Dunedin's free clinic: an exploration of its model of care using case study methodology

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ABSTRACT

INTRODUCTION: Models of care are important therapeutic modalities for achieving the goals of health care teams, but they are seldom explicitly stated or investigated.

AIM: To describe the model of care at Dunedin's free clinic, and assess whether this model catered to the particular needs of enrolled patients.

METHODS: A mixed methods study was conducted using case study methodology to construct the clinic's model of care from multiple data sources, and to create a profile of patients' needs. A nested case study of patients with diabetes examined patients' social vulnerability characteristics. The pattern matching analytic technique was used to assess the degree of alignment between the model of care and patients' needs.

RESULTS: Patients were not only high users of both primary and secondary health care, but also of justice and social welfare sector services. The care of patients with diabetes was complicated by coexisting social vulnerability and medical comorbidities. Surveyed patients placed high value on interpersonal dimensions of care, the Christian ethos of the clinic, and the wider range of services available.

DISCUSSION: This study suggests a degree of 'fit' between the clinic's model of care and the needs of enrolled patients. A model of care that caters to the needs of patients with complex needs is important for securing their engagement in health services.

KEYWORDS: Health services research; health status disparities; primary health care; qualitative research; vulnerable populations

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Introduction

Dunedin's free clinic ('Free Clinic') provides primary health care services in the Dunedin city centre at no cost to patients. The way health services are delivered may be as important in providing appropriate care as removing the cost barrier to access. Structural barriers, such as institutional characteristics, organisational processes, and the patient–provider interface indirectly contribute to adverse health outcomes by reducing the uptake of health services.[1] These non-financial barriers, such as the acceptability of services, and whether these services accommodate the needs of patients,[2] have a greater impact on Māori patients[3,4] and marginalised groups.[5]

Models of care are multi-dimensional concepts describing the way health services are delivered,[6] and have special relevance to clinics serving vulnerable populations. Establishing a defined model of care facilitates the members of the health care team working towards common goals, and helps evaluate the extent to which such aspirations are met.[6] Providers may re-orientate their services towards more explicitly addressing health inequities in marginalised groups by incorporating strategies into their model of care that attend to power differentials within relationships and that respond to the social contexts of patients' lives.[7] Person-focused care implies that attention to the context of patients' health problems is at least as important as appropriate care for the problems themselves.[8]

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This study of the Free Clinic was conducted because the clinic's operational framework had unique elements for general practice in New Zealand. A wide range of clinical services has been offered at the Free Clinic (general practice, nursing, counselling, and occupational therapy services), and all its clinicians are volunteers. The Free Clinic has an overtly Christian ethos, and its administrative services are funded in part by a Catholic charity. Activity groups are run in parallel to traditional clinical services. The Free Clinic functions as a drop-in centre for its enrolled patients, who are frequently seen without an appointment.

Case study methodology was selected to study the Free Clinic's model of care for two reasons. Firstly, new free clinics are rare in New Zealand, limiting comparative analysis with similar clinics. Secondly, if the provision of free primary health care is seen as the Free Clinic's distinctive intervention, then the clinic's model of care is the intervention's context. Case studies provide an in-depth investigation of a contemporary phenomenon within its natural context, and are particularly useful when the boundaries between the phenomenon and its context are blurred.[9] Case studies use a naturalistic rather than an experimental approach, and individual cases are selected because of distinctiveness instead of representativeness.[10] A process of triangulation is often used to improve the validity of any conclusions made,[9] via corroboration through multiple sources of data, methods of analysis, or investigators. The convergence of separate lines of evidence buttresses the robustness of conclusions made. The ability to study evolving, complex phenomena within their contexts makes the case study approach useful for health services research.[11]

The case study method has been previously used to study a network of third sector (non-government, non-profit) clinics that arose in New Zealand in response to perceived failures of existing services in addressing the primary health care needs of vulnerable populations.[12] The objective of the present case study is to describe the Free Clinic's model of care, using quantitative and qualitative data sources. It is hypothesised that the Free Clinic's model of care has been determined by the needs of enrolled patients.

Methods

The University of Otago Human Ethics Committee (Health Ref. H13/088) and the Free Clinic's Board of Trustees approved this study. LL worked as a general practitioner (GP) at the clinic from 2010 to 2014, and JR was the practice manager from 2012 to 2014. As participant-researchers, they contributed to this research with first-hand reporting of the day-to-day issues of patients and validity testing to ensure this study's findings resonated with their professional experiences. No identifying details for individuals were made for any observations recorded.

Model of care

The Free Clinic's practice manager made journal entries of patient encounters during March 2013, focusing on events that captured the essence of the clinic's model of care, but that did not typically enter the medical notes. These included waiting room encounters with patients presenting for help without a prior appointment. The journal built a profile of the psychosocial needs of Free Clinic patients; it revealed the clinic's model of care, to which patients responded by feeling sufficiently safe or supported to bring specific needs that would typically be challenging to address within a traditional 15-minute general practice appointment framework.

Self-administered survey forms for this study were left in the waiting room (see Appendix 1 in the online version of this paper), and used to solicit Free Clinic patients' views on the clinic's model of care. No identifying personal details were recorded on these forms. Responses were independently coded by the authors (LL, CJ), and themes extracted using a grounded theory approach. Computer software was not used to assist with coding. An externally prepared evaluation report[13] of a local prisoner release programme provided additional information.

Patients' needs

Cross-sector patient needs

Free Clinic patients' use of services across government sectors was assessed using service utilisation as a proxy for need. The authors pos-

ited Free Clinic patients as likely to have complex needs, both in relation to the 'breadth' (having multiple medical conditions, or requiring assistance from different government departments) and the 'depth' (illness severity or the volume of service utilisation) of such needs.

Primary and secondary care utilisation rates by Free Clinic patients in 2011 indicated the extent of their health needs. Free Clinic–enrolled patients' rate of consultations with Free Clinic GPs was obtained from South Link Health. Hospital admission rates for Southern Primary Health Organisation (Southern PHO) patients were extracted from the National Minimum Dataset, which is maintained by the Ministry of Health. A one-sample *t*-test was used to compare the Free Clinic's hospital admission rate with the mean rate for the other clinics in the Southern PHO.

The volume of Ministry of Social Development (MSD) Sickness and Invalid's Benefit medical certificates was used as a reflection of patients' social services needs. The Free Clinic used Medtech32 practice management software (Medtech Ltd, Auckland). The Query Builder function of Medtech32 generated a list of enrolled patients with outbox documents with the subject field 'MSD medical certificate' created between 2011 and 2013. Cumulative benefit payments to Free Clinic patients for each year were calculated from weekly payment rates on the MSD website. Payment rates were NZ$187.52, NZ$190.84 and NZ$192.00 for 2011, 2012 and 2013, respectively.

The Free Clinic receptionist collected clippings from the local newspaper (*Otago Daily Times*) of court proceedings involving Free Clinic patients from 2010 to 2013. Newspaper clippings outside 2011–2012 were incomplete and so were excluded from this study. As an estimation of the justice sector involvement of Free Clinic patients, clippings were coded for the sentence imposed and associated duration. Missing or discrepant information was resolved by a search of the digital archive of the *Otago Daily Times*. The patient's enrolment status, and whether comorbid mental illness or substance abuse were present was determined from the patient's clinical notes.

WHAT GAP THIS FILLS

What we already know: Free health care at the point of use improves health outcomes. Socially vulnerable patients are high users of services both within and outside the health sector, and overseas research shows that clinics targeting these populations have adopted specific service delivery approaches to enhance their engagement in services. Locally relevant research on the service delivery context of free primary care is lacking.

What this study adds: This study explores the 'what else' other than free health care that was being offered to the vulnerable patient population at Dunedin's free clinic. Using case study methodology, the study describes the complex needs of patients attending the free clinic and the model of care used to cater to these needs.

Nested case study: patients with diabetes

A nested case study of patients with diabetes was used to explore how the health problems of patients were situated within the context of their psychosocial factors and consulting behaviours. Patients with a diabetes diagnosis were identified using a Medtech32 Query Builder search of patients with a classification of diabetes (Read Codes C10.00 Diabetes Mellitus, - C10z), or a urine albumin:creatinine ratio (ACR) test in the inbox. Other test results, the presence of diabetes complications, and whether patients had any social vulnerability characteristics (Table 1) recorded were then determined from their medical notes. GP consultation rates were calculated from appointments attended that were recorded in Medtech32, and rates of hospital use were obtained from patient management software at Dunedin Public Hospital.

Match between model of care and patients' needs

Alignment between the Free Clinic's model of care and patients' needs was assessed using the pattern matching analytic technique.[9] If Free Clinic patients had needs that went substantially beyond those of patients at more traditional clinics, and if the model of care was a response to such needs, then it was expected that it would be apparent from the data that the model of care extended beyond more traditional models, and that the supply of services

was guided by the demand for such services, rather than the converse. If, however, independently of patients' needs, the development of the model of care was driven by the religious or clinical orientations of staff or by funding mechanisms, these rival explanations[14] would better explain the model of care derived from the data. Furthermore, incongruities between the model of care and patients' needs would be revealed as service gaps and patient dissatisfaction, articulated in the patient survey.

Results

Patients' needs

Health sector

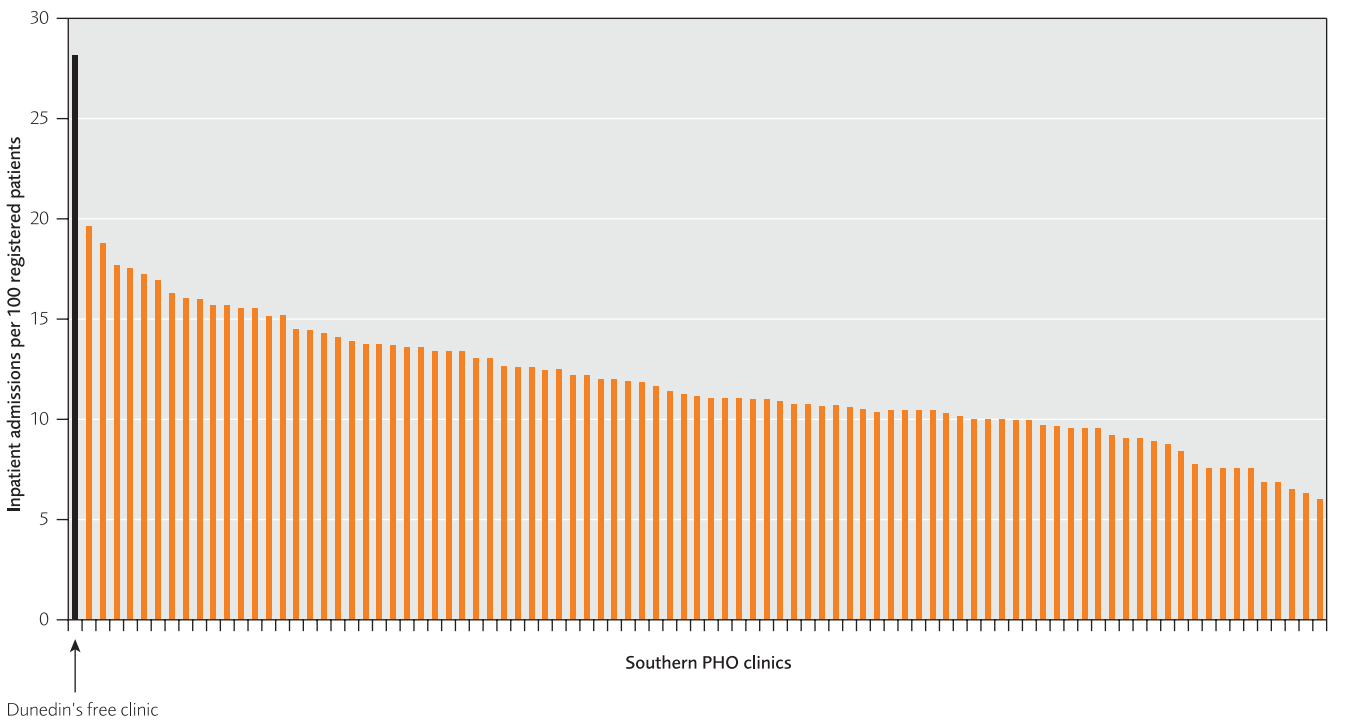
Despite increased GP contact (10.2 visits per patient per year at the Free Clinic versus 6.3 visits at other Southern PHO clinics in 2011), Free Clinic patients were admitted to hospital at a higher rate in 2011 than patients at the other 90 Southern PHO clinics for which data were available (Figure 1, $p<0.001$).

The nested case study identified 21 Free Clinic patients with diabetes (Table 1). Comorbidity was almost a universal characteristic; all bar one of these patients had a coexisting physical, psychiatric or substance abuse diagnosis classified. Sixteen patients had a chronic physical condition, typically a respiratory or musculoskeletal disease. Sixteen patients were recorded as having a mental illness or substance abuse, which in many cases were diagnoses that would require psychiatrist input.

In this small sample, Free Clinic patients with diabetes had evidence of complications and complex needs (Table 1). In 2013, there were 1.5 hospital admissions per patient, with an average of 10.8 bed-days per patient. An average of 10.1 outpatient appointments was generated for Free Clinic patients with diabetes in 2013, who had a did-not-attend (DNA) rate of 8%.

In the 20 patients with diabetes for whom such data were available, all except one had at least one social vulnerability characteristic (Table 1). On average, these patients with diabetes had three vulnerability characteristics.

Figure 1. Hospital admission rates for Southern PHO patients in 2011, by clinic



Social services sector

During the three-year period from 2011 to 2013, 1383 MSD medical certificates were completed for 278 Free Clinic patients (see Appendix 2 in the online version of this paper). Assuming each certificate to have a 13-week tenure, Free Clinic patients incurred an average of $1.14 million of medical incapacity benefit payments per year.

Justice sector

Over the two-year period, 163 court appearances were reported for 80 enrolled patients, with 40 patients receiving a jail sentence (see Appendix 2 in the online version of this paper). For these 80 enrolled patients, classification of mental illness or substance abuse was almost universally recorded in the medical notes (95.0%). With unit costs of $16.54 per day for community-based sentences and $266.00 per day in prison,[15] Free Clinic patients cost the Corrections Department approximately $2.74 million per year.

Model of care

Patient surveys

Twenty-seven patient surveys were received. The most prominent theme related not to the organisational structure of the clinic, nor to the clinical aspects of the care patients received, but rather the interpersonal dimension of care. This was the focus for 21 respondents, who valued their care as being genuine, non-judgmental, personal, holistic, and addressing their non-medical needs (Table 2).

While four respondents commented on the lack of a cost barrier, an important theme emerged around aspects of health care access less commonly discussed in the literature. Twelve respondents used the words 'friendly' or 'friendliness', and eight respondents highlighted how they were able to drop in to the clinic for 'a coffee and chat' without a prior appointment.

Eleven respondents described the Christian ethos of the clinic or spiritual care that was available. One such response drew a clear connection

Table 1. Data from nested case study of patients with diabetes (n=21)

Mean age	48.1 years
Males	9 (42.9%)
Mean HbA1c	69 mmol/mol
Mean blood pressure	144/85 mm Hg
Mean body mass index (BMI)	34.8 kg/m^2
Mean low-density lipoprotein (LDL) level	2.5 mmol/L
Microvascular complications	11 of 19 patients (57.9%)
Microalbuminuria	9
Diabetic retinopathy	6
Diabetic neuropathy	1
Established coronary or cerebrovascular disease	6
Number of patients on insulin (mean age 45.7 years)	9
Social vulnerability characteristics	**Number of patients**
Unemployment	15
Sickness or Invalid Beneficiary	14
Intellectual disability, illiteracy or non-English speaker	3
Unstable accommodation	2
Single parent household, or Child, Youth and Family Services custody of children	11
History of child abuse	5
History of domestic violence	4
History of imprisonment	3
History of self-harm	4
Current psychiatric compulsory treatment order	1

Table 2. Representative quotes from patient survey

A	'...the patients here are treated as people... not just an NHI [National Health Index] number.' (Respondent 19)
	'...at other doctors' clinics if I have self-harmed, I am judged and criticised, whereas I am not [at the Free Clinic].' (Respondent 18)
B	'...there is a religious side which is available if you choose to use it.' (Respondent 24)
	'Being gay I've struggled with dealing with Christian organisations because I often get shunned, or made to feel like something is wrong with me.....I don't believe Jesus would treat anyone like that and [the Free Clinic] reflects that by supporting me as I am and treating me with respect.' (Respondent 14)
C	'For me, it's the groups and counselling which help me on my journey of sobriety.' (Respondent 19)

between the interpersonal aspect of care and the Christian values of clinic staff (Table 2).

Ten respondents made reference to organisational aspects of the clinic, chiefly about the wider range of primary care services offered (Table 2).

Practice manager's journal

Most recorded encounters involved patients 'dropping in' to the clinic without an appointment, seeking support for problems relating to poverty. These were typically accommodation difficulties and food parcel requests, and involved the practice manager advocating for patients to governmental and non-governmental agencies. Support was also frequently given for relationship problems and domestic violence, and in one occasion required the manager liaising with Women's Refuge.

Providing support for psychological distress was another recurring theme. Although sometimes this presented as a sense of hopelessness arising from chronic financial stress, more commonly, patients struggled with diminished self-esteem. Examples from the patient manager's journal included: 'identity crisis—hates self', and '...doesn't think she's worth bothering about'.

Many patients indicated that they consumed alcohol as a means to cope. One patient who was receiving palliative chemotherapy was distressed about how his family would cope after his death. Pastoral and spiritual care needs were frequently articulated by patients, and sometimes patients specifically sought prayer.

Table 3. Extract from prisoner release programme report[13]

...[The Free Clinic] philosophy is inclusive and non-judgmental and their scope of practice wider than is the norm in most primary care settings. For example, they are available for patients to drop in for a coffee and a chat at any time during the day, and they take a more active role in facilitating the social needs outside of health, such as housing, welfare and spiritual needs. One of the goals [of the Free Clinic] is to provide a pathway for marginalized clients to reintegrate into society, including supporting them to move on to a mainstream general practice when they are able to. They [the Free Clinic] also commented that six of the clients were now attending church regularly, a positive marker for re-connection with the community and potentially protective against reoffending. (p.8)

Patients were referred to church services or the hospital chaplaincy team, and in two encounters patients were referred to the Emergency Psychiatric Service.

External perspective

The evaluation report[13] of a local prisoner release programme commented on the Free Clinic's model of care (Table 3). At the Free Clinic, 55% of ex-prisoners were reported to attend follow-up visits, versus 39% of ex-prisoners at other clinics, and 16% were reported to be re-incarcerated at six months versus 23% at other clinics.[13]

Discussion

The Free Clinic's model of care as constructed in this case study matches the needs of enrolled patients. Congruent with the complex social and medical needs of patients at Dunedin's Free Clinic shown here, the patient surveys and the practice manager's journal revealed patients accessing care at the clinic for their broader psychosocial needs. The clustering of socioeconomic risk factors in association with unmet health needs is recognised in the literature,[16] along with the phenomenon of immediate socioeconomic needs 'crowding out' existing health needs.[17]

Catering to patients with complex needs is challenging, not just because of the cost barrier present at most general practices in New Zealand. Disease-focused clinical guidelines often do not adequately capture the totality of needs faced by patients with complex needs.[18] Although access to care, clinical effectiveness and the effectiveness of interpersonal care are all components of quality of care,[19] in this case study, responses in the patient surveys clustered primarily around the last component of interpersonal care. Perhaps Free Clinic patients took the quality of the management of their health conditions between primary care and secondary care (vertically oriented care) as a given, placing special value instead on aspects of the delivery of care associated with integrating, prioritising and personalising care within their broader needs (horizontally oriented care).[20]

Free Clinic patients appreciated being able to obtain support that was sympathetic to their broader needs. Groups that met regularly and the fact that the clinic functioned as a drop-in centre fostered incremental, frequent encounters outside the consultation room that were likely to have been instrumental in establishing therapeutic relationships with staff. The prominence of descriptors of the nature of the interpersonal relationship patients had with staff and the frequent use of 'friend' (friendly/friendliness) in survey responses pointed to the success of such relationships. Also, the repeated encounters made on the basis of these relationships, as documented in the practice manager's journal, suggested that patients believed their non-medical needs would be both given due credence and sensitively handled.

The Free Clinic's model of care also accorded well with models of care described in the literature on marginalised and vulnerable patients. 'Third sector' (non-government, non-profit) clinics in New Zealand that target vulnerable populations are more likely than traditional, for-profit clinics to employ Māori and Pacific staff,[21] and offer a wider than usual range of services.[22] Reports of Australian primary health care facilities serving marginalised groups in urban settings emphasise providing a welcoming physical environment, which may include refreshments and adequate heating, and a non-judgmental approach focused on harm reduction.[5,23] Providing counselling services, recognising the impact of life circumstances on patients' decision-making, keeping strong links with community agencies, and offering a flexible, drop-in appointment system were other features of the model of care at these facilities.[5,23]

Limitations

The 'insider' location of two of the authors (LL and JR) as participant-researchers within the Free Clinic conferred both advantages and disadvantages. For instance, whereas an external researcher may have chosen to focus on the Free Clinic enrolling an at-risk population, the clinician-researcher can clarify, using first-hand anecdotes, whether the model of care as construed in the case study aligns well with the lived experiences of vulnerable individuals enrolled there.[24] However, cognisant of bias from *a priori* knowledge and preconceptions, the Free Clinic's model of care was constructed verbatim whenever possible from key informants and key documents, and a high level of reflexive bracketing was used. Reflexive bracketing involves being deliberately aware of one's personal feelings and assumptions, so as to not impose these on the processes of data collection and analysis.[25] An 'outsider' researcher (CJ) also coded the patient survey for themes independently. The use of data triangulation gave additional support for the interpretation of data in the study.

Finally, it may be said that the results of this case study are not generalisable to other settings, since a clinic with many unique features is being studied. The authors' response would be to highlight the relevant overarching aims of this study. This exploratory research aimed to uncover characteristics of a distinct patient group attending a clinic that had been chosen for its exceptional character, rather than its representativeness. The research methods reflect a pragmatic balancing[26] of the need to conduct epistemologically sound research with the imperative to extract socially valuable knowledge from a clinic that is both operationally unique for the New Zealand general practice context and unusual, in that it specifically targets a group of patients about whom very little research is published in New Zealand.

Final comments

The study hypothesis that the Free Clinic's model of care has been determined by the needs of enrolled patients is supported by the concordance between the model of care at Dunedin's Free Clinic and the particular needs of patients enrolled there. As the health needs of patients were embedded within their wider needs, a multifaceted, person-focused approach was needed that involved attending to their health needs, along with their social and other needs. Further study is needed to assess the effect on health outcomes of providing free primary care access within this care context.

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COMPETING INTERESTS
None declared.

APPENDIX 1: Patient survey questions

Patient survey questions

1. How do you think Servants Health Centre is different to other clinics? What makes the care you receive here different?
2. How is the care you receive here the same as other clinics?
3. What about Servants Health Centre has worked well for everyone who comes here?
4. What about Servants Health Centre has worked well for you, personally?
5. What changes would you like to see here, to meet your needs better?

APPENDIX 2: Demographic profiles of patients—medical incapacity benefit claimants and patients in court proceedings

Table 2A. Demographic profile of Free Clinic medical incapacity benefit claimants (n=278)

Average age	36.5 years
Male	166 (59.7%)
Residing in NZDep2006 quintile 5 areas*	100 (36.0%)

* New Zealand Deprivation Index 2006—quintile 5 is the most deprived in terms of small area deprivation as measured by nine Census-derived variables including household income

Table 2B. Demographic profile of Free Clinic patients in court proceedings (n=80)

Average age	29.2 years
Male	57 (71.3%)
Charges (in descending order of frequency)	
Breach of community-based sentences or conditions	30%
Theft or burglary	23%
Assault	14%
Cumulative sentences (average per year)	
Jail	337.1 months
Community work	2412.5 hours
Home or community detention	25.0 months
Supervision	61.0 months