>4</sup>

- making care more accessible
- focusing on prevention and early intervention
- encouraging better management of chronic disease
- supporting integration and multidisciplinary care
- building the evidence base for effective, quality primary care
- using technology to support best practice
- recognising and respecting the variety of practice styles.

**Table 1 Functions and activities of meso level primary health care organisations**

- Allocation of regional budgets
- After hours care
- Brokering access to services
- Clinical and practice support
- Commissioning services
- Community engagement
- Contracting with providers
- Data management
- Funds pooling
- Local/regional decision making
- Disease management
- Education and training including continuing professional development for health professionals
- General practitioner, practice nurse and allied health professional recruitment and support
- Linkage between micro and macro levels of the system; linkage between “horizontal” components of the system, including in some cases, other arms of government (eg housing); linkage between acute and community sectors of the system
- Monitoring quality
- Patient enrolment
- Population health activities
- Triage

## Australian Divisions of General Practice Network

Members of the Australian Divisions of General Practice Network are major meso level primary health care organisations in the Australian setting. In its “Primary Health Care Position Statement” the Network has outlined a vision for reform. Through this reform the Network is seeking to realise its potential to expand its roles and functions so contributing to “better population health outcomes, and improved equity, access and continuity and lower costs”. The position statement focuses on nine domains:

1. Access
2. Workforce
3. Integration
4. Chronic disease management and prevention
5. Multidisciplinary teams/networks of health service providers
6. Population health and health promotion
7. Community/consumer participation
8. Quality and safety
9. Indigenous health.

## Australian Primary Health Care Research Institute

The Network commissioned the Australian Primary Health Care Research Institute (APHCRI) to undertake a rapid “review of reviews”<sup>5</sup> to identify existing evidence which can inform each of these nine domains. APHCRI has a key focus on identifying, generating and synthesising evidence to inform policy and practice. The results of this work are presented in this monograph. The monograph does not purport to be a comprehensive review of all primary and secondary research evidence relevant to the nine domains. Rather it provides a solid foundation for discussion and debate and focus around which the evidence base will develop over time.

## Method

The review was undertaken in the context of short timeframes and limited resource. Therefore, the method focused on identifying existing systematic reviews that addressed the nine domains, and supplementing these with key papers identified within the Australian literature, or from four other countries (Canada, United Kingdom (UK), New Zealand (NZ) and the United States of America (USA)) if data were not found in Australian sources. Material published as a “systematic review” was accepted as meeting appropriate quality standards for systematic reviews – no separate process of assessing quality was undertaken. The authors identified the key questions that would be addressed within each domain, the data sources that would be used and the search terms employed. One author (AG) sourced and read all material and prepared a first draft for each domain. This was then discussed, edited and refined by each of the authors.

The monograph is intended to be a *narrative review*<sup>5</sup> of the identified material, which outlines the knowledge base relating to the domains in the position statement.

In total, around four hundred papers were reviewed. They included systematic reviews, reviews and single studies. Of these, around two hundred and twenty were considered relevant to the questions posed and have been included. Databases searched include PubMed, Medline, The Cochrane Database of Systematic Reviews, WHO Health Evidence Network, Health Services/Technology Assessment Text (HSTAT), National Centre for Reviews and Dissemination, Google Scholar, and HealthInfoNet. Government websites from Australia, New Zealand, Canada, the USA and the UK were examined, and we performed hand searches of individual journals such as the *Journal of Interprofessional Care* where

necessary. Search terms were based on the nine major domains (access, integration, multidisciplinary, chronic disease management/prevention, population health/health promotion, consumer/community participation, workforce, quality and safety, Indigenous health), as well the terms “managed care”, “organised care”, “health system”, “health maintenance organization”, and “National Health Service”. Additional terms included “divisions of general practice”, “health promotion”, “recruitment”, “performance indicator systems”, “aged services” and the like.

## References

<sup>1</sup> What are the advantages and disadvantages of restructuring a health care system to be more focused on primary care services? *WHO Regional Office for Europe's Health Evidence Network (HEN) January 2004*  
<http://www.euro.who.int/document/e82997.pdf> Accessed October 2005

<sup>2</sup> Smith J, Mays N, Dixon J, Goodwin N, Lewis R, McClelland S, McLeod H, Wyke S. A review of the effectiveness of primary care-led commissioning and its place in the NHS 2004 The Health Foundation. 90 Long Acre, London WC2E 9RA

<sup>3</sup> Simeons, S., Scott, A. Integrated primary care organizations: to what extent is integration occurring and why? *Health Services Management Research*, 2005; 18:25-40

<sup>4</sup> Future Directions. Government Response to the Report of the review of the role of Divisions of General Practice April 2004 [http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pcd-programs-divisions-index.htm/\\$FILE/fut\\_dir.pdf](http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pcd-programs-divisions-index.htm/$FILE/fut_dir.pdf)

<sup>5</sup> Mays N, Pope C, Popay J. Systematically reviewing qualitative and quantitative evidence to inform management and policy-making in the health field *J Health Serv Res Policy* 2005; 10:S1:6-20

# 1 Access

## Introduction

Being able to access health services is an essential prerequisite to receiving care. In Australia some divisions have already begun to address access issues.<sup>1</sup> In common with the other domains in this monograph, research into access is complex and the explanations for inequalities in access difficult to determine.<sup>2</sup> In this section we consider four separate research questions that address the issue of access to primary health care services.

### Q1: Does the employment/deployment of practice nurses, allied health staff, specialists, and others within organised primary health care improve access?

Seven systematic reviews, three reviews and a small number of articles were included. Based on “*very little robust evidence*”, access in underserved populations and people groups may be increased in National Health Service settings by increasing personal medical services targeting locally defined needs, introducing salaried general practitioners, and through the provision of more services (eg nurse substitution, nurse telephone triage). However, there are likely to be trade-offs between different kinds of access eg patients preferring to see a general practitioner.<sup>3</sup> Walk-in centres<sup>4</sup> and NHS direct (a 24 hour phone service in the UK) increased discrepancies in access, as these seemed to cater mainly to middle class white populations.<sup>3</sup> Some evidence supports substituting face-to-face consultations between doctors or nurses and patients with telephone consultations,<sup>3,5</sup> and substituting doctors with nursing practitioners or pharmacists when the problems presented are common conditions.<sup>3,11</sup> Specialist outreach clinics improve specialist service access<sup>6-9</sup> but cost more.<sup>10</sup> Practice nurses<sup>12,13</sup> – a relatively new innovation in Australia, though well established overseas – and non-physician clinicians<sup>14</sup> are just as effective as doctors for the outcomes measured, can improve public access, are cost effective and are associated with a high degree of patient satisfaction<sup>15</sup>.

### Q2: Can organised primary health care improve access to after hours care through regional approaches?

From the literature reviewed, interventions to increase after hours access can be at a professional or organisational level.<sup>16</sup> This section refers only to organisational interventions and the material considered included three systematic reviews. There are ethical and methodological issues with researching after hours services,<sup>16,17</sup> but regional organisational interventions that improved access included the following:

|                                                                             |                                                                                  |                                                                                                                      |
|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Providing financial incentives/equitable remuneration for GPs <sup>16</sup> | Home/outreach visits <sup>16, 18</sup>                                           | Attitudes of community and health care workers <sup>16, 20,22</sup>                                                  |
| Bulk-billing/providing less expensive service delivery <sup>16</sup>        | Childcare and support services <sup>16</sup>                                     | Intersectoral collaboration (eg: between divisions and stakeholders, doctors and hospitals, etc) <sup>16,18,22</sup> |
| Increasing services available <sup>16, 18,19</sup>                          | Promotion and education of the community regarding health services <sup>16</sup> | Providing free transport to services <sup>18</sup>                                                                   |
| Educating/up-skilling health care workers <sup>16</sup>                     | Centralising services <sup>16,20</sup>                                           | The use of telephone consultations <sup>16-18, 20-22,</sup>                                                          |
| Facilitating voluntary/self-help groups <sup>16</sup>                       | Monitoring existing services <sup>16</sup>                                       | Introducing screening/triage protocols <sup>16,18</sup>                                                              |
| Increasing diversity of health care workers <sup>16</sup>                   | Dealing with issues relating to workforce sustainability <sup>16,22</sup>        | General practitioner gate-keeping in emergency rooms <sup>23</sup>                                                   |

Other enablers in this area included a general practitioner 'champion' for after hours service improvement and change management.<sup>22</sup>

### **Q3: Can organised primary health care improve access for particular populations?**

#### **Youth/children**

The studies included two systematic reviews. Young people need the opportunity and choice to participate in decisions about their care, the support of trusted advocates,<sup>25,26,32</sup> specific resources, together with a supportive legislative and policy environment.<sup>24,26</sup> Health care workers and organisations need to seek and heed feedback from children<sup>24,26</sup> and improve integration between different providers (eg: between community health workers and hospitals).<sup>26,27</sup> Family education is also important.<sup>28</sup>

Barriers to youth/childhood access to services include lack of transport, age,<sup>26,28</sup> lack of health insurance coverage (in the USA) or other financial means,<sup>27-30</sup> cultural<sup>29</sup> and parental barriers (eg privacy from parents,<sup>31</sup> the need for parental involvement,<sup>26-28,32</sup> and parental issues relating to access.<sup>26, 27,29</sup>)

#### **Other cultural**

Cultural disparities in health care occur at multiple levels of health care systems.<sup>33</sup> For this section we identified three systematic reviews. Indigenous access to primary health services has been included under the domain "Indigenous health".

A number of single interventions undertaken in organisational settings are reported in the literature.<sup>34, 35</sup> For example, organisations try to employ culturally diverse staff, as patients express preferences for people who speak their same language and who are of the same racial/ethnic group as themselves.<sup>16, 34,36</sup> Other positive interventions include the use of interpreters and the development of resources in other languages.<sup>16, 34</sup> Education and training in cultural competence for health care workers was effective,<sup>34,35,37</sup> as were lay health care workers (discussed under Indigenous health).<sup>34</sup> Other areas identified were family and community involvement, use of traditional healers<sup>34</sup> and tracking/reminder systems.<sup>36</sup> Multifaceted approaches, not generally employed by organisational structures, had beneficial results.<sup>36</sup> One review made the comment that other cultures should not be viewed as obstacles in access to health care, but embraced as a method to increase it.<sup>38</sup>

#### **Aged**

No systematic reviews were identified; we included two reviews and one article. These found that workforce issues relating to aged health care need to be sorted out:<sup>39,40</sup> fundamentally different working arrangements to supplement overworked and declining staff numbers have been successful in Canada, as have improving and increasing communications between health professionals. Also crucial is the availability and support of home support workers,<sup>39, 41</sup> as are a diversity of services to allow aged people to remain at home for longer.<sup>40,41</sup> There is a lack of computerised services in aged care in general. Aged care access is improved most if it deals concurrently with chronic disease management and prevention issues and integration of services,<sup>39</sup> both of which are discussed elsewhere in this monograph.

#### **Rural**

One systematic review was included. Some of the barriers to access to primary health care were identified as physical isolation,<sup>16</sup> transport,<sup>16, 42</sup> general practitioner workforce shortage and competency,<sup>16,42</sup> financial and social factors, and lack of relevant information regarding services.<sup>16</sup> Factors that increased access to services included education and up-skilling of health care workers,<sup>16,43</sup> community participation, bulk-billing/alternate payment options, telemedicine,<sup>16,42</sup> and promotion of services.<sup>16</sup> Interdisciplinary teams and personnel substitution<sup>32</sup> appear to be quite successful, and there have been numerous services set up to

facilitate intersectoral collaboration and communication.<sup>43</sup> Other beneficial interventions are outreach/home visits, transport services, and structural interventions including: workforce sustainability ventures, incentives/remuneration (pre- and post-licensure) to rural health care workers, and the introduction of standards and protocols.<sup>16</sup>

#### **Q4: What is the evidence that fundholding or pooling by primary health care organisations can improve access to services/outcomes for patients?**

Fundholding or pooling of resources in primary health care settings is a controversial issue. The terms are differently understood, and this contributes to controversy. Comparisons of the costs associated with different health service delivery models can become contentious, for example, when Feacham *et al* compared the NHS with Kaiser Permanente.<sup>44, 45</sup> The relationships between access, physician behaviour and various models used to fund primary health care are complex. This section seeks to identify and review relevant evidence.

Three systematic reviews were identified relating to physician behaviour under different payment systems. Two reviews found that physicians under a fee-for-service system may provide higher quality of care than those working under capitated or mixed payment systems, although not enough research has been completed in the area.<sup>46, 47</sup> Targeted payments appeared to increase certain services (eg: immunisation),<sup>47</sup> although again not enough research has been completed to provide conclusive results.<sup>48</sup>

These findings are reflected in other literature on organisational models of delivery. For example, in the setting of USA health maintenance organizations (HMO), while HMO enrollees paid less and had more preventative primary care, in comparison to non-HMO enrollees they also faced increased organisational and physician access issues, along with comparably less access to specialist health services, and reduced patient satisfaction levels.<sup>49, 50</sup> Decreased access to equipment and specialist services was also seen in New Zealand, but here access to overall services increased, especially for minority and low socio-economic populations.<sup>51,52</sup> This may be because as Beilby and Pekarsky<sup>53</sup> opine '*the relationship between fundholding and patient health and well-being is largely dependent on the objectives and effectiveness of the overall initiative*'. Certainly the USA findings have been contradicted in Australian, British and New Zealand studies: pooling of funds has increased levels of access,<sup>20, 51,53,55</sup> with this being related to the role of fundholders and information technology, and acceptance of the new system by institutions.<sup>53,54</sup>

## **Conclusion**

There are many organisational interventions that can take place to increase access to primary health care. Deployment of doctors, practice nurses and specialist outreach teams in new ways can improve services to populations that are historically hard to reach, as can identifying and dealing with specific factors relating to specific populations. Various forms of fundholding serve as tools to increase access, but more research needs to be completed to establish this.

## **References**

- <sup>1</sup> Furler, J., Harris, E., Powell-Davies, G., Harris, M., Traynor, V., Rose, V., Nacarella, L., Young, D. Do Division of General Practice have a role in and the capacity to tackle health inequalities. *Australian Family Physician*, 2002; 31(7):681-683
- <sup>2</sup> Goddard, M., Smith, P. Equity of access to health care services: theory and evidence from the UK. *Social Science and Medicine*, 2001; 53:1149-1162
- <sup>3</sup> Chapman, J.L, Zechel, A., Carter, Y.H, Abbott, S. Systematic review of recent innovations in service provision to improve access to primary care. *British Journal of General Practice*, 2004; 54:374-3814

- <sup>4</sup> Salisbury, C., Munro, J. Walk-in centres in primary care: a review of the international literature. *British Journal of General Practice*, 2002; 53:53-59
- <sup>5</sup> Reed, K. Telemedicine: benefits to advanced practice nursing and the communities they serve. *Journal of the American Academy of Nursing Practitioners*, 2005; 17(5):176-80
- <sup>6</sup> Gruen RL, Weeramanthri TS, Knight SE, Bailie RS. Specialist outreach clinics in primary care and rural hospital settings.. *The Cochrane Database of Systematic Reviews* 2003, Issue 4. Art. No.: CD003798. DOI: 10.1002/14651858.CD003798.pub2.
- <sup>7</sup> Gruen, R., Bailie, R. Specialist clinics in remote Australian Aboriginal communities: where rock art meets rocket science. *Journal of Health Services Research Policy*, 2004; 9(S2):56-62
- <sup>8</sup> Gruen, R.L., Weeramanthri, T.S., Bailie, R.S. Outreach and improved access to specialist services for indigenous people in remote Australia: the requirements for sustainability. *Journal of Epidemiology and Community Health*, 2002; 56:517-521.
- <sup>9</sup> Condon, J. *Aboriginal and Torres Strait Islander Primary Care Review: Consultant Report No. 5. Maternal and child health care services: Cancer, health services and Indigenous Australians*. Cooperative Research Centre for Aboriginal and Tropical Health; Commonwealth of Australia, 2004
- <sup>10</sup> Powell, J. Systematic review of outreach clinics in primary care in the UK. *Journal of Health Services Research Policy*, 2002; 7(3):117-183.
- <sup>11</sup> Martin-Misener, R., McNab, J., Sketris, I.S., Edwards, L. Collaborative practice in health systems change: the Nova Scotia experience with the Strengthening Primary Health Care Initiative. *Canadian Journal of Nursing Leadership*, 2004; 17(2):33-45
- <sup>12</sup> Horrocks, S., Anderson, E., Salisbury, C. Systematic review of whether nurse practitioners working in primary care can provide equivalent care to doctors. *British Medical Journal*, 2002; 324:819-823.
- <sup>13</sup> Halcombe, E.J., Davidson, P.M., Daly, J.P.m Griffiths, R., Yallop, J., Tofler, G. Nursing in Australian general practice: directions and perspectives. *Australian Health Review*, 2005; 29(2):156-166
- <sup>14</sup> Cooper, R.A. Health care workforce for the twenty-first century: the impact of nonphysician clinicians. *Annual Review of Medicine*, 2001; 52:51-61.
- <sup>15</sup> Laurant M, Reeves D, Hermens R, Braspenning J, Grol R, Sibbald B. Substitution of doctors by nurses in primary care. *The Cochrane Database of Systematic Reviews* 2004, Issue 4. Art. No.: CD001271. DOI: 10.1002/14651858.CD001271.pub2.
- <sup>16</sup> Culvenor, C., Wilczynski, A., Wallace, A. *Access to after hours primary medical care by disadvantaged and marginalised groups*. Milsons Point: Department of Health and Aging, 2002.
- <sup>17</sup> Salisbury, C. The demand for out-of-hours care from GPs: a review. *Family Practice*, 2000; 17(4):340-347
- <sup>18</sup> O'Connell, D., Fryer, J., Han, P., Hancock, M., Foster, M. *Maitland after hours primary care trial final report*. Newcastle: University of Newcastle, NSW; Hunter Urban Division of General Practice, 2000.
- <sup>19</sup> Roberts, E., Mays, N. Can primary care and community-based models of emergency care substitute for the hospital accident and emergency (A&E) department? *Health Policy*, 1998; 44:191-214
- <sup>20</sup> Shipman, C., Payne, F., Hooper, R., Dale, J. Patient satisfaction with out-of-hours services; how do GP co-operatives compare with deputizing and practice-based arrangements? *Journal of Public Health*, 2000; 22(2):149-154.
- <sup>21</sup> Lattimer, V., George, S., Thompson, F., Thomas, E., Mullee, M., Smith, H., Moore, M., bond, H., Glasper, A. Safety and effectiveness of nurse telephone consultation in out of hours primary care: randomised controlled trial. *British Medical Journal*, 1998; 317:1054-59
- <sup>22</sup> Wood, L. *Sustaining change – experiences of supporting after hours primary care services in Queensland*. In: Translating Policy into Practice QDGP Occasional Paper, 2002
- <sup>23</sup> van Uden, C.J.T., Winkens, R.A.G., Wesseling, G.J., Crebolder, H.F.J.M., van Schayck, C.P. Use of out of hours services: a comparison between two organisations. *Emergency Medicine Journal*, 2003; 20:184-187
- <sup>24</sup> Cashmore, J. Promoting the participation of children and young people in care. *Child Abuse and Neglect*, 2002; 26:837-847

- <sup>25</sup> McCormick, M.C., Kass, B., Elixhauser, A., Thompson, J., Simpson, L. Annual report on access to and utilization of health care for children and youth in the United States – 1999. *Pediatrics*, 2000; 105(1):219-230
- <sup>26</sup> Kidder, K., Roy, C.C. *Sharing the learning: the Health Transition Fund Synthesis Series: children's health*. Ottawa: Health Canada, 2002
- <sup>27</sup> Eaton, N. Children's community nursing services: models of care delivery. A review of the United Kingdom literature. *Journal of Advanced Nursing*, 2000; 32(1):49-56
- <sup>28</sup> Committee on Child Health Financing. Guiding principles for managed care arrangements for the health care of newborns, infants, children, adolescents, and young adults. *Pediatrics*, 2000; 105:132-135
- <sup>29</sup> Kataoka-Yahiro, M.R., Munet-Vilaro, F. Barriers to preventive health care for young children. *Journal of the American Academy of Nursing Practitioners*, 2002; 14(2):66-72
- <sup>30</sup> Elixhauser, A., Machlin, S.R., Zodet, M.W., Chevarley, F.M., Patel, N., McCormick, M.C., Simpson, L. Health care for children and youth in the United States: 2001 annual report on access, utilization, and expenditures. *Ambulatory Pediatrics*, 2002; 2(6):419-437
- <sup>31</sup> Vukadinovich, D.M. Minor's rights to consent to treatment: navigating the complexity of the State laws. *Journal of Health Law*, 2004; 37(4):667-91
- <sup>32</sup> Fleming, P., Bamford, D.R., McCaughly, N. An exploration of the health and social wellbeing needs of looked after young people – a multi-method approach. *Journal of Interprofessional Care*, 2005; 19(1):35-49
- <sup>33</sup> Smedley, B.D., Stith, A.Y., Nelson, A.R.. *Unequal treatment: confronting racial and ethnic disparities in health care*. Board of Health Sciences Policy; Institute of Medicine, 2003
- <sup>34</sup> Fortier, J.P., Bishop, D. *Setting the agenda for research on cultural competence in health care*. Office of Minority Health, USA Department of Health and Human Services; Agency for Healthcare Research and Quality, 2004
- <sup>35</sup> Betancourt, J., Green, A.R., Carrillo, J.E., Park, E.R. Cultural competence and health care disparities: key perspectives and trends. *Health Affairs*, 2005; 24(2):499-506
- <sup>36</sup> Beach MC, Cooper LA, Robinson KA, Price EG, Gary TL, Jenckes MW, Gozu A, Smarth C, Palacio A, Feuerstein CJ, Bass EB, Powe NR. *Strategies for Improving Minority Healthcare Quality. Evidence Report/Technology Assessment No. 90. (Prepared by the Johns Hopkins University Evidence-based Practice Center, Baltimore, MD.)* AHRQ Publication No. 04-E008-02. Rockville, MD: Agency for Healthcare Research and Quality. January 2004
- <sup>37</sup> Treving, F.M. Quality of health care for ethnic/racial minority populations. *Ethnicity and Health*, 1999; 4(3):153-164
- <sup>38</sup> Airhihenbuwa, C.O., Obregon, R. A critical assessment of theories/models used in health communication for HIV/AIDS. *Journal of Health Communication*, 2000; 5(S):5-15
- <sup>39</sup> Martin-Matthews, A. *Sharing the learning: the Health Transition Fund Synthesis Series: seniors' health*. Ottawa: Health Canada, 2002
- <sup>40</sup> Mechanic, D. *The changing elderly population and health care needs*. *Journal of Urban Health*, 1999; 76(1):24-38
- <sup>41</sup> Trahan, L., Caris, P. The system of care and services for frail older persons in Canada and Quebec. *Aging Clinical and Experimental Research*, 2002; 14(4):226-32
- <sup>42</sup> Pong, R.W. *Sharing the learning: the Health Transition Fund Synthesis Series: rural health/telehealth*. Ottawa: Health Canada, 2002
- <sup>43</sup> Humphries, J., Hegney, D., Lipscombe, J., Gregory, G., Chater, B. Whither rural health? Reviewing a decade of progress in rural health. *Australian Journal of Rural Health*, 2002; 10:2-14
- <sup>44</sup> Feacham, R.G.A., Sekhri, N.K., White, K.L. Getting more for their dollar: a comparison of the NHS with California's Kaiser Permanente. *British Medical Journal*, 2002; 324:135-143
- <sup>45</sup> Talbot-Smith, A., Gnani, S., Pollock, A.M., Gray, D.P. Questioning the claims from Kaiser. *British Journal of General Practice*, 2004; 54(503):415-421
- <sup>46</sup> Gosden T, Forland F, Kristiansen IS, Sutton M, Leese B, Giuffrida A, Sergison M, Pedersen L. Capitation, salary, fee-for-service and mixed systems of payment: effects on the behaviour of primary care physicians. *The Cochrane Database of Systematic Reviews* 2000, Issue 3. Art. No.: CD002215. DOI: 10.1002/14651858.CD002215

- <sup>47</sup> Gosden, T., Forland, F., Kristiansen, I.K., Sutton, M., leese, B., Guiffida, A., Sergison, M., Pederson, L. Impact of payment method on behaviour of primary care physicians: a systematic review. *Journal of Health Services Research Policy*, 2001; 6(1):44-55
- <sup>48</sup> Giuffrida A, Gosden T, Forland F, Kristiansen IS, Sergison M, Leese B, Pedersen L, Sutton M. Target payments in primary care: effects on professional practice and health care outcomes. *The Cochrane Database of Systematic Reviews* 1999, Issue 4. Art. No.: CD000531. DOI: 10.1002/14651858.CD000531.
- <sup>49</sup> Rechovsky, J.D., Kemper, P. Do HMOs make a difference? Summary and Implications. *Inquiry*, Winter 1999/2000; 36:419-425
- <sup>50</sup> Zuvekas, S.H., Hill, S.C. Does capitation matter? Impacts on access, use and quality. *Inquiry*, 2004; 41(3):316-335
- <sup>51</sup> Crampton, P., Davis, P., Ley-Yee, R., Raymont, A., Forrest, C., Starfield, B. Comparison of private for-profit with private community-governed not-for-profit primary care services in New Zealand. *Journal of Health Services Research Policy*, 2004; 9(S2):17-22
- <sup>52</sup> Crampton, P., Davis, P., Lay-Yee, R., Raymont, A., Forrest, C.B., Starfield, B. Does community-governed nonprofit primary care improve access to services? Cross-sectional survey of practice characteristics. *International Journal of Health Services*, 2005; 35(5):465-478
- <sup>53</sup> Belby, J.J., Pekarsky, B. Fundholding: learning from the past and looking to the future. *The Medical Journal of Australia*, 2002; 176:321-325
- <sup>54</sup> Gray, G. Access to medical care under strain: new pressures in Canada and Australia. *Journal of Health Politics*, 1998; 23(6):905-947
- <sup>55</sup> Hamer, L. *Pooling resources across sectors: a report for local strategic partnerships*. Health Development Agency, National Health Service, 2004

# 2 Workforce

---

## Introduction

In Australia and New Zealand there is general consensus that there are general practitioner and other health care worker shortages, especially in rural and remote areas.<sup>1, 2, 4</sup> Workload and work stress are higher in areas of lower deployment.<sup>2</sup> The general practitioner and nursing workforce are also ageing, raising the spectre of further reductions in workforce in the near future.<sup>1, 3</sup> This section looks at meso level interventions targeting general practitioner recruitment, retention, deployment and support.

### **Q1: What do we know about the role of organised PHC in GP recruitment/retention/deployment/support?**

There have been many initiatives commenced across the countries in our search domain, for example, the Improving working lives for Doctors in the UK<sup>5</sup> and the Joint Australian/State/Northern Territory 5 Year Overseas Trained Doctor Recruitment Scheme in Australia.<sup>6</sup> The papers considered included five systematic reviews and three reviews.

Areas for increasing the numbers of general practitioners available included increasing medical school intake<sup>7</sup> (this included increasing uptake from specific populations<sup>8</sup>), retaining workers in their fields for longer,<sup>7, 9</sup> and increasing the numbers of overseas trained doctors (OTD).<sup>6, 10</sup> Another area for consideration is the demographics of the general practitioner population: a review in the US state of Mississippi found that there are variations in recruitment, retention and retirement intentions across age groups and length of practice.<sup>9</sup>

Medical students from rural backgrounds are twice as likely to practice in rural areas than students from other backgrounds.<sup>8</sup> Rural physician rotations, the introduction of rural clinical training guidelines, and preparation packages to introduce potential practitioners to 'rural living' (eg: how to collaborate with local community services<sup>11</sup>) are all recommended. The available research evidence does not distinguish well between retention of staff in rural areas and recruitment of staff to rural areas,<sup>12</sup> and these factors were rarely studied separately.<sup>6, 12</sup> Having said this, one review found factors influencing rural retention include professional issues (lack of support, lack of professional development opportunities, high workloads, on-call time, and insurance costs), personal/family issues, community factors such as availability of facilities and relationships formed, and external factors like political and economic changes.<sup>12</sup> Financial incentives to increase rural practitioner numbers were effective in the short term but not in the longer term.<sup>13</sup>

Most of the countries considered in the reviews have developed guidelines and are currently running programmes for OTDs.<sup>10</sup> An Australian survey of OTDs working in rural and remote locations under Australia's Five Year Overseas Trained Doctor Recruitment Scheme found that 60% of OTDs intended to remain in rural and remote locations.<sup>6</sup> Another Australian study on rural OTDs found that clinical and community support influences rural OTD retention.<sup>14</sup>

The Australian Divisions of General Practice has set up a number of initiatives relating to work force issues. These include education, training and professional development support, GP wellbeing programs, and, informed by increasing evidence of nursing roles within general practice, the integration of practice nurses into general practice teams in undersupplied areas.<sup>15, 16</sup>

## Conclusion

There are many initiatives being undertaken to address workforce shortages, but the evidence base underpinning these remains small. The initiatives should be carefully prospectively examined to ascertain their effectiveness and to develop the relevant evidence base.

## References

- <sup>1</sup>Department of Health and Aging. *General Practice in Australia: 2004*. Canberra: Department of Health and Aging, Commonwealth of Australia, 2005
- <sup>2</sup>Raymont, A., Lay-Yee, R., Pearson, J., Davis, P. New Zealand general practitioners' characteristics and workload: The National Primary Medical Care Survey. *The New Zealand Medical Journal*, 2005; 118(1215), obtained online: <http://www.nzma.org.nz/journal/index.shtml>
- <sup>3</sup>Buchan, J. The 'greying' of the United Kingdom nursing workforce: implications for employment policy and practice. *Journal of Advanced Nursing*, 1999; 30(4):818-826
- <sup>4</sup>Polizer, R.M., Tribble, Q.L., Robinson, T.D., Heard, D., [Weaver D.L.](#), [Reig S.M.](#), [Gaston M.](#) The National Health Service Corps for the 21<sup>st</sup> century. *Journal of Ambulatory Care Management*, 2000; 23(3):70-86
- <sup>5</sup>Mulvany, G. Improving working lives for doctors. *British Medical Journal Career Focus*, 2002; 325 (S17a):doi:10.1136/bmj.325.7356.S17a
- <sup>6</sup>Australian Medical Workforce Advisory Committee and Australian Department of Health and Aging. Survey of doctors working in rural and remote locations under Australia's Five Year Overseas Trained Doctor Recruitment Scheme, AMWAC Report 2004.1, Sydney
- <sup>7</sup>Young, R, Leese, B. Recruitment and retention of general practitioners in the UK: what are the problems and solutions? *British Journal of General Practice*, 1999; 49(447):829-833
- <sup>8</sup>Laven, G., Wilkinson, D. Rural doctors and rural backgrounds: how strong is the evidence? A systematic review. *Australian Journal of Rural Health*, 2003;11:277-284
- <sup>9</sup>Cossmann, J.S. Mississippi's physician labor force: current status and future challenges. *Journal of the Mississippi State Medical Association*, 2004; 45(1):8-31
- <sup>10</sup>McGrath, B.P. Integration of overseas-trained doctors into the Australian medical workforce. *The Medical Journal of Australia*, 2004; 181:640-642
- <sup>11</sup>Stearns, J.A., Stearns, M.A. Graduate medical education for rural physicians: curriculum and retention. *Journal of Rural Health*, 2000; 16(3):273-277
- <sup>12</sup>Humphreys, J., Jones, J., Hugo, G., Bamford, E., Taylor, D. A critical review of rural medical workforce retention in Australia. *Australian Health Review*, 2005; 24(4):91-102
- <sup>13</sup>Sempowski, I.P. Effectiveness of financial incentives in exchange for rural and underserved area return-of-service commitments: systematic review of literature. *Canadian Journal of Rural Medicine*, 2004; 9(2):82-8
- <sup>14</sup>Han, G-S, Humphreys, J.S. Overseas-trained doctors in Australia: community integration and their intention to stay in a rural community. *Australian Journal of Rural Health*, 2005; 13:236-241
- <sup>15</sup>Kalucy, E., Hann, K., Whaites, L. *Divisions: a matter of balance. Results of the 2002-2003 Annual Survey of Divisions of General Practice*. Adelaide: Primary Health Care Research and Information Service, Flinders University, 2003
- <sup>16</sup>Laurant, M., Reeves, D., Hermens, R., Braspenning, J., Grol, B., Sibbald, B. Substitution of doctors by nurses in primary care. *The Cochrane Database of Systematic Reviews* 2004, Issue 4. Art No.: CD001271. DOI: 10.1002/14651858.CD001271.pub2

# 3 Integration

---

## Introduction

*"To date, little progress has been made in explaining and measuring integration. If further integration in primary health care is warranted, more research is required to understand its nature, form and rationale."* Simoens, S., Scott, A.<sup>3</sup>

Integration is difficult to define. The word is used in health care literature to denote different ideas including: co-operation and collaboration across vertical and horizontal axes of the health system; defragmentation of health systems; and the creation of health care service delivery models aimed at diminishing redundancies, filling gaps, and enhancing quality patient outcomes. This is not an exhaustive list of the way the word is used.

Briggs *et al* used the following definition in their Cochrane review: *"Integration of primary health care is a variety of managerial or operational changes to health systems to bring together inputs, organisation, management and delivery of particular service functions. Integration aims to improve the service in relation to efficacy and quality."*<sup>2</sup>

Fundamental to integration in health service settings is the perspective of the patient journeying through the health system. Integration aims at ensuring this journey is responsive to patient preferences, co-ordinated, supported by timely and relevant information, and results in safe, effective, quality care. Information management and information technology (including electronic health records) are also fundamental to any discussion of integration.<sup>1, 20</sup>

### **Q1: What do we know about the benefits of integration within primary health care and between primary health care and other parts of health care systems?**

We identified three systematic reviews.<sup>2-4</sup> These point to the limited existing rigorous research base: most studies included in the reviews had problems with design and/or methodology and/or data analysis. There was often a lack of explicit statements concerning the definitions of what constituted "integration" and what outcomes were measured. Outcomes of integration varied in different contexts, and the factors that might explain this variation were usually unexplored. The reviews do not provide a definitive answer to the first question. They do point to the imperative for careful evaluation of integration-orientated interventions to strengthen the evidence base.

One systematic review found that using an integrated (collaborative) rather than vertical service delivery model decreased overall cost in low and middle-income countries without decreasing service provision. The same authors concluded there was *"no consistent pattern of benefit across the studies"* identified.<sup>2</sup> Another review found that the vertical integration taking place in projects across Canada occurred *"often successfully."*<sup>20</sup> A comprehensive review of integrated primary care organisations found the cost of maintaining integration efforts had to be balanced against the benefits to patients as these benefits had not been documented sufficiently.<sup>3</sup>

There have been numerous single studies completed on integration in Australia. The 2002-2003 Annual Survey of Divisions of General Practice revealed that divisions are very active in this area.<sup>21</sup> Studies we found focus on divisions of general practice, integration between service providers in the health care system with general practitioners and other

health care practitioners, and evaluating the coordination of health care.<sup>5-11</sup> For example, an Australia-wide evaluation of seven pre-existing GP-hospital programs by Lloyd, Powell Davies and Harris (2000)<sup>5</sup> found improved collaboration and communication (among other findings) at all systems' levels. However, we did not identify a systematic review of integration in Australian literature.

## **Q2: What is known about the impact of the use of shared patient records/ information (electronic) within PHC?**

The studies included eight systematic reviews, one systematic review of reviews and a number of articles. Overall these papers suggest that while there is common consensus on the usefulness of information management/information technology (IMIT) in health care settings, as yet there appears to be little published evidence that IMIT improves patient outcomes.<sup>12-18,</sup>

<sup>20</sup> This is again at least partly due to the dearth of methodologically sound research in the subject.<sup>12-14</sup> Some of the benefits found included increased health prevention activities (screening and immunisation rates) and an increase in quality of disease management,<sup>13,19</sup> as well as positive effects on prescription quality and patient adherence to medication regimes.<sup>16,19</sup> Two reviews found that consultation time increased, but to the detriment of doctor-patient communication.<sup>13,14</sup> There was also concern about electronic patient communications where patient privacy was at risk.<sup>12, 13,19</sup>

Of the reviews found on telecommunication, all found that telecommunication was feasible as a method of delivering health care services,<sup>15-19</sup> but that not enough methodologically sound research had been completed in the area. Three commented on the need for health care worker training in telecommunications.<sup>16-18</sup>

## **Conclusion**

The evidence base underpinning integration within the health care systems is small and inconclusive. Various governments are focusing on enhanced integration as a means of improving the effectiveness and efficiency of health systems. These initiatives should be accompanied by careful prospective evaluations to both inform the evolution of the initiatives and increase the current evidence base.

## **References**

- <sup>1</sup> Burton, L.C., Anderson, G.F., Kues, I.W. Using electronic health records to health coordinate care. *The Milbank Quarterly*, 2004; 82(3):457-81
- <sup>2</sup> Briggs, C.J., Capdegelle, P., Garner, P. Strategies for integrating primary health services in middle- and low-income countries: effects on performance, costs, and patient outcomes. *The Cochrane Database of Systematic Reviews*, 2001, Issue 4. Art No.:CD003318. DOI: 10.1002/14651858.CD003318
- <sup>3</sup> Simeons, S., Scott, A. Integrated primary care organizations: to what extent is integration occurring and why? *Health Services Management Research*, 2005; 18:25-40
- <sup>4</sup> Schofield, R.F., Amodeo, M. Interdisciplinary teams in health care and human services settings: are they effective? *Health and Social Work*, 1999; 24(3):210-219
- <sup>5</sup> Lloyd, J., Powell Davies, G., Harris, M. Integration between GPs and hospitals: lessons from a division-hospital program. *Australian Health Review*, 2000; 23(4):134-141
- <sup>6</sup> Southern, D.M., Appleby, J., Young, D. Integration from the Australian GP's perspective. *Australian Family Physician*, 2001; 30(2):182-188
- <sup>7</sup> McGuinness, C., Sibthorpe, B. Development and initial validation of a measure of coordination of health care. *International Journal for Quality in Health Care*, 2003; 15(4):309-318
- <sup>8</sup> Wilson, B., Rogowski, D., Popplewell, R. Integrated service pathways (ISP): a best practice model. *Australian Health Review*, 2003; 26(1):43-51

- <sup>9</sup> Preen D.B., Bailey B.E., Wright A., Kendall P., Phillips M., Hung J., Hendriks R., Mather A., Williams, E. Effects of a multidisciplinary, post-discharge continuance of care intervention on quality of life, discharge satisfaction, and hospital length of stay: a randomized controlled trial. *International Journal for Quality in Health Care*, 2005; 17(1):43-51
- <sup>10</sup> Murray, C., Jolley, G. Initiatives in primary health care: evaluation of a South Australia program. *Australian Health review*, 1999; 22(3):155-161
- <sup>11</sup> Robinson, A., Street, A. Improving networks between acute care nurses and an aged care assessment team. *Journal of Clinical Nursing*, 2004; 13:486-496
- <sup>12</sup> Bolton, P. A review of the role of information technology in discharge communications in Australia. *Australian Health Review*, 1999; 22(3):56-64
- <sup>13</sup> Mitchell, E., Sullivan, F. A descriptive feast but an evaluative famine: systematic review of published articles on primary care computing during 1980-97. *British Medical Journal*, 2001; 322:279-282
- <sup>14</sup> Tomasi, E., Facchini, L.A., de Fatima Santos Maia, M. Health information technology in primary health care in developing countries: a literature review. *Bulletin of the World Health Organization*, Nov 2004; 82(11):867-874
- <sup>15</sup> Balas, E.A., Jaffrey, F., Kuperman, G.J., Boren, S.A., Brown, G.D., Pinciroli, F., Mitchell, J.A. Electronic communication with patients: an evaluation of distance medicine technology. *Journal of the American Medical Association*, 1997; 278(2):152-159
- <sup>16</sup> Currell R, Urquhart C, Wainwright P, Lewis R. Telemedicine versus face to face patient care: effects on professional practice and health care outcomes. *The Cochrane Database of Systematic Reviews* 2000, Issue 2. Art. No.: CD002098. DOI: 10.1002/14651858.CD002098.
- <sup>17</sup> Hersh W.R., Wallace J.A., Patterson P.K., Kraemer, D.F., Eilers, G.M., Chan, B.K.S, Greenlick, M.R., Hefland, M. *Telemedicine for the medicare population. Evidence Report/Technology Assessment No. 24 (prepared by the Oregon Health Sciences University Evidence-based Practice Center under Contract No. 290-97-0018). AHRQ Publication No. 01-E012. Rockville, MD: Agency for Healthcare Research and Quality; 2001*
- <sup>18</sup> Wallace, J.A., Patterson, P.K., Kraemer, D.F., Nichol, W.P., Greenick, M.R., Krages, K.P., Hefland, M. *Supplement. Telemedicine for the Medicare Population: Pediatric, Obstetric, and Clinician-Indirect Home Interventions in Telemedicine. Evidence Report/Technology Assessment No. 24 Supplement (prepared by the Oregon Health Sciences University Evidence-based Practice Center under Contract No. 290-97-0018). AHRQ Publication No. 01-E060. Rockville, MD: Agency for Healthcare Research and Quality; 2001*
- <sup>19</sup> Grol, R., Grimshaw, J. From best evidence to best practice: effective implementation of change in patients' care. *The Lancet*, Oct 2001; 362:1225-1230
- <sup>20</sup> Leatt, P. *Sharing the learning: the Health Transition Fund Synthesis Series: integrated service delivery*. Ottawa: Health Canada, 2002
- <sup>21</sup> Kalucy, E., Hann, K., Whaites, L. *Divisions: a matter of balance. Results of the 2002-2003 Annual Survey of Divisions of General Practice*. Adelaide: Primary Health Care Research and Information Service, Flinders University, 2003

# 4 Chronic disease management and prevention

---

## Introduction

The World Health Organization estimates that 338 million people worldwide will die of chronic diseases by 2015. The global response to this has been widely neglected when compared to other, more acute, illnesses.<sup>1,2,3</sup> It is logical that management and prevention of chronic illness is very different to management and prevention of acute illness. Acute care stresses triage and patient flow-through, with an emphasis on symptomology, laboratory results and prescriptions; patient education is brief and follow-up (if required) is often initiated by the patient. Chronic care is more relational, patient education more central, with ongoing follow-up essential. The main focus is on maintenance of function and prevention of complications.<sup>4</sup> There has been much literature published in this area, with the common consensus being that chronic diseases are better managed when health systems are structured to take account of these differences.

### Q1: What is known about systematic approaches to chronic disease management and prevention (CDMP) within organised PHC?

Thirteen systematic reviews, nine reviews, and a small number of articles were included. It is clear that there are many vested interests in any consideration of CDMP. Publications by different health care organisations tend to emphasise their own managed care programs over that of others, and to cite literature which supports their claims.<sup>5</sup> Nonetheless, the main ingredients for success in organisational delivery of chronic care appear to include:

- central registry of patients of particular disease types<sup>10, 16,21</sup>
- clinical guidelines and physician education (varied results from the different papers)<sup>7,8,10,11,14,16</sup>
- collaboration,<sup>8,11,13-15</sup> better communication<sup>8,11,16</sup> and delegation of tasks to other team members (particularly to nurses and pharmacists, although there are varied results between diseases)<sup>7,10,11,14,17-19</sup>
- decision support for primary care workers<sup>8, 11,16</sup>
- patient self-management education and support<sup>6-11</sup>
- patient-centred organisation<sup>10-12</sup>
- regular assessments/follow-up<sup>7, 11,20</sup>
- system delivery design<sup>9, 11,12</sup> and stakeholder involvement in this.<sup>13</sup>

In general, the greater the experience a health system has with particular diseases the better the patient outcomes. Multifaceted approaches are more successful.<sup>7, 14</sup> Some of the different CDMP delivery models include case management, disease management and specialised clinics or mini-clinics. There are varying results relating to case management: <sup>19,22-24</sup> it was found to be particularly effective in psychiatry in one review,<sup>25</sup> but a *'poor alternative to standard care'* in another.<sup>22</sup> Disease management programs in general were found to increase clinician adherence to guidelines, but had no effect on quality of care, morbidity and mortality, or cost-effectiveness,<sup>19, 26</sup> although one review found that multidisciplinary chronic heart failure disease management programs were promising.<sup>23</sup> Specialised clinics or mini-clinics (where a group delegates a GP to deal with only chronic diseases for that day) were also found to be beneficial,<sup>19</sup> but specialised clinics were hard to incorporate into some health care systems.

There is conflicting evidence available regarding the cost effectiveness of managed care<sup>8,11,13,22,25-27</sup> ranging from managed care being similar to standard care to being less cost effective than standard care.<sup>22,25-27</sup> One review stated that examining the process of developing managed care strategies was a better outcome measure than patient outcomes.<sup>7</sup>

## Conclusion

A substantial literature informs chronic disease management and prevention. Multifaceted strategies that draw on the main ingredients listed above and that are supported by well designed systems are more likely to lead to enhanced outcomes.

## References

- <sup>1</sup>World Health Organization. *Preventing chronic diseases a vital investment*. World Health Organization; Public Health Agency of Canada, 2005
- <sup>2</sup>Streng, K, Mathers, C., Leader, S., Beaglehole, R. Preventing chronic diseases: how many lives can we save? *The Lancet*, 2005; DOI: 10.1016/S0140-6736(05)67341-2. Obtained online: [http://www.thelancet.com/collections/series/chronic\\_diseases](http://www.thelancet.com/collections/series/chronic_diseases)
- <sup>3</sup>Epping-Jordan, J.E., Galea, G., Tukuitoronga, C., Beaglehole, R. Preventing chronic diseases: taking stepwise action. *The Lancet*, 2005; DOI: 10.1016/S0140-6736(05)67342-4 Obtained online: [http://www.thelancet.com/collections/series/chronic\\_diseases](http://www.thelancet.com/collections/series/chronic_diseases)
- <sup>4</sup>Wagner, E.H. Chronic disease management: what will it take to improve care for chronic illness? *Effective Clinical Practice*, 1998; 1(1):2-4
- <sup>5</sup>Bodenheimer, T. Disease management in the American market. *British Medical Journal*, 2000; 320:563-566
- <sup>6</sup>Fox, J. The role of the expert patient in the management of chronic illness. *British Journal of Nursing*, 2005; 14(1):25-28
- <sup>7</sup>Renders, C.M., Vale, G.D., Griffin, S.J., Wagner, E.H., ThM Eijk Van, J., Assendelft, W.J.J. Interventions to improve the management of diabetes in the primary care, outpatient and community settings. *Diabetes Care*, 2001; 24(10):1821-1833
- <sup>8</sup>Eagar, K., Pirkis, J.E., Owen, A., Burgess, P.M., Posner, N., Perkins, D.A. Lessons from the National Mental Health Integration Program. *Australian Health Review*, 2005; 20(1):189-200
- <sup>9</sup>Bodenheimer, T.B., Wagner, E.H., Grumbach, K. Improving primary care for patients with chronic illness. *Journal of the American Medical Association*, 2002; 288(14):1175-1179
- <sup>10</sup>Rothman, A.A., Wagner, E.H. Chronic illness management: what is the role of primary care? *Annals of Internal Medicine*, 2003; 138:256-261
- <sup>11</sup>Wagner, E.H., Austin, B.T., von Korff, M. Organising care for patients with chronic illness. *The Milbank Quarterly*, 1996; 74(4):511-534
- <sup>12</sup>Spenceley, S.M. Access to health services by Canadians who are chronically ill. *Western Journal of Nursing Research*, 2005; 27(4):465-486
- <sup>13</sup>Coleman, M., Schnapp, W., Hurwitz, D., Hedberg, S., Cabral, L., Laszo, A., Himmelstein, J. Overview of publicly funded managed behavioural health care. *Administration and Policy in Mental Health*, 2005; 32(4):321-338
- <sup>14</sup>Gilbody, S., Whitty, P., Grimshaw, J., Thoman, R. Education and organizational interventions to improve the management of depression in primary care: a systematic review. *Journal of the American Medical Association*, 2003; 289(23):3145-51
- <sup>15</sup>Mechanic, D. Approaches for coordinating primary and specialty care for persons with mental illness. *General Hospital Psychiatry*, 1997; 19:395-402
- <sup>16</sup>Carter, S., Powell Davies, PG. *National divisions diabetes program evaluation 1997 to 2000*. Sydney: Centre for GP Integration Studies, School of Community Medicine, UNSW, 2000

- <sup>17</sup> Taylor, S.J.C., Candy, B., Bryar, R.M., Vrijhoef, H.J.M., Esmond, G., Wedzicha, J.A., Griffiths, C.J. Effectiveness of innovations in nurse led chronic disease management for patients with chronic obstructive pulmonary disease: a systematic review. *British Medical Journal*, 2005;331:485-91
- <sup>18</sup> Loveman E, Royle P, Waugh N. Specialist nurses in diabetes mellitus. *The Cochrane Database of Systematic Reviews* 2003, Issue 2. Art. No.: CD003286. DOI: 10.1002/14651858.CD003286.
- <sup>19</sup> Taylor S, Bestall J, Cotter S, Falshaw M, Hood S, Parsons S, Wood L, Underwood M. Clinical service organisation for heart failure. *The Cochrane Database of Systematic Reviews* 2005, Issue 2. Art. No.: CD002752. DOI: 10.1002/14651858.CD002752.pub2.
- <sup>20</sup> Perrin, J.M., Kuhlthau, K., Klein Walker, D., Stein, R.E.K., Newacheck, P.W., Gortmaker, S.L. Monitoring health care for children with chronic conditions in a managed care environment. *Maternal and Child Health Journal*, 1997; 1(1):15-23
- <sup>21</sup> Harris, M.F., Priddin, D., Ruscoe, W., Infante, F.A., O'Toole, B.I. Quality of care provided by general practitioners using or not using division-based diabetes registers. *Medical Journal of Australia*, 2002; 177(5):250-252
- <sup>22</sup> Marshall M, Gray A, Lockwood A, Green R. Case management for people with severe mental disorders. *The Cochrane Database of Systematic Reviews* 1998, Issue 2. Art. No.: CD000050. DOI: 10.1002/14651858.CD000050.
- <sup>23</sup> Ara, S. A literature review of cardiovascular disease management programs in managed care populations. *Journal of Managed Care Pharmacy*, 2004; 19(4):326-44
- <sup>24</sup> Warhaft, N. The Victorian Doctors Health Program: the first 3 years. *Medical Journal of Australia*, 2004; 181(7):376-379
- <sup>25</sup> Rosen, A., Teesson, M. Does case management work? The evidence and the abuse of evidence-based medicine. *Australian and New Zealand Journal of Psychiatry*, 2001; 35:731-746
- <sup>26</sup> World Health Organization. *Are disease management programmes (DMPs) effective in improving quality of care for people with chronic conditions?* WHO Regional Office for Europe's Health Evidence Network (HEN), Aug 2003
- <sup>27</sup> Crooks, P. International care models for chronic kidney disease: methods and economics – United States. *Blood Purification*, 2004; 22:13-20

# 5 Multidisciplinary teams/networks of health care providers

---

## Introduction

Health professionals are increasingly expected to function in a multidisciplinary environment.<sup>1</sup> The term ‘multidisciplinary’ can be used interchangeably with many other words,<sup>2</sup> and there is a substantial overlap between this domain and that of Integration. The overall concept embedded in multidisciplinary teams appears to be that of an interprofessional, collaborative approach to health service provision.<sup>13</sup> This section refers specifically to two kinds of multidisciplinary activities: education and training, and delivering more effective health care.

### **Q1: What is known about the effectiveness of multidisciplinary training of health force?**

We found five systematic reviews and one review considering the effects of interprofessional education (IPE) in the health care workforce. The earliest (published in 1999) simply states that there had – at that time – been no methodologically sound empirical research into the area.<sup>3</sup> Later reviews found that the most effective education takes place in the work environment, post-licensure, and that almost all educational interventions (particularly multifaceted approaches) produced positive results.<sup>2,4,5</sup> No effect had been found in a pre-licensure environment, nor whether IPE (pre- or post-licensure) effects patient outcomes,<sup>2,6</sup> although these reviews concluded this was due to lack of methodologically sound data. One review looked at meso-level factors involved in multidisciplinary training, emphasising the need for planning processes and clear goals in the implementation of IPE, and the effect of leadership and group ownership of IPE on continuity of practice.<sup>7</sup>

### **Q2: What is known about the effectiveness of health alliances/partnerships?**

There have been many text-books published on the effectiveness of alliances and partnerships in health care, and multiple articles written in the 1980s and early 1990s. However, these are beyond the scope of our current search. We identified five systematic reviews and three reviews published after 1995.

There were many comments on the difficulty of analysing alliances and partnerships using empirical studies<sup>8-10</sup> (two reviews suggested other methods of analysis<sup>8, 9</sup>), and given the close linkage of this subject with integration, there was an issue with terminology.<sup>9</sup> It is important to identify clearly the aims of the studies and the outcomes measured. Most reviews state studies examined the process of creating alliances and partnerships, rather than examining the impact of alliances and partnerships on patient outcomes.<sup>8-11</sup> In terms of process, one review found that a quarter of the studies they reviewed managed to get health and community sectors to collaborate further, and that the more interventions implemented the greater the improvement in collaboration.<sup>8</sup> “Best practice” included the notion of valuing all team members (whether at organisational or health care worker level),<sup>8-12</sup> community involvement (this was an area in which Australia was found to be lacking),<sup>8</sup> communication and cooperation,<sup>12,14,15</sup> incentives and practical support (structural and administrative) from organisations at all levels,<sup>10-12</sup> and collaboration between private and public sectors.<sup>8</sup> Other procedural benefits included the use of lateral thinking in program initiatives, greater understanding of one’s own role and that of other disciplines,<sup>8</sup> and an improved mindset towards multidisciplinary alliances and partnerships.<sup>10</sup> The notion of “professionalism” is important. One sense in which the word is used relates to the activities of a particular health

professional group – for example a general practitioner or a practice nurse. When used in this way it can form the basis for demarcation disputes between these professional groupings. On the other hand, there is a sense of the word that describes behaviours common across these professional groupings, and this could be the basis for discussions which bring the groups together.<sup>10-12</sup> Other problems included levels of personal commitment to collaboration<sup>10</sup>, and cultural differences<sup>12</sup>. Positive behavioural change was reported in 3-20% of studies<sup>8</sup>.

## Conclusion

IPE is an important although under-researched tool for the implementation of alliances and partnerships. Best IPE appeared to take place in the work sector, post training. Overall, alliances and partnerships were found to work best if the need was well assessed, and many sectors were involved in the planning, implementation and evaluation of interventions.<sup>8</sup>

## References

- <sup>1</sup>Pruitt, S.D., Epping-Jordan, J.E. Preparing the 21<sup>st</sup> century global healthcare workforce. *British Medical Journal*, 2005; 330:637-639
- <sup>2</sup>Oadasan, I., Reeves, S. Key elements for interprofessional education. Part 1: the learner, the educator and the learning context. *Journal of Interprofessional Care*, May 2005; S1:21-38
- <sup>3</sup>Zwarenstein, M., Atkins, J., Barr, H., Hammick, M., Koppel, I., Reeves, S. A systematic review of interprofessional education. *Journal of Interprofessional Care*, 1999; 13(4):417-424
- <sup>4</sup>Freeth, D., Hammick, M., Koppel, I., Reeves, S., Barr, H. *A critical review of evaluations of interprofessional education*. London: Learning and Support network, UK Centre for the Advancement of Interprofessional Education, 2002
- <sup>5</sup>Oadasan, I., D'Amour, I., Zwarenstein, M., Barker, K., Purden, M., Beaulieu, M.D., Reeves, S., Nasmith, L., Bosco, C., Ginsburg, L., Tregunno, D. *Interprofessional education for collaborative patient-centred practice: an evolving framework*. Ottawa: Health Canada, 2004.
- <sup>6</sup>Zwarenstein M, Reeves S, Barr H, Hammick M, Koppel I, Atkins J. Interprofessional education: effects on professional practice and health care outcomes. *The Cochrane Database of Systematic Reviews* 2000, Issue 3. Art. No.: CD002213. DOI: 10.1002/14651858.CD002213.
- <sup>7</sup>Oadasan, I., Reeves, S. Key elements for interprofessional education. Part 2: factors, processes and outcomes. *Journal of Interprofessional Care*, May 2005; S1:39-48
- <sup>8</sup>Gillies, P. Effectiveness of alliances and partnerships for health promotion. *Health Promotion International*, 1998; 13(2):99-118
- <sup>9</sup>El Ansari, W., Phillips, C.J., Hammick, M. Collaboration and partnerships: developing the evidence base. *Health and social care in the community*, 2001; 9(4):215-227
- <sup>10</sup>Schofield, R.F., Amodeo, M. Interdisciplinary teams in health care and human service settings: are they effective? *Health and Social Work*, 1999; 24(3):210-219
- <sup>11</sup>Rogers, T. Managing in the interprofessional environment: a theory of action perspective. *Journal of interprofessional care*, 2004; 18(3):239-249
- <sup>12</sup>San Martin-Rodriguez, L., Beaulieu, M.D., D'Armour, D., Ferrada-Videla, M. The determinants of successful collaboration: a review of theoretical and empirical studies. *Journal of Interprofessional Care*, May 2005; S1:132-147

<sup>13</sup>MacIntosh, J., McCormack, D. Partnerships identified within primary health care literature. *International Journal of Nursing Studies*, 2001; 38:547-55

<sup>14</sup>Starfield, B., Shi, L.S. The medical home, access to care, and insurance: a review of the evidence. *Pediatrics*, 2004; 113(5):1493-1498

<sup>15</sup>Mitchell, G., Del Mar, C., Francis, D. Does primary medical practitioner involvement with a specialist team improve patient outcomes: a systematic review. *British Journal of General Practice*, 2002; 52(484):934-939

# 6 Population health and health promotion

---

## Introduction

Health promotion and prevention can have beneficial impacts on population health. This section looks at the effectiveness of organised primary health care's contributions to prevention (under the subheadings: Methods of intervention, Smoking, Physical activity, Alcohol, Nutrition), screening and early childhood. Immunisation is not addressed in this domain as its place in organised approaches to primary health care is well established.

### Q1: What do we know about organised PHC's role in health promotion and prevention?

#### Methods of intervention

Methods of intervention used by different health organisations (be they government bodies, community services or managed care delivery systems) can be listed as the following:

- provision of educational materials to patients<sup>1, 5, 15, 17, 19</sup>
- education for health professionals<sup>1, 6, 13, 21, 22</sup>
- group/targeted education/support programs<sup>1, 4, 8, 10, 12-14, 17</sup>
- outreach and home visits<sup>1</sup>
- reminder systems for patients<sup>1, 8, 12, 15, 16, 19</sup>
- reminder systems for health professionals<sup>1</sup>
- population-based interventions<sup>7, 8</sup>
- collaboration with the community and other providers<sup>6, 9, 13, 14, 16-18, 20, 23, 36</sup>
- specific organisational interventions<sup>1, 13</sup>
- brief interventions by health professionals<sup>8, 10, 12, 19</sup>
- mass/targeted media programs<sup>1-3, 6, 8, 11, 15, 17, 18</sup>
- clinical guidelines for doctors<sup>8, 13, 22</sup>
- financial incentives (for both doctors and patients).<sup>1, 5, 7, 13, 22</sup>

However, these interventions are not equally effective across all areas, and this is discussed below with respect to smoking, physical activity, alcohol consumption and nutrition.

#### Smoking

Five systematic reviews and one article were included. Community-based smoking cessation programs have had a zero<sup>6</sup> to 1%<sup>7</sup> effect on population outcomes. On the other hand, smoking cessation advice from health professionals is recommended and successful,<sup>8, 10</sup> especially when combined with a group/targeted program (eg, QUIT in Australia).<sup>8, 10</sup> Brief interventions from health professionals have modest effects.<sup>8</sup> Follow-up interventions such as patient reminders and group/targeted programs are effective in preventing relapse,<sup>8, 10</sup> as is telephone counselling<sup>8, 10</sup> and pharmacological aids such as nicotine replacement therapies.<sup>8</sup> The last of these also increases patient satisfaction.<sup>36</sup> Two reviews looked at financial incentives and population-based programs (eg: mass media programs<sup>8, 11</sup>), and found that these are equally effective in terms of reach and impact.<sup>7, 8</sup> The importance of establishing relationships with local communities, and even employing staff from the area, cannot be overlooked when developing a smoking cessation program.<sup>6, 9</sup> Program flexibility – regarding

adaptability to different populations – is also important,<sup>9</sup> as are partnerships across health care providers.<sup>36</sup>

### **Physical activity**

Three systematic reviews and four reviews were included. Positive interventions directed towards professionals regarding the promotion of physical activity were found to be professional direction and support<sup>12-14</sup> and the development of clinical guidelines.<sup>13</sup> For patients, support/targeted groups<sup>13, 17</sup> and health professional collaboration and integration,<sup>14,16</sup> and cooperation with community<sup>13, 17,18</sup> and private sector facilities and services (eg leisure centres) were beneficial.<sup>13, 17</sup> Mass media interventions were found to have high recall but little effect on activity.<sup>15, 17,18</sup> Another approach of limited success in the short term was the use of written advice or educational materials<sup>15,17</sup> or patient reminders.<sup>15,16</sup> Multifaceted interventions were found to work best,<sup>15,17</sup> however, more research needs to be completed in this area.<sup>14</sup>

### **Alcohol**

Two systematic reviews and other literature were included. Brief interventions from health care professionals produced beneficial results in reducing alcohol consumption, especially when used in conjunction with reminder systems and educational material.<sup>19</sup> Family and community interventions (for example, the Strengthening Families Program in the USA) had positive effects in young people.<sup>20</sup> Interventions likely to increase physician preventative behaviour included physician reminders and education/support.<sup>21</sup>

### **Nutrition**

Within the time constraints, we were able to find only one article specifically related to organisational input to population nutritional promotion. One systematic review on management of obesity was included, and one article on nutrition. Diet-related organisational strategies included referral to group/targeted educational programs, improved clinical guidelines, educational support for health professionals,<sup>13,22</sup> and collaboration and integration with related health professionals, community and private sectors (eg: leisure centres, commercial weight loss support groups).<sup>13,23</sup>

## **Q2: What do we know about organised PHC's role in screening?**

Seven systematic reviews and one review were identified. Yet again, not enough research has been completed in this area.<sup>25</sup> Organisational interventions such as invitation letters/reminders and educational material are beneficial for both patients and providers.<sup>24, 25,34</sup> Personalised risk communication increases patient screening rates significantly, but it is unknown whether these rates are based on informed decisions by patients.<sup>33</sup> Positive health professional related approaches include the introduction of clinical guidelines,<sup>30,31,24</sup> collaboration between health providers,<sup>30</sup> and the use of performance incentives.<sup>30</sup> The gender and ethnicity of health providers can decrease minority population screening rates.<sup>25,29</sup> This has led to the effective use of health promotion nurses<sup>25</sup> and lay health care workers.<sup>32</sup> At a system organisational level, the number and availability of services and resources<sup>24</sup> can have large effects, as can the organisation of these facilities.<sup>24</sup> This is especially related to patient privacy<sup>24,29</sup> and acceptability of these services by the health care workers and staff.<sup>26,27,31</sup> Other system level issues<sup>30</sup> include administration<sup>24</sup> (including patient record systems<sup>24,30</sup>), time restraints,<sup>30,31</sup> and competing priorities<sup>30</sup> within the system. However, when these factors are addressed at the organisational level, interventions aimed at a specific population can have regional effects.<sup>28</sup>

### Q3: What do we know about organised PHC's role in early childhood?

One systematic review, relating to screening and surveillance, was included. The authors noted the lack of empirical research in this area<sup>35</sup> and issues to do with definitions of the words 'screening' and 'surveillance' in this context.<sup>36</sup> There is strong evidence that early childhood screening programs '*prevent delay in cognitive development*',<sup>35</sup> but little evidence of their effectiveness with respect to other patient outcomes.<sup>35,36</sup> The Australian review found issues with program quality, clinical guideline adherence by health professionals, and the availability of services in the community.<sup>36</sup> However, both state that this does not mean that early childhood surveillance is not important,<sup>35,36</sup> only that it needs more careful assessment and planning.<sup>36</sup>

## Conclusion

There is some, albeit limited evidence that organised primary health care can be effective in health promotion and prevention. Effectiveness is variable across populations and health issues – for example, just because a strategy works for alcohol risk reduction it does not mean it will necessarily work for smoking. This highlights the need for careful program planning and delivery.

## References

- <sup>1</sup>Hulscher MEJL, Wensing M, van der Weijden T, Grol R. Interventions to implement prevention in primary care. *The Cochrane Database of Systematic Reviews* 1997, Issue 1. Art. No.: CD000362. DOI: 10.1002/14651858.CD000362.
- <sup>2</sup> Myhre, S.L., Flora, J.A. HIV/AIDS communication campaigns: progress and prospects. *Journal of Health Communication*, 2000; 5(S):29-45
- <sup>3</sup>Grilli R, Ramsay C, Minozzi S. Mass media interventions: effects on health services utilisation. *The Cochrane Database of Systematic Reviews* 2002, Issue 1. Art. No.: CD000389. DOI: 10.1002/14651858.CD000389.
- <sup>4</sup> Kalucy, E., Hann, K., Whaites, L. *Divisions: a matter of balance. Results of the 2002-2003 Annual Survey of Divisions of General Practice*. Adelaide: Primary Health Care Research and Information Service, Flinders University, 2003
- <sup>5</sup> James, E.L., Talbot, L., Fishley, C. Does external support from divisions increase preventative activities in rural Australian general practice. *Australian Family Physician*, 31(12):1044-1046
- <sup>6</sup> Secker-Walker RH, Gnich W, Platt S, Lancaster T. Community interventions for reducing smoking among adults. *The Cochrane Database of Systematic Reviews* 2002, Issue 2. Art. No.: CD001745. DOI: 10.1002/14651858.CD001745.
- <sup>7</sup> Bains N, Pickett W, Hoey J. The use and impact of incentives in population-based smoking cessation programs: a review. *American Journal of Health Promotion* 1998;12(5):307-320
- <sup>8</sup> Miller, M., Wood, L. *National Tobacco Strategy 1999 to 2002-03 Occasional Paper: Smoking cessation interventions: review of evidence and implications for best practice in health care settings final report*. Canberra: Department of Health and Aging, Commonwealth of Australia, 2001
- <sup>9</sup> Sowden A, Arblaster L, Stead L. Community interventions for preventing smoking in young people. *The Cochrane Database of Systematic Reviews* 2003, Issue 1. Art. No.: CD001291. DOI: 10.1002/14651858.CD001291.
- <sup>10</sup>Litt, J. Smoking and GPs: time to cough up successful interventions in general practice. *Australian Family Physician*, 2005; 34(6):425-429
- <sup>11</sup>Sowden AJ, Arblaster L. Mass media interventions for preventing smoking in young people. *The Cochrane Database of Systematic Reviews* 1998, Issue 4. Art. No.: CD001006. DOI: 10.1002/14651858.CD001006.
- <sup>12</sup> Hillsdon M, Foster C, Thorogood M. Interventions for promoting physical activity. *The Cochrane Database of Systematic Reviews* 2005, Issue 1. Art. No.: CD003180. DOI: 10.1002/14651858.CD003180.pub2.
- <sup>13</sup> Maryon-Davis, A. Weight management in primary care: how can it be made more effective? *Proceedings of the Nutritional Society*, 2005; 64(1):97-103

- <sup>14</sup>Harvey EL, Glenny A-M, Kirk SFL, Summerbell CD. Improving health professionals' management and the organisation of care for overweight and obese people. *The Cochrane Database of Systematic Reviews* 2001, Issue 2. Art. No.: CD000984. DOI: 10.1002/14651858.CD000984.
- <sup>15</sup> Marcu, B.H., Owen, N., Forsyth, L.H., Cavill, N.A., Fridinger, F. Physical activity interventions using mass media, print media, and information technology. *American Journal of Preventive Medicine*, 1998; 15(4):362-378
- <sup>16</sup>Huang, N. Motivating patients to move. *Australian Family Physician*, 2003; 34(6):413-417
- <sup>17</sup>King, A.C. How to promote physical activity in a community: research experiences for the US highlighting different community approaches. *Patient Education and Counseling*, 1998; 33:S3-S12
- <sup>18</sup>Sparling, P.B., Owen, N., Lambert, E.V., Naskell, W.L. Promoting physical activity: the new operative for public health. *Health Education Research*, 2000; 15(3):367-376
- <sup>19</sup>Dorfman, S.L., Smith, S.A. Preventative mental health and substance abuse programs and services in managed care. *Journal of Behavioural Health and Research*, 2002; 29(3):233-259
- <sup>20</sup> Foxcroft DR, Ireland D, Lowe G, Breen R. Primary prevention for alcohol misuse in young people. *The Cochrane Database of Systematic Reviews* 2002, Issue 3. Art. No.: CD003024. DOI: 10.1002/14651858.CD003024.
- <sup>21</sup> Funk, M., Wutzke, S., Kaner, E., Anderson, P., Pas, L., McCormick, R., Gual, A., Barford, S., Saunders, J. A multicountry controlled trial of strategies to promote dissemination and implementation of brief alcohol intervention in primary health care: findings of a World Health Organization collaborative study. *Journal of Studies on Alcohol*, 2005; 66(3):379-389
- <sup>22</sup>Moore, H., Adamson, A.J., Gill, T., Waite, C. Nutrition and the health care agenda: a primary care perspective. *Family Practice*, 2000; 17(2):197-202
- <sup>23</sup>Kearney. M., Bradbury, C., Ellahi, B., Hodgson, M., Thurston, M. Mainstreaming prevention: prescribing fruit and vegetables as a brief intervention in primary care. *Public Health*, 2005; 119:981-986
- <sup>24</sup>Zapka, J.G. Interventions for patients, providers, and health care organisations. *Cancer Supplement*, 2004; 101(5):1165-1181
- <sup>25</sup> Forbes C, Jepson R, Martin-Hirsch P. Interventions targeted at women to encourage the uptake of cervical screening. *The Cochrane Database of Systematic Reviews* 1999, Issue 3. Art. No.: CD002834. DOI: 10.1002/14651858.CD002834.
- <sup>26</sup> Towler BP, Irwig L, Glasziou P, Weller D, Kewenter J. Screening for colorectal cancer using the faecal occult blood test, Hemoccult. *The Cochrane Database of Systematic Reviews* 1998, Issue 2. Art. No.: CD001216. DOI: 10.1002/14651858.CD001216.
- <sup>27</sup> Tong, S., Hughes, K., Oldenburg, B., Del Mar, C. Would general practitioners support a population-based colorectal cancer screening programme of faecal-occult blood testing? *Internal Medicine Journal*, 2004; 34:532-538
- <sup>28</sup> Baker, L.C., Phillips, K.A., Haas, J.S., Liang, S-Y., Sonneborn, D. The effect of area HMO market share on cancer screening. *Health Services Research*, 2004; 39(6):1751-1771
- <sup>29</sup> Cargill, V.A, Stone, V.E. HIV/AIDS: a minority health issue. *The Medical Clinics of North America*, 2005; 89(4):895-912
- <sup>30</sup> Chorba, T., Scholes, D., BlueSpruce, J., Operskalski, B.H, Irwin, K. Sexually transmitted diseases and managed care: an inquiry and review of issues affecting service delivery. *American Journal of Medical Quality*, 2004; 19(4):145-156
- <sup>31</sup>Chou, R., Hoyt Huffman, L., Fu, R., Smits, A., Korthuis, T. Screening for HIV: a review of the evidence for the U.S. Preventive Task Force. *Annals of Internal Medicine*, 2005; 143(1):55-73
- <sup>32</sup> Lewin SA, Dick J, Pond P, Zwarenstein M, Aja G, van Wyk B, Bosch-Capblanch X, Patrick M. Lay health workers in primary and community health care. *The Cochrane Database of Systematic Reviews* 2005, Issue 1. Art. No.: CD004015. DOI: 10.1002/14651858.CD004015.pub2.
- <sup>33</sup> Edwards A, Unigwe S, Elwyn G, Hood K. Personalised risk communication for informed decision making about entering screening programs. *The Cochrane Database of Systematic Reviews* 2003, Issue 1. Art. No.: CD001865. DOI: 10.1002/14651858.CD001865.
- <sup>34</sup> O'Connor AM, Stacey D, Entwistle V, Llewellyn-Thomas H, Rovner D, Holmes-Rovner M, Tait V, Tetroe J, Fiset V, Barry M, Jones J. Decision aids for people facing health treatment or screening decisions. *The Cochrane Database of Systematic Reviews* 2003, Issue 1. Art. No.: CD001431. DOI: 10.1002/14651858.CD001431.

<sup>35</sup>Anderson, L.M., Shinn, C., Fullilove, M.T., Scrimshaw, S.C., Fielding, J.E., Normand, J., Cerende-Kulis, V.G., the Taskforce on Community Preventive Services. The effectiveness of early childhood programs: a systematic review. *American Journal of Preventive Medicine*, 2003; 24(S3):32-46

<sup>36</sup>Wake, M., Harris, C., Hesketh, K., Wright, M. *Child health screening and surveillance: a critical review of the literature*. Melbourne: Community Child Health, Royal Children's Hospital Melbourne, National Health and Medical Research Council, 2002

<sup>37</sup>Keller, P.A., Fiore, M.C., Curry, S.J., Orleans, T. Systems change to improve health and health care: lessons from Addressing Tobacco in Managed Care. *Nicotine & Tobacco Research*, 2005; 7(S1):5-8

# 7 Community/consumer participation

---

## Introduction

Given that health systems are designed to improve the health of the citizens they serve, consumer and community participation in health system organisations is important. Their contributions can greatly influence the way in which research and resources are distributed, provided they are given the opportunity to be involved. This section reviews the contribution of consumers into primary health care organisational structure, and that of patients to organisational service delivery.

### **Q1: What is known about the impact of consumer input into organised PHC (ie consumer representation)?**

One systematic review and two reviews were identified. This and other literature contribute to the following discussion.

Leadership and organisational commitment to the inclusion of public input was found to be important.<sup>1-3</sup> Public involvement was found to influence policies, and on occasions where this was conveyed, the public felt more involved, better understood and more confident to participate.<sup>1</sup> Lack of feedback by organisations was found to be discouraging,<sup>1</sup> as was limiting consumer participation to certain issues;<sup>2</sup> these contributed to consumer cynicism towards the motives of the organisation and the worth of their own input.<sup>3</sup> It was also found that there has been little research into women's preferences in health care.<sup>16</sup>

Training and education are needed for staff involved in this area, especially related to change of practice.<sup>1</sup> It is important to remember that the size of the division or primary health organisation (PHO) is important: the larger the PHO, the less patients are convinced of their input into decision-making.<sup>2</sup> Administrative support is also needed,<sup>2</sup> as is the need to plan specific initiatives and take into account the wider picture of research and change.<sup>1, 3</sup>

It was found that collaboration and partnership with local community sectors was beneficial in building relationships within the community,<sup>1,2</sup> as this enabled the sharing of resources and expertise.<sup>1</sup> All communities (especially those distanced from current health care systems) needed to have input into discussion,<sup>1,2</sup> and good communication lines between the public and health system were essential.<sup>1, 3</sup> The public needed to be made aware of opportunities for involvement in health policy making,<sup>1</sup> and also educated on how they could contribute.<sup>2</sup> However, it is important to remember that community involvement also has potential for negative impact.<sup>3</sup> It cannot be assumed that altruism will win over self-interest, and the community needs to be educated about health needs outside their own experience.<sup>4</sup>

### **Q2: What is known about the involvement of client/carers in organised PHC?**

Five systematic reviews, three reviews and other literature have been included in this discussion, but no clear relationship has been found between patient-centred consultations and patient health outcomes.<sup>8</sup> Patient involvement was associated with better patient satisfaction, confidence and understanding of their needs. It improved relationships and faith in health care providers and decreased patient anxiety.<sup>1</sup> The concept of a partnership in health is portrayed, with patients heeded and informed properly. Patients want information, but the 'right' information is often hard to determine; it is important to remember that patients rely on many sources for health information, and that the patient does not necessarily want information when in a consultation.<sup>1</sup>

Patient participation is dependant upon health care worker communication skills,<sup>1</sup> with types of communication being important: patients preferred caring, attentive, expressive professionals.<sup>5</sup> Also important was the concept of 'health literacy' – the patient's understanding of what is said to them – and levels of health literacy are related to education and age.<sup>6</sup> This influences the amount of information the patient wants and can understand.<sup>7</sup> Health care workers are generally positive about increased patient involvement. Clinic and consultation organisational structure are central, with time available, time management and privacy during consultations instrumental in enabling or hindering patient participation.<sup>1</sup>

Patients want to be consulted about treatment options and outcomes; from this comes the concept of shared decision-making. Further research is needed into physician opinions and patient outcomes related to this.<sup>7, 9</sup> Self-management and education for self-management was found to improve patient outcomes,<sup>10 11 12</sup> an exception being in the case of Chronic Obstructive Pulmonary Disease thought possibly due to the variability of presentation in this disease.<sup>13</sup>

In the UK "expert patients" are talked about: the patient is educated in self-care which increases confidence in and ability to care for themselves, with success found to depend on commitment of division-level boards (and individual health care workers).<sup>14</sup> The involvement of lay people as educators has been put forward, but there have been no definitive results in this as yet.<sup>15</sup>

## Conclusion

There are clear benefits that result from including consumer input into health policy formulation at governmental and regional levels, and that flow from ensuring patients participate in their own health care decisions. More research regarding patient outcomes is needed in these areas.

## References

- <sup>1</sup>Farrell, C. *Patient and public involvement in health: the evidence for policy implementation, a summary of the results of the Health in Partnership Programme*. London: Department of Health, 2004
- <sup>2</sup>Neuwelt, P., Crampton, P., Crengle, S., Dew, K., Dowell, A., Kearns, R., Thomas, D. Assessing and developing community participation in primary health care in Aotearoa New Zealand: a national study. *The New Zealand Medical Journal*, 2005; 118(1218):1-10, obtained online: <http://www.nzma.org.nz/journal/118-1218/1562>
- <sup>3</sup>Abelson, J., Forest, P-G., Eyles, J., Casebeer, A., Mackean, G. Will it make a difference if I show up and share? A citizen's perspective on improving public involvement processes for health system decision-making. *Journal of Health Services Research and Policy*, 2004; 9(4):205-212
- <sup>4</sup>Murphey, N.J. Citizen deliberation in setting health care priorities. *Health Expectations*, 2005; 8:172-181
- <sup>5</sup>O'Hair, D. Research traditions in provider-consumer interaction: implications for cancer care. *Patient Education and Counselling*, 2003; 50:5-8
- <sup>6</sup>Speros, C. Health literacy: concept analysis. *Journal of Advanced Nursing*, 2005; 50(6):633-640
- <sup>7</sup>Frosch, D.L., Robert, B.A., Kaplan, M. Shared decision making in clinical medicine: past research and future directions. *American journal of preventive medicine*, 1999; 17(4):285-294
- <sup>8</sup>Mead, N., Bower, P. Patient-centred consultations and outcomes in primary care: a review of the literature. *Patient Education and Counselling*, 2002; 48(1):51-61
- <sup>9</sup>Coulter, A. Partnerships with patients: the pros and cons of shared clinical decision-making. *Journal of Health Services Research and Policy*, 1997; 2(2):112-121
- <sup>10</sup>Deakin T, McShane CE, Cade JE, Williams RDRR. Group based training for self-management strategies in people with type 2 diabetes mellitus. *The Cochrane Database of Systematic Reviews* 2005, Issue 2. Art. No.: CD003417. DOI: 10.1002/14651858.CD003417.pub2.

- <sup>11</sup>Gibson PG, Powell H, Coughlan J, Wilson AJ, Abramson M, Haywood P, Bauman A, Hensley MJ, Walters EH. Self-management education and regular practitioner review for adults with asthma. *The Cochrane Database of Systematic Reviews* 2002, Issue 3. Art. No.: CD001117. DOI: 10.1002/14651858.CD001117
- <sup>12</sup>Monninkhof EM, van der Valk PDLPM, van der Palen J, van Herwaarden CLA, Partidge MR, Walters EH, Zielhuis GA. Self-management education for chronic obstructive pulmonary disease. *The Cochrane Database of Systematic Reviews* 2002, Issue 4. Art. No.: CD002990. DOI: 10.1002/14651858.CD002990.
- <sup>13</sup>Kennedy, A. Improving self-management skills: a whole systems approach. *British Journal of Nursing*, 2001; 10(11):734-737
- <sup>14</sup> Kennedy, A., Rogers, A., Gately, C. Assessing the introduction of the expert patients programme into the NHS: a realistic evaluation of recruitment to a national lay-led self-care initiative. *Primary Health Care Research and Development*, 2005; 6:137-148.
- <sup>15</sup>Kennedy, A., Rogers, A., Gately, C. From patients to providers: prospects for self-care skills trainers in the National Health Service. *Health and Social Care in the Community*, 2005; 13(5):431-440
- <sup>16</sup>Sampietre-Colom, L., Phillips, V.L., Hutchinson, A.B. Eliciting women's preferences in health care: a review of the literature. *International Journal of Technology Assessment in Health Care*, 2004; 29(2):145-155

# 8 Quality and safety

---

## Introduction

The study of quality and safety in primary health care is relatively new. A number of countries have established government bodies related to quality and safety. For example, Australian organisations began in 1989, in the form of the Australian Patient Safety Foundation, and later the Australian Council for Safety and Quality in Health Care in 2000.<sup>1,3</sup> The UK founded its first agency, the National Patient Safety Agency, in the year 2001,<sup>1,3</sup> as a result of (among other cases) thirteen documented intrathecal vincristine deaths and the Bristol case in 1996.<sup>11</sup> Other national agencies include the Agency for Healthcare Research and Quality in the USA, the Canadian Institute for Health Information, and New Zealand's Quality Improvement in the Health and Disabilities Sector. Each country – and each agency – uses different methods, but their main goal is to achieve better patient outcomes and/or more efficient quality and safety health system processes.<sup>1-3</sup>

The quality and safety literature in health care covers a broad range of subjects. From Swiss cheese and toxic torrents to the effects of education; from key performance indicators to the Linnaeus project to identify and classify medical errors. Much of the research appears to have been completed in secondary or tertiary health care settings. There is a relative paucity of data relating directly to primary health care quality and safety.

This section contains seven systematic reviews, one review and six articles referring specifically to primary health care as part of their study domain. As a result of this, general themes from other literature have been extrapolated from where primary care literature indicated the area was an issue and lacked research.

### **Q1: What is known about the role of organised PHC in improving/maintaining quality and safety?**

Two systematic reviews of reviews, sixteen systematic reviews, five reviews, and eight articles were included to address this question, as were eight systematic reviews included under integration. Articles were included if they related specifically to the Linnaeus Project (4), or related specifically to Australia (2), or were published by a national governmental body to give national-level insight into quality and safety in health care systems (2). The following discussion draws on all these sources.

Of the data found relevant to medical error, common error types identified included diagnosis, treatment, prescription, systems' level problems, communication between patient, doctor and health care workers, and referral to other health care workers.<sup>4-11, 20-24</sup> Other areas of error identified were physician and patient factors.<sup>4-6</sup> Multiple errors were found to be common, and errors were found to be preventable in 60-83% of cases.<sup>4</sup> These areas were similar to those found by the Linnaeus Collaboration's Primary Care International Study of Medical Errors;<sup>26-29</sup> this also discussed the contribution of individual blame culture to errors<sup>26, 28</sup> and similarities of primary care errors across similar health systems. One common theme of the reviews was that studies used a wide range of data collection and analysis methodologies, with very few randomised controlled trials.<sup>4-8</sup> Another issue raised was the possible bias involved in most methods of identifying errors. For example, physicians consistently under-reported incidents in practice, and medico-legal identification of errors was more likely to include major patient harm – or be unrelated to medical error – and miss incidents where potential harm was averted.<sup>4</sup> Electronic communication was seen as a possible solution to many of the errors identified,<sup>6-8</sup> but the evidence base for this is limited at present.<sup>12-19</sup> All reviews commented on the difficulty of finding a common typology for medical errors.

One review of reviews, five reviews and other literature were included that related specifically to medication errors. Main areas for error included lack of physician knowledge and lack of patient knowledge,<sup>35-39</sup> workload<sup>38</sup> and stress<sup>35</sup> of health care staff, and dispensing and administration errors.<sup>39</sup> One review found that almost any educational intervention was able to reduce error rates,<sup>40</sup> but a more recent review found that interventions involving systematic interventions such as implementation of clinical guidelines and multifaceted educational approaches were more effective;<sup>41</sup> often these interventions appeared to be related to health information systems' interventions (eg: computerised reminders).<sup>19,40,41</sup>

Seven systematic reviews and two systematic reviews of reviews were isolated that referred to quality improvement (QI) of health professional practice, along with other literature. The broad categories of QI strategies reviewed included audit and feedback, dissemination of information to providers within the organisation, professional education, and various practical and theoretical types of performance indicators.<sup>19, 25-34</sup> Barriers to change were identified at patient, professional, team, organisational and wider environmental levels,<sup>19</sup> and combinations of the above strategies had varying positive effects:<sup>19,32</sup>

- Results of audit and feedback on QI varied,<sup>25,26,32</sup> the consensus being that combining this with continuing education produces the most effect.<sup>19</sup> Having said this, there is also some disagreement regarding the effect of multifaceted education.<sup>32,41</sup> Single interventions had mixed effects: outreach clinics and role substitution<sup>19, 32</sup> were generally effective, printed material and prompts were generally ineffective, and local opinion leaders,<sup>19,27-29,32</sup> and small group active participation groups and conferences showed mixed effects.<sup>19</sup>
- Knowledge dissemination factors often overlapped with audit and education; effective information dissemination factors included the establishment of health information systems<sup>30</sup> and prompts and reminders (computer generated and hardcopy).<sup>19</sup> A more recent review found that many information dissemination studies within health care organisations had not analysed cost/benefit ratios, and suggests further research be completed.<sup>31</sup>
- One review was found on the theory and use of performance indicators, which discussed the two main types of PIs, namely formative (for internal systems' regulation of quality) and summative (for external verification and accountability of organisations to governmental bodies). This review simply states that particularly the former has great potential, but that both are still being developed.<sup>33</sup>

One strategy developed in Australia is the Australian Incident Monitoring System (AIMS). In a recent study, both the generic and speciality versions of AIMS were found to have positive effects on New South Wales medical error identification and management, although there were still many areas regarding incident reporting and technical management in need of revision.<sup>34</sup>

## Conclusion

It can be seen that the main areas for patient error include diagnosis, treatment, communication/coordination between patient, doctor and other health professionals, and medication errors. Intervention results are varied, but it seems multifaceted and systematic approaches are the most effective, involving quality improvement mechanisms such as audit and feedback, improving education and knowledge dissemination, and implementation of clinical guidelines and incident-monitoring systems. However, as stated previously, there appears to have been comparatively little research completed regarding quality and safety in primary health care settings.

## References

- <sup>1</sup> Arah, O.A., Klazinga, N.S. How safe is the safety paradigm? *Quality and Safety in Health Care*, 2004; 13 (3):226-32
- <sup>2</sup> Meyer, G.S., Battles, J., Hart, J.C., Tang, N. The US Agency for Healthcare Research and Quality's activities in patient safety research. *International Journal for Quality in Health Care*, 2003; 15(S1):25-30
- <sup>3</sup> Arah, O.A., Klazinga, N.S., Delnoij, M.J., Ten Asbroek, A.H.A, Custers, T. Conceptual frameworks for health systems performance: a quest for effectiveness, quality, and improvement. *International Journal for Quality in Health Care*, 2003; 15(5):377-398
- <sup>4</sup> Sandars, J., Esmail, A. The frequency and nature of medical error in primary care: understanding the diversity across studies. *Family practice*, 2003; 20:231-236
- <sup>5</sup> Elder, N.C., Dovey, S.M. Classification of medical errors and preventable adverse events in primary care: a synthesis of literature. *The Journal of Family Practice*, 2003; 51(11):927-32
- <sup>6</sup> Ioannidis, J.P.A, Lou, J. Evidence of interventions to reduce medical errors: an overview and recommendations for future research. *Journal of General Internal Medicine*, 2001; 16(5):325-34
- <sup>7</sup> Wilson, T., Sheikh, A. Enhancing public safety in primary care. *British Medical Journal*, 2002; 324(7337):584-7
- <sup>8</sup> Jacobson, L., Elwyn, G., Robling, M., Tudor Jones, R. Error and safety in primary care: no clear boundaries. *Family practice*, 2003; 20:237-241
- <sup>9</sup> Holter, T.P., Kerr, E.A., Hayward, R.A. What is an error? *Effective Clinical Practice*, 2000; 3(6):261-269
- <sup>10</sup> Kohn, L.T., Corrigan, J.M., Donaldson, M.S. *To err is human: building a safer health system*. Washington: Committee on Quality of Health Care in America, Institute of Medicine, 1999
- <sup>11</sup> Chief Medical Officer. *An organisation with a memory: report of an expert group on learning from adverse events in the NHS*. London: Department of Health, 2000
- <sup>12</sup> Bolton, P. A review of the role of information technology in discharge communications in Australia. *Australian Health Review*, 1999; 22(3):56-64
- <sup>13</sup> Mitchell, E., Sullivan, F. A descriptive feast but an evaluative famine: systematic review of published articles on primary care computing during 1980-97. *British Medical Journal*, 2001; 322:279-282
- <sup>14</sup> Tomasi, E., Facchini, L.A., de Fatima Santos Maia, M. Health information technology in primary health care in developing countries: a literature review. *Bulletin of the World Health Organization*, Nov 2004; 82(11):867-874
- <sup>15</sup> Balas, E.A., Jaffrey, F., Kuperman, G.J., Boren, S.A., Brown, G.D., Pincioli, F., Mitchell, J.A. Electronic communication with patients: an evaluation of distance medicine technology. *Journal of the American Medical Association*, 1997; 278(2):152-159
- <sup>16</sup> Currell R, Urquhart C, Wainwright P, Lewis R. Telemedicine versus face to face patient care: effects on professional practice and health care outcomes. *The Cochrane Database of Systematic Reviews* 2000, Issue 2. Art. No.: CD002098. DOI: 10.1002/14651858.CD002098.
- <sup>17</sup> Hersh W.R., Wallace J.A., Patterson P.K., Kraemer, D.F., Eilers, G.M., Chan, B.K.S, Greenlick, M.R., Hefland, M. *Telemedicine for the medicare population. Evidence Report/Technology Assessment No. 24 (prepared by the Oregon Health Sciences University Evidence-based Practice Center under Contract No. 290-97-0018)*. AHRQ Publication No. 01-E012. Rockville, MD: Agency for Healthcare Research and Quality; 2001
- <sup>18</sup> Wallace, J.A., Patterson, P.K., Kraemer, D.F., Nichol, W.P., Greenick, M.R., Krages, K.P., Hefland, M. *Supplement. Telemedicine for the Medicare Population: Pediatric, Obstetric, and Clinician-Indirect Home Interventions in Telemedicine. Evidence Report/Technology Assessment No. 24 Supplement (prepared by the Oregon Health Sciences University Evidence-based Practice Center under Contract No. 290-97-0018)*. AHRQ Publication No. 01-E060. Rockville, MD: Agency for Healthcare Research and Quality; 2001
- <sup>19</sup> Grol, R., Grimshaw, J. From best evidence to best practice: effective implementation of change in patients' care. *The Lancet*, Oct 2001; 362:1225-1230
- <sup>20</sup> Tilyard, M., Dovey, S., Hall, K. Avoiding and fixing medical errors in general practice: prevention strategies reported in the Linnaeus Collaboration's Primary Care International Study of Medical Errors. *The New Zealand Medical Journal*, 2005; 118(1208):U1264, obtained online: <http://www.nzma.org.nz/journal/118-1208/1264/content.pdf>

- <sup>21</sup> Makeham, M.A.B., Dovey, S.M., County, M., Kidd, M.R. An international taxonomy for errors in general practice: a pilot study. *The Medical Journal of Australia*, 2002; 177(2):68-72
- <sup>22</sup> Rosser, W., Dovey, S., Bordman, R., White, D., Crighton, E., Drummond, N. Medical errors in primary care: results of an international study of family practice. *Canadian Family Journal*, 2005; 51:386-387
- <sup>23</sup> Woolf, S.H., Kuzel, A.J., Phillips, R.L. A string of mistakes: the importance of cascade analysis in describing, counting and preventing medical errors. *Annals of Family Practice*, 2004; 2(4):317-326
- <sup>24</sup> Bhasale, A.L., Miller, G.C., Reid, S.E., Britt, H.C. Analysing potential harm in Australian general practice: an incident-monitoring study. *The Medical Journal of Australia*, 1998; 169:73-76
- <sup>25</sup> Weiss, K.B., Wagner, R. Performance measurement through audit, feedback, and profiling for improving clinical care. *Chest*, 2000; 118:53-58
- <sup>26</sup> Jamtvedt G, Young JM, Kristoffersen DT, Thomson O'Brien MA, Oxman AD. Audit and feedback: effects on professional practice and health care outcomes. *The Cochrane Database of Systematic Reviews* 2003, Issue 3. Art. No.: CD000259. DOI: 10.1002/14651858.CD000259.
- <sup>27</sup> Thomson O'Brien MA, Oxman AD, Davis DA, Haynes RB, Freemantle N, Harvey EL. Educational outreach visits: effects on professional practice and health care outcomes. *The Cochrane Database of Systematic Reviews* 1997, Issue 4. Art. No.: CD000409. DOI: 10.1002/14651858.CD000409.
- <sup>28</sup> Smith E, Singleton A, Hilton S. General practitioners' continuing education: a review of policies, strategies and effectiveness, and their implications for the future. *The British Journal of General Practice*, 1998; 48(435):1689-95
- <sup>29</sup> Davis, D. Does CME work? An analysis of the effect of educational activities on physician performance or health care outcomes. *International Journal of Psychiatry in Medicine*, 1998; 28(1):21-39
- <sup>30</sup> Stefanelli, M. Knowledge management to support performance-based medicine. *Methods of Information in Medicine*, 2002; 36-43
- <sup>31</sup> Gramshaw, J.M., Thomas, R.E., MacLennan, G., Fraser, C., Ramsay, C.R., Vale, L., Whittey, P., Eccles, M.P, Matowe, L., Shirran, L., Wensing, M., Dijkstra, R., Donaldson, C. Effectiveness and efficiency of guideline dissemination and implementation strategies. *Health Technology Assessment*, 2004; 8(6): iii-iv, 1-72
- <sup>32</sup> Grimshaw, J., Eccles, M. Implementing clinical guidelines: current evidence and future implications. *The Journal of Continuing Education in the Health Professions*, 2004; 24:S31-37
- <sup>33</sup> Freeman, T. Using performance indicators to improve health care quality in the public sector: a review of the literature. *Health Services Management Research*, 2002; 15(2):126-137
- <sup>34</sup> Spigelman, A.D., Swan, J. Review of the Australian incident monitoring system. *ANZ Journal of Surgery*, 2005; 75:657-661
- <sup>35</sup> Lexchin, J. Improving the appropriateness of physician prescribing. *International Journal of Health Services*, 1998; 28(2):253-67
- <sup>36</sup> Tipton, D.J., Giannetti, V.J., Kristofik, J.M. Managing the aftermath of medication errors: managed care's role. *Journal of the American Pharmaceutical Association*, 2003; 43(5):622-629
- <sup>37</sup> Clancy, T.R. Medication Error Prevention: progress of initiatives. *JONA'S Healthcare Law, Ethics and Regulation*, 2004; 6(1):3-12
- <sup>38</sup> Armitage, G., Knapman, H. Adverse events in drug administration: a literature review. *Journal of Nursing Management*, 2003; 11:130-140
- <sup>39</sup> Runciman, W.B., Roughhead, E.E., Semple, S.J., Adams, R.J. Adverse drug events and medication errors in Australia. *International Journal for Quality in Health Care*, 2003; 25(S1):79-59
- <sup>40</sup> Ioannidis, J.P.A., Lau, J. Evidence on interventions to reduce medical errors. *Journal of General Internal Medicine*, 2001; 16:325-334
- <sup>41</sup> Pearson, S., Ross-Degnan, D., Payson, A., Soumerai, S.B. Changing medication use in managed care: a critical review of the available evidence. *The American Journal of Managed Care*, 2003; 9(11):715-731

# 9 Indigenous health

---

## Introduction

It is well recognised that there are discrepancies between Aboriginal and Torres Strait Islander health, and that of the rest of the population.<sup>1</sup> Access is a major issue: lack of services, discrimination, cultural and gender issues, mistrust of services and providers, and poverty are just some of the barriers encountered by Indigenous patients seeking health care.<sup>2,3</sup> In the Australian setting the primary response to Indigenous health disadvantage has been investment in the community-controlled sector. This section reviews the limited evidence available on the role of 'mainstream' organised primary health care in Aboriginal health.

### **Q1: What do we know about organised PHC working with and in indigenous communities?**

There is little published evidence relating specifically to involvement of divisions of general practice in Indigenous health. There are however a small number of papers from Australian sources, and a number of relevant international reviews and articles. Positive outcomes have been achieved through the mandatory inclusion of indigenous people on health organisation governance boards<sup>4, 5</sup> and the provision of liaison officers in tribal organisations<sup>6, 18</sup> and primary care teams.<sup>10</sup> The USA has also had success with the involvement of local tribal leaders in designing and implementing health service delivery.<sup>6</sup> Similarly, in Australia, divisions felt that the involvement of Indigenous communities and community controlled health services were important to the success of a program.<sup>7</sup> Provision and delegation of funding has been identified as an issue which affects provision of services.<sup>6, 7, 10, 16, 19</sup> Open communication in all these processes was important.<sup>6, 18</sup>

### **Q2: What do we know about organised PHC and indigenous clients/patients?**

Five systematic reviews and other literature were included. The main comments of two of the systematic reviews were on the paucity of empirical data<sup>8</sup> and its lack of relevance to Indigenous health needs (Canadian material).<sup>9</sup> Programs worked best if they addressed documented needs within the defined population.<sup>10</sup> Supervision and leadership in community projects was needed,<sup>6, 10</sup> as were knowledge dissemination and communication strategies (eg: IT),<sup>6, 17, 10</sup> and the provision of resources/personnel.<sup>6, 10, 16, 17</sup> This included up-skilling and cultural education for health professionals,<sup>10, 16</sup> and amongst other methods, provision of specialist<sup>18</sup> and other outreach visits<sup>16, 17</sup> and employing indigenous personnel.<sup>6, 16</sup> It was also important to spend more time with indigenous clients<sup>6, 10</sup> and use cultural knowledge.<sup>6, 11-13</sup> Training and provision of community or Indigenous health workers is well established as effective in increasing access to indigenous peoples,<sup>6, 11-13, 16, 18</sup> but the training content for Aboriginal health workers is often varied in Australia.<sup>11</sup> It is also difficult to retain workers, and there needs to be more professional recognition of their role.<sup>11</sup> Maternal and child welfare is an area in which community organisations have worked effectively with mainstream providers to increase services to individuals,<sup>14, 15</sup> although Australian provision of these programs is not as developed as in other countries.<sup>14</sup>

## Conclusion

Given the level of health disadvantage among Aboriginal and Torres Strait Islander people, effective engagement with communities and with patients have the potential to make a significant contribution to access and health outcomes.

## References

- <sup>1</sup>Bramley, P., Herbert, P., Chassin, M. Indigenous disparities in disease-specific mortality, as cross-country comparison: New Zealand, Australia, Canada, and the United States. *The New Zealand Medical Journal*, 2004; 117(1207): obtained online: <http://www.nzmj.org.nz/journal/117-1207/1215/>
- <sup>2</sup>Culvenor, C., Wilczynski, A., Wallace, A. *Access to after hours primary medical care by disadvantaged and marginalised groups*. Canberra: Department of Health and Aging, Commonwealth of Australia, 2002
- <sup>3</sup> Commonwealth of Australia. *Better Health Care*. Canberra: Indigenous and Public Health Media Unit, Commonwealth Department of Aged Care, 2001
- <sup>4</sup>Boulton, A., Simonsen, K., Walker, T., Cumming, J., Cunningham, C. Indigenous participation in the new New Zealand health structure. *Journal of Health Services Research Policy*, 2004; 9(S2):35-40
- <sup>5</sup>Cumming, J., Raymont, A., Gribben, B., Horsburgh, M., Kent, B., McDonald, J., Mays, N., Smith, J. *Evaluation of the implementation and intermediate outcomes of the Primary Health Care Strategy First Report*. Wellington: Health Services Research Centre, Victoria University of Wellington, 2005
- <sup>6</sup>User Liaison Program. *Workshop brief: addressing critical concerns of healthcare systems serving American Indians/Alaska Natives*. Agency for Healthcare Research and Quality, 2001, obtained online: <http://www.ahrq.gov/news/ulp/tribal/ulptribal.htm>
- <sup>7</sup>Sibthorpe, B., Meihubers, S., Griew, R., Lyttle, C., Gardener, K. *NCEPH Discussion Paper Number 17: Aboriginal health initiatives in Divisions of General Practice during the move to (outcomes based) block grant funding 1998-1999*. Canberra: National Centre for Epidemiology and Population Health, The Australian National University, 1999
- <sup>8</sup>Morris, P.S. Randomised controlled trials addressing Australian Aboriginal health needs: a systematic review of the literature. *Journal of Paediatrics and Child Health*, 1999; 35:130-135
- <sup>9</sup>Young, T.K. Review of research on aboriginal populations in Canada: relevance to their health needs. *British Medical Journal*, 2003; 327:419-422
- <sup>10</sup>Stout, M.D., Kipling, G.D. *Sharing the learning: The Health Transition Fund Synthesis Series: Aboriginal health*. Ottawa: Health Canada, 2002
- <sup>11</sup> Curtin Indigenous Research Centre, Centre for Educational Research and Evaluation Consortium, Jojara & Associates. *Training re-visions: a national review of the Aboriginal and Torres Strait Islander health care worker training*. Office for Aboriginal and Torres Strait Islander Health, Commonwealth of Australia
- <sup>12</sup>Nemeck, M.A., Sabatier, R. State of evaluation: community health workers. *Public Health Nursing*, 2003; 20(4):260-270
- <sup>13</sup> Lewin SA, Dick J, Pond P, Zwarenstein M, Aja G, van Wyk B, Bosch-Capblanch X, Patrick M. Lay health workers in primary and community health care. *The Cochrane Database of Systematic Reviews* 2005, Issue 1. Art. No.: CD004015. DOI: 10.1002/14651858.CD004015.pub2.
- <sup>14</sup>Eades, S. *Aboriginal and Torres Strait Islander Primary Care Review: Consultant Report No. 6. Maternal and child health care services: Actions in the primary health care setting to improve the health of Aboriginal and Torres Strait Islander women of childbearing age, infants and young children*. Menzies School of Health Research; Commonwealth of Australia, 2004
- <sup>15</sup>Panaretto, K.S., Lee, H.M., Mitchell, M.R., Larkins, S.L., Manassis, V., Buettner, P.G., Watson, D. Impact of a collaborative shared antenatal care program for urban Indigenous women: a prospective cohort study. *Medical Journal of Australia*, 2005; 182(10):514-519
- <sup>16</sup>Andrews, B., Simmons, P., Long, I., Wilson, R. Identifying and overcoming the barriers to Aboriginal access to general practitioner services in rural New South Wales. *Australian Journal of Rural Health*, 2002; 10:196-201
- <sup>17</sup>Taylor, V., Ewald, D., Liddle, H., Warchiver, I. *Review of the implementation of the National Aboriginal and Torres Strait Islander Eye Health Program*. Centre for Remote Health; Commonwealth of Australia, 2003
- <sup>18</sup> Condon, J. *Aboriginal and Torres Strait Islander Primary Care Review: Consultant Report No. 5. Maternal and child health care services: Cancer, health services and Indigenous Australians*. Cooperative Research Centre for Aboriginal and Tropical Health; Commonwealth of Australia, 2004
- <sup>19</sup> Shannon, C., Longbottom, H. *Aboriginal and Torres Strait Islander Primary Care Review: Consultant Report No. 4. Capacity development in Aboriginal and Torres Strait Islander health service delivery*. School of Public Health, University of Queensland; Commonwealth of Australia, 2004.



Australian Divisions of **General Practice** | ACN 082 812 146

25 National Circuit Forest ACT 2603 • PO Box 4308 Manuka ACT 2603  
Telephone 02 6228 0800 • Facsimile 02 6228 0899 • [www.adgp.com.au](http://www.adgp.com.au)