

Impact of diabetes management of General Practice Management Plans, Team Care Arrangement and reviews: lessons for diabetes educators

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A recent paper in the Medical Journal of Australia¹ explored the potential impact of team care on patients living with diabetes. These results are relevant to diabetes educators. We have summarised the key points of the paper below under a series of subheadings.

What do we know about team care and diabetes?

Evidence is emerging of how systematic approaches to the delivery of clinical care can lead to improved health outcomes.

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One of the more popular approaches to systematic care, the Chronic Care Model (CCM)² has shown positive outcomes in numerous health care settings³. CCM influenced changes in planning, regular follow-up and multidisciplinary team care⁴ have, in patients living with diabetes have shown benefits in clinical processes⁵ and consequent improvements in glycaemic control^{6,7}.

A greater challenge has emerged in translating these benefits to the real and sometimes messy world of clinical practice.

Chronic Disease Management in Australia

In Australia, Chronic Disease Management (CDM) Medicare items were introduced to increase support for the management of chronic illness⁸. These items provide rebates for General Practice Management Plans (GPMPs) to improve care planning, Team Care Arrangements (TCAs) to foster multidisciplinary care, and GPMP and TCA reviews to support ongoing care and regular follow-up⁹. These careplans support allied health referrals for CDM, with Credentialed Diabetes Educators an important

part of the care team. Evidence indicates that having TCAs are associated with improved outcomes for patients with diabetes^{10,11}, but no detailed study on the impact of reviews for patients with diabetes has been done.

Many of these approaches to care have been reinforced by clinical software, and, increasingly by several web-based care management systems^{12,13,14}. One of these, cdmNet (developed by Precedence Health Care)^{15,16} was used in this study. CdmNet creates individualised GPMPs and TCA. These can be shared with the care team and the patient¹⁷.

This study investigated whether GPMPs, TCAs and their reviews improved the management and outcomes of patients with diabetes when supported by cdmNet.

How was the study conducted?

Data was collected from patients living with diabetes mellitus (type 1 or 2) from across Australia who had been on a cdmNet created GPMP for at least 14 months (June 2008 to November 2012).

We measured quality of care by measuring performance and analysing outcomes of the diabetes annual cycle of care (ACoC). The 12 month cycle of care tests were: HbA_{1c}, total cholesterol, triglycerides, high-density lipoprotein (HDL) cholesterol, and microalbuminuria; and two measurements 5 months apart of body mass index (BMI) and blood pressure (BP).

Process of care was calculated by calculating the proportion of completed ACoC tests for the patient compared to the recommended number (seven).

Proportions were calculated both before (1–14 months before the first cdmNet GPMP was created), and after (the 13-month period after creation of the GPMP).

Clinical outcomes were measured by taking the six clinical measurements included in the ACoC. The 'before' values were the tests 3 months to 1 month after creation of the GPMP and 'after' values were the tests 13–18 months after the creation of the GPMP.

The analysis investigated the effect of the following on quality of care:

1. creating a GPMP
2. creating both a GPMP and TCA
3. reviews of GPMPs or GPMPs and TCAs

Given the importance of glycaemic management in preventing or delaying complications of diabetes^{18,19}, a further analysis was carried out to compare HbA_{1c} levels before and after a GPMP for patients whose HbA_{1c} level before the GPMP was greater than the recommended Australian target of 53 mmol/mol.

What were the results?

A total of 577 patients met the inclusion criteria.

1. Significant effect of a GPMP

Patients with a GPMP increased their proportion of ACoC tests completed and improved their total cholesterol level, LDL cholesterol level and BMI. For the 89 patients whose HbA_{1c} level was > 53 mmol/mol before their GPMP, their HbA_{1c} level decreased by a mean of

9.4 mmol/mol (95% CI, 5.5–13.3 mmol/mol).

2. Significant effect of a GPMP and TCA

Patients (87.9%) with both a GPMP and TCA, had more ACoC tests completed and showed improvements in their HbA_{1c}, total cholesterol and LDL cholesterol levels and BMI. For 84 patients whose HbA_{1c} level was > 53 mmol/mol before the GPMP, their HbA_{1c} decreased by a mean of 10.4 mmol/mol (95% CI, 6.5–14.4 mmol/mol).

3. Significant effect of reviews on outcomes

Of the 577 patients, 461 patients (79.9%) had their GPMP and/or TCA reviewed; 191 (33.1%) had regular reviews, 270 (46.8%) had irregular reviews and 116 (20.1%) had no reviews.

Patients who were not reviewed showed no improvement.

Patients with regular reviews increased the proportion of ACoC tests completed, and improved their HbA_{1c} level, total and LDL cholesterol levels, and diastolic BP. The increase in ACoC tests completed was 1.4 times higher for patients having regular reviews than for those having irregular reviews, with the improvement in clinical outcomes greatest in those with regular reviews.

What are the implications of the findings?

Placing patients on a GPMP or TCA may be an important factor in helping their GP implement best-practice guidelines for diabetes care. Although patients with GPMPs and TCAs showed significant improvements in clinical measures, it seemed that having a GPMP alone did not seem to influence improvements

in HbA_{1c}, while the addition of a TCA (a potential marker of care team optimisation) seemed to be linked with the achievement of improved clinical care.

The benefits of regular reviews suggest that the follow-up and review process is important for improving quality of care. Indeed improvements in key diabetes measures such as HbA_{1c} and LDL cholesterol levels were only found in patients who had regular reviews.

Interestingly it seemed that the web-based management tool, cdmNet, may, in motivated practices, be a useful tool in achieving best-practice chronic disease management. Patients using cdmNet were four times more likely to have their GPMP or TCA followed up through regular reviews than the national average.

What are the take home messages for diabetes educators?

Diabetes educators are core members of the care team for patients with diabetes, and assist in encouraging adherence to the care plans as well as communicating key information to patients. This may apply to all diabetes educators, although only those who are credentialled are recognised for Medicare funding purposes.

The study further reinforces the evidence supporting systematic approaches to help the care team deliver quality, meaningful chronic illness care.

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