Health care homes: lessons from the Diabetes Care Project

Better care coordination, e-health tools and funding systems are essential for chronic disease management

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One of the biggest health care challenges in Australia is ensuring that people with chronic diseases receive the care they need in a high quality and sustainable way. Today, one-third of the population — about 7 million people — have one or more chronic conditions, accounting for 85% of the total burden of disease, 90% of all deaths, 40% of general practitioner visits and 60% of disease-allocated health expenditure.[1,2] As the National Health and Hospital Reform Commission noted in 2009, these patients often have great difficulty accessing appropriate care and "end up literally ricocheting between multiple specialists and hospitals, not getting access to community support services, and having endless diagnostic tests as each health professional works on a particular 'body part,' rather than treating the whole person".[3]

In response to this challenge, and drawing on local and international experience,[4-6] the commission recommended the concept of a health care home. The proposal was that people with chronic and complex health problems who chose to enrol with a single primary health care service as their health care home would be supported through a package of funding to strengthen continuity and coordinated, multidisciplinary care and health outcomes.[3] The Diabetes Care Project (DCP) was a pilot of the health care home concept, conducted and evaluated from 2011 to 2014.[7,8]

In 2015, the Australian Government established the Primary Health Care Advisory Group (PHCAG) to re-examine this problem, and it recently announced that, from 1 July 2017, it would begin implementing a trial of health care homes in seven primary health network regions across the country.[9,10] The health care home concept, as defined by PHCAG, aims to "provide holistic support and coordinated care for patients [and] support enhanced team based care … [while being] underpinned by shared information … [and] supported by new payment models".[9] Under the proposed model, eligible people with chronic diseases will be able to enrol with a GP practice or Aboriginal medical service, which will "co-ordinate all of the medical, allied health and out-of-hospital services required as part of a patient's tailored care plan".[10] This will involve significant changes for both Medicare and the wider health care system. Moreover, funding to support people enrolled in health care homes will be bundled together into regular quarterly payments, signalling a move away from the current fee-for-service payment system for this population (except where a health problem does not relate to their chronic disease).

There have been various definitions of medical homes and health care homes described in the literature.[11-14] The concept of the health care home proposed by the government is similar to the approach tested in the DCP, and it is timely to reflect on how lessons learned during that trial could inform current efforts to introduce a health care home model in Australia.[7,8]

The DCP was one of the largest randomised controlled trials of coordinated care for people with a chronic disease ever conducted. It involved 184 general practices and 7781 people with diabetes in South Australia, Victoria and Queensland from 2011 to 2014. Practices were randomised into a control group or one of two intervention groups. Group 1 received a new information technology system and regular updates on their performance, and group 2 received the same interventions as group 1 plus a new funding model similar to that being proposed by PHCAG for the new health care homes. After 18 months, participants in group 2 showed an improvement in the mean glycated haemoglobin (HbA_{1c}) level (the primary endpoint of the trial), while group 1 showed no benefits (Box).

How can these findings help us design and implement an effective health care home model for Australia?

First, the DCP highlighted that modifying current funding mechanisms is important if we are to create a health care system more suited to the needs of people with chronic and complex conditions. Better information systems and quality improvement processes alone were not sufficient to improve health outcomes in the trial. However, combining these changes with a new funding model that made it easier for providers to coordinate a patient's care and that rewarded quality care made a significant difference. Although designing and implementing changes to funding systems is never easy (the status quo will always have a strong pull), this finding demonstrates that such changes can have a considerable impact on health outcomes for people with chronic diseases.

Second, the results from the DCP showed the challenge of implementing e-health tools and better information systems without sufficient focus on support to encourage

Diabetes Care Project interventions and results[8]

Group	Interventions	Results
Group 1	cdmNet: an online care planning and shared health record tool for clinicians and patients. Regular reporting to practices on their clinical performance compared with peers.	No change in HbA_{1c} level (the primary endpoint).
Group 2	cdmNet: an online care planning and shared health record tool for clinicians and patients. Regular reporting to practices on their clinical performance compared with peers. Flexible payments of $130–$350 to practices, and $140–$666 for allied health care per year (which replaced funding for GP management plans and team care arrangements). Incentive payments of up to $150 per patient per year tied to quality of care, improvements in HbA_{1c} and patient experience. Funding for a salaried care facilitator, shared between several practices.	Improvement in HbA_{1c} level of 0.2 percentage points across the whole population (the primary endpoint). Larger improvements for people with starting HbA_{1c} above target range (eg, 0.6 percentage point improvement for people with HbA_{1c} above 9%). Statistically significant improvements in blood pressure, blood lipids, waist circumference, depression, diabetes-related stress, care plan take-up, completion of recommended annual cycles of care and allied health visits.

their adoption. One of the most surprising findings from the DCP was that group 1 did not show any improvement in health outcomes. A closer look at the data suggests that this may, in part, reflect this group's limited use of cdmNet — an online service that allows clinicians to access a shared electronic health record, automatically send referrals, generate pre-populated electronic care plans and display aggregated information about the health of their enrolled patients. In group 2, GPs used cdmNet twice as often, practice nurses used it three times as often, and allied health providers used it six times as often as their counterparts in group 1. Care facilitators in group 2 also relied heavily on cdmNet to prioritise tasks and identify the problems they could help with. Both intervention groups received the same training and technical support, but it is likely that cdmNet was used more in group 2 because the tool automated payments to practices and allied health providers (which made it much easier for them to get paid) and care facilitators reinforced its use in practices. As these results suggest, it is not sufficient to simply give people new health tools. Instead, these tools must be incorporated into the day-to-day model of care and people must be provided with compelling reasons for using them to have a meaningful impact on care delivery and health outcomes.

Last, the data gathered during the DCP highlight the importance of coordination between primary and secondary care. In the year before the trial, hospital costs accounted for almost half of total health care expenditure in the enrolled population.[8] These costs were unevenly distributed, with 5% of participants accounting for about 50% of hospital costs, and 20% of participants accounting for over 80% of hospital costs. Despite this, people who were hospitalised more frequently did not receive a significantly greater allocation of chronic disease management and allied health funding than people in better health. In future programs, improved information sharing between primary and secondary care may help identify those most at risk of repeated hospitalisations and allow better targeting of resources to keep people well and reduce avoidable hospitalisations.

Shifting our health system towards a health care home model is a challenging task, and it is unlikely that initial attempts will be perfect. For this reason, it is important that implementation is accompanied by thorough and ongoing evaluations of the impact of this model on health outcomes, patient experience and value for money. The resulting data can then be used to inform refinements where necessary. In the longer term, the findings can be used to answer broader questions about the health care home model, such as: which people benefit most from the program? what is the clinician experience and how is clinical practice impacted? what is the ideal mix of fee-for-service, population-based funding and payment for outcomes? how do providers manage switching between the health care home model for some people and normal fee-for-service visits for others? and is the health care home model reducing hospital costs in the long term?

The government has indicated that a review of the health care home model will be considered in 2018 to determine whether it will be implemented in other parts of the country.[15] Establishing the evaluation framework from the outset will strengthen the implementation and the value of the results, paving the way towards better-coordinated and more appropriate care for those with the greatest health needs.

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