

Clinical outcomes and patients' perceptions of nurse-led healthy lifestyle clinics

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ABSTRACT

BACKGROUND AND CONTEXT: The Nurse-Led Healthy Lifestyle Clinics focussed on lifestyle issues for patients with known health inequalities. Much of the nursing was educative and preventative care. This evaluation assessed patient experiences and opinions, as well as clinical outcomes.

ASSESSMENT OF PROBLEM: Information came from clinical outcome data for 2850 individuals and 424 patient satisfaction surveys.

RESULTS: Patients were aged 0–95 years (45% between 40 and 59 years); 60% Pakeha/European, 31.4% Maori, 4.2% Pacific and 4.4% other ethnicities. Only 19% of claimants (approximately 40% were Maori or Pacific) came from quintile 5 addresses, suggesting the target population was not reached effectively. Ninety-four percent of patients had a better understanding of their diagnosis, medication and treatment plan, and were more motivated to self-manage their health needs. This increase in patient empowerment is a significant outcome of the project. Clinical outcome data showed no significant differences between first and last clinic visits for average weight, blood pressure, smoking, glycosylated haemoglobin levels, waist circumference or cardiovascular risk. Significant improvements were shown in the Dartmouth Primary Care Cooperative Information results for social activity, change in health, and overall health (n=89).

STRATEGIES FOR IMPROVEMENT: More effective techniques to access the target population have been implemented, as has an extended period for review of clinical outcomes.

LESSONS: More focussed evaluation of clinical outcomes is necessary to provide quantitative data on the clinics. The large percentage of patients who felt more empowered to self-manage their health needs suggests the clinics were effective in this area.

KEYWORDS: Nurse-led clinics; life style; program evaluation; patient satisfaction; health status disparities

Background

Within New Zealand (NZ) known health inequalities exist for people of Maori and Pacific Island descent and those living at quintile 5 addresses. Nurse-led clinics are being used as an initiative to improve access to health care for those from lower socioeconomic groups and for those at risk of chronic disease and to improve management of chronic disease. While nurse-led clinics have shown significant improvements in outcomes overseas, little information is available on the effects of the NZ implementation of these clinics.^{1,2}

A key priority of the Primary Health Care Strategy is to reduce barriers for groups with the greatest need through additional services to improve health and improving access to existing first-contact services.³ In response to this and increasing evidence that nurse-led clinics are an effective way to engage more patients and improve health management, a Primary Health Organisation (PHO) in a region with a demonstrated high-needs population initiated the Nurse-Led Healthy Lifestyle Clinic (NLHLC) project in February 2007.⁴ They defined a 'nurse-led clinic' as a holistic, patient-focussed clinic

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run by registered nurses in primary health care settings, particularly general practice, Hauora and community providers. The clinics grew locally from the work happening within general practice. This project aimed to reduce inequalities among those populations that are known to have the worst health status, namely Maori, Pacific and people living in high deprivation areas (quintile 5 addresses or NZ Deprivation Index 9–10 decile areas) by providing accessible, affordable and appropriate care.

The NLHLC project involved three Hauora, two community and 12 general practice providers from throughout the region served by the PHO. Each provider structured clinics according to staff availability and expertise, resource availability, venue suitability and patient demand. In each clinic the nurses had their own patient caseload and the range of healthy lifestyle clinics included diabetes, smoking cessation, diet/nutrition, women's health, cardiovascular and asthma/respiratory clinics. Patients were referred or invited to the clinic by the nurses or the extended team in which they were working. While a specific disease was used as the initial rationale for patient inclusion, the focus was on a holistic approach to the health needs defined by the patients. Nurses referred patients on to other professionals, particularly those involved in lifestyle interventions (Green Prescription, problem gambling, etc.).

The objective of this evaluation was to assess patients' experiences and opinions of the NLHLC project, as well as the recorded clinical outcomes, and to assess how successfully the clinics engaged the targeted populations.

Ethical approval for the project was received from the Central Region Disability and Ethics Committee as well as the authors' institutional ethics committee.

Assessment of problems

Information from 17 health providers, 115 nurses and 2850 individuals who participated in the clinics was available. A Medtech module was used in an effort to standardise care plans and clinical data collection.

WHAT GAP THIS FILLS

What we already know: Nurse-led clinics are being used as an initiative to improve access to health care for those from lower socioeconomic groups and for those at risk of chronic disease and to improve management of chronic disease. While nurse-led clinics have shown significant improvements in outcomes overseas, little information is available on the effects of the New Zealand implementation of these clinics.

What this study adds: This evaluation indicates patients clearly perceive improved health care for them in the nurse-led clinics. However, it is difficult to verify the range of improvements from the clinical outcomes data. The project was less successful than expected at engaging patients with known health inequalities and options to improve this are presented.

There were four components to the evaluation, although only the first three will be presented here.

1. Demographic and clinical outcomes data were collected (using the Medtech module) from the 2850 individuals during their first and last attendance of nurse-led clinics (duration varied from three months to several years depending on the individual). Data collected included ethnicity, gender, age, smoking status, systolic blood pressure (BP), weight (WT), body mass index (BMI), glycosylated haemoglobin level (HbA1c), waist circumference (WC), cardiovascular risk assessment (CVR). The data collected varied depending on the needs and goals of the individual. In some instances the Dartmouth Primary Care Cooperative Information (COOP) chart was also used to assess physical fitness (COOP 1), daily activity (COOP 2), pain (COOP 3), social activity (COOP 4), social support (COOP 5), feelings (COOP 6), change in health (COOP 7), overall health (COOP 8) and quality of life (COOP 9). The COOP was designed as an efficient clinical tool to assess and monitor patient function.⁵

The clinical outcomes data were split into three groups: child (0–12 years old), adolescent (13–18 years old) and adult (≥19 years). Paired sample *t*-tests were used to ascertain whether significant changes occurred in BP, WT, BMI, HbA1c, WC and CVR due to clinic attendance.

COOP data were only analysed for the adult group. Wilcoxon signed-rank tests were used

Table 1: Nurse-led clinic attendance by adults according to age group

| Age Group | Frequency | Percent |
|--------------|-------------|--------------|
| 10–19 | 25 | 0.9 |
| 20–29 | 232 | 8.7 |
| 30–39 | 360 | 13.4 |
| 40–49 | 567 | 21.1 |
| 50–59 | 635 | 23.7 |
| 60–69 | 495 | 18.5 |
| 70–79 | 280 | 10.4 |
| 80–89 | 78 | 2.9 |
| 90–99 | 9 | 0.3 |
| TOTAL | 2681 | 100.0 |

to compare the results of first and last surveys while Spearman's correlations were used to investigate the relationship between the differences observed between the first and last clinics for each of the COOPs and the other clinical outcomes measured. All statistics were carried out using SPSS statistical package version 15.

- Data provided by the PHO outlined attendance to clinics by quintile and ethnicity. These data were used to ascertain whether the target population with known health inequalities was engaged.
- Patients were given the opportunity to complete consultation satisfaction surveys where they responded to statements about their health and treatment using a 5-point Likert scale ('yes, strongly agree' to 'no, strongly disagree').

- Fifty-three nurses provided written narrative reports of their experiences and 16 of those nurses were interviewed to gain a greater understanding of the issues raised in the reports. This aspect of the evaluation is the subject of a separate paper.

Results of assessment/measurement

Demographic and clinical outcomes data

Ethnicity data were collected for 2843 individuals and, of these, 60% were European, 31.4% were Maori, 4.2% were Pacific and 4.4% were other nationalities/ethnicities (e.g. African, Asian, Indian).

Attendance age ranged from 0 to 95 years (n=2843). All analyses were performed separately for children (0–12 years; n=100), adolescents (13–18 years; n=62) and adults (≥19 years; n=2681). A breakdown of adult age groups is provided in Table 1.

Smoking status

The smoking status information was collected for both first and last clinic attended for 1144 adults and 15 adolescents. A summary of the adult data is presented in Table 2.

Although the percentage of adults who reported smoking remained the same between the first and last clinic data, there was a change in the number of cigarettes smoked, in that the percentage of people who smoked between 0 and 10/day increased and those who smoked ≥11/day decreased. This suggests the clinics had a positive effect in reducing smoking.

BP, WT, BMI, HbA1c, WC and CVR

No significant changes in BP, WT, BMI, HbA1c, WC and CVR were detected between first and last visits for adults. Likewise, no significant differences were detected between first and last visits for adolescents (BP, WT, and BMI) or children (BMI and WT).

COOP results

Significant decreases in COOP 4 (social activity), COOP 7 (change in health) and COOP 8

Table 2. Smoking status at first and last clinics for adults (n=1144).

| | First Clinic Data | | Last Clinic Data | |
|--------------------------------|-------------------|-------|------------------|-------|
| | Freq | % | Freq | % |
| Never smoked | 577 | 50.4% | 573 | 50.1% |
| Quit within the last 12 months | 46 | 3.8% | 49 | 4.3% |
| Quit more than 12 months ago | 220 | 19.2% | 228 | 19.9% |
| Smoke 0–10 per day | 160 | 14.0% | 191 | 16.7% |
| Smoke 11–19 per day | 89 | 7.8% | 68 | 5.9% |
| Smoke 20+ per day | 55 | 4.8% | 35 | 3.1% |

Table 3. Changes in measures between first and last clinics.

| Variable | N | Mean score —first clinic | Mean score —last clinic | Mean difference | P-value |
|---------------------------|-----|-----------------------------|----------------------------|--------------------|---------|
| COOP 1 (physical fitness) | 106 | 3.53 | 3.58 | 0.05 | 0.601 |
| COOP 2 (daily activity) | 96 | 2.22 | 2.11 | -0.11 | 0.237 |
| COOP 3 (pain) | 95 | 2.41 | 2.31 | -0.10 | 0.480 |
| COOP 4 (social activity) | 95 | 2.13 | 1.93 | -0.20 | 0.049 |
| COOP 5 (social support) | 93 | 2.37 | 2.33 | -0.04 | 0.710 |
| COOP 6 (feelings) | 106 | 2.70 | 2.47 | -0.23 | 0.085 |
| COOP 7 (change in health) | 118 | 3.06 | 2.64 | -0.42 | 0.001 |
| COOP 8 (overall health) | 95 | 3.22 | 3.01 | -0.21 | 0.025 |
| COOP 9 (quality of life) | 89 | 2.43 | 2.33 | -0.10 | 0.255 |

(overall health) were detected. A decrease in score indicates an improvement. The COOP 6 result also tended to improve between the first and last visit (Table 3).

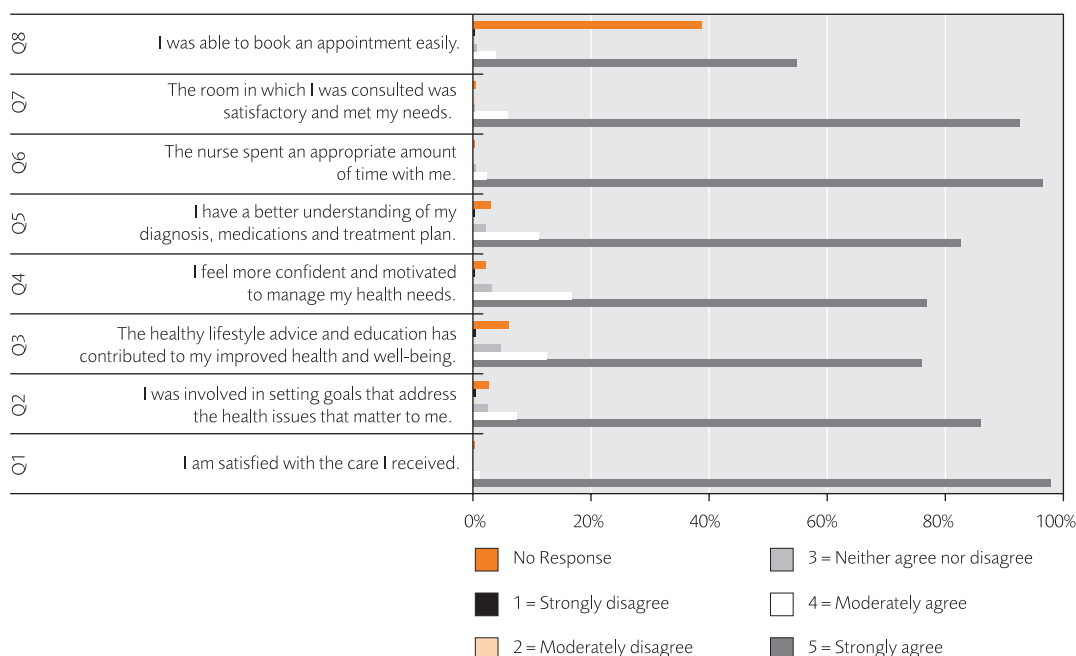
It was found that the number of visits was negatively correlated with COOP 6 (feelings) indicating the more often a person attended the clinics the better they felt. COOP 4 differences were negatively correlated with HbA1c ($r=-0.604$, $p=0.01$, $n=17$) indicating that individuals with higher HbA1c felt better about themselves than

those with lower HbA1c. COOP 3 differences were positively correlated with WC ($r=0.46$, $p=0.006$, $n=34$) indicating as waist circumference increased so did pain.

Quintile data

PHO data provided by the PHO indicated that 54% of patients were from quintiles 1 to 4 and 19% from quintile 5. For 27% the quintile was unknown because the address was not recorded. Further breakdown by ethnicity

Figure 1. Combined results from all practices for the patient consultation satisfaction survey



indicated that 28% were Maori or Pacific (8% in quintile 5 and 20% in quintiles 1 to 4). While some of the claims with no recorded address may have also been from quintile 5, this still suggests the project was less successful than expected at engaging patients with known health inequalities.

Patient Consultation Satisfaction survey

Patients were invited to complete a Consultation Satisfaction survey and, while the response rate was low, it indicated an overwhelming satisfaction with the NLHLCs. Of the 424 patients who completed a survey, 91% indicated they agreed or strongly agreed with the questions, all of which stated a positive aspect of their care. Questions 3, 4 and 5 specifically asked if the patient's health had improved as a result of attending the clinics, and 92% indicated that they agreed or strongly agreed. Figure 1 shows the combined responses from the 11 practices where patients completed the survey. All of the statements elicited over 85% agreement with the single exception of Question 8 ('I was able to book an appointment easily') which had a 59% agreement.

Strategies for quality improvement/change

As also noted by Ridsdale, one of the issues with this project was the lack of significant changes in the clinical outcome measures.⁶ This could have resulted from the time span over which the data were collected, the type and/or accuracy of the outcome measures, or that the project actually produced no significant changes in the sample of patients. These suggest that the data collection procedures be reviewed to improve the potential to record measurable health outcome data.

The results suggest the target population was not reached as effectively as planned, an issue which has also been reported elsewhere.^{7,8} We would recommend the PHO review their options for increasing the number of Maori, Pacific, males and others from quintile 5 who attend these clinics. Approaches such as texting appointments and reminders, developing mobile clinics to cater

for those with limited transport issues, and the provision of out-of-hours clinics to make attendance easier for those who work during the day may be worth considering. Provision of mobile and out-of-hours clinics associated with activities where large number of the target population gather (such as at hui or sporting events) might also be worth considering.

The Medtech module has been modified to allow recording of the wide range of support provided.

Lessons and messages

As noted in other studies, this evaluation indicates patients clearly perceive improved health care for them in the nurse-led clinics.⁸⁻¹⁰ However, it is difficult to verify the range of improvements from the clinical outcomes data and, as has been shown by Gonzalez et al., the duration of any improvements may also be questionable.¹¹ Unfortunately the project was also less successful than expected at engaging patients with known health inequalities and options to improve this are presented.

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COMPETING INTERESTS

None declared.