

Who attends Dunedin's free clinic? A study of patients facing cost barriers to primary health care access

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ABSTRACT

INTRODUCTION: Several methods of reducing the cost barrier to primary health care have been implemented in New Zealand, but research about free primary health care and the patients who use such services is scarce.

AIM: To compare the characteristics of patients at Dunedin's free clinic with those at a traditional general practice clinic.

METHODS: A written survey was distributed to waiting room patients at the Free Clinic and a fee-charging clinic in close proximity. Patient records were accessed to determine health services utilisation rates at both clinics and the discounting rate at the traditional clinic.

RESULTS: There were 126 patient surveys returned at the Traditional Clinic and 65 at the Free Clinic. There was a significantly greater proportion of Māori respondents at the Free Clinic than at the Traditional Clinic (24.1% versus 9.2%, $p=0.011$). The difference in deprivation profiles of Free Clinic and Traditional Clinic respondents was more marked for the individual deprivation measure (five or more NZiDep deprivation characteristics: 65.5% versus 13.3%, $p<0.001$) than for residential area deprivation (NZDep2006 quintile 5: 41.4% versus 15.8%, $p<0.001$). Emergency department presentation rates were high for Free Clinic patients, despite free primary care access and high general practitioner consultation rates. Among Traditional Clinic respondents, 31.7% reported deferring health care because of cost in the previous 12 months. The equivalent figure for Free Clinic respondents was 63.8%.

DISCUSSION: This survey suggests that Dunedin's Free Clinic serves a vulnerable population, in whom levels of unmet health need and health service usage are high.

KEYWORDS: Disparities, health care; fees, medical; health care surveys; health services research; primary health care; vulnerable populations

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Introduction

Many New Zealanders experience difficulty accessing health care. In the latest New Zealand Health Survey, 27% of respondents reported an unmet need for general practice services, with 14% indicating cost as the reason.¹ Forgone medical visits increased with reducing socioeconomic status, and people making more frequent visits to their general practitioner (GP) also reported greater unmet health needs.² Without cost barriers at a free clinic in Christchurch, an inverse relationship between income and consultation

rates emerged,³ in keeping with the unequal distribution of chronic disease burden with socioeconomic position.⁴ A similar consulting pattern was not observed among patients at the comparison fee-for-service clinic.³

Efforts to minimise cost barriers to primary health care in New Zealand have been only partly successful. The Community Services Card (CSC) was introduced in 1992 to channel government subsidies towards people on means-tested welfare benefits. However, CSC uptake was incomplete (74%), with one-third of people

without a CSC eligible for one.⁵ Not only did the implementation of the CSC subsidy scheme not produce an increase in primary care attendances, half to two-thirds of CSC holders reported deferring medical care because of the cost.⁶⁻⁸

The New Zealand Primary Health Care Strategy (2001) aimed to reduce health inequalities by reducing access barriers to primary health care.⁹ The Strategy's central objective was to better target resources according to need, based on the socioeconomic profile of a clinic's enrolled patient population.^{10,11} While these reforms lowered patient co-payments and lifted consultation rates generally, commentators agreed that much of the benefit was accrued by patients without CSCs (who presumably are in a better socioeconomic position than those with CSCs),¹² and that GP consultation rates remained low for Māori and those with low household incomes.¹³

Discounted doctors' fees are another important way of overcoming cost barriers. In 1991, over a quarter of general practice consultations involved discounted or waived fees, but this practice became less frequent over time,^{14,15} or concentrated on paediatric (age <18 years) or older (age >65 years) patients.¹⁶ In Christchurch, practices in more deprived areas were more likely to discount their fees, but survey respondents at an inner city community aid agency were more likely to obtain financial assistance from their GP if they resided in less deprived areas.¹⁷

Community-governed, not-for-profit primary care clinics have arisen to meet the health needs of some groups not specifically catered for by the government and for-profit sectors. These clinics reduce financial and cultural barriers by charging lower patient fees and employing more Māori and Pacific staff.¹⁸ The patients attending these clinics have highly atypical demographic profiles for the New Zealand population. Studies of this sector have shown that only a quarter of enrolled patients are of European ethnicity, two-thirds have a CSC, and nearly two-thirds live in the three most deprived NZDep2001 deciles.^{19,20}

Dunedin's free clinic ('Free Clinic') is a not-for-profit primary health care clinic that opened in January 2010, centrally located in an urban set-

WHAT GAP THIS FILLS

What we already know: The Free Child Health Care Scheme has reduced the cost barrier for children consulting their general practitioner. National surveys have demonstrated significant levels of unmet health need among New Zealand adults, with women more likely to forgo primary health care because of cost than men.

What this study adds: Providing free primary health care services in Dunedin has attracted a particular patient group whose profile suggests high levels of unmet need, despite a number of policy interventions already being in place to reduce cost barriers.

ting in the South Island of New Zealand. Medical, nursing, counselling and occupational therapy services are provided at no charge to patients. This study aimed to compare the sociodemographic characteristics of the Free Clinic's patients with patients attending a nearby traditional general practice, and to examine how the two groups differ in their use of primary care services.

Methods

The study used an opportunistic survey of patients attending the Free Clinic and a nearby fee-charging general practice clinic ('Traditional Clinic') between October 2010 and April 2011. Ethics approval was obtained from the Lower South Regional Ethics Committee (Ref. LRS/10/EXP/017). One author (LL) was a GP at the Free Clinic from 2010 to 2014.

Feedback on a draft questionnaire was received from GPs, patients and receptionists before the study. During the study period, reception staff distributed questionnaires (see Appendix 1 in the online version of this paper) to patients in the waiting room. The distribution process was neither structured nor randomised. Visitors and casual patients were excluded because they were likely to obtain their primary health care mainly at other sites. Children aged under six years were also excluded, as their care was usually free at both study clinics. To enhance recruitment at the Traditional Clinic, a box of questionnaires was also placed in the waiting room. Receptionists wrote the unique patient file number on the questionnaires to permit linkage with participants' clinical records. Patients who picked up question-

Box 1. Study hypotheses

Hypothesis 1: People with higher NZiDep scores are sicker.

Hypothesis 2: People with higher NZiDep scores have more frequent consultations.

Hypothesis 3: At the Traditional Clinic, discounting of fees is sufficient to allow more deprived people to consult more frequently.

naires from the waiting room box wrote the date and the first three letters of their surname on the questionnaire.

The main outcome measure was the face-to-face consultation rate of participants with GPs between 1 July 2010 and 30 June 2011. Total consultations divided by the proportion of the study year spent as an enrolled patient in the practice provided a standardised consultation rate for each participant. Consultations were considered 'discounted' if patients were charged less than the advertised fees, including zero fees. Data on consultation rates and the discounting of fees was extracted for survey respondents from each clinic's patient management software. At the Traditional Clinic, the number of billed attendances during the study period was obtained from the billing function of Houston VIP (Houston Medical, Hamilton, New Zealand), including those with discounted fees. Houston VIP is used by a minority of New Zealand general practices (2.3%).²¹ Clinical entries were reviewed to ensure that each transaction represented a discrete clinical encounter. At the Free Clinic, the appointments tab of the Medtech32 patient management software was used to obtain the number of booked appointments during the study period.

Emergency Department (ED) visits at Dunedin Hospital between 1 July 2010 and 30 June 2011 were recorded, including arranged admissions by inpatient medical teams, Emergency Psychiatric Service referrals, and encounters where the patient did not wait to be medically reviewed.

Self-rated global health status was collected on a 5-point scale. Participants were also asked if they had ever received any of five chronic disease diagnoses.

Socioeconomic deprivation was measured at both individual (NZiDep) and residential area (NZDep2006) levels. NZDep2006 was derived

from aggregated personal characteristics in New Zealand Census data, and measures relative deprivation.²² NZiDep identifies an individual's socioeconomic position by reference to their income and capacity to afford essential goods.²² NZiDep scores were collapsed into three categories: 'most deprived' (NZiDep scores 4 or 5), 'moderately deprived' (NZiDep scores 2 or 3), or 'least deprived' (NZiDep score 1).

The three study hypotheses are listed in Box 1. These were tested using a logistic regression model (hypothesis 1) and linear regression models (hypotheses 2 and 3). Relationships between dependent and independent factors were first measured in a series of bivariate comparisons. Independent variables were initially included in further analyses if they had an association with the dependent variable of $p \leq 0.05$. The analysis was performed using SPSS Version 20.0.

Results

Demographic characteristics of participants

The Traditional Clinic collected 126 responses and 65 responses came from the Free Clinic (Table 1). There was no statistically significant difference between the two clinics by sex, but respondents from the Free Clinic were younger (mean age 34.8 years, standard deviation [SD] 14.8) than respondents from the Traditional Clinic (mean age 43.2 years, SD 16.6; $p=0.001$). Consistent with the ethnic profile of enrolled patients at the Free Clinic, 24.1% of participants there were Māori, whereas 9.2% of participants at the Traditional Clinic were Māori ($p=0.011$).

All enrolled Free Clinic respondents held a CSC, compared with 35.0% of the Traditional Clinic participants. The NZDep2006 profile of the Traditional Clinic participants mirrored that of Dunedin residents (Figure 1),²³ whereas at the Free Clinic, more than double the expected number of participants (41.4%) resided in the most deprived quintile.

The NZiDep profiles of respondents is presented in Figure 2 alongside that of the New Zealand population as measured in the 2006/07 New Zea-

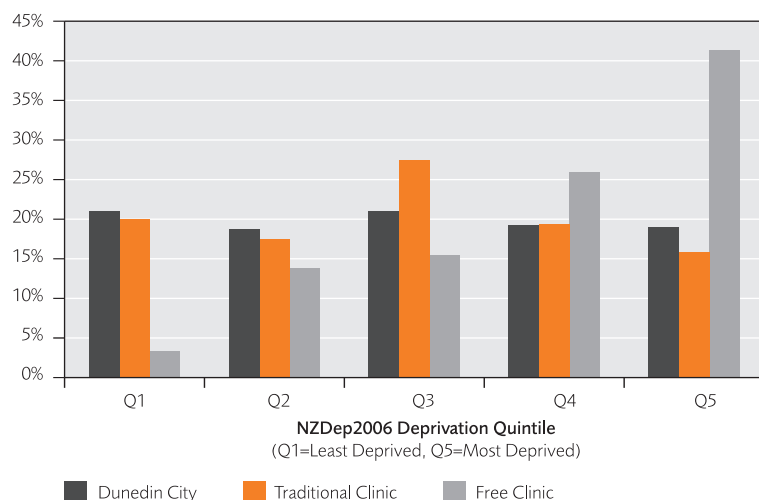
Table 1. Demographic characteristics of survey respondents at the Traditional Clinic and the Free Clinic

	Clinic		P-value for difference between clinics
	Traditional Clinic (N=126)	Free Clinic (N=65)	
Respondents enrolled as patients			
Yes	120 (95.2%)	58 (89.2%)	
No	1 (0.8%)	4 (6.2%)	
Identifying data missing	5 (4.0%)	3 (4.6%)	
Age (years)			
0–14	0 (0.0%)	1 (1.7%)	0.033
15–24	18 (15.0%)	18 (31.0%)	
25–44	51 (42.5%)	22 (37.9%)	
45–64	37 (30.8%)	15 (25.9%)	
≥65	14 (11.7%)	2 (3.4%)	
Sex			
Male	31 (25.8%)	20 (34.5%)	0.154
Female	89 (74.2%)	38 (65.5%)	
Ethnicity*			
Māori	11 (9.2%)	14 (24.1%)	0.011
NZ European	103 (85.8%)	39 (67.2%)	
CSC status			
Yes	42 (35.0%)	58 (100.0%)	<0.001
No	78 (65.0%)	0 (0.0%)	
NZDep2006 quintile			
1	24 (20.0%)	2 (3.4%)	<0.001
2	21 (17.5%)	8 (13.8%)	
3	33 (27.5%)	9 (15.5%)	
4	23 (19.2%)	15 (25.9%)	
5	19 (15.8%)	24 (41.4%)	
NZiDep score*			
1	54 (45.0%)	1 (1.7%)	<0.001
2	15 (12.5%)	0 (0.0%)	
3	8 (6.7%)	1 (1.7%)	
4	13 (10.8%)	9 (15.5%)	
5	16 (13.3%)	38 (65.5%)	
Other socioeconomic factors			
Unemployment	40 (33.0%)	47 (81.0%)	p<0.001
Sickness or Invalid's Benefit receipt	16 (13.3%)	27 (46.6%)	p<0.001
Self-rated health*			
Poor or fair	19 (15.8%)	30 (51.7%)	<0.001
Good	53 (44.2%)	21 (36.2%)	
Very good or excellent	44 (36.7%)	7 (12.1%)	
Presence of chronic health conditions			
Heart	8 (6.7%)	2 (3.4%)	0.535
Lungs	24 (20.0%)	20 (34.5%)	0.008
Diabetes	10 (8.3%)	2 (3.4%)	0.335
Mental	20 (16.7%)	33 (56.9%)	<0.001
Dental	12 (10.0%)	8 (13.8%)	0.283
Presence of unmet health need			
Medical	38 (31.7%)	37 (63.8%)	<0.001
Prescription	22 (18.4%)	35 (60.4%)	<0.001
Dental	52 (43.3%)	47 (81.0%)	<0.001

CSC Community Services Card

* Missing data for some participants

Figure 1. NZDep2006 profiles of respondents

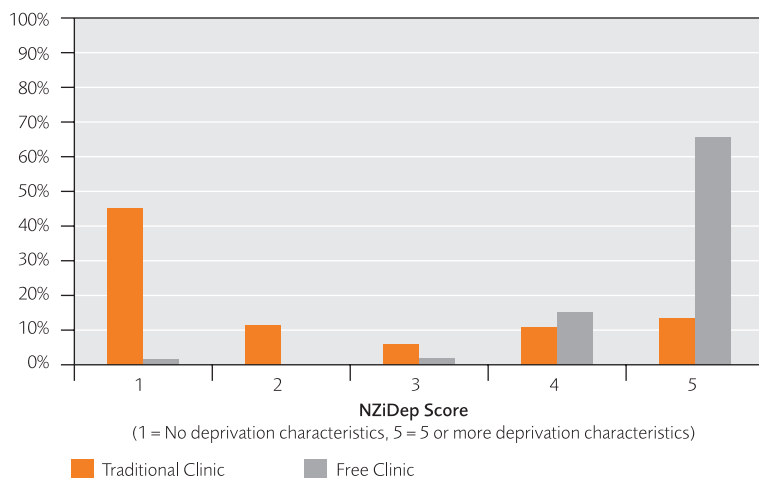


land Health Survey,²⁴ and the Survey of Family, Income, and Employment (SoFIE).²⁵ At the Traditional Clinic, nearly half the respondents had no deprivation characteristics and 13% had five or more deprivation characteristics. In contrast, 66% of the Free Clinic participants had five or more deprivation characteristics, and only 2% had no deprivation characteristics.

Health status

Free Clinic respondents were significantly more likely than Traditional Clinic respondents to report 'poor' or 'fair' self-rated health status (51.7% versus 15.8%; $p<0.001$) and significantly less likely to report 'very good' or 'excellent' health (12.1% versus 36.7%; $p<0.001$).

Figure 2. NZiDep profiles of respondents versus New Zealand population



At the Free Clinic, 34.5% of participants reported having a diagnosis of asthma or chronic obstructive pulmonary disease (COPD), and 56.9% reported a diagnosis of a mental disorder, compared with 20.0% and 16.7% of participants at the Traditional Clinic ($p=0.008$ and $p<0.001$, respectively).

Health services utilisation

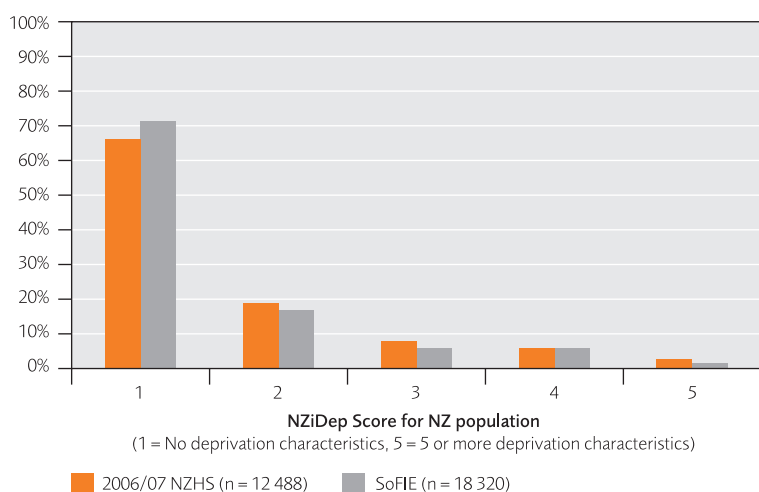
The mean GP consultation rate over 12 months was 4.8 (SD 3.8) for Traditional Clinic participants and 12.0 (SD 9.5) for Free Clinic participants ($p<0.001$). At the Traditional Clinic, 31.7% of participants reported deferring medical care because of cost.

Free Clinic participants visited the Emergency Department more frequently (1105 visits/1000 person-years) than Traditional Clinic participants (372 visits/1000 person-years, $p<0.001$).

Hypothesis 1

At the Free Clinic, 81.0% of participants were designated most deprived, compared with 24.1% of Traditional Clinic participants ($p<0.001$). At both clinics, most deprived participants were more likely to report worse health than least deprived and moderately deprived participants (odds ratio 19.0, $p<0.001$).

In the model of 'worse health' (combining 'poor' and 'fair' assessments) with the practice, unmet



health need and NZiDep as independent variables, both the least deprived and moderately deprived emerged as significantly and negatively related to worse health ($p=0.003$ and $p=0.016$ respectively). This result supports the hypothesis that more deprived participants report lower health status than less deprived respondents. Unmet health need did not significantly contribute to this model.

Hypothesis 2

In the model of consultation frequency as the dependent variable, and NZiDep, self-rated health, and unmet health need as independent variables, NZiDep and self-rated health emerged as significantly related to consultation rate ($p=0.001$ and $p=0.026$ respectively). This result supports the hypothesis that deprivation was associated with increased consultations.

Hypothesis 3

At the Traditional Clinic, 46.7% of participants received discounted consultation fees. Participants receiving at least one discounted GP consultation had higher consultation rates (mean 7.2, SD 3.8) and were more deprived (mean NZiDep 2.7, SD 1.6) than participants with no discounted visits (mean consultation rate 2.8, SD 2.2; $p<0.001$; mean NZiDep 1.9, SD 1.4, $p=0.011$).

Consultation rate was modelled as the dependent variable, with unmet health need, self-rated health, discounting and NZiDep as independent variables, including only participants from the Traditional Clinic. Deprivation did not contribute significantly to consultation frequency when discounting was entered into the model. This failed to show that, in the Traditional Clinic, fee discounting allowed more deprived people (who were shown in the earlier analysis to be sicker) to consult more frequently.

Discussion

This study compared patient characteristics and consultation patterns at two nearby primary care clinics that differed in their patients' deprivation profiles and in their usual payment practices (fee-

for-service or free care). Patients were enrolled at the Free Clinic if they held a means-tested benefit (CSC), and were often referred from community agencies or by word of mouth. The age distribution of these patients (predominantly 15–45 years) coincided with the age group most likely to report deferring health needs because of cost in the National Health Survey.¹ The excess in female participants at both clinics is likely because of the higher utilisation rate of general practice services by women generally,²⁶ and the possible predisposition of reception staff towards approaching female patients. There was no significant difference between the clinics in the ratio of male to female participants, despite women being more likely than men to report deferring health care because of cost.²⁷

Differences between study clinics in participants' deprivation profiles were more striking for individual deprivation (NZiDep) than for residential area deprivation (NZDep2006). Our findings follow other research showing unmet health need to follow worsening NZiDep more closely than NZDep2006.²⁷ As not all deprived individuals reside in deprived areas, residential area deprivation is only weakly correlated with individual deprivation.^{28–30} This is especially relevant to primary care funding decisions because residential area deprivation is used as a proxy for health need and as a key instrument for health resource allocation at a population level.³¹ However, its utility diminishes when applied at the individual level,¹¹ due to misclassification error between deprived individuals and deprived areas.³² Furthermore, individual deprivation is a better predictor than area deprivation of certain health outcomes, such as poorer mental health status,²² prevalent at the Free Clinic.

Discounting of doctors' fees represents an important method for targeting resources to higher-need individuals, but even small co-payments pose significant access barriers to health care.³³ In New Zealand, discounting operates on a discretionary basis, and this study did not demonstrate that discounting increased consultation rates according to the level of deprivation. Consultation rates are a salient but imperfect measure of health need. In general, the frequency of consultations increases with socioeconomic deprivation³⁴

because of known associations with multi-morbidity.³⁵ However, deprived individuals may not be discounted at a rate commensurate with their needs. Traditional Clinic patients who could not afford to attend were not sampled, and this study may have been too small to detect whether discounting fully compensated for cost barriers at a rate related to individual deprivation. However, given the degree of unmet health need reported (31.7%) and the use of Emergency Department services (which are free) among Traditional Clinic participants, it is likely that discounting was insufficient to allow patients to access general practice care according to their health needs.

As neither area nor individual measures of deprivation fully capture the relationship between socioeconomic position and health,³⁶ additional mechanisms to identify individuals whose care is not fully covered by existing subsidy streams is needed. Some patients use the Work and Income Disability Allowance to offset medical costs, and some practices permit regular automatic bank payments in lieu of charging a fee for every consultation. However, these methods rely on budgetary discretion by patients, and many practices in high deprivation neighbourhoods do not offer automatic payment schemes because of high levels of unserviced debt.^{37,38}

Two Dunedin practices were studied, including one with the unusual operational foundation and patient demographic profile that allowed the study's questions to be addressed. The findings offer particular insights into the demographic and consulting profile of patients seeking free and discounted primary care, but cannot necessarily be extrapolated to the New Zealand population. Perhaps because only patients who consulted were sampled in our study, in both study practices doctor consultations were higher than at metropolitan general practices generally (3.7 per year in New Zealand general practices, 4.8 in our Traditional practice and 12.0 in the Free Clinic).³⁹ Other New Zealand studies^{6,40} suggest that six or more GP consultations per year define a 'frequent attender'.

The non-random sampling used in our study may have resulted in selection biases that accentuated the differences between the clinics. In addition,

since a written survey was used, only functionally literate patients could participate. Some recall bias inherent to the questionnaire's frame of reference being the previous 12 months is also likely.

Overall, the study found that Free Clinic respondents were more likely than Traditional Clinic respondents to be younger, Māori, and more socioeconomically deprived, have more respiratory and mental illness, and have higher unmet health needs for medical, dental, and prescription services. It remains for a further study to demonstrate that free primary care can assist in addressing these health disparities.

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COMPETING INTERESTS

None declared.

APPENDIX

QUESTIONNAIRE					
Patient's age: _____ years			Sex: Male / Female		
Ethnicity:	European	Māori	Pacific	Asian	Other
Health status					
How would you rate your current state of health?					
Excellent	Very good	Good	Fair	Poor	
Health problems					
Has a doctor diagnosed you with any of these conditions?					
Heart trouble (angina, blocked arteries in your heart or heart failure)				Yes / No	
Asthma, COPD, or emphysema				Yes / No	
Diabetes (whether or not you require medication for this)				Yes / No	
A mental health problem				Yes / No	
Tooth decay, gum disease, or a mouth infection—in the past 12 months				Yes / No	
Financial difficulties					
In the last 12 months:					
Employment status					
Have you been out of paid work for more than one month?				Yes / No	
Being on social welfare benefit					
Do you have a Community Services Card?				Yes / No	
Are you on the Sickness Benefit, or the Invalid's Benefit?				Yes / No	
Getting community help					
Have you received help in the form of clothes or money from a community organisation (such as the Salvation Army or Presbyterian Support)?				Yes / No	
Buying cheaper food					
Have you been forced to buy cheaper food so you could save up for other things you needed?				Yes / No	
Help to get food					
Have you needed to use special food grants or food banks?				Yes / No	
Doing without fresh fruit and vegetables					
Have you gone without fresh fruit and vegetables often, so that you could pay for other things you needed?				Yes / No	
Feeling cold					
Have you put up with feeling cold to save on heating costs?				Yes / No	
Wearing worn-out shoes					
Have you worn shoes with holes because you could not afford new ones?				Yes / No	
Putting off health needs because of cost					
In the past 12 months, have you put off:					
Seeing your doctor?		Yes / No	Seeing your dentist?		Yes / No
Filling a prescription?		Yes / No			