

A framework to support team-based models of primary care within the Australian health care system

Health systems with strong primary care orientations are known to be associated with improved equity, better access for patients to an increased number of appropriate services at lower costs, and improved population health.^{1,2} However, these health systems also need to be able to respond to the increasing demands created by an ageing population and workforce, and increasing complexity in primary care presentations. This needs to occur in the setting of health systems that are becoming increasingly complicated and fragmented. Problems such as workforce shortages and maldistribution of workforce skill mix and roles within geographical and service settings lead to services not always matching the needs of patients.

Team-based models of care have emerged in response to such demands on health systems.^{3,4} The prevailing pattern of service delivery is evolving, from the solo general practitioner to team-based care (involving the GP, practice nurse and allied health professional) and to expanded primary care teams (involving health system facilitators, care coordinators, generalist rehabilitation assistants, physician assistants, nurse practitioners, pharmacists and paramedics). These expanded team-based models of primary care involve and support transformation in workforce roles and relationships within primary care. They are designed to:

- contribute to building the primary care workforce multidisciplinary skill mix;
- enhance patient access to a broader range of primary care providers; and
- improve the quality of primary care.

Factors influencing team-based models of primary care

Multiple factors are required for successful team-based models of primary care, including interprofessional education and learning, organisational and management policies, and practice support systems.⁵⁻¹¹

Interprofessional education and learning

Interprofessional education and learning (IPEL) is recognised internationally as a building block to help primary care professionals work more effectively in team-based care.^{7,9,11-15} IPEL initiatives enable acquisition of knowledge and skills and have been well received. Limited evidence exists that IPEL can enhance practice, improve service delivery and make positive impacts on care. IPEL still suffers from lack of definitional clarity; variable content, duration, and professional participation; and variable evaluative studies.¹¹

The recent release of core sets of IPEL competencies¹⁶ in the United States and Canada will add rigour and clarity to IPEL.

Summary

- Health systems with strong primary care orientations are known to be associated with improved equity, better access for patients to appropriate services at lower costs, and improved population health.
- Team-based models of primary care have emerged in response to health system challenges due to complex patient profiles, patient expectations and health system demands.
- Successful team-based models of primary care require a combination of interprofessional education and learning; organisational and management policies and systems; and practice support systems.
- To ensure evidence is put into practice, we propose a framework comprising five domains (theory, implementation, infrastructure, sustainability and evaluation) to assist policymakers, educators, researchers, managers and health professionals in supporting team-based models of primary care within the Australian health care system.

Nine key ingredients of successful IPEL initiatives include: recognising that one size does not fit all; adequate and dedicated resourcing; curricula development across universities and the community; introduction at the right time; creation of collaborative learning environments; modification of structures to support collaboration; embedding IPEL in the system; making a case for IPEL based on the evidence; and interprofessional participants engaging the community.⁷

Organisational and management policies and systems

Evidence from experience with primary care groups and primary care trusts in the United Kingdom, primary health organisations in New Zealand and family health teams and family health networks in Canada strongly suggests that regional-level primary care organisational structures, policies and systems can enable and support team-based models of primary care through financial, governance and institutional support mechanisms.¹⁷⁻¹⁹ However, it is also known that funding, organisational and regulatory arrangements need to align to support such organisational structures.¹²

Practice support systems

We have chosen to describe two of the most current and relevant practice support systems within primary care that demonstrate the interrelatedness of health system innovations within care delivery, workforce systems, records management, and payment systems.

Electronic health records

Electronic health records (EHRs) are an example of a practice support system that is firmly on the agenda in

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many countries, and progress has been made in their introduction and use across primary and secondary care settings.¹⁸ EHRs have the capacity to enhance teamwork, but there is insufficient evidence to conclude that they are currently being used to achieve this. E-health systems underpinning EHRs are being poorly implemented and require substantial funding for successful integration and utilisation.¹⁸

Practice-level payment systems

Practice-level payment systems also can enhance teamwork but do not guarantee teamwork. The UK Quality and Outcomes Framework (QOF) is an example of a practice-level payment system that has led to an expanded workforce (eg, practice nursing) but has not facilitated teamwork, as payment systems have reinforced traditional hierarchies headed by GPs, and have disempowered nurses.²⁰ The QOF has promoted task delegation rather than collaborative teamwork.²⁰ Team-based performance management and payment systems have potential to enable, support and reward teams for collective performance within primary health care, though rewards to team members need to be viewed as equitable among team members.^{21,22} Evidence of the effect of specific funding parameters on team-based work is limited. For example, while capitation payment based on an enrolled population of patients has potential to enable teamwork, when it has been adopted there has been little evaluation of the contextual and mitigating factors influencing teamwork outcomes.^{12,14} Blended-payment systems are being used to reward teamwork, although their effect on teamwork and outcomes is unclear.¹⁴ Fee-for-service payment systems are a barrier to teamwork within primary care, as they reinforce professional autonomy and independence, and are not appropriate for patients with chronic and complex conditions, who often require continuous care (not episodic) by multiple primary care professionals working together.¹⁴

Other influences on teamwork outcomes

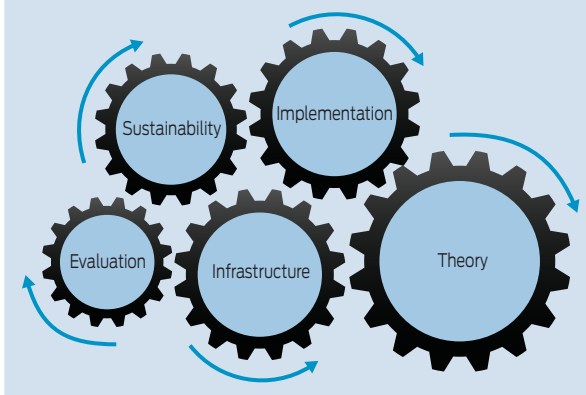
Outcomes of implementing team-based models are also influenced by the type and level of team leadership (particularly collaborative or distributed leadership styles); team composition, including skill mix, knowledge and experience; the extent to which members have shared objectives, communicate, make decisions jointly, support innovation and review working progress; the extent to which funding arrangements reward teamwork; and to what degree regulatory mechanisms support, value or reward teamwork.¹⁰

A framework to support team-based models of primary care

To ensure that practice is influenced by evidence about interprofessional education, organisational and management policies and practice support, we propose a framework to support team-based models of primary care within the Australian health care system.

Current Australian health reforms continue to emphasise the need to provide all Australians with access

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to cost-effective community-based primary care by supporting and strengthening a well trained, multi-disciplinary, team-based workforce.²³ Thus an evidence-informed framework that assists policymakers, educators, researchers, managers and health professionals to support team-based models of primary care within the Australian health care system is essential.

Our proposed framework comprises five key domains: theory, implementation, infrastructure, sustainability and evaluation (Box). The framework was informed by a realist evaluation approach²⁴ and seeks to understand what mechanisms work for whom, and within which contexts.

Context is a particularly complex concept in health care, and even within primary health care, due to the ever-changing and inconsistent nature of the context in which care is delivered. The ultimate goal of a realistic evaluation is that it opens up the “black box” and analyses how and why interventions work or don’t work in particular contexts or settings. This is important because it “closes the loop” on a new intervention, in this case changing the culture of primary health care delivery because we are able to explore the factors supporting this change in the relevant contexts.

Theory

There is wide recognition that interventions fail or succeed depending on the appropriateness or validity of the theory or assumption on which they are based. Multiple theoretical perspectives (eg, sociological, organisational, systems) exist about interprofessional working relationships that can inform support for team-based models of care. We discuss here the potential of an organisational (ie, relational coordination) and a system (ie, complex adaptive system) theoretical framework that may provide a way forward to use the evidence base to develop, implement and evaluate team-based models of primary care.

For over a decade, primary care has been described as a complex adaptive system (CAS).²⁵ “Complex” implies diversity; “adaptive” suggests capacity to change and ability to learn from experience; “system” recognises that primary care is comprised of a set of multiple interconnected or interdependent agents acting with common purpose with dynamic environments. More recently within the public health setting, the term “fifth

wave²⁶ has been used to rebalance and reorient our mindsets, our models and our learning processes in response to challenges facing public health. A CAS requires facilitative leadership, high-quality relationships, and feedback in reciprocal interactions to increase the capacity for collective, creative problem solving. A CAS can provide a framework for sharing common sets of concepts and principles, common language and a common approach that facilitates team-based approaches among primary care professionals.

Based on the argument that coordination is the management of task interdependence, and is therefore fundamentally relational,²⁷ we need to understand the importance of relationships in coordinating team-based work. According to the theory of relational coordination, coordination that occurs through frequent, timely and problem-solving communication supported by shared goals, shared knowledge and mutual respect will better achieve the desired outcomes. The “relational coordination” lens can provide a theoretical framework for team-based models of primary care.

Implementation

There is also wide recognition that interventions may fail or succeed when implementation or the “how to” has not had sufficient attention. This is often a frustration of the change agents involved (who may be health professionals, service managers, or a range of other “key players”). A multitude of factors can influence (enable or constrain) the capacity of the system to support team-based models of primary care. At the individual level these can include role delineation, skill sets, competencies, and personality attributes. At the organisational level these can include culture, structure, leadership, contractual arrangements and time frame. At the systems level these can include, for example, policy context, sector policy know-how, workforce pressures and funding pressures. To build the capacity of the system to support team-based models of primary care, a capacity-building lens focusing on three operational capacity-building dimensions is required: individual-level workforce skills and competencies; organisational-level leadership and interactions; and system-level infrastructure — to provide a transparent and systematic approach to ensuring key ingredients of successful team-based models are implemented as intended.

Infrastructure or resources

Preparing and supporting the primary care workforce to work in team-based models requires adequate and dedicated infrastructure and resourcing. An existing framework that articulates the type and level of infrastructure and resources required is the *WHO framework for action on interprofessional education and collaborative practice*.²⁸ The WHO framework identifies three mechanisms that can provide a framework to ensure that the multifaceted and multidimensional resources that support team-based models of primary care are implemented as intended:

- institutional support mechanisms — eg, governance models, structural protocols, shared operating resources, personal policies and supportive management practices;

- working culture mechanisms — eg, communication strategies, conflict resolution policies and shared decision-making processes; and
- environmental mechanisms — eg, built environment, facilities and space design.

Sustainability

Policymakers, professionals and communities face challenges in sustaining worthwhile innovations, especially in primary care. Internationally and within Australia, multiple reviews of factors that promote or constrain sustainability of interventions within the system have been conducted. Endeavours to expand knowledge about sustainability have been labelled “sustainability science”,²⁹ which is underpinned by the concept of “ecosystem”. This recognises that the organisation and interaction of the components of the system are as important as the system itself. Gruen and colleagues conducted a systematic review of conceptual frameworks and empirical studies about sustainability²⁹ and developed a unifying model based on the “ecosystem” lens. The model proposes that sustainability of interventions within systems is influenced by the interaction and alignment between three key components: the health concerns of the population, the intervention elements, and the drivers (positive and negative) of the intervention. It can be used to determine the potential sustainability of interventions designed to support team-based models of primary care.

Evaluation

There is clearly a lack of evidence regarding the implementation and impact of team-based models of primary care to inform what works, for whom and in what circumstances. A review of incentives for primary health care team service provision¹⁰ recommended, on the basis of limited evaluative evidence, that a key priority was to develop teamwork-focused evaluative tools and indicator sets. The review also suggested that investment was required in reviewing existing (international and Australian) teamwork-related, evidence-based, evaluative inventories, tools and methods for use in the Australian setting, as well as in developing and piloting a set of process and summative teamwork-evaluation indicators (at patient, provider, organisational, and systems levels) for use in the Australian setting. Since then, a systematic review of instruments used to assess teamwork has been conducted²⁸ that further emphasises recommendations supporting team-based service provision.¹⁰ Another review of instruments to measure teamwork³⁰ found that very few existing measures demonstrated psychometric properties recommended for use, and that there was inconsistency in conceptualisations of teamwork. A key recommendation was that more research be undertaken to aid in developing and refining measures of teamwork for reliable use by researchers and practitioners or managers. Overall, there is a need for an integrated evaluation strategy focusing on interprofessional, organisational, and practice support strategies for team-based models of primary care.

Conclusion

Current Australian health care policy reforms continue to emphasise team-based primary care, and the proliferation of team-based models and investments designed to sustain their implementation require a robust framework of support. The framework we propose is an evidence-informed way to assist policymakers, educators, researchers, managers and health professionals to support team-based models of primary care within the Australian health care system. The framework is not necessarily for use as a whole, nor is it to be followed as a recipe, without reflection; rather, it is as a set of ingredients to support the implementation and sustainability of team-based models of primary care.

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- 1 Starfield B. Is primary care essential? *Lancet* 1994; 344: 1129-1133.
- 2 Atun R. What are the advantages and disadvantages of restructuring a health care system to be more focussed on primary care services? Health Evidence Network report. Copenhagen: World Health Organization Regional office for Europe, 2004. www.euro.who.int/document/e82997.pdf (accessed Mar 2011).
- 3 European Forum for Primary Care. Interdisciplinary collaboration within primary care teams. Position paper, 2nd draft, 2009. http://www.nivel.nl/pdf/Interdisciplinary%20collaboration%20within%20primary%20care%20teams_second%20draft_2.pdf (accessed Mar 2011).
- 4 Laurant M, Harmsen M, Faber M, et al. Revision of professional roles and quality improvement: a review of the evidence. London: The Health Foundation, 2010. http://www.pharmacieconsultant.org/wp-content/uploads/2010/03/The_Health_Foundation-Revision_of_professional_roles_and_quality_improvement.pdf (accessed Mar 2011).
- 5 Mickan S, Rodger S. Characteristics of effective teams: a literature review. *Aust Health Rev* 2000; 23: 201-208.
- 6 Grumbach K, Bodenheimer T. Can health care teams improve primary care practice? *JAMA* 2004; 291: 1246-1251.
- 7 Gilbert JH. The status of interprofessional education in Canada. *J Allied Health* 2010; 39: 216-223.
- 8 Lemieux-Charles L, McGuire WL. What do we know about health care team effectiveness? A review of the literature. *Med Care Res Rev* 2006; 63: 263-300.
- 9 Oandasan I, Baker GR, Barker K, et al. Teamwork in healthcare: promoting effective teamwork in healthcare in Canada. Ottawa: Canadian Health Services Research Foundation, 2006. http://www.chsrf.ca/Migrated/PDF/teamwork-synthesis-report_e.pdf (accessed Mar 2011).
- 10 Naccarella L, Scott A, Furler J, et al. Narrative literature review of incentives for primary health care team service provision. Report prepared for Australian Primary Health Care Research Institute, University of Melbourne, 2010.
- 11 Reeves S. Synthesis of systematic review evidence of interprofessional education. *J Allied Health* 2010; 39 Suppl 1: 198-203.
- 12 Ashton T. Development of the primary care workforce. *Health Policy Monitor* [internet] 2008. <http://www.hpm.org/survey/nz/a12/1> (accessed Jun 2009).
- 13 Humphris D. Multiprofessional working, interprofessional learning and primary care: a way forward? *Contemp Nurse* 2007; 26: 48-55.
- 14 Pullon S, McKinlay E, Dew K. Primary health care in New Zealand: the impact of organisational factors on teamwork. *Br J Gen Pract* 2009; 59: 191-197.
- 15 Zwarenstein M, Reeves S, Barr H, et al. Interprofessional education: effects on professional practice and health care outcomes. *Cochrane Database Syst Rev* 2001; (1): CD002213.
- 16 Interprofessional Education Collaborative Expert Panel. Core competencies for interprofessional collaborative practice: report of an expert panel. Washington, DC: Interprofessional Education Collaborative, 2011. <http://www.aacn.nche.edu/education-resources/IPECReport.pdf> (accessed Nov 2011).
- 17 Martin JC, Avant RF, Bowman MA, et al; Future of Family Medicine Project Leadership Committee. The future of family medicine: a collaborative project of the family medicine community. *Ann Fam Med* 2004; 2 Suppl 1: S3-S32.
- 18 Schoen C, Osborn R, Huynh PT, et al. On the front lines of care: primary care doctors' office systems, experiences, and views in seven countries. *Health Aff (Millwood)* 2006; 25: w555-w571.
- 19 Jansen L. Collaborative and interdisciplinary health care teams: ready or not? *J Prof Nurs* 2008; 24: 218-227.
- 20 McDonald R, Roland M. Pay for performance in primary care in England and California: comparison of unintended consequences. *Ann Fam Med* 2009; 7: 121-127.
- 21 Buetow S. Pay-for-performance in New Zealand primary health care. *J Health Organ Manag* 2008; 22: 36-47.
- 22 Gosden T, Forland F, Kristiansen IS, et al. Capitation, salary, fee-for-service and mixed systems of payment: effects on the behaviour of primary care physicians. *Cochrane Database Syst Rev* 2000; (3): CD002215.
- 23 Australian Government. National health reform: progress and delivery. Canberra: Commonwealth of Australia, 2011. <http://www.yourhealth.gov.au/internet/yourhealth/publishing.nsf/Content/nhr-progress-delivery#T-FbgPXLLAV> (accessed Nov 2011).
- 24 Pawson R, Tilley N. Realistic evaluation. London: Sage, 1997.
- 25 Miller WL, McDaniel RR Jr, Crabtree BF, Stange KC. Practice jazz: understanding variation in family practices using complexity science. *J Fam Pract* 2001; 50: 872-878.
- 26 Hanlon P, Carlisle S, Hannah M, et al. Making the case for a "fifth wave" in public health. *Public Health* 2011; 125: 30-36.
- 27 Gittel JH. Coordinating mechanisms in care provider groups: relational coordination as a mediator and input uncertainty as a moderator of performance effects. *Manag Sci* 2002; 48: 1408-1426.
- 28 World Health Organization. Framework for action on interprofessional education and collaborative practice. Geneva: WHO, 2010. http://www.who.int/hrh/resources/framework_action/en/ (accessed Nov 2011).
- 29 Gruen RL, Elliott JH, Nolan ML, et al. Sustainability science: an integrated approach for health-programme planning. *Lancet* 2008; 372: 1579-1589.
- 30 Valentine MA, Nembhard IM, Edmondson AC. Measuring teamwork in health care settings: a review of survey instruments. Harvard Business School Working Paper 11-116, April 2012. <http://www.hbs.edu/research/pdf/11-116.pdf> (accessed May 2012). □