A New Zealand osteoarthritis model of care in South Canterbury, New Zealand

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We read with interest the Viewpoint article by Baldwin and colleagues published in the December edition of the NZMJ, advocating for a model of care for osteoarthritis for New Zealand. While such models have not been systematised across New Zealand, there are successful local models such as our community-based osteoarthritis programme in South Canterbury, the Physiotherapy Primary Intervention Group (PPIG), which targets adults with mild to moderate hip and knee arthritis.

The PPIG was formed in 2011 by seven physiotherapists in response to an identified need and service gap regarding the management of osteoarthritis in the South Canterbury (SC) region; minimal services were available to manage arthritis prior to joint arthroplasty. Treatment was disparate, episodic and siloed, with large numbers of the community disadvantaged by their rurality (50% of the region's population lives rurally) and lower-than-average economic status. Furthermore, SC's percentage of older adults over 60 years (28.6%) is higher than the national average (20.8%).

The PPIG model of care

PPIG looked at the multifactorial aspects of the disease's impact on the patient and local and national health services, and recognised that an interdisciplinary collaboration was required to address the disease impact factors that were identified in the published evidence. By engaging patients in an early, conservative intervention, it was hoped that benefits would be seen with a reduction in pain, disability and indirect costs, such as hospital service involvement and loss of productivity.

Following a successful pilot of 24 patients in 2011, PPIG was contracted by South Canterbury District Health Board (SCDHB) to deliver a physiotherapy-led, community-based osteoarthritis self-management and exercise programme. As recommended by many authors, PPIG modelled their programme on international guidelines, existing models of care and contemporary evidence. The programme is standardised for all groups of participants to ensure consistent data collection.

The programme itself encourages self-management through education, community involvement and a 12-week series of one-hour group exercise and education classes for six to eight participants, using a wellness approach. After assessment, participants receive an individualised exercise programme recognising their personal goals, problems and locality, run by specially-trained local physiotherapists. The extended multidisciplinary team available to participants includes dietitians, occupational therapists, orthopaedic surgeons, mental health services, pharmacists, smoke-free facilitators, general practitioners, clinical nurse specialists and podiatrists. The physiotherapy-led classes are held in local community gymnasiums, with a strong emphasis on deep joint stability, posture, functional performance, self-care and pain management, using exercises that are reproducible at home. By negotiating subsidised gym memberships and encouraging swimming and walking groups, the participants are encouraged to continue exercising once the programme has finished. Additionally, regular follow-ups with each group over three years following completion of the classes, engenders a greater confidence in self-management and compliance with exercises, and provides support throughout their arthritis journey.
Our results

Between 2011 and 2016, 196 participants (293 joints) were treated. The median age was 63 years, with a 96% programme completion rate. The largest referral sources were orthopaedic surgeons (50%), general practitioners (33%) and other physiotherapists (10%).

The range of outcome measures used included the Western Ontario McMasters Universities Arthritis Index (WOMAC), Stanford Chronic Disease Efficacy and Exercise Behaviour questionnaires, and the Six-Minute Walk Test. All outcome measures showed statistically significant improvements between the start and end of the programme with maintenance of the improvement in 80% of participants at three-year follow up. For most measures, the effect sizes showed improvements in the large to very large range.

The PPIG programme is cost effective in reducing the number of joint arthroplasties required by participants, compared with expectations prior to programme involvement. For those patients who subsequently still required a joint replacement, post-surgical rehabilitation was enhanced.

Community engagement

The SCDHB website has a link to PPIG information for consumers and referrers via HealthInfo. Steps have also been taken to support involvement with Māori consumers through engagement with local Māori healthcare providers.

In 2017, PPIG were successful in bidding for a Ministry of Health contract under Tranche 1 of the Mobility Action Programme (MAP) funding to deliver additional classes to rural communities in South Canterbury. We would welcome a strong public policy approach that addresses New Zealand's increasing osteoarthritis burden as our population ages.

Competing interests:
PPIG holds a contract with SCDHB to deliver this community-based exercise programme.

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