10. Practice nurses as case managers in a collaborative care model for managing depression among patients with heart disease or diabetes: The D_TECT and TrueBlue studies in primary care

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A successful feasibility study called D_TECT (Depression Treatment Evaluation Care Team) used a collaborative approach to detect, monitor and treat depression among patients with existing type 2 diabetes mellitus (T2DM) or coronary heart disease (CHD) in primary care. It was developed by the Greater Green Triangle Department of Rural Health and conducted in general practices in rural areas.

The model mobilised existing resources and funding paths available in general practice, including general practitioners (GPs), practice nurses (PNs) and existing Medicare-funded enhanced primary care items.

PNs received additional training in detecting and managing depression, as well as use of electronic medical recording, which up-skilled them to take on a case manager role for individual patients. Participants in the program attended regular appointments with both the nurse and their usual GP.

The D_TECT pilot study showed that the collaborative model was feasible, acceptable and affordable in rural settings. More than one-third of patients were assessed as having depression, and patients described positive attitudes and relief that their mental health concerns were being addressed as part of a comprehensive care package. PNs and GPs were in favour of continuing the model of care.

As a pilot study, D_TECT was not designed to investigate the clinical benefits of the collaborative model. A randomised control trial called TrueBlue was developed for this purpose. The trial is still in progress but preliminary results are available.

Relevance to rural and remote health

It is anticipated that within 20 years, diabetes will become the leading contributor to the overall burden of disease in Australia.14 As the population ages and the trend toward obesity continues,15 general practice will deal with more cases of the many resulting conditions, including diabetes and heart disease.

Depression is increasingly being recognised as a major factor that leads to poor clinical outcomes. In patients with either diabetes or heart disease, the presence of depression leads to increased morbidity and mortality. Unfortunately, this depression is often missed in routine general practice and it remains under diagnosed and under treated, especially when in the presence of diabetes and heart disease.

There is a particular need for new approaches to this problem in rural and remote areas where the shortage of health professionals means that GPs have less access to specialist and allied health services for their patients. Across Australia, there is an increasing number of PNs being employed in general practices. The Australian Practice Nurse Association (APNA) reports 60% of general practices employ at least one PN. Models of care that expand the role of PNs provide one method of alleviating the shortage of health professionals, particularly in rural areas.

The research

Eleven practices in South East Australia employing PNs are participating in the TrueBlue trial. Six practices were randomly assigned to the intervention group and five to the control (usual care) group. Approximately 150 patients were recruited to each group.

Before implementing the model, the PNs attended a two-day workshop to prepare for their new role. The workshop introduced the rationale of the collaborative care model before presenting a range of topics, including screening for depression, and identification and measurement of physiological and lifestyle risk factors, such as high cholesterol, blood pressure, blood glucose, central obesity, smoking, alcohol and physical inactivity. Training to educate patients in diabetes and heart disease risk reduction and to assist patients with goal setting and problem solving was undertaken. Administrative activities, such as coordinating referrals, timetabling follow-ups, and preparing the draft GP management plan, were also covered.

An important aspect of the model is goal setting, in which the patient (guided by the PN) develops up to three goals that the patient feels are achievable to help reduce the risk factors. This means that patients become more active participants in their own care. Patients are recalled automatically and systematically every 13 weeks so that the progress of their care can be monitored and their goals can be reassessed to ensure that they remain timely and relevant. Special tools and protocols were put into place to identify and manage patients at risk of suicide or self-harm.


Because the study was still in progress at the time of writing, no final results were available. However, the preliminary results suggested a mean reduction in depression score of 33% after six months of collaborative care compared with a 16% reduction after six months of usual care. (The 95% confidence limits are a 23% to 39% reduction for the intervention clinics, and an 8% to 26% reduction for the control clinics.) These observations are supported by anecdotal comments from the PNs who report a visible improvement in appearance and manner of many of their TrueBlue patients. Case review and qualitative interviews with the PNs have demonstrated clearly that the protocols put in place to deal with positive responses to the self-harm question and worsening depression scores have been followed.

Lessons learned

The pilot study and preliminary results of the TrueBlue trial indicate that collaborative models of primary care for diabetes help to identify and successfully address depression and other mental health issues of patients with diabetes. Up-skilling nurses and providing a structured way for them to take on more responsibility and work closely with a GP assists rural health professionals to work effectively as a team. A supportive GP, training for the PNs and protected time of at least 30 minutes for the PN to consult were important requirements for the model’s success. By completing GP management plans or team care arrangements, and diabetes annual cycle of care Medicare item numbers, practices could more than recoup the costs of the PN’s time.

These studies are an excellent demonstration of the value of rural research capacity building. The 18-month trial of D_TECT was conducted entirely in rural areas, demonstrating the value of rural research capacity to develop and test innovative ideas in partnership with local health professionals. After demonstrating the feasibility of the model, the rural-based research team was able to launch a randomised control trial to rigorously test clinical outcomes in urban and rural sites across three states.

Wider relevance

The strength of this collaborative care model is that it provides a sustainable way to manage chronic illness with particular attention to monitoring and self-management of mental health. Sustainability comes through building on the skills of existing health care workers and systematically accessing funding opportunities available.
The model can be used readily in any primary care setting with PNs and GPs.

Rural researchers found that more than one-third of patients seeing a general practitioner (GP) for diabetes or coronary heart disease also have depression. In a typical busy general practice, mental health conditions may go undiagnosed or unaddressed. This was the motivation to develop a new model of care using existing general practice health teams and taking advantage of Medicare funding opportunities for complex care. Practice nurses (trained in assessment, patient education, and patient-centred goal setting and problem solving) held individual sessions with patients and attended consults with the GP and patient. Preliminary results from a randomised controlled trial show significantly greater reduction in depression among patients receiving collaborative care.

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