

“They were all together ... discussing the best options for me”: integrating specialist diabetes care with primary care in Australia

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ABSTRACT

Over one third of diabetes-related encounters with healthcare providers in Australia fail to meet clinical guidelines. Evidence is mounting that care provision within an integrated framework may facilitate greater adherence to clinical guidelines and improved outcomes for patients. The [Program name] was implemented across a large healthcare district to enhance diabetes care capacity at primary care level through intensive case-conferencing involving the primary care team, patients and visiting specialist team, whole practice performance review and regular diabetes education for practitioners. Here, we provide an in-depth patient assessment of the case-conferencing process and impact on diabetes management. Two practices with high pre-intervention HbA1c monitoring and three practices with low HbA1c monitoring provided the sampling frame. Patients were selected according to their score on the Patient Activation MeasureTM to achieve maximum variation, with up to two patients with high scores and three with low scores selected from each practice. Patients were sampled until data saturation was achieved and subject to thematic content analysis (n=19). Patients mostly described the model of care as a positive experience, reporting a boost in confidence in diabetes self-management (particularly around nutrition). The program was seen to be helpful in providing an opportunity to refocus when “life gets in the way”. Other valued aspects of the program included the holistic approach to healthcare, reduced travel time, familiarity in environment and clinical care, top-down knowledge transfer as well as mutual learning by the patient and their primary care team. Despite this, difficulties in coping with diabetes and adherence to treatment recommendations remained for a minority of patients. Integrating specialist teams within primary care has the ability to provide efficient health care delivery, better patient experience and health outcomes. Investment in such approaches will be critical to navigating health care provision to meet the demands of an ageing population.

Keywords: diabetes care, qualitative, primary care, service integration

What is known about this topic?

- Fragmented diabetes care not only adversely affects the patient experience but impacts on patient health outcomes such as cardiovascular complications.
- Care integration offers significant patient benefits but has historically been difficult for most health systems to implement.
- As a result, patient assessment of innovative models of care that integrate tertiary and primary health care have been lacking.

What this paper adds?

- Integrating specialist diabetes team in primary care provided increased knowledge transfer between all parties involved in case conferencing, as well as increased patient confidence and understanding in self-management
- Despite the holistic approach to care, adhering to non-pharmacological dietary and physical activity recommendations however remained a challenge for a minority of participants who require additional support
- Innovative integrative healthcare models are required to meet the demands of a global ageing population and will suit the majority of patients.

INTRODUCTION

Type 2 diabetes mellitus (T2DM) is a significant public health challenge, globally and in Australia (Barr et al., 2006). It is clear that diabetes is a difficult and complex disease to manage but there is good evidence to suggest that intensive glucose control (Holman et al., 2008), and management of associated cardiovascular risk factors reduces the development or progression of T2DM complications (Gaede et al., 2008). Yet, many Australian patients with T2DM are failing to meet targets, with 47.9% of patients having an HbA1c > 53mmol/mol (7%), 87.6% with total cholesterol \geq 4.0mmol/L and 73.8% with a blood pressure \geq 130/85mmHg (Wan et al., 2006). Effective primary care and self-management is critical to the control of diabetes (Deakin et al., 2005). Diabetes is the third most frequently managed chronic condition in general practice (after hypertension and depression), and accounts for 7.5% of all chronic disease-related general practice visits, yet diabetes management in primary health care settings is suboptimal, with issues such as underdiagnosis, inadequate monitoring, and delays between disease progression and appropriate therapeutic response (Britt et al., 2016; Fonseca, 2009).

In light of the increasing burden of T2DM and the difficulty of primary care in Australia to cope with the demand and complexity of T2DM cases, new models of care are required to achieve improvements in patient outcomes. The Australian National Health and Hospital Reform Commission suggested that the best models of care for complex patients provided an intersection between specialist services and primary care (Australian Government National Health and Hospital Reform Commission, 2009). Similar sentiments are echoed in the 2016-2020 Australian National Diabetes Strategy (Department of Health, 2018). To address this need for better community-based diabetes care, the [Name of initiative] trialled an outreach program that focused on the integration of specialist teams within primary care in the Hunter and New England area of New South Wales ([Name of program; referred to as the program hereafter]).

The aim of this program is to maximise the reach of three fulltime equivalent diabetes specialists and ten fulltime diabetes educators across the 1032 general practitioners (GPs) and up to 80000 people with diabetes living in the [Region] in New South Wales to deliver high quality clinical care to patients within primary practice and improve timely access for those requiring tertiary care. A key component of the program involves the use of case conferencing between the specialist team, primary care physician and patients as a way to improve knowledge, skills and confidence in managing diabetes as well as primary care practice evaluation and practitioner-specific education. The intervention (informed by the Chronic Care Model; Bodenheimer et al., 2002) resulted in significant improvements in HbA1c and 5-year cardiovascular disease risk (citation removed for blinded review). Here, we report on the patient assessment of the process and its impact on diabetes management and self-care.

METHODS

Participant Sampling frame

Of the 93 general practices involved in the Program (citation removed for blinded review), five practices were selected based on key diabetes monitoring indicators identified in the Program register as an indicator of pre-program quality of care. As it is recommended that most patients have HbA1c monitoring every 3-6 months, HbA1c was considered the most appropriate indicator. Two practices with relatively high proportions of HbA1c monitoring (i.e. <10% of patients with no HbA1c in the 12 months prior to engagement in the program) and three practices that had low proportions of HbA1c monitoring (i.e. >20% of patients with no HbA1c in the 12 months prior to program participation) were selected. Patients attending these practices (n=108) provided the sampling frame for this study with patients selected by the Program Coordinator based on their Patient Activation Measure™ (PAM) scores (Hibbard et

al., 2004). The PAM provides an indicator of diabetes self-management practices (e.g. health beliefs and knowledge, skills and confidence in self-care and ability to adhere to therapy and lifestyle changes) and has been associated with better health behaviours and outcomes (Hibbard et al., 2007). Up to two patients with high PAM scores (i.e. 3 or 4) and up to three patients with low scores (i.e. 1 or 2) were selected from each of the practices to achieve a diversity of experiences. Sample characteristics were also monitored and formally checked after 10 interviews to ensure that there was also variability amongst participants on factors such as age and gender (thereby minimising sampling bias) (Kitto et al., 2008). It was anticipated that between 15 and 20 interviews would be required, however patients were sampled until data saturation was reached.

Recruitment process

Potential participants were randomly selected from the eligible pool and were contacted by the second author via telephone and details of the study (including what was being asked of participants, voluntary participation and confidentiality were discussed). A suitable time for the face-to-face interview at their usual General Practice was also arranged. A formal letter of invitation and participant information statement was mailed to potential participants approximately 2-3 weeks prior to the scheduled interviews and participants were given the opportunity to contact the Program Coordinator with any further questions/concerns or decline participation in the interviews.

Interview process

Semi-structured face-to-face interviews were conducted by an Endocrinology Trainee who had attended and lead a number of case conferences but was not involved in the care of the participants who were interviewed. The interviews were conducted at the patients' usual

General Practice site. This setting was deemed most appropriate in terms of patient access, environment familiarity and convenience. Prior to the commencement of the interview participants were afforded the opportunity to ask any further questions before providing written and verbal consent for the interview. At this time, participants were reminded that they could stop or pause the interview or withdraw consent at any time for any reason and that their participation in the Program would not be jeopardised.

The digitally recorded interviews were primarily guided by the semi-structured interview schedule which sought to elicit information on factors which improved patient engagement with the integrated care model as well as limitations of the case conference design in order to facilitate future program improvement. As such, all open-ended anchor questions were asked however participants were able to direct the conversation within these areas of interest and concentrated in-depth on issues they felt were most important. During the interview, field notes were collected including points of interest to follow-up at an appropriate time. The interviews were conducted during the period August 01, 2018 and September 05, 2018 and ranged in duration from 10 to 35 mins.

Data analysis

Digitally recorded interviews were transcribed verbatim and deidentified. All interviews were checked for accuracy and then entered into the Nvivo qualitative analysis program (v.12) for analysis. Coming from a realist perspective, a pragmatic approach to the analysis was taken (Patton, 2002). Thematic analysis according to the approach outlined by Braun and Clarke (2006) was applied to the data, with data coded by the first author. To summarise, finalised transcripts were read and reread so that the first author who did not conduct the interviews could immerse herself into the content and gain an overall sense of the data, with patterns and

meaning identified. Initial codes were then generated from the raw data through a line-by-line reading of the transcripts, with sections of text identified and entered as free standing nodes. Where possible, these initial nodes reflected the participants own words and all nodes were defined using descriptive labels. To maintain context and meaning, relevant surrounding data were retained. Throughout the coding process, all transcripts were repeatedly reviewed and analysed in an iterative fashion, constantly comparing the data (within and across transcripts) with similar concepts groups together. The refinement of high-order concepts (i.e. themes) involved ensuring that the generated codes formed coherent patterns within and across the datasets with disconfirming evidence sought (Miles & Huberman, 1994). At this stage, an initial codebook was developed, and the coding structure was verified through consultation with the second author to ensure that the themes were reflective of the participants' narratives. All participants were given a pseudonym in the reporting of findings to maintain anonymity.

Additional participant information

The following demographic and clinical variables extracted from the Program register (citation removed for blinded review) were used to characterise the sample. These included age at interview, years since diagnosis, PAMTM score, pre-intervention HbA1c levels, body mass index as well as performance of the practice (high vs low).

Ethics approval

Ethical approval was granted for all aspects of the project by the [Name of committee] Human Research Ethics Committee with informed written consent gained from participants prior to the commencement of the interview.

FINDINGS

Of the 26 patients that were invited to take part, 7 patients declined to be interviewed. The 19 participants had an average age of 65.4 years (see Table 1). All participants lived in the Greater Newcastle Region of New South Wales, with over half (57.9%) attending general practices with low rates of HbA1c monitoring. More males than females participated in the evaluation interviews (57.9% vs 42.1%), the majority had PAM scores of 2 or 3 (84.2%) and were either overweight (21.1%) or obese (68.4%).

On the whole, the participants found engagement with the Program a positive experience despite some having feelings of apprehension of what the “*unknown*” would bring and the sheer number of healthcare professionals in the room upon entry. For instance, Anna had a tendency to get “*a little bit apprehensive about things that I’m not sure of and I’m not prepared for*” [High practice performance; PAM=2; disease duration=10 years] while Oliver described it as having a “back to school” feeling [Low practice performance; PAM=2]. Despite this, Anna recalled feeling a level of comfort once the process was underway. This was echoed by George (and the majority of participants) who indicated that it was a “*little bit overwhelming to start with but once, yeah, I, once that sort of settled, that, that feeling settled it um became very evident very quickly that it was gonna be helpful*” [High performance practice; PAM=2; disease duration=10 years]. Only one participant felt that they were better suited to a one-on-one consultation environment.

Content analysis revealed a number of strengths of the program, and few negatives. Themes largely revolved around improvement or changes in processes, relationships with healthcare providers and learning outcomes.

Theme 1: Holistic approach to care

Overwhelmingly participants described the integration of services as the key benefit of the program. As the majority of participants had longstanding diabetes, they were able to contrast this program with previous care and diabetes education experiences. Participants described their previous care experiences as fractured and frustrating in terms of access (and cost) to tertiary services, receiving inconsistent and conflicting care advice and either lack of, or unfocused diabetes education. Alternatively, the Program represented not only a holistic approach to care but also familiarity in environment and clinical care. For instance, Larry who had been managing diabetes for almost three decades indicated “*here we had the dietitian, we had [GP] that’s known my history, we had uh the doctor [specialist] and everything was to discuss among those three groups of people ...*” [High performance practice; PAM=4, disease duration=29 years], while Sandy suggested:

I liked that everybody was all there all together. It wasn’t separate like go and see the dietitian then go and see the doctor and then go and see you know um someone else. ... it seemed to me to be more coordinated ... like one of the doctors you know, would say something then the dietitian would also sort of say how I could you know change that or ... be more proactive [High performance practice; PAM=3; disease duration=24 years]

These sentiments were also echoed by participants with more recent diagnoses. In particular, George suggested that they found the holistic representation from all aspects of diabetes care (e.g. specialist, dietitian, diabetes educator, practice nurse and GP) “*comforting*” and that:

it wasn’t just going and seeing one person and then seeing the next person in separate time slots um they were all together and the fact they were all agreeing or discussing the best option for, for me personally rather than just what the literature ... [it] was reassuring to me [High performance practice; PAM=2; disease duration=1 year].

While having access to diabetes educators to review eating charts and make suggestions regarding food choices or developing a treatment plan through healthcare provider consensus was often indicated as being paramount (including the streamlining of other allied health referrals), participants also described being an active participant in the process (in contrast to a passive role often played in traditional diabetes care interactions). For some, this was the first time they had received specialist diabetes care. This role was reported to provide a boost in confidence regarding self-management *“if you’ve been doing the right thing”* [Betty; High performance practice; PAM=3; disease duration=7 years] or allowed the participant space to refocus on their diabetes care. The need to refocus was especially felt in the times *“life [just] gets in the way”* [Anna; High practice performance; PAM=2; disease duration=10 years]. This ranged from *“getting off track”* with their diet or *“falling off the wagon”* to dealing with life’s greater challenges such as a death in the family. As Mary indicated *“the problem with diabetes is that it’s such an insidious sort of thing that you don’t, you’re aware of the things you should do but unless you’re reminded to do them you get a bit lax”* [Low practice performance; PAM=2; disease duration=19 years].

It must be noted that although the majority of participants viewed the integrated care approach to be ideal for the delivery of diabetes care, a few participants felt that the sessions were dominated by either the endocrinologist or diabetes educator. This suggests that there is a delicate balance to be achieved for optimal delivery and more structure may have been appropriate in some instances.

Theme 2: Individual and mutual knowledge transfer

Top-down knowledge transfer regarding diabetes, its complications, and how best to self-manage the disease (including nutrition and physical activity) was identified as a key strength

of the program for participants. A few participants indicated that they had attended other education sessions in the past and that the Program design did not present anything new in terms of knowledge translation, however the ability to receive this information in an environment that did not seem overly rushed compared to individual appointments with health professionals was positive. For instance, Eddie who had been managing diabetes for the past 11 years indicated that *“it was quite educational and uh and I think I’ve uh uh gained more information from it so I think I might be managing my diabetes a little better lately because my readings have been lower”* (High performance practice, PAM=2). Some participants that had experienced other diabetes education acknowledged that the way in which the material was being delivered was important. Harry indicated *“there was a lot of new material for me because there was things I was uh sort of had been over before at times but having the input from the endocrinologist was really, really good in particular”* [Low performance practice; PAM=3; disease duration=11 years]; while John *“never felt judged”* during the delivery of the nutritional as well as technical management information and that he *“probably got more knowledge out of it than I’ve ever had before”* [Low performance practice; PAM=2; disease duration=9 years]. In contrast, a minority of participants found the amount of knowledge to be taken in during each of the sessions to be overwhelming despite additional reading material being provided to participants to take home.

Interestingly, the participants were not only focused on their own knowledge gains but were also focused on the learning that occurred by the GP and practice nurses and how this was going to impact on their care: *“they’re learning, see you’re all learning together so the whole process is, is beneficial for everybody”* [Ian; Low performance practice; PAM=3; disease duration=6 years]; *“the results are probably just as good, it probably if I can say probably even better because the GP is also learning, the GP is hearing from a specialist”* [Ryan; Low

practice performance; PAM=2; disease duration=16 years]. Anna indicated that the practice nurse had indicated that “*we learnt so much*” and suggested that this gave a “*good feeling too because I was thinking okay the nurse and doctor are learning out of this too so therefore I’m gonna benefit from this as well um yeah*” [High practice performance; PAM=2; disease duration=10 years]. Ryan took this notion further by suggesting that the fact that the GP was learning was even more important than his own:

... you’ve put yourself out to come to me rather than me wandering down to [hospital] or somewhere else um and uh you, you know its uh and the results are probably just as good, ... or if I can say even better because the GP is also learning, the GP is hearing from a specialist [Low practice performance; PAM=2; disease duration=16 years]

Theme 3: Changes to diabetes care: for better or worse

Participants described a noticeable impact on the care they received as a result of the case conferencing process. Major changes to care included the number of visits, with some patients receiving increased frequency of visits while others had decreased based on disease improvement: “*It’s gotten less. I don’t need to come in all the time because like me numbers are good so I’m getting on top of everything ... whereas before when they were still high it was like once a month, once every two months*” [Katherine; Low practice performance; PAM=4; disease duration=8 years]. For a minority of participants, improvements in communication with the primary care team were also noticed such as increased ability to open up about their care with the practice nurse (that in turn resulted in appointments being attended) and trust and confidence in the primary care team:

I’ve got more confidence in their ability to, to help me with this disease ... I’ve lacked some trust in GPs previously um but in this case I have no issues with coming back and,

and being active, actively participating in, in managing it with my GP and the clinic nurse [George; Practice performance=Low; PAM=2; disease duration=1 year]

Changes to pharmacological and non-pharmacology therapies and being “*vigilant with um insulin and um the management and meals*” [Sandy; High performance practice; PAM=3; disease duration=24 years] however were the most contentious changes noted by participants. For some, these were identified as important to the improvement of their disease. Small tweaks to their diet, particularly for breakfast and regulating mealtimes were found to have dramatic impacts. The improvements in glucose control associated with small dietary changes is highlighted in Larry’s account:

... I normally only have ... some dry biscuits or something like maybe with a bit of cheese or something on them for lunch ... um they recommended I vary that a little bit and maybe make sure that I have a bit of fruit, well I’m starting to get into that, that habit ... what I was finding before was sometimes after lunch I would have a very big reading ..., but ah since ... I’ve been in the 7 and 8 range you know so, which is pretty good [High performance practice; PAM=4, disease duration=29 years]

Some participants were able to refine their diabetes self-management and medications often as a result of changes in dosage, escalation to insulin (or adding medications) or more vigilant glucose monitoring: “*my HbA1c dropped back into a better category...*” [Randy; Low performance; PAM=3; disease duration=12 years]; “*... the medications the doctors got me on uh they really work you know, he, he’s very happy with it. The last time I was there he said whatever you’re doing, keep doing it*” [David; Low performance practice; PAM=4, disease duration=11 years] and increased confidence with insulin management:

... I came home yesterday after lunch I was 7, I went out and done a fair bit of work in the backyard and ah I was down to 3.8, well alright we took care of that and we had dinner and it was all fine, I knew why I had the hypo and I knew that I had to test and make sure where it was [Larry; High performance practice; PAM=4, disease duration=29 years]

years].

Participants also reported enhanced knowledge of their diabetes and their antihyperglycaemic medications as demonstrated in Mary's account:

"Yes, and um and so in one case that was the, the [dapagliflozin] I was on and um and so they told me to go off that because I had had some side effects ... so, yes the information when I was puzzled about something was given to me" [Low performance practice; PAM=2, disease duration=29 years].

However, not all participants viewed the medication adjustments positively. Some participants had a *"if it isn't broke why fix it"* attitude suggesting that the new medication wasn't working 'right' *"I was on good ones and then, now I'm not"* [Carl; High performance practice; PAM=2, disease duration=8 years]. Others were concerned about additional weight gain and higher blood glucose levels, particularly in the early stages of the medication change over. For instance, Betty recounted *"going onto the insulin I find this more difficult because when you take insulin you've gotta eat food and I don't wanna put weight on, I have been overweight at times and I've hated it and I just didn't want to put weight on"* [High performance practice; PAM=3; disease duration=7 years] while Penny indicated that *"we changed my insulin from morning to night which I'm still struggling a bit with of the night"*. Increasing blood glucose levels was a source of uncertainty and increasing anxiety *"I wouldn't worry if things weren't going up but 'cause before um my readings first reading in the morning was um 8s and 9s but once I got off that one it's now up to 10, 11 even 12 something, every morning and I don't know ... that's a big factor with me ..."* [Mary; Low performance practice; PAM=2, disease duration=29 years]. It is noteworthy that these participants all have PAM scores less than or equal to 3.

Theme 4: The diabetes struggle

While the participants found the case conferencing process beneficial, it was still evident that the struggle to manage this “*insidious disease*” was still felt. A number of participants described difficulties adhering to constant glucose monitoring although adherence to regimes were mostly noted for non-pharmacological management. Participants identified portion control and not being able to eat like everyone else around them as well as engaging in physical activity as particularly difficult to manage despite being educated about serious complications that can occur: “*it’s a big temptation, everything is there in front of you all the time and it, it is really hard, very hard*” [Anna; High practice performance; PAM=2; disease duration=10 years]. One participant in particular noted that stress was a major player in adherence to non-pharmacological management and that when stressed goes “*totally off the rails*” [Fran; High practice performance; PAM=3], while others cited retirement and shift working as impediments to maintaining a diabetes friendly diet: “*I’ve been retired and uh got lazy (laughs)*” [Eddie; High performance practice, PAM=2]. On the other hand, lethargy, laziness and over-estimating incidental exercise as well as other comorbidities were referenced as factors that interfered with engagement in planned physical activity.

DISCUSSION

The findings of this study demonstrate the utility of an integrated model of care for the management of diabetes in the primary care setting. Care integration offers significant patient benefits but has historically been difficult for most health systems to implement. Here, patients found the program to be beneficial and cited the holistic approach to diabetes care in a familiar environment, knowledge transfer between all parties involved in the case conferencing, changes to non-pharmacological and pharmacological management of the patient’s diabetes and improved patient understanding of diabetes self-management as key success factors for the program. This suggests that care collaboration is critical to the provision of true patient-centred

care. The findings have important implications for the improvement and large-scale roll out of such care models.

Health care in Australia and internationally is facing several challenges due to increasing fragmentation with patients rarely having a single person responsible for the decision-making and treatment process (Ahgren, 2003). Fractured health care delivery is both frustrating and adversely affects the patient experience of diabetes care. With less than 20% of individuals with T2DM found to have optimal glycaemic control as well as lipid and blood pressure levels through self-care (Casagrande et al., 2013), this model of care makes headway in addressing the issues of increased risk and cost of care with increasing sources of medical care such as subspecialty referrals (Vimalananda et al., 2018).

In our study, patient-centred communication with health care providers was critical for patients learning self-management skills. The social context in health decision-making has been previously identified and the findings are supported by Peltola and others who identified that trust building and trust in the other parties involved in the health care provider relationship as well as willingness to communicate, emotional presence and appropriateness were central components to achieving improved self-management (McKenna et al., 2017; Peltola et al., 2018; Ross et al., 2014). Patient-centred care has also been shown to result in reduced HbA1c, improved self-care behaviours (such as adherence to medications, diet exercise, glucose monitoring and foot care) and improve quality of life (Williams et al., 2016). Improvement in such indicators is critical to reducing microvascular and macrovascular complications of diabetes which is responsible for reduced life expectancy among this population (Wubishet et al., 2019). Through case conferencing, patients were able to extend their understanding of their diabetes and appropriate self-management through non-pharmacological factors as well as

adjusting insulin therapy. This knowledge enhancement and acquiring of diabetes self-management skills was most prominent in participants with low PAM scores. Begum et al. (2011) found that people with diabetes who were in the highest level of activation stage were less likely to be hospitalised compared to those in the lowest stage and that little discriminated patients with score 4 through to 2. Therefore, improving the health outcomes of those that are the hardest to reach clinically, even by one stage has the potential flow on health and cost effects.

Katon et al (2001) in particular described a stepped-care model for intensifying service provision for patients with chronic disease. The Program structure corresponds to level 3 intensity defined as “specialist consults with patient and primary care physician and recommends changes in medication and/or lifestyle alterations”. Level 3 care has been shown to improve outcomes in patients with major depression and in patients after acute myocardial infarction there was a significantly greater uptake of guideline recommended care for patients receiving cardiologist driven care (Ayanian et al., 1997). The participants in our study also observed the transfer of knowledge regarding guideline and evidenced-based care to their general practitioner.

Some patients however highlighted that pharmacological and non-pharmacological changes were a source of struggle despite increased knowledge and input from specialist teams in their care. It is therefore important to note that while PAM is a malleable construct and can be improved, factors such as mental health may impede such practices. A qualitative study focused on impaired self-care abilities among patients with T2DM found that recommended medical regimens were difficult to follow if other diseases flared up or social and emotional challenges (e.g. negative life events) took their attention and resources away from the disease

(Kristensen et al., 2018). This underscores the importance of relational continuity as part of integrated care and is particularly important for more complex cases in improving patient activation.

While a previous Australian study analysing the cost effectiveness of an integrated diabetes care model estimated an improvement in health outcomes with an acceptable overall cost with their program (McRae et al., 2008), future research should be directed at investigating the cost effectiveness of this model of care particularly with the changing landscape of antihyperglycaemic medications. Furthermore, long-term outcomes for patients directly involved in the Program as well as other patients with diabetes known to the general practices that the Program been involved with should be further investigated.

Trustworthiness of the research was evaluated according to the criteria suggested by Kitto et al. (2008) and was conducted in accordance with the consolidated criteria for reporting qualitative research (Tong et al., 2007). Factors such as purposefully sampling participants, creating transparency at each stage of the process (including providing a comprehensive description of decisions and procedures involved in the collection, recording and analysis of the data) as well as creating an ‘audit trail’ that may be subject to external scrutiny contributed to the study’s rigor. Although this paper was able to illuminate the perceptions of patients participating in a novel integrated diabetes management program, the study must be viewed in light of a few limitations. Although we aimed to achieve maximum variation of the study participants based on PAMTM scores, the majority of participants selected had been living with diabetes for a substantial period of time. As a result, the perceptions of the case conferencing process for individuals newly diagnosed T2DM is lacking. Given that the participants had

previous diabetes management and education experiences to contrast with program with, they represented an information rich group.

Integrating specialist teams within primary care has the ability to provide efficient health care delivery, better patient experience and health outcomes. Investment in, and appropriate organisational structural changes to support widespread implementation of integrated models of care has the ability to improve health outcomes for not only those with diabetes but may be applicable to reducing poor health outcomes for other chronic diseases. This will be critical to navigating health care provision to meet the demands of an ageing population.

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