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The Canterbury Charity Hospital: an update (2010–2012) and effects of the earthquakes

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Abstract

Aim To update activities of the Canterbury Charity Hospital (CCH) and its Trust over the 3 years 2010–2012, during which the devastating Christchurch earthquakes occurred.

Methods Patients' treatments, establishment of new services, expansion of the CCH, staffing and finances were reviewed.

Results Previously established services including general surgery continued as before, some services such as ophthalmology declined, and new services were established including colonoscopy, dentistry and some gynaecological procedures; counselling was provided following the earthquakes. Teaching and research endeavours increased. An adjacent property was purchased and renovated to accommodate the expansion. The Trust became financially self-sustaining in 2010; annual running costs of $340,000/year were maintained but were anticipated to increase soon. Of the money generously donated by the community to the Trust, 82% went directly to patient care. Although not formally recorded, hundreds of appointment request were rejected because of service unavailability or unmet referral criteria.

Conclusions This 3-year review highlights substantial, undocumented unmet healthcare needs in the region, which were exacerbated by the 2010/2011 earthquakes. We contend that the level of unmet healthcare in Canterbury and throughout the country should be regularly documented to inform planning of public healthcare services.

Charity hospitals have developed in many countries to address unmet healthcare needs. The Canterbury Charity Hospital Trust (CCHT) was established in Christchurch in 2004 to facilitate the provision of free elective health care to patients with selected disorders in the Canterbury District Health Board (CDHB) region who were otherwise unable to access treatment.

The initial report described the establishment of the CCHT, the development, staffing, financing and running of the Canterbury Charity Hospital (CCH), and provided details of patients seen during its first 2½ years up to the end of 2009.[1] As noted in that report, the health reforms of the early 1990s, described at the time as "jumping on the spot", had wide-ranging effects on the provision of healthcare services, especially in the provision of elective hospital services.[2]

The purpose of this document is to update activities of the CCHT and its CCH over the three year period from the beginning of 2010 to the end of 2012. It details patients

seen and treated, the effects of the Christchurch earthquakes, new specialist services and hospital facilities.

A call is made for the systematic, objective documentation of unmet healthcare needs throughout New Zealand as a logical basis for the provision of healthcare by the state.

Methods

The early history of the CCHT and the CCH, together with its initial clinical activities, is described in detail elsewhere.[1] Referrals from general practitioners (GPs) continued to meet the following criteria: inability to access care through the public hospital system; having no medical insurance and unable to afford private care; not entitled to Accident Compensation Corporation (ACC)-funded treatment; and having a condition affecting quality of life and/or employment prospects.

A letter was required confirming that these criteria applied, and signed by both the patient and the GP. They were able to obtain an updated list of services available at the CCH on the CCHT website (www.charityhospital.org.nz). The available services changed over time to respond to alterations in the services provided by the public hospital system, and what volunteer staff and resources were available at the CCH.

The CCH had only two full-time (or equivalent) paid staff members; all other work was carried out by an "army" of over 200 volunteers who provided medical, surgical, anaesthetic, nursing, technical, legal, financial, administrative and manual skills (see Results). Funding was exclusively by public donations, bequests, fundraising activities and interest on investments. There was no Government funding or payment for services by any third party.

The usual functioning of the CCH was disrupted by earthquakes in 2010 and 2011—as summarised in Table 1.

Table 1. Timeline of changes to services and major events during years 2010, 2011, and 2012

September 2010	First earthquake: all clinical services in the CCH suspended for 1 week.
February 2011	Second earthquake: all surgical and medical services in the CCH suspended. Counselling services started 6 days later in CCH; additional counselling space provided by placing Portacabins in CCH car park.
February 2011	Offer by CCHT to all local public and private hospitals damaged by earthquakes of short-term use of any resources not immediately required by CCH as a help in dire circumstances. Offer temporarily taken up by only one private local hospital at no pecuniary benefit to CCHT.
April 2011	New Brighton counselling service started; closed in June.
May 2011	Adjacent property (351 Harewood Road) purchased; some rooms there used immediately for counselling. Previous surgical and medical services re-started in CCH (in 349 Harewood Road, subsequently designated as East Wing).
September 2011	Use of Portacabins and adjacent property ceased. Counselling continued in East Wing and/or adjacent property.
October 2011	Work to convert adjacent property into new CCH West Wing started.
May 2012	Construction of West Wing completed; all counselling service transferred there.
June 2012	Dental service started in West Wing.
August 2012	Endoscopy service started in West Wing.
November 2012	Official opening of West Wing by His Excellency the Governor–General.

Clinical services were interrupted for 1 week only after the first earthquake, which occurred on 4 September 2010. This earthquake produced only minor damage to the CCH. The second earthquake on 22 February 2011, whilst likewise causing only minor damage to the CCH, resulted in 182 deaths and 6659 injuries in the initial 24 hours[3] and produced severe infrastructural damage throughout the city, necessitating the suspension of elective surgery in all surgical facilities.

The trustees perceived a sudden and massive unmet need for counselling that overwhelmed local health services, and so they decided to suspend all other clinical activities at the CCH. A counselling service was established and additional temporary space provided (Figure 1). Volunteer counsellors and clinical psychologists started the service 6 days after the second earthquake.

Another clinic was opened temporarily in the seaside suburb of New Brighton (which suffered severe damage from the second earthquake) to provide counselling for patients who were unable to travel to the CCH.

Figure 1. A Portacabin for counselling services being positioned at the CCH following the February 2011 earthquake

Expert opinion advised that a substantial need for counselling was likely to persist for years after the second earthquake and would not be met by existing services. The adjacent property was therefore immediately purchased by the CCHT and labelled the "West Wing". All previous day-surgery and medical services were restored in May 2011 in the original CCH building, now designated the "East Wing".

The new West Wing was extensively renovated (Figure 2) to allow not only the continuation of counselling services but also to add a dental service (Figure 3), endoscopy and minor surgery in a new operating theatre, and a teaching facility with fibreoptic technology for the purpose of virtual learning.

In November 2012 the West Wing was officially opened by His Excellency the Governor-General in the presence of the Anglican Bishop of Christchurch, The Mayor and Mayoress of Christchurch, the President of the New Zealand Nurses Organization, and a senior representative of the volunteer medical workforce.

Figure 2. October 2011–May 2012: conversion of the house purchased at 351 Harewood Road into the "West Wing" of the CCH

Figure 3. From June 2012: volunteers working in the dental clinic within the "West Wing" of the CCH

Results

In the 3 years from the beginning of 2010 to the end of 2012, for surgical patients there were: 955 initial outpatient appointments, 645 follow-up appointments, and 1050 surgical procedures; for counselling patients there were 1784 counselling sessions.

The mean ages of all patients was 48.0 years (SD=18.7; range 2 to 94 years; 77.9% <65 years). Demographic data including ethnicity, employment and marital status were requested from all patients but were rarely provided. For example, only 14% of patients provided ethnicity data.

During this 3-year period, although not formally recorded, many hundreds of initial patient appointment requests from GPs, other health professionals and directly from patients were refused by the CCH because the services they required were unavailable.

Smaller numbers were rejected because they did not meet referral criteria. Moderate numbers were turned down after outpatient assessments for treatment because they had medical comorbidities that proscribed day case surgery. Because of domestic circumstances or requirement for postoperative observation beyond the day of surgery, some patients initially deemed as unsuitable for surgery at the CCH were, in fact, accommodated because of the provision of free 2-day post-operative respite care at one of two local domiciliary establishments.

Waiting times for surgery at the CCH for the various specialities varied over the three year period but the average wait for gynaecological and most general surgical procedures was 6 to 12 weeks. The exception was groin hernia surgery, for which demand escalated and, by the end of 2012, the waiting time was approximately 1 year.

The specialist elective medical and day surgery services provided before and after the original East Wing of the CCH was opened in 2007 are shown in Table 2. Notwithstanding the disruptive impact of the earthquakes, the number of patients treated by some services, such as general surgery, remained relatively stable. Use of other services such as some medical clinics declined as their provision in the public sector revived.

New services, including counselling, colonoscopy, dentistry and some gynaecological procedures were added to those originally provided by the CCH as access to public hospital services decreased or in response to new needs arising from the earthquakes. Availability of volunteer staff also influenced both the types of services and the numbers of patients treated within services. For example, ophthalmological procedures were carried out in the CCH until 2010 after which, in the absence of volunteer ophthalmologists, this service ceased (Table 2).

Table 2. Numbers of surgical procedures, counselling sessions and medical clinic appointments

Calendar year	2005–2007	2008	2009	2010	2011	2012	Total
Medical	–	8	22	6	2	0	**38**
Dermatology	–	3	4	1	0	0	**8**
General Surgery	18	206	221	138	134	151	**868**
Ophthalmology	4	4	42	4	0	0	**54**
Gynaecology	–	5	36	36	52	76	**205**
Orthopaedic	–	–	22	11	4	0	**37**
Podiatric	–	–	13	30	39	24	**106**
Plastic & Hand	–	2	8	13	0	0	**23**
Vasectomy	–	–	–	3	12	21	**36**
Counselling/Psychological	–	–	–	–	1335	449	**1784**
Dental	–	–	–	–	–	285	**285**
Colonoscopy	–	–	-	–	–	17	**17**
Total	**22**	**228**	**368**	**242**	**1578**	**1023**	**3461**

Over the 3-year period, there were four postoperative complications as follows: one patient had a myocardial infarction on the second day after an open inguinal herniorrhaphy, but made a full recovery; two infected haematomas after Bascom Cleft Lift operations for pilonidal sinus required further surgical treatment; and, one failed laparoscopic sterilisation required a bilateral salpingectomy.

Volunteer specialists and employee details are shown in Table 3. Some volunteers worked at the CCH on a regular basis, often weekly, whilst others provided expertise on a less regular or less frequent basis as dictated by personal circumstances. More volunteers were available than could be accommodated.

Table 3. Numbers of volunteers and employees by the end of 2012

Staff	Ever worked since 2005	Worked (volunteered) in 2012
Nurses	73	38 (56)
Anaesthetists	24	12 (18)
Physicians	11	1 (4)
Surgeons	34	13 (32)
Dentist/Dental Nurses	34/26	34 /26
Counsellors/Psychologists	58	10 (10)
Technicians	12	5 (6)
Non-Medical	86	23 (23)
Full Time Employees	2	1
Part Time Employees	4	2

Immediately after the February 2011 earthquake, the CCHT offered its surgical facilities to Christchurch Hospital to deal with acute injuries. This offer was not taken up. CCHT then offered the use of any of its spare facilities to any of the other local hospitals damaged by the earthquakes. This offer was taken up by one of the private hospitals as a temporary expedient. No charge was made for the use of CCHT facilities; the number of patients treated by this private group is not reported here.

Counselling Service—In 2011 and 2012, 858 patients (23.2% male, 76.8% female; mean age was 48 years; SD=19.2; range 4 to 93 years) were seen at 1784 1-hour sessions.

Immediately after the February 2011 earthquake, patients were seen by volunteer counsellors and clinical psychologists who came from Canterbury, elsewhere in New Zealand as well as Australia and USA—as described elsewhere.[4,5] They provided an acute counselling service, of up to three sessions each, for stressed patients who were either GP or self-referred.

Between 28 February and 2 August 2011, 56 volunteer counsellors offered their time, providing support to the CCHT. After 16 weeks, as the demand for acute stress counselling began to reduce, the out-of-town volunteer counsellors were able to leave and the service was continued by a group of locally-based practitioners. Although the number of new patients requiring counselling decreased in this later phase, the cases became more complex, hence it was necessary to increase the number of counselling sessions to more than three for some patients (Table 4).

Table 4. Numbers of counselling sessions per patient

Number of counselling sessions per patient	2011 Number of patients (%)	2012 Number of patients (%)
<3	621 (82.7)	55 (51.4)
3–9	127 (16.9)	39 (36.4)
10–20	3 (0.4)	8 (7.5)
>20	0	5 (4.7)
Total	**751**	**107**

At that stage, self-referral became unnecessary but referrals were accepted from all qualified health professionals, including social workers, school nurses, etc. The local counsellors and clinical psychologists continued to provide counselling for acutely stressed patients but the breadth of the service at CCH was increased to include the following: anxiety/depression, grief, attention deficit hyperactivity disorder, family therapy, group support, child behavioural issues, and anger management. Many of the patients who presented in these new categories had earthquake related problems.

Dental Service—The cost of routine dental care in the community was often prohibitive for those on a low income. Adults in receipt of a Work and Income New Zealand (WINZ) benefit were able to receive subsided treatment, or a grant, for the relief of dental pain or infection. However, no assistance was available for routine dental treatment for this group of patients. Previously these patients could be treated at the Dental Department in Christchurch Hospital but the level of service was reduced by earthquake damage and policy changes.

From July 2012, CCH offered treatment for those WINZ beneficiaries who might not otherwise access necessary dental care. In the second half of 2012, 285 treatments were provided and the aim for 2013 is to achieve 1000 treatments.

The dental service at the CCH offered a single course of treatment for adult WINZ beneficiaries in order to get them “dentally fit”. It was not designed to provide acute

relief of pain and therefore was not "competing" for those patients who were already able to receive government assistance for this type of service. Treatment offered by the CCH included a check-up, clean, non-urgent extractions, root canal treatment on front teeth, and fillings.

Thirty dentists and a similar number of dental nurses voluntarily offered their time and expertise. The CCH ran 3 to 4 half day dental sessions per week on average but the hope is to increase these in 2013 as demand increases.

Colonoscopy Service—Many patients were referred to the CCH for management of undiagnosed rectal bleeding. For this reason a colonoscopy was thought to be an essential service. Therefore a small theatre complex, with state of the art equipment, was constructed in the new West Wing. This was purpose-built as a colonoscopy suite and small procedure operating facility.

The first colonoscopy list was completed on 10 August 2012. By the end of that year, during which the service was slowly introduced, the procedure had been performed on 17 patients (23.5% male, 76.5% female; mean age was 47.7 years; SD=17.4; range 21 to 80 years) by 6 endoscopists from a pool of 17 volunteers (Table 2). Colorectal pathology was detected in 12 patients, with polyps in 6, one of whom had an adenocarcinoma of the descending colon.

The future intention was to provide a diagnostic service for patients over 50 years of age with symptomatic rectal bleeding and screening for colon cancer for medium-risk category patients.

Teaching and research—The CCHT had an extensive programme of teaching and research, which was supported by an education grant from the Tait Foundation. There were many educational activities for qualified and student nurses in association with the Christchurch Polytechnic Institute of Technology. Christchurch surgical registrars obtained supervised operative experience at the CCH of surgery for common elective conditions, which were infrequently performed in the public hospitals. The new virtual teaching facilities were also used for GP educational sessions. All clinical activities were both internally and externally audited. For example, the post-earthquake counselling service was subjected to an independent research study.[4]

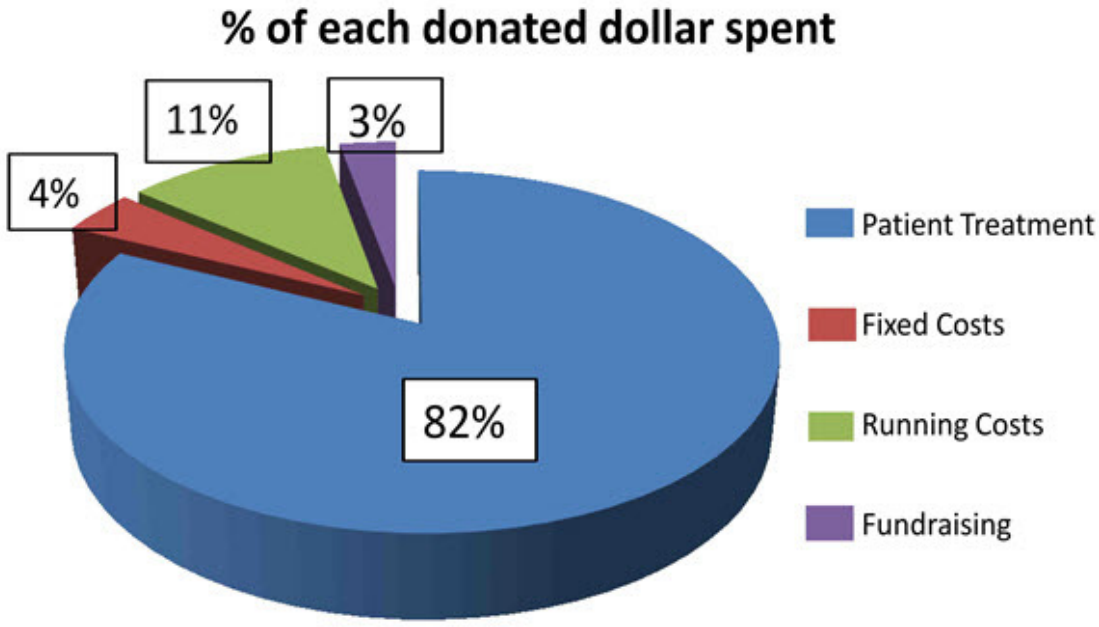
Finances—In the CCHT's third year of operation (2010), it became financially self-sustaining, generating a steady income flow from appeals, grants and public donation. A considerable donation in 2010 brought the cash and investments to a total of $4.3m. Subsequent to the February 2011 earthquake, however, the expansion of the CCH site, combined with capital investments and establishment of new services, reduced the financial reserves to $2.3m.

Major costs included purchase of the adjacent property ($440K), a rebuilding contract ($1.2M) and major medical equipment ($440K). Outside of the expansion project, running costs for the expanded facility remained within the original operating budget of $340k in 2012 although forecasts were that this will double over the next few years.

In late 2012, the CCHT appointed a contracted part-time fundraiser and re-evaluated its long term investment portfolio. Since the original report,[1] the CCHT increased the

percentage of each donated dollar going directly to patient care from 75% to 82% (Figure 4).

Figure 4. Breakdown of spending by the CCH 2010–2012



Note: Patient treatments included costs of operative procedures, medications and consultations. Fixed costs included rates, power and insurance. Running costs included administration, ACC, legal and security fees. Fundraising costs included advertisements, events and publicity.

Discussion

The 3 years since our first report in 2010[1] saw a substantial increase in activity at the CCH, driven by the large number of patients with unmet healthcare needs and exacerbated by the earthquakes of 2010/2011. Since its establishment, the CCHT endeavoured to be flexible in its provision of services.

When services became unavailable or were severely restricted in the public hospital system, the CCHT attempted to fill the gap. In 2008, for example, the CCHT began to provide laparoscopic sterilization in response to an increased need resulting from a progressive reduction in the service provided by the CDHB.

The severe earthquakes of September 2010 and February 2011, along with numerous after-shocks, had a major impact on the population in the Christchurch region and precipitated changes in the functioning of the CCH. Many services there were put on hold in order to allow inspection of the buildings and to establish counselling services. Because of these imperatives, and with unavailability of volunteer health professionals in some specialties, the number of patients treated per year in some categories was less than in 2009.

By contrast, patient flow in other services such as general surgery, gynaecology and podiatric surgery remained steady, whilst new services were introduced. In particular, and with opening of a new West Wing of the CCH, a large number of patients requiring counselling were seen in 2011, and dental and colonoscopy services were established.

It is evident that before the earthquakes of 2010/2011 there was a substantial burden of unmet healthcare need in Canterbury. It should be noted that surgical services provided by the CCH were not comprehensive. Rather, they were available, with few exceptions, only to those who could be treated as day patients and were selective according to availability of specialist volunteer clinicians and necessary physical resources. Clearly, therefore, the number of patients treated in the CCH represented only a fraction of unmet healthcare need in the CDHB region.

Why is there such a high, though undocumented, level of unmet healthcare need? The New Zealand Medical Association in 2011 made note that New Zealand performs poorly when compared with other high income countries in regard to health equity and "this poor performance has direct links to our own particular set of social determinants".[6] These determinants have been analysed and discussed by various authorities and professional bodies[7–9] and, notwithstanding some criticism and contrary views, are not only intuitively logical but based on robust research information.

Adverse changes since the late 1980s - early 1990s in the social determinants of health, perhaps most easily reflected in the substantial increase over time in income inequality in New Zealand, as measured by the P80/P20 ratio or the Gini coefficient,[10] appears likely to be the biggest single contributor to the current level of unmet healthcare needs.

We acknowledge that the level of unmet health care need in the CDHB region is unlikely to be typical of all other regions in the country. We contend, however, that without documenting the level of such unmet need, both regionally and nationally, it is not possible to plan for the provision of public health services in a logical, open and cost-effective fashion. It is, of course, important to continue monitoring and publishing details of what services are currently provided.

Some attempt was made by the Ministry of Health to gather such information in its four NZ Health Surveys. Their 2011/2012 Survey documented that "about 27% of adults had an unmet need for primary health care at some time in the past year".[11] One must add to this the conclusion from the publication by Derrett et al noting that "....rates of public funded surgery leave considerable unmet need in NZ, even in better served areas".[12] There is also unmet need in areas such as dentistry and mental health. One must therefore conclude that the overall level of unmet health care need in New Zealand, although documented only in part, is alarmingly high.

Whereas we are not in a position to provide even a broad estimate of the financial consequences of the present level of unmet healthcare needs, our strong impression is that the current situation results in greater costs to the country in the long term through, for example, the unnecessary payment of welfare/health benefits and lost employment/taxable income, than would a more comprehensive public health system.

In this regard, the opinion of Nobel Prize winning economist Joseph Stiglitz is: “Lack of access to health care contributes significantly to inequality, and this inequality in turn undermines the performance of our economy”.[13]

Competing interests: Nil.

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