Diabetes Coaching:

A nurse-led approach for better self-management of patients with diabetes in

Primary Care

Submission for the 2014 Canterbury DHB Quality Improvement and Innovation Awards

Te Rawhiti Family Care Centre
Member of Pegasus Health (Charitable) Ltd
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Project Information Sheet

Project title

| Diabetes Coaching: A nurse-led approach for better self-management of patients with diabetes in Primary Care |

Name and address of service/department

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Word Count

2980
Abstract

Diabetes Coaching is a **standardised diabetes education tool** implemented by practice nurses at Te Rawhiti Family Care Centre in response to:

- suboptimal self-management by diabetic patients
- limited health literacy associated with living in a high deprivation area
- an unstructured practice team approach to patient diabetes education

The project has:

- empowered patients with diabetes to improve their self-management skills
- improved clinical indicators to align more closely with evidence based standards
- trained nurses to deliver empowerment based education to diabetic patients

The **objective** of this project is to offer every diabetic patient a standardised diabetes coaching session that is:

- free
- facilitated by a trained nurse/coach
- renewed annually with continuous support

The project team at Te Rawhiti from left to right: Dr Anna Winter (General Practitioner), Pauline Oxford (Registered nurse) Jeanette Hight (Registered nurse and project manager), Dr Paul Hercock (General Practitioner). Absent: Rosie Shakespeare (Registered nurse) and Dr Jay Erickson (General Practitioner).
Eighteen months after implementing Diabetes Coaching:

- **empowerment stories** from participating patients demonstrate:
  - goal achievement
  - increased diabetes knowledge
  - positive lifestyle changes
  - enthusiasm to engage with their nurse/coach

- clinical indicators demonstrate overall improvement

- nurses trained to deliver Diabetes Coaching report:
  - building strong partnerships with patients
  - up-skilling in their care and knowledge of diabetes

Diabetes Coaching is making a **positive impact** in the lives of diabetic patients at Te Rawhiti Family Care Centre. Ongoing self-management support from the project team will see the continuing empowerment of diabetic patients leading to better long term health outcomes.

Diabetes Coaching session with nurse Jeanette Hight (project manager).
Introduction and Background

Diabetes is a world-wide, rapidly growing epidemic.

- In New Zealand the number of adults diagnosed with diabetes increases by approximately 5.5% every year.
- The prevalence of diabetes within Canterbury is 4%.
- Diabetes disproportionately affects Maori and Pacific Island peoples as well as those living in more deprived areas.

Diabetes Coaching is a project undertaken by the Practice team at Te Rawhiti Family Care Centre in Aranui, East Christchurch.

- Aranui has a high Deprivation Index of 10.
- Diabetes prevalence is approximately 8% for the practice population.
- Education of diabetic patients before the introduction of Diabetes Coaching was undertaken predominantly by the General Practitioners.
- Diabetes education provided by nurses was opportunistic with no systematic approach.
- Diabetic patients frequently demonstrated limited self-management skills:
  - high non-attendance rate at appointments with primary and secondary care providers
  - knowledge of diabetes and medications limited
  - importance of lifestyle modification not well understood

Diabetes Coaching is a patient education package delivered by nurses and implemented when the Diabetes Care Improvement Package funding became available (November 2012).

The project team consists of:

- Practice nurses: Jeanette Hight (project manager), Rosie Shakespeare and Pauline Oxford who currently deliver the diabetes coaching.
- General practitioners: Paul Hercoc, Anna Winter and Jay Erickson who support the nurses.
Planning and Implementation

Aim

The aim of Diabetes Coaching is to provide support to improve the self-management skills and quality of life for enrolled patients diagnosed with diabetes (Type 1 and Type 2) at Te Rawhiti Family Care Centre. The approach involves identifying patients’ perceived needs in such a way that they acquire knowledge and develop problem-solving skills that will improve the self-management of their diabetes. This process is known as empowerment.

Integrative literature review

The integrative literature review (focussed on the role of problem identification and goal setting for adults with Type 2 diabetes) highlighted several key themes:

1. Self-management and problem solving skills are supported when nurse educators collaborate with diabetic patients to identify their problems and set goals to overcome them.
2. Health practitioners’ focus on patient compliance and clinical indicator improvement often overlooks important patient priorities indicating that patient empowerment is not always well understood.
3. Primary care nurses in New Zealand provide diabetic education without national education standards.

Diabetes Coaching addresses the need for a paradigm shift amongst health professionals from insisting on patient compliance to encouraging patient empowerment. It transforms the power imbalance in the practitioner/patient relationship, acknowledges limited health literacy and supports the acquisition of life skills.

![power balance](image)

compliance  empowerment
Diabetes Coaching goals

1. **Empowerment** for self-management is measured by:
   - Personal narrative.
   - Self-scoring by participants.

2. Improvement against **clinical indicator** targets\(^1\) is achieved by measuring:
   - Glycated haemoglobin (HbA\(_1c\)).
   - Total cholesterol and triglycerides.
   - Blood pressure.
   - Body Mass Index.

Feasibility planning

A SWOT\(^2\) analysis

**Identified the following opportunities:**
- Nurses were willing to spend time in learning to deliver Diabetes Coaching.
- Flexibility of current nurse clinics would allow Diabetes Coaching to be integrated into work practices.
- Patients preferred a local community provider (better, sooner, more convenient care).
- Nurses were supported by Partnership Community Workers, the Aranui ‘neighbourhood nurse’ and Community Diabetes Specialist Nurses.

**And the following Barriers:**
- Limited team work in the practice to support diabetes education.
- Low health practitioner motivation to change due to a limited understanding of how staff could change their current way of working to provide better care.
- Low patient health literacy including poor knowledge of diabetes and its complications, poor adherence with medications.
- Low patient expectation for diabetes education resulting in frequent appointment non-attendance.

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\(^1\) These indicators are based on the risk of developing both microvascular and macrovascular diabetes complications (current New Zealand guidelines).

\(^2\) Strengths, Weaknesses, Opportunities and Threats
Pilot group

In August 2012 Diabetes Coaching was trialled with a pilot group of ten Type 2 diabetes patients. This was achieved by developing an education session using an interview questionnaire. The nurse then delivered it to the pilot group (a 30 minute individual interactive appointment). The questionnaire included the following:

- Patients rated their self-management knowledge and actions.
- Patients identified personal problems and set SMART\(^3\) goals to overcome them.
- Each patient was given a simple brochure\(^4\) to take home as a reminder of their goals.

Continuous Improvement

- The questionnaire was further developed based on the feedback from the pilot group.\(^5\)
- A Diabetes Coaching resource was created for use during the coaching session to ensure standardisation in the delivery approach.
- The project manager trained two other practice nurses to deliver the programme.
- The Practice’s electronic clinical record system was used to identify the diabetes population and a specific recall system developed.
- Changes were also made to the practice management system so that clinical indicators could be easily analysed to determine the project outcomes.
- In February 2013 the Practice implemented Diabetes Coaching for all its diabetic patients.

Ongoing implementation

- At the completion of the first coaching session, the same nurse continues as the patient’s diabetes coach (for the next year) and is responsible for:
  - contacting the patient to ensure that goals are being achieved and new ones set
  - explaining test results

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\(^3\) Specific, Measurable, Achievable, Realistic and Time bound
\(^4\) "My Diabetes Goals"
\(^5\) A question about disease complications was removed, and two standardised depression screening questions added.
- making sure appointments with the general practitioners for prescriptions and review are kept
- following up referral to other team members and agencies
- The coaching is offered annually and each year the provider will change to take advantage of nurses’ different skills and expertise.

**Funding**

The Diabetes Care Improvement Package (DCIP) was made available to general practice from November 2013 and provided timely funding for this project.

**Diabetes Coaching is aligned with:**

1. **The CDHBs strategic goals as the initiative-**
   - Is patient-centred and aims to improve the consumer experience whilst using evidence based best practice.
   - Enhances mental health management by directly identifying those who are struggling with depression.
   - Addresses the needs of Pacific Island, Maori and Asian people by welcoming family participation.
   - Utilises health promotion opportunities for reducing alcohol related harm, obesity and smoking.

2. **CDHB Quality and Safety priorities-**
   - Diabetes Coaching has the potential to improve the health of the community by promoting self-management.
   - Practice systems and processes have been updated and improved with better use of current resources, performance measurement and evaluation.
   - Developing relationships and partnerships with consumers and their families.
   - Collaboration with other organisations as needs of patients are identified and referral pathways activated.
   - It is an equitable and accessible service.
Results and Findings

Primary results

1. Patient empowerment
Diabetes Coaching empowers patients with diabetes to self-manage their chronic disease with increased confidence and skill. As nurses utilise the problems and goals approach they hear empowerment stories in their conversations with diabetic patients.

- Patients reported improved diabetes leadership. One patient instigated “office blood glucose testing days” when he discovered that his work colleagues were also diabetics, and this has become a standard practice at his office.
- Patients who did not previously adhere to their medication regimen are now returning regularly for repeat prescriptions.
- Patients report making lifestyle changes in keeping with goals they developed at the coaching session. Examples of this include reduced alcohol intake, increased exercise, dietary improvements and smoking cessation.
- Anxiety and depression has been acknowledged and in some cases treated, and referrals made to appropriate services.
- Other chronic conditions like arthritis and asthma which compete for patients’ attention due to uncontrolled symptoms such as pain and breathlessness have been addressed.
- Stressful social situations, for example, lack of adequate and warm housing have been identified and resolved.

The post-pilot interview results demonstrated:

- An increase in participants’ perceived knowledge of diabetes.
- Nine out of ten made progress on achieving their personal goals.
- All expressed an interest to repeat the education session with a nurse on an annual basis.
Feedback from patients highlighted

- **self-rated improvement** in:
  - knowledge of diabetes (n=10, mean 6.3, range 5-8)
  - understanding of diabetes medications (n=10, mean 6.8, range 5-8)
  
  (1-8 score where 1 is no improvement and 8 is total improvement)

- nine out of ten patients were willing to repeat Diabetes Coaching with a nurse again next year.

Patients commented on the difference Diabetes Coaching made for them:

- “It helped me understand how my body works especially by asking what changes that I wanted to make for me. That really personalised it – very good.”
- “It has helped me understand diabetes. I had no idea about the foods that are problems.”
- “It really helped. It stopped me smoking, I had to!”
- “It made my life a lot easier. I have a better understanding of diabetes. I am not just a number. I’m a real person and I am learning to work it out in my own way.”

2. Health professional empowerment

Diabetes Coaching has also unexpectedly empowered staff:

- Nurses are continuing to develop strong partnerships with patients where the contribution of both parties is recognised, valued and brought to the table.
- Nurses have embraced the empowerment paradigm that the coaching model propounds and have grown in their understanding of diabetes care, including insulin initiation previously outsourced to specialist diabetes nurses.
- GP support of the nursing initiative promotes an ongoing, enthusiastic and resilient patient-centred team approach.

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6 Results of the June 2014 telephone interview with ten participating patients
Secondary results

Pre-pilot audit of clinical indicators showed that the majority of patients were tracking above recommended targets.

![Chart 1. Pre-pilot clinical indicators](image)

Post-pilot audit results

<table>
<thead>
<tr>
<th>Coaching Group (n=10)</th>
<th>Clinical Indicators</th>
<th>Percentage improvement in clinical indicators</th>
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<tbody>
<tr>
<td>HbA1c</td>
<td>7.2%</td>
<td></td>
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<tr>
<td>Total cholesterol</td>
<td>7.6%</td>
<td></td>
</tr>
<tr>
<td>Triglycerides</td>
<td>10.2%</td>
<td></td>
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<tr>
<td>Systolic blood pressure</td>
<td>6.1%</td>
<td></td>
</tr>
<tr>
<td>Diastolic blood pressure</td>
<td>11.2%</td>
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![Chart 2. Average changes from baseline to six-week follow up](image)
Six month post implementation results

<table>
<thead>
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<th>Coaching Group (n=35)</th>
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<th></th>
<th>Percentage of patients with decrease</th>
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</thead>
<tbody>
<tr>
<td>Mean % change</td>
<td>Change</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HbA1c</td>
<td>-9.2%</td>
<td>-26 – 12</td>
<td>72.0%</td>
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<tr>
<td>Total Cholesterol</td>
<td>5.0%</td>
<td>-1 – 1.3</td>
<td>60.0%</td>
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<tr>
<td>Triglycerides</td>
<td>24.0%</td>
<td>0.5 – 4.3</td>
<td>60.0%</td>
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<tr>
<td>Systolic BP</td>
<td>-3.0%</td>
<td>-41 – 27</td>
<td>59.0%</td>
</tr>
<tr>
<td>Diastolic BP</td>
<td>-4.0%</td>
<td>-30 – 15</td>
<td>55.0%</td>
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</table>

Chart 3. Average changes from baseline to six-month follow up

Notes
- Control group measurements were not analysed six months post roll out.

Eighteen month post implementation results

<table>
<thead>
<tr>
<th>Coaching Group (n=51)</th>
<th>Control Group (n=88)</th>
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<th></th>
<th></th>
<th></th>
<th>Percentage of patients with decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean % change</td>
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<td></td>
<td>Mean % change</td>
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<td></td>
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<td>Change Range</td>
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<td></td>
<td>Percentage of patients with decrease</td>
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<tr>
<td>HbA1c</td>
<td>-3.8%</td>
<td>-35 – 20</td>
<td>56.6%</td>
<td>-2.1%</td>
<td>-23 – 32</td>
<td>47.3%</td>
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<tr>
<td>Total Cholesterol</td>
<td>-11.0%</td>
<td>-2.8 – 1.3</td>
<td>66.7%</td>
<td>-4.3%</td>
<td>-3 – 1.7</td>
<td>64.0%</td>
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<tr>
<td>Triglycerides</td>
<td>-4.7%</td>
<td>-1.8 – 1.4</td>
<td>66.7%</td>
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<td>-1.4 – 2.8</td>
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<tr>
<td>Systolic BP</td>
<td>-3.6%</td>
<td>-56 – 34</td>
<td>59.0%</td>
<td>1.7%</td>
<td>-52 – 50</td>
<td>55.0%</td>
</tr>
<tr>
<td>Diastolic BP</td>
<td>-3.1%</td>
<td>-40 – 34</td>
<td>66.7%</td>
<td>1.7%</td>
<td>-30 – 30</td>
<td>43.6%</td>
</tr>
</tbody>
</table>

Chart 4. Average changes from baseline to 18-month follow up

Notes
- Coaching uptake: 64% (n=51) 41.2% Maori, 13.7% Pacific island, 43% European, 2% Asian.
- Baseline measures: No statistically significant difference between coaching and control group.
- Follow up measures: Statistically significant reductions for the coaching group in systolic BP only. (Diastolic BP reductions were approaching statistical significance).
Conclusions

The results highlight that improved care in the form of the nurse-led Diabetes Coaching sessions encourages patients in their self-management skills and increases the likelihood of clinical indicators improving to align with evidence-based standards. The project’s goal of empowerment for self-management is beginning to be achieved. Developing self-efficacy through empowerment is ongoing and begins with small changes. Diabetic patients are starting to take these small steps which will eventually lead to transformational change.

Interpretation of secondary goal results is limited because the clinical indicators were not uniformly measured under research conditions. However, it is clear that changes are evident and these are appropriate as the focus of the coaching is patient empowerment (and not compliance to clinical indicators). The project team expects that greater empowerment will feed into improvement in clinical indicators.

Sustaining the project

Diabetes Coaching will be sustained by:

- Annual review of Diabetes Coaching policies and procedures including education material.
- Continued clinical monitoring against best practice guidelines.
- Training of nurses who are new to the practice to facilitate coaching sessions.
- Ongoing patient satisfaction evaluation

To the best of the author’s knowledge, this project is unique to Te Rawhiti Family Care Centre. Diabetes Coaching is part of the practice culture, with some patients in their second year of coaching. The project team consider that this innovative model of diabetes education is valuable, given that many diabetic patients at Te Rawhiti are hard to reach, challenging to engage and complex in their presentation.
Dissemination of the Results

- The Project Manager presented the Diabetes Coaching model to the Integrated Diabetes Service Operational Group and is now a member of IDSDG\(^7\) to represent the views of general practice teams.
- The Project Manager presented a paper entitled “Diabetes Coaching in Primary Care: the Problems and Goals Approach” to the New Zealand Diabetes Nurses Annual Conference in August 2013.
- The Pegasus Quality Awards 2013 awarded the St John Award for Innovation in the delivery of Patient Focussed Care demonstrated in Diabetes Coaching.
- Nurses at two other Primary Care practices have expressed interest in implementing this coaching programme.

\(^7\) Integrated Diabetes Service Development Group
Future Direction

1. **Addition of increased diabetes services** in primary care due to the increased workload Diabetes Coaching has generated. A diabetes community nurse specialist and diabetes community dietician have begun regular clinics at Te Rawhiti Family Care Centre to take advantage of the increased motivation being seen in patients with diabetes.

2. **Research** into how nurses experience and perceive patient empowerment and how that influences the way they deliver their care. Research findings could be used for the development of in-house education of practice nurses on using the problems and goals approach when educating their diabetic patients.

3. **Wider practice roll-out** would necessitate the coaching being reviewed and modified for each particular setting and client group. For example, how would Diabetes Coaching achieve similar success among diabetic patients who have indicators of higher health literacy and lower social deprivation?

4. **Adaption** for other chronic conditions where empowerment to improve self-management is key. Diabetes Coaching is a simple model that could be easily modified for education of patients with other long term conditions.

The Diabetes Coaching outcomes at Te Rawhiti Family Care Centre have been its own reward. Not a week goes by without staff commenting about the changes they are noticing in diabetic patients they are working with. Motivation is being fostered as small successes of the first year are being built on in subsequent years. It is the hope of the Te Rawhiti team that patients will continue to engage in Diabetes Coaching. Consequent empowerment as they identify their problems and set realistic goals to overcome them will result in better long term health outcomes and quality of life.

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8 Other empowerment models employing the problems and goals approach such as the Flinders Interview require comprehensive and expensive training, and are too bulky in content to easily embed into existing primary care services.
References

All of the following references will be available at the site visit, can be viewed on line or requested by emailing jeanette@terawhiti.pegasus.net.nz


Full range of Diabetes Coaching tools and documentation also available for review at site visit or by email.