

# GREEN PRESCRIPTION (GRX)

## *What is this?*

***A Green Prescription (GRx) is written advice provided to a patient by a health professional recommending physical activity as part of the patient's health management plan.***

A number of health professionals are able to 'prescribe green' including general practitioners, practice nurses, outpatient specialists, cardiac nurses, mental health nurses, hospital-based physiotherapists and nurse practitioners. Diabetes nurses, midwives and other designated allied health professionals can also 'prescribe green' with the sign-off and follow-up of the patient's GP.



The majority of Green Prescriptions are given to a patient in relation to weight management, diabetes and heart disease or other health conditions where the health professional believes an increase in physical activity may assist the patient on the road to recovery. More recently, Green Prescriptions have been provided to individuals suffering from mental health issues.

GRx is a free service with patients being forwarded to a support person that will encourage the patients to be more active through regular phone calls, face to face meetings and through local support groups. The support person will also assist with the development of an exercise plan that is appropriate for the individual. Ongoing monitoring and support is provided by the support person for up to six months. If the patient believes further support is required, they are encouraged to ask their health professional for another Green Prescription. In Canterbury, GRx is supported by Sport Canterbury.<sup>1</sup>

## *Why is this important?*

Regular physical activity is one of the most important things a person can do for their health. Not only will physical activity assist in weight control, strengthen bones and muscles, and improve one's mental health, but it will also assist in reducing the risk of cardiovascular disease, type 2 diabetes and some cancers. Physical activity can also improve quality of life for elderly people by improving their ability to do daily activities and prevent falls.

## *Data*

Several studies in New Zealand have attempted to quantify the benefits of a GRx in a general practice setting. One study involved 878 less than active patients in Waikato general practices and followed them up over a 12 month period.<sup>2</sup> The study was able to identify that for every 10 Green Prescriptions written, one person sustained 150 minutes of moderate or vigorous leisure activity per week. This additional activity would use an estimated 1000 kcal per week. This increase in physical activity has the potential to reduce the risk of all cause mortality by 20 to 30%.<sup>3</sup>

<sup>1</sup> Sport Canterbury information about Green Prescription: <http://keepsportalive.org.nz/2012/04/sport-canterbury-and-green-prescription/> Accessed 07.09.12.

<sup>2</sup> Elley, C.R., Kerse, N., Arroll, B., Robinson, E. 2003. Effectiveness of counselling patients on physical activity in general practice: a randomised controlled trial. *BMJ* 326 (7393): 793.

<sup>3</sup> Ibid.

Since 2010 the Ministry of Health has annually conducted a national survey of GRx patients. From the 2012 survey, 60% of patients reported being more active 6-8 months after being given their GRx, 68% as having made changes to their diet and 73% noticing positive health improvements. Further findings included 78% of patients feeling more confident with undertaking physical activity and 79% being more motivated to stay active. Results of the 2011 and 2012 Patient Satisfaction survey on GRx delivery in New Zealand and Canterbury are shown in Table 1.

**Table 1 Referrals into Green Prescription in Canterbury<sup>4</sup>**

Measures	Canterbury*		New Zealand	
	%		%	
	2011	2012	2011	2012
GRx patients are more active 6-8 months after receiving their GRx	56	65	57	60
GRx participants have made changes to their diet since receiving their GRx	54	61	59	68
GRx patients feel more confident about doing their physical activity	82	77	76	78
GRx participants are motivated to get/stay active	86	87	77	79
GRx patients have noticed health changes	78	67	69	73
GRx participants are satisfied with the overall service and support provided	89	85	80	80

**\*Note:** This survey data excludes Christchurch City participants due to the earthquakes that occurred early 2011.

In the 2011-12 period, there were 35,834 GRx referrals in New Zealand, representing an 8% increase on the 2010-11 period. The number of GRx referrals in the Canterbury/West Coast region has increased steadily since 2008. Overall, referrals have risen from 2,164 in 2008-09 period to 2,719 in 2011-12, a 30% increase over a four year period.

### **Impact on inequalities**

When the GRx initiative was first developed there was less focus on specifically addressing inequalities. New goals include strengthening and enhancing the penetration of GRx within high-needs communities, adding a second priority group to the initial one of people who are inactive.<sup>5</sup> The NZ Health Survey 2012<sup>6</sup> shows that women, older adults, Pacific and Asian adults and people living in more deprived areas are less likely to be physically active. In 2012, the GRx initiative had over 60% of participants aged over 50 and 75% of participants were female, however there is still room for the GRx initiative to directly target inequalities among specific population groups namely Maori, Pacific and lower socioeconomic communities.

<sup>4</sup> Provided by Ministry of Health from reporting on green prescription (Diana O'Neil).

<sup>5</sup> Signal, L., Egan, R., Cook, L. (Eds.). 2009. Reviews of Health Promotion Practice in Aotearoa New Zealand 2007–2008. Wellington: Health Promotion Forum of New Zealand. <http://www.hauora.co.nz/resources/ReviewsofhpPracticeNZ2007to2008.pdf>

<sup>6</sup> Ministry of Health. 2012. The Health of New Zealand Adults 2011/12: Key findings of the New Zealand Health Survey. <http://www.health.govt.nz/publication/health-new-zealand-adults-2011-12> Accessed 20.12.12.

In 2012, nearly 80% of participants in Canterbury and the West Coast were NZ European, less than 9% of participants were identified as Māori or Pacific Islander.<sup>7</sup>

Often the less active groups in society are those who also suffer the most deprivation and hence suffer from lifestyle related illness such as heart disease and diabetes. In the Canterbury area, which includes the West Coast, 42% of all 2012 respondents to the satisfactory survey said they have a disability or impairment that is long term (lasting 6 months or more) and causes difficulty with, or stops, them doing physical activity that people their age can usually do.

### ***Solutions***

GRx can be used as a means to increase the physical activity of disadvantaged groups and thus enabling participants to lead healthier lifestyles and reduce the burden of disease. GRx can also be used to develop group physical activity programmes which will promote social interaction among isolated individuals or groups. This will increase social contact and promote neighbourhood networks which may influence perceived safety and crime in areas of deprivation. GRx activities can also be structured to involve families whereby schemes engage parents and children in active play which may contribute towards improved parenting skills as well as promoting health gain. It is positive to see the number of GRx referrals is increasing yearly.

### ***Connections with other issues***

Activity Levels and Exercise, Active Transport, Open spaces/green spaces, Food Security, Obesity, Cancer, Mental Health

### ***Data limitations***

The data relies on participant self-reporting, with no objective evidence. For example, whilst the majority “noticed health changes” there is no locally available physiologically or biologically collected data on specific positive changes such as lowered blood pressure, blood cholesterol or weight reduction. A collaborative study between Sport Canterbury, University of Canterbury and Community and Public health is currently underway to assess both short and long term physiological and physiological changes to health in GRx participants within Canterbury. Participants are tested at baseline, 10 weeks, 6 months and 12 months into their Green Prescription support. Physiological testing involves measurement of heart rate, blood pressure, height, weight, body fat, waist and hip circumferences and a 9 minute sub-maximal treadmill test. The study will provide GRx with information regarding the effectiveness of the program including participant’s physiological changes and long term adherence to exercise. The results of the study will be available mid 2013.

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<sup>7</sup> Provided by Sport Canterbury from reporting on green prescription (Sophie Vabulis).

## ***Impact of the earthquakes***

*As time passes and these papers are updated the initial sections on the impact of the earthquake are going to be kept as an archive of what we thought the situation was at the time. Updates where possible are provided.*

### **As of December 2012**

In 2012 was the first year that the YMCA shared their facilities with the Green Prescription initiative. The relationship has grown from the YMCA's support to Green Prescription as a number of facilities were lost after the earthquakes. Four programs were run from the City YMCA and two from the Bishopdale YMCA.<sup>8</sup>

In term four, the first programme was run from Linwood Avenue Union Church which was very successful and it was great to be able to serve this high referral area. 93% of participants reported increasing their physical activity levels since being on the Linwood Be Active program programme.

### **As at November 2011**

Many of the facilities where participants can exercise – swimming pools, walkways, cycle ways, gyms etc. have been damaged by the earthquakes. This has limited opportunities for both the initial supported Green Prescription exercise regimes as well as a participant's ongoing, independent physical exercise. Given this the Web Health website suggests many services are still operating. Referrals too dropped, at least initially, with 172 referrals in February down to 76 in March (Ministry of Health reporting).<sup>9</sup>

The Ministry of Health has reported that the stress caused by the aftermath of the earthquake has affected people's motivation to continue exercise routines while they deal with other urgent matters such as damaged homes, schools and workplaces.

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<sup>8</sup> <http://keepsportalive.org.nz/2012/05/may-2012-green-prescription-update-2/> Accessed 20.12.12.

<sup>9</sup> Provided by Ministry of Health from reporting on green prescription (Diana O'Neil).