

The Omaha System Helps Find Meaning in Despair (Using the Omaha System to Document Disaster Recovery Efforts)

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Abstract

A structured terminology – Omaha System – was used to classify and categorise the problems identified and interventions given in the days following the Christchurch Earthquake on 22 February 2011. This meant that the needs and responses of the Christchurch community could be described in a meaningful way using a structured clinical documentation framework. This paper illustrates the rationale for using the Omaha System and presents the findings of that work as a case study. It concludes by describing the next steps taken in applying the Omaha System to the earthquake-response operating environment in Christchurch. With a significant loss of residential care beds, community nursing services have stepped into the breach to provide hospital and resthome-level care to frail elderly with complex needs, through a 'hospital in the home' model of care.

Organisations referred to in this paper

Comfort For Christchurch – not for profit student volunteering organisation with welfare focus (called 'Comfort Crusaders') established February 2011.

Help4U – national health information and advocacy social enterprise organisation based in Christchurch for over 5 years.

Nurse Maude – not for profit community nursing and homecare organisation based in Christchurch for over 115 years.

Student Volunteer Army – not for profit student volunteering organisation established by University of Canterbury students in September 2010.

1. About Help4U

Help4U is a social enterprise providing health information, coordination and navigation services to health consumers. For almost five years General Practitioners and Family Health Centres have referred to Help4U to ensure that the intentions and actions outlined in patient care plans are managed in a timely and coordinated way. Through a partnership model of collaboration with the patient, family/whanau and providers, Help4U works to ensure that care plans are understood at the level of the patient / consumer and that they – and their family/whanau - have the language and tools to participate in a meaningful way in the care planning process.

To do this, Help4U adopted the Omaha System [1] as the terminology of choice, for providing plain English descriptions of the problems faced, the interventions given in response to those problems, and the outcomes achieved in terms of patient/family/whanau/community knowledge, behaviour and status.

Help4U uses a clinical documentation and navigation tool called AESOP™ (Activities, Events, Services and Outcomes Planner) that is architected around the Omaha System to facilitate efficient collecting and reporting of information and to support the monitoring of care plan compliance and progression. In the days and weeks following the Christchurch Earthquake, Help4U worked closely with health and welfare agencies to coordinate care responses, using AESOP™ to describe those findings and activities in Omaha System terminology.

2. About Omaha System

Developed by the visiting nurses of the state of Omaha, USA from 1975, the Omaha System seeks to accurately and easily reflect in a structured data format, the health-related knowledge, behaviour and status of individuals, families and communities in the setting of their everyday life – their place of residence. Designed around taxonomy of 42 problem classifications structured into 4 domains, and 72 intervention targets applicable to 4 intervention categories, the plain language of the Omaha System is easy to follow and understand. The following example highlights the taxonomy linkages.

*A nurse visits a patient with diabetes and chronic ulcers and identifies a **problem classification** of skin care in the **physiological domain**. **Intervention targets** of personal hygiene and dressing change/wound care are recommended in the care plan. These targets will be achieved through **intervention categories** of treatment and procedures (for dressing change/wound care) and **teaching, guidance and counselling** (for personal hygiene). The nurse will record the **outcome rating scale** for the patient's skin care problem over time to help evaluate the effectiveness of the recommended interventions. The outcome ratings measure client **knowledge** (understanding of the problem), **behaviour** (compliance to the care plan) and **status** (presence of signs and symptoms). In this example the patient may have a pre-intervention rating scale for their skin care problem of **no knowledge, rarely appropriate behaviour and severe signs/symptoms**. Following the recommended community nursing interventions the patient outcomes improve to reflect **superior knowledge, usually appropriate behaviour and minimal signs/symptoms**.*

Omaha System's simplicity allows users to build combinations of interventions to respond to one or many problems simultaneously. It accommodates findings at an individual, family or community level – which was crucial in the post-earthquake context – and accounts for level of risk by distinguishing three modifying features: 1) the presence of actual signs and symptoms of need – requiring immediate action; 2) potential problems that warranted monitoring; 3) opportunities for health promotion at an individual, family/whanau or community level.

In the context of the Christchurch earthquake it was quick and efficient to demonstrate to clinicians and non-clinicians how to classify the needs they encountered and document the responses they made through intervention targets and categories. In this way welfare requests were rapidly drafted into intervention channels and dispatched to the agency best-equipped to respond.

3. The Scene

Following the magnitude 6.3 earthquake of February 22, 2011 the city of Christchurch New Zealand was faced with an unprecedented confluence of challenges. While the city had already experienced a magnitude 7.1 quake only months earlier – on September 4, 2010 the latter quake struck during a weekday lunch hour in mid-summer. Its epicentre was less than 10km deep and 10km from the high rise nucleus of the central business district. In a matter of moments, up to 1000 commercial buildings in a 5km radius around the city centre were rendered out of operation, 45,000 individuals were ejected from their place of work and further afield, an estimated 10,000 homes became uninhabitable or inadequate as a place of residence. The earlier September quake had left council workers with 12,000 road repairs to undertake. Many of these were well underway when the February quake put paid to months of effort and presented a 3-fold scale of damage – an estimated 38,000 road repairs.

Under the roadways lay sewer, water, gas, power and telecommunications infrastructure. With pipework fractured and unearthed, Christchurch's trademark fresh artesian water mixed with untreated sewage and liquefied silt (called 'liquefaction') and spewed, geyser-like, a cocktail of toxicity into streets, homes and reserves.

181 people died instantly or lay dying where they had been felled. Countless others were left with traumatic and life-changing injuries. As international tourists, office workers, parents, children, students and the elderly, unceremoniously evicted from their environment, were searching out a place of safe refuge, they were also attempting to cognitively process what their vision and hearing were recording.

In the central city where the bulk of the dead and dying lay trapped, the civil defence and emergency response teams were focused. Staff at the city-based tertiary hospital – the largest in the South Island – strove tirelessly to treat the influx of injured while grappling with a 20% loss in bed capacity. Residential care facilities that might once have provided step-down level care post hospital, were evacuating residents. The final tally: 600 residential care beds lost in a city of 400,000 people. 122 (35%) not for profit / non-government health groups (eg: Cancer Society, Age Concern) were based in the CBD and were without telecommunications or access to records in the immediate aftermath.

Meanwhile the local health board and primary health organisations undertook a stocktake of available resources – family health centres still able to operate from their own or makeshift premises and social support organisations with accessible staff and client records. Clinical and non-clinical staff who were able (and willing) to work – when many had lost homes, family members, or even simply a sense of place – were marshalled and the health system commenced its statutory response, preparing public health notices and establishing temporary tent-hospitals and welfare centres and arranging airlifted evacuations of the frail elderly and the critically injured.

4. Student Response and Social Media

In the suburbs, the homeless and the heartsick queued for water at local depot points and dug long drop toilets in their gardens. Into this context arrived the Student Volunteer Army (SVA). Established following the September earthquake, the SVA was the brainchild of Sam Johnson, a young man intent on demonstrating that young adults had an opinion and a place in the future of their city. As emergency and established organisations moved rapidly to set up welfare hubs, the troops of the SVA became 'first responders' to people in their homes. Originally intent on helping to clear liquefaction from streets and driveways, allowing egress for critical services and residents, the home-visiting students discovered welfare need in a form and on a scale they had never encountered in their life experience.

Home alone elderly, solo parents with young children, recovering alcoholics and foreign immigrants: these were some of the scenarios meeting the students at front gates and doorways. In usual circumstances, these people would just manage. They would organise their own financial circumstances, call on friends and family by exception and link with social services only when necessary and at their own instigation. They were largely unknown to welfare agencies and in the aftermath of those first days, when their environmental, psychosocial and in some cases physiological needs were extensive, the agencies that might assess and respond to those needs were either incapacitated or overloaded.

Using social media, the student leaders posted a request for help; seeking individuals or organisations to assist them in documenting and dispatching welfare requests, as a separate function to their core activity – the shovel and barrow grind of silt-shifting. Help4U, a local health navigation and advocacy service responded to the call. Working with the Comfort Crusaders, student leaders focused upon the welfare needs unearthed by the silt-shifters, Help4U facilitated links between the newly-formed youth enterprise and established agencies. The key message in the facilitation was that agencies and organisations already existed – many of them government funded – for the purpose of assessing and addressing community

welfare needs. Therefore, the role of the youth leaders and their charges was to communicate effectively in a language that the authorities were familiar, the problems they were finding and the outcomes sought by the individuals, families and communities themselves. Where appropriate, the Comfort Crusaders were authorised to dispatch specific welfare to those in need: food, water, blankets and household items, toilet paper, sanitary products, infant essentials, and hugs. The coordination of the suburban response was done in parallel and in collaboration with the network of existing agencies, creating a symbiotic relationship of mutual benefit and a comprehensive database of findings. The framework for articulating the findings was the Omaha System.

5. A Day In The Life

Student volunteers collected data on welfare requests. The Omaha System was used to help enhance their data gathering, health literacy and navigation. One day of requests to Comfort for Christchurch (a youth volunteer group) is presented here. Each graph displays cases (n=53) and requests (n=211) to reflect multiple welfare needs per case.

Figure 1 shows problems encountered.

- 100% of cases had problems in the environmental domain.
 - 58% had problems of residence and
 - 57% with sanitation.
- 89% of cases had problems with nutrition (no food or water).
- Over 20% of cases had clearly identified issues with mental health.

Figure 1 - A Day In The Life: Problems Encountered in Post-Earthquake Period (February 2011)

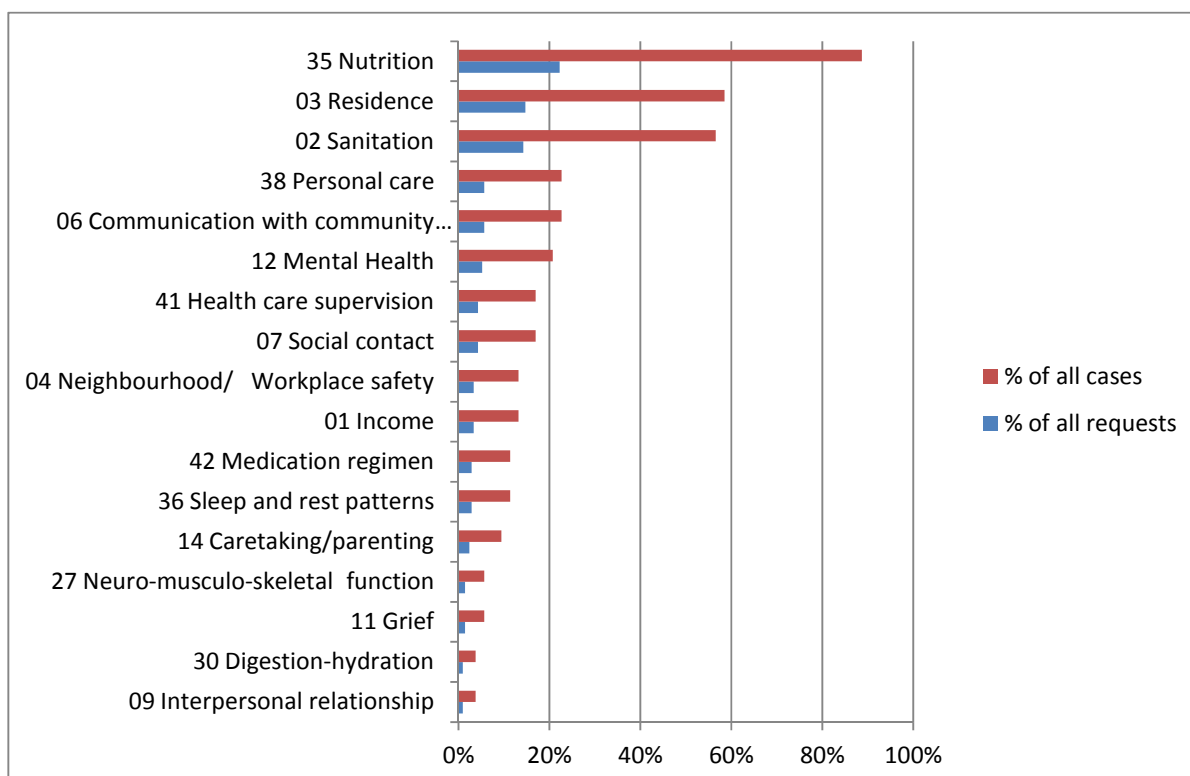


Figure 2 shows interventions performed to resolve problems:

- 98% of cases received supplies (food, water, nappies, clothing, linen, medical consumables).
- 55% required teaching, guidance and counselling in coping skills.
- 51% needed guidance in infection precautions.
- 21% required referral (case management) or surveillance for stress management.
- 15% needed guidance with finances.
- 9% needed case management help to access medications, including those already diagnosed with mental illness.

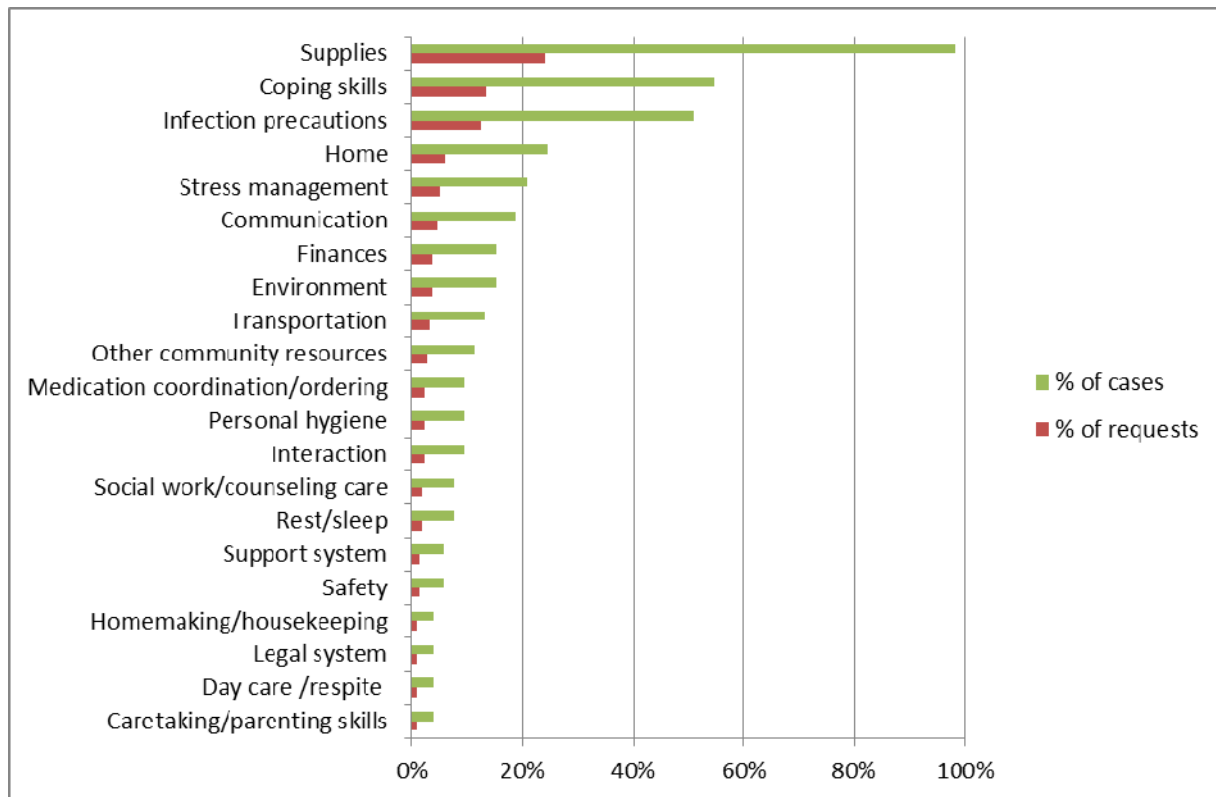
The following example is typical:

Elderly couple (80 years). No power, water or sewerage. Had seen no one since quake (3 weeks prior). Wife with dementia and husband hearing impaired. Both had mobility issues. No portaloos in the street. Food supplies had been laid out on floor and rationed. Husband was providing supervision for wife. Volunteers supplied 30L of water; fresh fruit and vegetables; canned food, toilet paper and hand sanitiser. Provided agency contact details. Alerted HQ to monitor.

6. Next Steps

Having earlier completed the development of a Community Care Dataset (CADI), Nurse Maude in collaboration with Help4U have sought to incorporate that dataset into an electronic clinical documentation system that would enable clinicians to efficiently record problems, interventions and outcomes at point of care in the home. Nurse Maude has already expressed a commitment to using the Omaha System as a terminology.

Figure 2 - A Day In The Life: Intervention Targets in Post-Earthquake Period (February 2011)



Post-earthquake Christchurch has created the impetus to provide electronic documentation tools in the field, as community based nursing service providers such as Nurse Maude experience a surge in patients with complex health needs requiring home based services in the absence of available hospital and rest home beds. Nurse Maude has worked with Canterbury District Health Board to develop a service – Total Care - that replaces the need for patients with complex health conditions to be admitted either to hospital or a rest home care for medical and nursing care.

The complexity of these patients requires regular care planning reviews and health monitoring. It is essential that the patient and their family/whanau are also informed as the service is reliant on their support and in some cases direct care provision to enable the patient to remain on the home.

Help4U has worked with Nurse Maude to develop a point of care electronic documentation solution that incorporates the Community Care Dataset, clinical assessment tools and nursing practice workflows into the existing AESOP™ product. Nurse Maude is now able to document care delivery in a structured way to produce meaningful information understood by clinicians and non-clinicians alike.

Applying the use of AESOP™ to the Total Care and Nurse Practitioner services at Nurse Maude is already beginning to demonstrate the benefits of structured documentation. While the sample size of clients is small (n=10) a profile of client casemix in a community nursing context is already surfacing.

Figure 3 - Nurse Practitioner Problems Identified in Client Sample (note: n=10 clients)

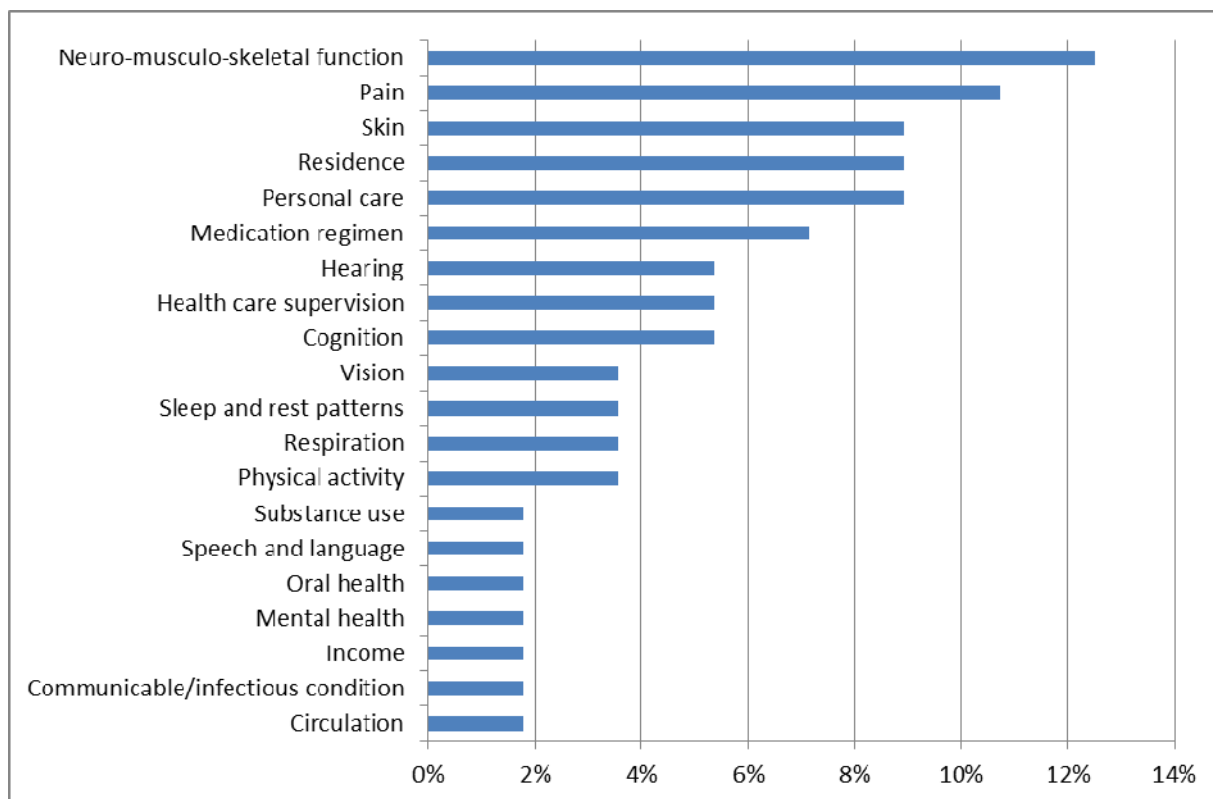


Figure 4 - Nurse Practitioner Intervention Categories
 n=93 (interventions) with n=10 (clients) by n=1 NP

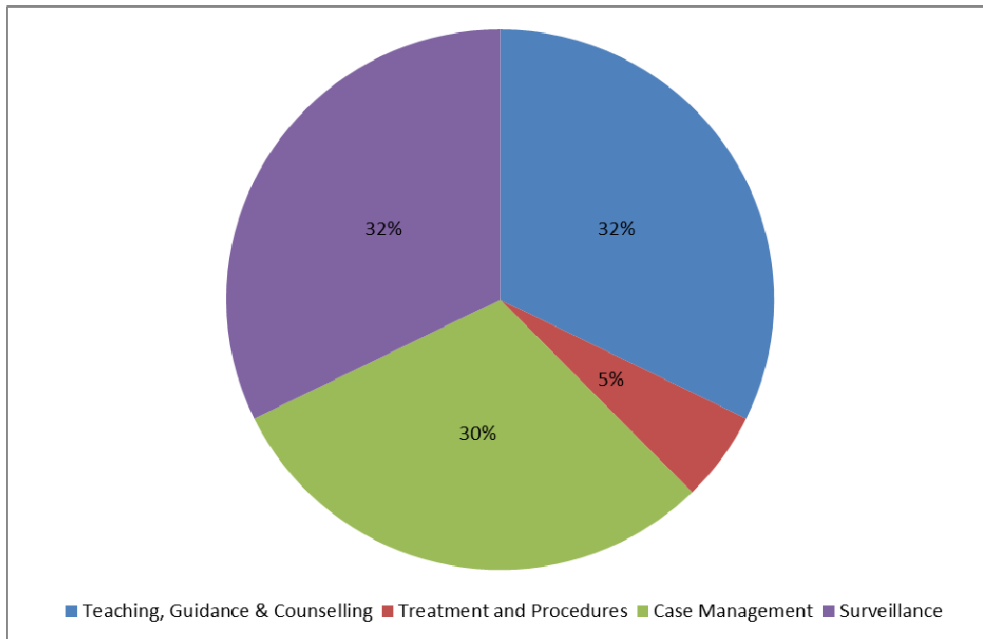


Figure 5 - Nurse Practitioner Intervention Targets for Teaching, Guidance & Counselling

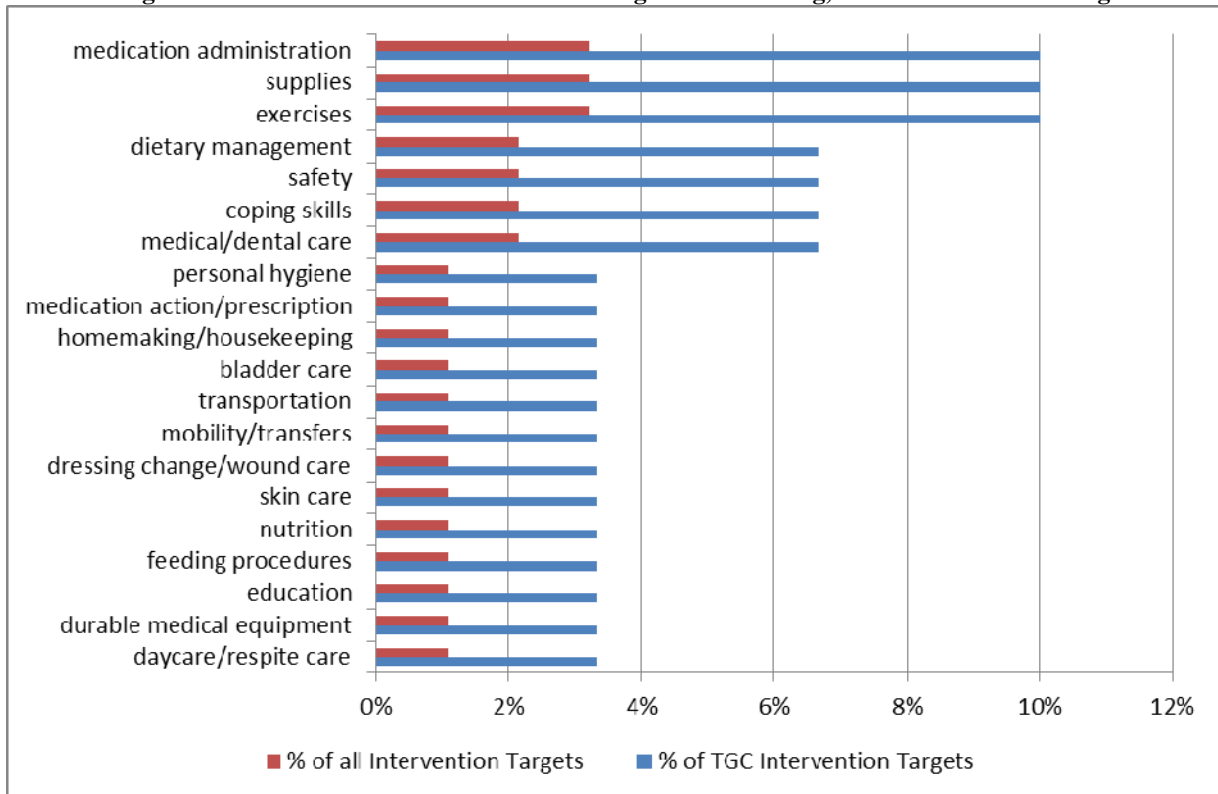


Figure 6 - Nurse Practitioner Intervention Targets for Treatment or Procedures

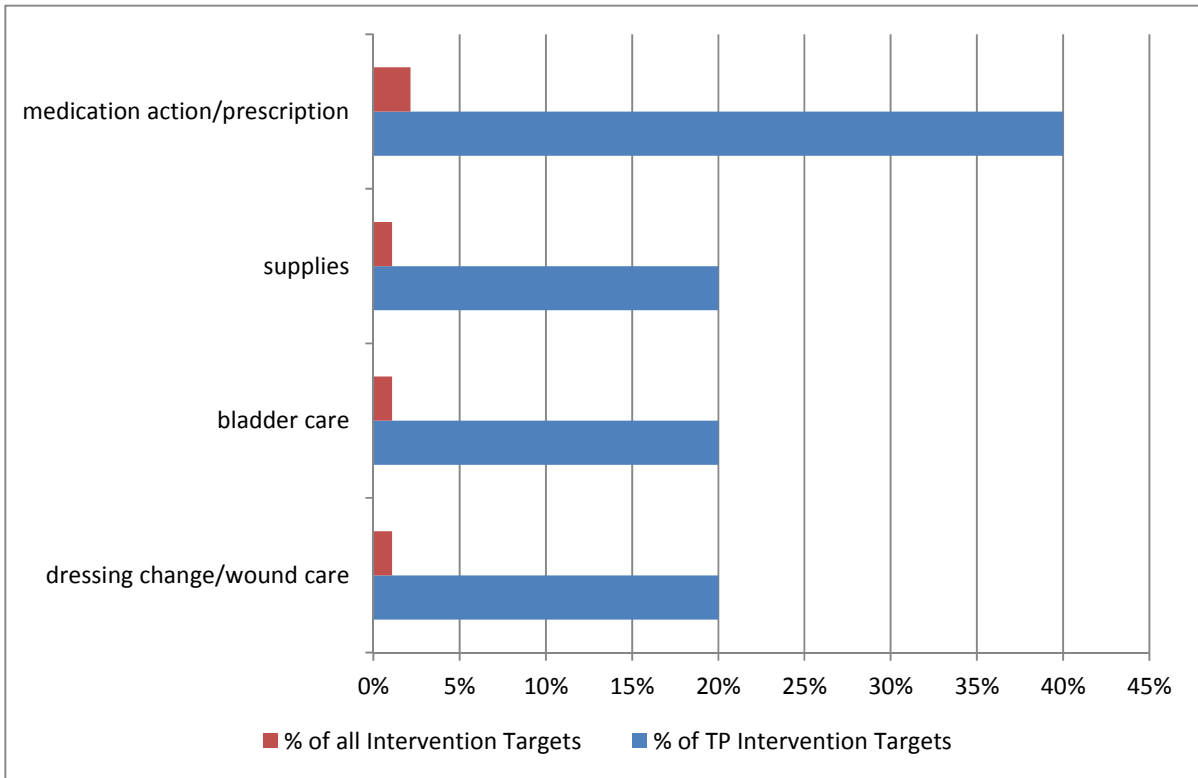


Figure 7 - Nurse Practitioner Intervention Targets for Case Management

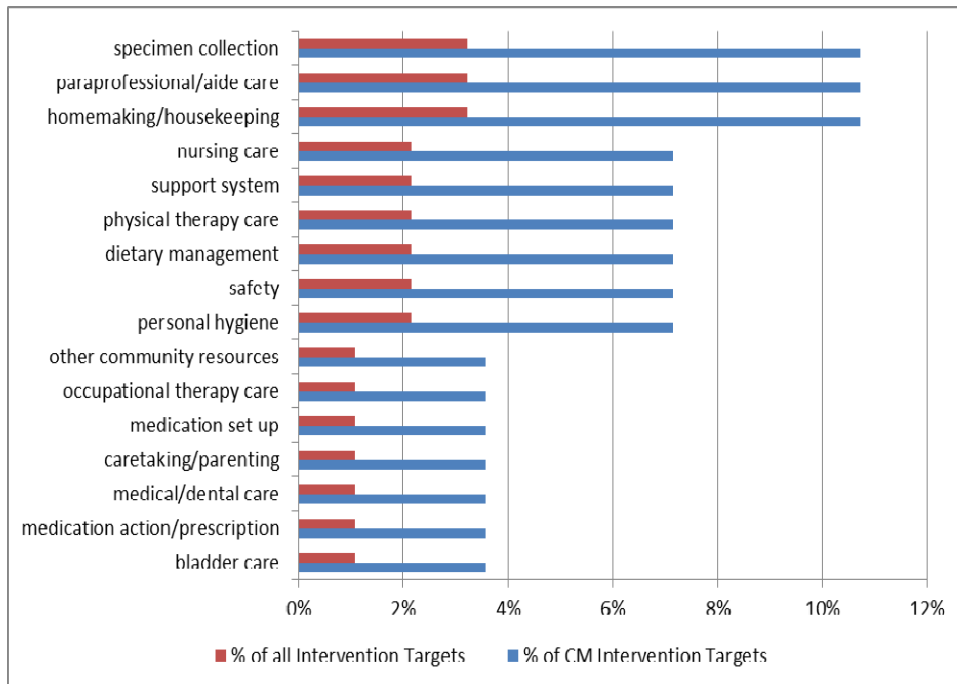
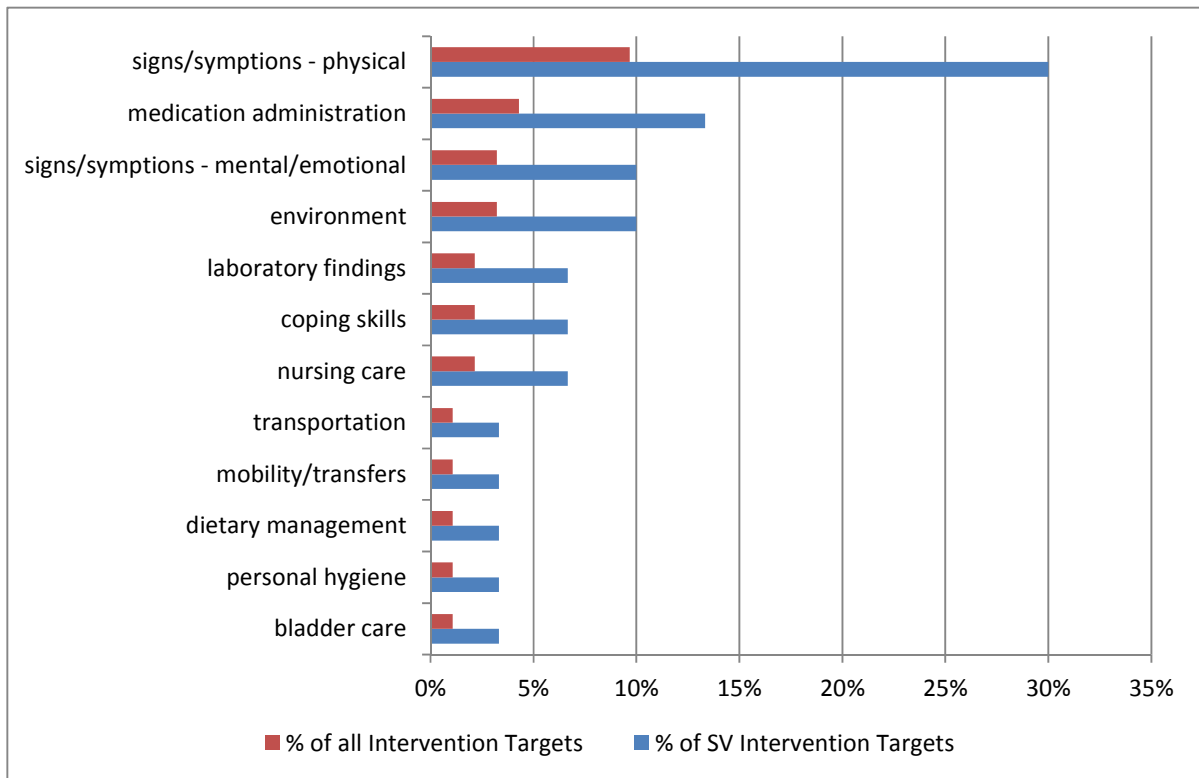


Figure 8 - Nurse Practitioner Intervention Targets for Surveillance



7. Conclusion

In conclusion, use of the Omaha System enabled Help4U to provide data about the extensive damage and human health needs caused by the Christchurch Quake. The data system developed for the disaster response effort was then applied to the ongoing recovery efforts for the long term by supporting the establishment of a 'hospital in the home' model of care at Nurse Maude. It is anticipated that as point of care electronic devices are rolled out into patient homes, the visibility of home-based care in this format will only increase and mature.

8. References

- [1] Martin, Karen S. (2009). The Omaha System: A Key to Practice, Documentation, and Information Management 2nd edition. (Health Connections Press, USA). www.omahasystem.org