

**CANTERBURY
DISTRICT
HEALTH BOARD**

**QUALITY
IMPROVEMENT AND
INNOVATION
AWARDS**

**Project Summaries
for 2010 Entries**



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INTRODUCTION

The Canterbury DHB Quality Improvement and Innovation Awards were first introduced in 2003 and are designed to recognise, publicly acknowledge and share the excellent quality improvement and innovation initiatives generated by Canterbury DHB staff and by community based services.

A number of past entries in the awards programme have also gone on to enjoy success in national award programmes. We hope those with current entries will consider entering their projects in external quality awards programmes. The Corporate Quality & Risk team can be contacted for information on external awards programmes and they are happy to give assistance and support through the entry processes.

The 2010 awards programme is comprised of 3 categories; Community Based Service, Hospital & Specialist Service and Systems Improvement. A total of 24 projects were received and the categories for each project were confirmed as part of the assessment process.

Congratulations to all those who took part. It is great to be able to recognise, publicly acknowledge and share these valuable quality and innovation initiatives. We hope you have found this a valuable process and we encourage you to submit further projects into future awards programmes.

We would also like to take this opportunity to encourage you to provide us with feedback on the process so we can continue to enhance the programme in the future.

This booklet has been produced by the Corporate Quality & Risk team to provide you with a brief overview of the project entries. Please refer to the Canterbury DHB Corporate Quality and Risk intranet or internet site for further information:

http://intraweb.cdhb.local/corp-quality/promoting/quality_and_innovation_awards.htm

<http://www.cdhb.govt.nz/quality/patient-safety/awards.htm>

2010 HOSPITAL & SPECIALIST SERVICE ENTRIES

Let the Good Lives Roll: Closed Groups and Open Minds in the Forensic Inpatient Units Regional Forensic Psychiatric Service, Hillmorton Hospital

In the past, skills training and psychoeducation were offered by the Regional Forensic Psychiatric Service during 'open group' sessions for inpatients that could be attended by any patient who was well enough on the day. However, it was recognised that while the open education groups provided a needed service to some, there was a lot more that could be done in a group context. Participants often felt no particular commitment to the topics addressed, or to each other, and symptom expression could dominate these sessions. This was not conducive to using group dynamics therapeutically. Nothing could be developed in depth, as each session needed to be self-contained.

During 2008, forensic clinical psychologists, occupational therapists, and social workers at Hillmorton Hospital began developing an alternative 'closed group' programme for forensic patients. These closed groups made better use of staff skills and differed from open groups in that: patients had expressed some motivation to participate; the patients met certain selection criteria; participants were required to attend all sessions of a group because each session built on earlier sessions; and the group dynamic was used as a tool to promote change.

The aim of the programme was to offer the chance to build skills by working through a hierarchy of groups of increasing intensity, and for the groups to be integrated in their approach. A set of closed groups was developed to address communication, assertiveness, social skills, anger management, illness education, alcohol and drug relapse prevention, and violence prevention. The more intensive groups involved longer sessions, more self-disclosure, more participation in demanding activities, more work outside the sessions, a greater expectation that participants would challenge each other's ideas, and more mutual support and taking responsibility for each other's progress. Participants learned interpersonal skills in the lower level groups that they would need to operate at an adequate level in the higher level groups. Participants also became accustomed to the culture of group work, for example, collaboratively setting group rules, not talking too much or too little, and finding respectful ways to challenge the opinions of others. The programme was piloted during 2009 and brought to life the Good Lives Model, the rehabilitation framework adopted by the service.

Pre- and post-group measures (qualitative and quantitative) were used with all the closed groups. Overall, these measures and feedback from patients showed that treatment gains were achieved. Some of the group work posed a significant challenge to patients, but this became an opportunity to practise skills they had learned. The development of a healthy tolerance of patient anxiety (by both staff and patients) and an increase in patients appropriately seeking support from each other were also observed. Patients showed commitment to the groups they took on, and attendance rates were excellent, as was homework compliance. At the completion of each group, participants were awarded certificates, and these were often signed and presented by the clinical director. The participants were proud of these, and have used them to build a portfolio to present to the NZ Parole Board and the Forensic Risk Review Group.

The closed group programme has become an integral part of patient recovery in the Forensic Service. Since this pilot project has been run, several new groups have been added to the programme. Other plans are afoot to enhance the programme, including developing a generic referral form, creating a template for an integrated relapse prevention plan for patients who have done several groups, improving the outcome measures, and increasing cultural consultation.

Contact Person: Sue Galvin and Annmaree Kingi, Hillmorton Hospital

**“Riding the Wave” A DBT-Informed Intervention Package to
Address Persistent Suicidal/Self Harm Behaviours in Adolescents
Presenting to Canterbury DHB CAF Mental Health Services
Canterbury Youth Speciality Service, Specialist Mental Health Services**

In recent years Youth Specialty Service (Mental Health Division) clinicians have struggled with the issue of how to provide an effective and timely service to a particular subgroup of clients who have emerging Borderline Personality Disorder (BPD) traits. BPD is a severe mental disorder characterised by a pervasive pattern of instability in self-image, affect regulation, and interpersonal relationships. It is also a disorder associated with a high suicide rate, significant psychosocial impairment, and a greater demand on mental health resources.

The most recently available epidemiological information (2007 figures) shows New Zealand has high rates of suicide in young people aged 15 to 24 years (Ministry of Health, 2009). Suicide is reported as the second most common cause of death for this age group, accounting for 25% of all deaths of young people 15 to 24 years of age and comprising 20% of all suicides that occur in New Zealand annually. In addition, hospitalisation for suicide attempts is most prevalent in this age group (Ministry of Health, 2006). With regard to intentional self harm, 15 to 19 year old females had the highest number of associated hospitalisations and the highest age-specific rate (Ministry of Health, 2007).

Furthermore, in terms of risk and causative factors, the literature identifies that certain temperaments, personality traits, psychological vulnerabilities, cognitive and coping styles associated with personality disorders may be present in around one third of young people who die by suicide (Beautrais 2006). This implies a focus of suicide prevention efforts should be directed at minimising rates and effects of psychiatric disorders including provision of appropriate support and services for families with individuals with mental illness and suicidal behaviour (Beautrais et al 2005).

Given that BPD usually emerges during adolescence, the aim of the current project was to investigate the potential of providing a specialised intervention that might be successful in treating those young people presenting with signs and symptoms consistent with a diagnosis of BPD. Hence, the rationale is clearly one of prevention and early intervention.

Following a review of the literature, Dialectical Behaviour Therapy (DBT) seemed like a promising treatment approach. This was due to its existing evidence-base, manualised treatment package specific to adolescents, national (and international) support, and the fact that we relied on “using what we have” (one clinician was fully trained in the use of DBT). Following a careful planning process, four clinicians within the Youth Specialty Service recruited participants from the existing client pool for a pilot DBT programme - entitled “Riding the Wave” (RTW) - designed to provide a meaningful intervention for this sub group of troubled young people and their families.

The results from the pilot study seem promising. Fifty percent of the patient sample has been successfully discharged, various psychometric assessment tools show a reduction in depressive symptomatology and suicidal behaviour after completion of the RTW program, and feedback received from both our immediate colleagues and those clinicians sitting within other areas of child and adolescent mental health services was largely supportive. Overall, we think that with further training, expansion and refinement this programme will positively influence service delivery by providing an effective, appropriate, and client centred response to a ‘hard-to-engage’ and difficult client group. Furthermore, we see it as providing an effective early intervention which will, in turn, likely lead to a reduction in the demand that this population will have on mental health services in the future.

Contact Person: Erin Grierson, Youth Speciality Service

Lab Intern Programme Canterbury Health Laboratories: A Proactive Response to an Age Old Challenge

Canterbury Health Laboratories

Adequately trained and competent Medical Laboratory Scientists (MLS) are a resource in short supply both nationally and internationally. While science and technology advances, so does the average age of our practitioners and of course the public we serve. Many members of the public do not know about the activities of the laboratories; despite a central government health spend of around \$500 million per annum on pathology testing.

In early 2007, Canterbury Health Laboratories (CHL) was in the position whereby the ability to recruit into key positions was compromised by the lack of suitable applicants. The barriers to successful recruitment were seen as low numbers of applicants and unrealistic expectations of the career by new graduates. In addition, workforce data suggested that the situation was in decline and unlikely to improve without serious attention being paid to the issue.

Industry knowledge and background research sparked an innovative idea within CHL and the concept of a programme designed to attract young, vibrant, enthusiastic individuals to the profession was floated. It was felt that those students with an aptitude and a passion for science could be trained to a competent standard while in employment for a Gap Year. Exposure to health care as delivered by laboratories and influence from mentors over the period of employment would lead to consideration of a career as a health professional and in particular a MLS. The benefits of such a programme were seen as serving the industry both locally and nationally; contributing to student growth and learning; raising community awareness; and reinforcement of the CDHB as a preferred employer. The CHL Lab Intern programme concept was further developed in late 2007 and the first intake of interns commenced employment on one-year, fixed-term contracts in February 2008.

The CHL Lab Intern Programme needed a phased approach to allow for a pilot, consolidation, expansion and sustainability. Within this project framework, the drivers and process steps were documented along with the planning that led to the implementation of the pilot scheme (Year 1) and subsequently Year 2. It was measured and monitored for improvement. The programme has been a resounding success in terms of outcomes and recognition. Planned six weekly interviews with the interns provided valuable insight into progress of the programme and assessing the staff's ability to train and mentor consistently and successfully within their area of expertise. Their feedback enabled CHL to respond in real time to opportunities for improvement and to communicate with stakeholders.

In respect to training it was evident that some sections focussed on learning from text books while others focussed on training on the bench. The greater experience was seen as a mix of the two styles with more emphasis on practical learning to achieve competency within tasks. The introduction of the self learning tool within laboratory areas further enhanced the learning outcomes. No student therefore has expressed concern that the Gap Year disrupted formal study or led to a catch up phase within the tertiary setting. Indeed all Interns who have gone onto University have noted that their CHL experience and the skills learned have contributed to an easier transition.

All Lab Interns have thus far (Year 1 and Year 2) pursued career training within health. With expansion of the programme planned for both 2010 and 2012, the programme continues to change and evolve to reflect changing workforce needs. With the advent of the Lab Intern programme both CHL and CDHB are seen nationally as proactive in meeting the workforce challenge. The concept of the programme has been adapted and adopted by other DHB's with interest from other areas of the health sector.

Contact Person: Sue Carnoutsos, Canterbury Health Laboratories

Rakatahi Work Experience Project **Ngā Ratonga Hauora Māori with Mokowhiti Consultancy**

For many years it has been evident that services delivered to patients/tūroro in our mainstream hospital systems have often faltered in having sufficient Maori health staff numbers to deliver an effective, culturally appropriate service. It was clear to staff at Ngā Ratonga Hauora Māori (NRHM) that whilst there was a strategic framework for Māori health workforce development in place at the Canterbury District Health Board, in reality the numbers of Māori health staff is relatively low compared to other centres. The current Māori staffing levels in the CDHB are below 3% and thus there is considerable work to be done to build these numbers to a level representative of the population percentage of 7% that Māori make up in the Canterbury region. The team recognised that the CDHB does however have a contract with Mokowhiti Consultancy to run the “A Career in Māori Health - It’s No Drama” programme which has been delivered to secondary students in the Canterbury region since July 2008.

After a period of considering our options and the workforce development strategies promoted by Ministry of Health i.e. Raranga Tupuake, NRHM decided to support initiatives that will ultimately lead to more Māori staff working in health. The Rakatahi Work Experience Programme was developed in collaboration with Mokowhiti Consultancy to help Māori young people to see the opportunities within health as a career choice. For young people who have no awareness of the breadth of careers that exist in health, this project gives them a chance to see the possibilities through positive role model experiences within a live hospital setting. Whilst the input from NRHM staff and others across Christchurch Hospital shows them the passion and dedication that is required to support our Māori patients and whanau in their journey through the health system.

Mokowhiti contacted career advisors who subsequently identified Māori students from local schools who had indicated their interest in a health career and offered them the opportunity of work experience with NRHM. The staff in NRHM used their networks to co-ordinate a week of activities based in the Christchurch Hospital campus with the active participation of our Māori staff from the wider health environment involved. Staff also did some planning around what information and resources that they would pass on to programme participants as part of their lesson.

The project had the following objectives; assist Māori students to experience a range of health careers within Christchurch Hospital campus, provide health information about health careers of interest to students, identify relevant subject choices and discuss subject selection for the remainder of their schooling, outline options for student support at tertiary level (e.g. scholarships) and develop collaborative relationships between NRHM and other health services operating in the Christchurch campus.

Following the inaugural pilot in May 2009, the results of which were so positive that it was decided to not only carry the project on in 2010 but to run two programmes incorporating the improvements from the evaluation feedback. Thus in 2010 additional services were also involved and included; the Māori Indigenous Health Initiative (MIHI) from the University of Otago, Oral Health, Hyperbaric Unit and Canterbury Health Laboratories. The review of the programme was completed using a questionnaire and verbal feedback on a daily basis cumulating in a qualitative focus group methodology facilitated by an outside researcher. The Rakatahi Work Experience Programme has not only been successful in promoting Māori/mainstream health as a possible career for Māori students and strengthening collaborative ties with Mokowhiti and CDHB staff but it has also showed what skills, strengths and experience that we have as a whanau and that is immeasurable.

Contact Person: Tahu Potiki Stirling, Ngā Ratonga Hauora Māori

**A Pilot Transitional Rehabilitation Programme for Post-acute
Spinal Cord Injuries: Implementing the “Independent Living”
Philosophy in an Inpatient Rehabilitation Setting**
Burwood Spinal Unit, Older Persons Health and Rehabilitation

In 2008 the Burwood Spinal Unit (BSU), the Burwood Academy of Independent Living (BAIL) and the New Zealand Spinal Trust (NZST) formed a working party to improve the discharge preparation process for patients with a newly acquired spinal cord injury (SCI). Research undertaken in New Zealand by BAIL in 2006-2008 indicated that the existing rehabilitation process was failing to prepare newly injured individuals adequately for community re-entry. Bed capacity issues were an additional indicator of organisational reform possibilities.

The Transitionz Rehabilitation Programme (TRANSITIONZ) was implemented in March 2009 as a 12 month pilot. Three key assumptions were to be tested; should the TRANSITIONZ be on site at Burwood Hospital or should it be in the community?; Is there sufficient time within the current rehabilitation period for this to be included effectively without increasing overall length of stay?; and does the introduction of a peer mentor role to the interdisciplinary team (IDT) add value to the programme?

Essentially the focus of TRANSITIONZ is to promote an individual's reintegration back into the community and usual life roles through a structured programme of education, "real world" focussed activities and community outings. The three key elements of TRANSITIONZ are:

1. Environment – a change to the physical and social environment to more closely resemble the “real world”
2. Autonomy - return day to day personal responsibility and independence to the individual
3. Experience – Emphasis on individuals applying learned knowledge and skills in real world environments.

The results of the multi-modal evaluation process undertaken during the pilot period demonstrated that TRANSITIONZ adds significant benefit to the rehabilitation experience for newly injured participants, their families, and staff both with the programme and in the acute BSU ward. The first participant was transferred to the TRANSITIONZ hostel in March 2009. Occupancy figures over the first 6 months fluctuated between 47% and 92% with an average of 68%. In the seven months since September 2009 occupancy has dropped below the target of 80% on two occasions only (November, 68% and March 2010, 79%) and the average in this time period is 83.3%.

Evaluation of the pilot TRANSITIONZ project overwhelmingly supports the continuation of the programme after June 2010 by embedding it in the routine rehabilitation model of care for patients following acute spinal cord impairment. This conclusion has been reached as a result of an extensive evaluation process involving quantitative, qualitative and financial analysis. The perspectives of those who have participated in the programme have formed a significant component of the evaluation process. The use of BAIL in gathering and assessing the qualitative data has added further validity to our findings as they are independent from the individuals who are delivering the programme.

All feedback and evaluation reports supports the finding that patients are much better prepared for reintegration to the community. TRANSITIONZ now forms part of the BSU's routine post-acute inpatient care pathway.

Contact Person: Jason Nicholls, Burwood Spinal Unit

Changing Clinical Practice to Increase Physical Activity during Inpatient Stroke Rehabilitation

Older Persons Health Specialist Service

The aim of rehabilitation after stroke is to improve functional ability and independence. Intensity of practice and time use during rehabilitation may influence functional outcomes. It appears, however, that patients with stroke spend a small amount of time during inpatient rehabilitation doing activities that have the potential to improve their independence. Health resources are limited, therefore the structure of rehabilitation programmes may also be a factor that influences the small amount of physical activity reported in the literature. Group therapy sessions are a feasible way of increasing the amount of therapy provided during inpatient rehabilitation following stroke. Opportunities for social interaction with peers during group therapy sessions are likely to have a positive effect on a person's motivation to practice and satisfaction with treatment. Patients in rehabilitation units often have a common aim of returning to independent living in the community. Given that the ward 2A philosophy is to enable people who have had a stroke to live with the best quality of life in the community the evidence suggests that patients should be encouraged to be more active during rehabilitation and intensive therapy provided in order to prepare patients to return to live in the community.

The purpose of this project was to determine the amount and type of physical activity that patients perform during inpatient rehabilitation in a specialist stroke unit for patients over 65 years and to evaluate the effectiveness of initiatives implemented to increase physical activity during inpatient rehabilitation.

An observational behavioural mapping study of activity levels in a specialist stroke rehabilitation ward was completed. Data collectors recorded Individual patient's location, other people present, body position and physical activity/interaction throughout the day. The results were presented to ward staff and an interactive brainstorming session was facilitated to discuss ways of increasing physical activity during stroke rehabilitation. All ward staff were involved with initiatives to improve activity levels. The initiatives included a Physiotherapy led circuit classes, group therapy sessions, assisting patients to meals in the dining room/lounge and exercise programmes for autonomous practice.

In 2008 patients spent the majority of their time in their bedrooms (at least 74% of day), inactive (at least 48% of day) and alone (at least 44% of day). Approximately 5% of their time was spent standing or walking. Interdisciplinary team initiatives were implemented to increase activity levels during inpatient stroke rehabilitation. In 2010 patients spent less time in their bedrooms, less time lying in bed. The amount of time spent standing and walking increased to 9% of the day. There was also an increase in the amount of time patients spent interacting with others. In addition there appears to be an improvement in rehabilitation outcomes as more people were discharged home following implementation of the initiatives. The project has also had a positive impact on interdisciplinary teamwork. Allied health have included an interdisciplinary (Occupational therapy, Physiotherapy and Speech Language therapy) group therapy session for patients in order to increase activity levels, provide an additional opportunity for task-orientated practice outside of individual therapy sessions with supervision/assistance available from therapists.

Contact Person: Haley Evans, Ward 2A, The Princess Margaret Hospital

2010 COMMUNITY BASED SERVICE ENTRIES

Integration of Collaborative Pharmacy Services into General Practice Teams: Three Month Pilot Project Christchurch PHO

Traditional relationships between doctors and pharmacists have involved clearly defined roles in diagnosis and medicine suggestions (doctor) and medicine supply and advice on optimal use of medicines (pharmacist). Pharmacists have a unique role in the health pathway in that they are ideally placed to optimise medicine use through patient counselling, providing feedback to doctors, and assisting nurses in co-ordinating patient care.

It is becoming increasingly accepted in New Zealand that the inclusion of a pharmacist in the healthcare team complements the services that doctors and nurses provide to healthcare consumers. The benefits include improving patient medication compliance, decreasing drug-related problems, improving individual health outcomes, and increasing the trust between pharmacists and the general practice team. Input from a pharmacist saves a doctor time and money by addressing effective prescribing patterns and reducing administration time. It also eases nurse workload by transferring medication related queries and smoothing out medication supply problems.

In light of these potential benefits, a project commenced in 2008 and was modelled on a similar trial at the Barrington Medical Centre in 2007. Following a period of planning, consultation and after gaining Board approval, a pharmacist was selected to work at the Riccarton Clinic, an Accident and Medical Practice, for five hours a week in the surgery over an initial trial period from August to November 2009.

The goals of the project were to; improve the number and quality of services available at the Riccarton Clinic, to decrease the number of drug related problems in primary care and decrease hospital admissions, and to strengthen the co-ordination of care across an interdisciplinary health care team.

Tasks undertaken by the pharmacist included; reviewing patients' hospital discharge notes to ensure that the correct medication had been included, any updated medication changes were included in the patients file and informing the patient's pharmacy of any changes to long-term medication. 'Yellow cards' detailing all a patient's medications, doses, dose times, indications and special instructions were also compiled or updated by the pharmacist. The pharmacist also assisted the GP team with medication issues such as drug information queries, drug availability, interactions and adverse events and updated them on changes to Pharmac subsidies to ensure they are aware of current listings and associated costs.

The project was evaluated using quantitative data on the number and type of pharmacist interventions over a two month period and also qualitative information gathered by surveying the satisfaction of the pharmacist and GPs with the service. In addition to the tasks noted above, the pharmacist also followed up on missing information to make the prescription subsidised and made other subsidised brand changes to prescribed medications. The pharmacist also made corrections to prescriptions and followed-up on issues related to prescription signing. The qualitative results showed 100% positive evaluation of the service and key benefits included; improved communication and a decrease in errors related to prescribing as long-term files had been updated. Some challenges and recommendations were also identified.

The pilot has been considered successful enough to extend the service to include other practices in the Christchurch Primary Health Organisation. This has now being rolled out across practices and will be reviewed at six months and 12 months.

Contact People: Helen Johnson, Sandi Malcolm and Angela Blackwood, Christchurch PHO

**Physiotherapy Therapy and Home Based Exercise
Programme for People with Osteoarthritis of the Knee:
A PHO Initiative
Christchurch PHO**

In 2009 the Christchurch Primary Health Organisation (CPHO) and Canterbury Private Physiotherapy Association (CPPA) investigated the viability of improving services for people who often experience barriers (e.g. cost of treatment) to accessing primary health care. At this time there were initiatives that addressed mobility issues for older adults (e.g. Stay on Your Feet and the Otago Exercise Programme). However gaps in service provision for some people experiencing significant pain, loss of mobility, and poor quality of life due to osteoarthritis of the knee were identified. This was of concern considering that osteoarthritis is the most common joint disease in New Zealand. The disease can occur at any time of life but the incidence increases with age. A longitudinal study completed in Denmark identified that people who report a history of arthritis in middle age are more likely to develop difficulties with mobility and completing activities of daily living as they enter old age. Musculoskeletal problems including osteoarthritis of the knee are well recognised reasons for decreased physical activity leading to dependence in older age. Dependence and decreased mobility can in turn contribute to the development of chronic conditions such as cardiovascular disease and diabetes which places further burden on health resources.

CPHO and CPPA worked together to research, develop, implement and evaluate a six month trial of a physiotherapy pilot initiative which commenced in April 2009. The proposed pilot was based on a research study by Deyle et al which compared two populations of patients with uncomplicated osteoarthritis of the knee. One population was treated with just a home-based exercise programme and the other had clinically based physiotherapy, which included manual therapy as well as the same home exercises programme. The study demonstrated a statistically significant improvement in mobility and WOMAC (a questionnaire assessing perceptions of pain, stiffness and dysfunction, pre and post intervention) scores in the population treated in the clinic setting compared to the home bases exercise programme population. Given the study's simple parameters and very clear outcome measures, CPPA realised that it could be easily instigated as a treatment model for people with osteoarthritis of the knee within the Canterbury region.

The physiotherapy pilot initiative included manual therapy, supervised exercise and self paced home exercise programme for thirty people with osteoarthritis of the knee. The aims of the pilot were to improve mobility and pain levels, promote a greater level of independence, decrease reliance on medication and reduce the incidence of hospitalisation. Quantitative outcome measures utilised for evaluating the effectiveness of the physiotherapy programme were the Six Minute walk test (distance covered in a 6 minute walk pre and post treatment) and the score on the WOMAC. The results indicated a significant improvement in mobility and WOMAC scores for participants and reflected similar results of the Deyle et al research study.

Evaluation of the pilot identified challenges, benefits and suggestions for change which were presented to the CPHO Board of Directors in June 2010. Patient satisfaction with the pilot initiative and subjective data regarding perceived improvement in quality of life, mobility and pain indicated that 80% of participants were highly satisfied with the service and agreed that participating in the physiotherapy programme resulted in positive health benefits. Based on the positive evaluation of the pilot project the CPHO is continuing to provide this service to their medical practices and enrolled patient population for 2010/2011. This innovative project achieved positive outcomes and demonstrated effective pan professional relationships and the use of the wider primary health care workforce which involved strong clinical leadership, including a high level of clinical input in Primary Health Organisation decision making, and maximising front line resources.

Contact Person: Helen Johnson and Sandi Malcolm, Christchurch PHO

Youth Residential and Outreach Service

Richmond New Zealand

Prior to 2009, the Richmond New Zealand (RNZ) Youth Residential Service had been operating for approximately seven years delivering support for young people aged 14 to 19 years with a range of mental health issues. The service had been consistently under-utilised with low occupancy levels, resulting in financial pressures. In 2008 occupancy of the residence was 60% of capacity. Factors such as the lack of rehabilitative focus of the programme being delivered to the youth, the lack of clinical oversight available and the visibility of the service to the Child and Adolescent Family (CAF) services were identified as negatively impacting on referrer confidence. It was recognised that the service being offered was not meeting the needs of the clients or stakeholders.

The project of reconfiguring the existing service was established following consultation with Canterbury District Health Board (CDHB), referral agencies, feedback from clients, their families and whānau and with RNZ staff. The key aim was to deliver a robust and sustainable mental health service to young people with a mental health diagnosis in Christchurch.

After identifying the issues which were contributing to the poor utilisation of the service, the project team researched other service models and the evidenced-based outcomes the models achieved. An analysis of services currently existing in Christchurch for youth was also carried out. This resulted in the development of a service model which was considered by the team to be based on recovery and strengths based principles, acknowledged as within best practice guidelines that would meet the requirements of young people, their family and whānau and the community.

The reconfigured Youth Residential and Outreach Service incorporates a staff member who is a registered Health Practitioner to provide clinical oversight, thereby increasing the service's professional and therapeutic outcomes and increasing the focus on rehabilitation. Individualised support packages, including consideration for the young person's education or vocational training, socialisation, housing, and post residential support, are developed to reflect the level of support required, as well as goals identified by the youth and their family and whānau. RNZ staff work in a holistic way with the client to promote independence and self reliance in terms of daily living skills and to ensure a sustainable family and whānau, home environment and support network within the wider community. After exiting the residential service, RNZ continues to provide support to the young person for a period of time. This is to ensure that they are supported while transitioning from the service, that they maintain their resilience and that their situation remains sustainable.

Results of the project have been positive. For the period 1 July 2009 to 30 June 2010 the service was financially sustainable and the residential component of the service has been operating at just under 90% occupancy, compared to 60% in 2008, resulting in maximisation of available resources for the sector. In addition to an increase in the utilisation of the Youth Residential Service, there has been a significant increase in the length of stay creating a more sustainable residential placement which allows the young people time to gain resiliency and to transition to sustainable education and home placements. The service is working closely with CAF services to transition youth from hospital to the community and is achieving a minimisation of rehospitalisation for the youth in residence. Positively, young people who have transitioned into the community have maintained successful placement in education or employment and are living either with family or independently.

Contact Person: Martin Cole, Richmond New Zealand

Appetite for Life: Improving Health and Wellbeing through Effective Weight Management

Partnership Health Canterbury PHO

The improvement of chronic health conditions is a major health target for New Zealand. Many of these conditions such as diabetes, cardiovascular and respiratory diseases, develop as a consequence of obesity. In New Zealand, one in two adults are now considered to be obese or overweight. Measured in economic terms, the cost of an overweight and obese population is huge. The estimated cost of obesity in 2003 was \$241.1 million per annum and more recently obese patients have added \$460 million to current health costs. The dramatic increase in these figures demonstrates an alarming upward trend. The main drivers behind this increase have been our changing dietary and physical activities, resulting in the promotion of energy-dense foods and drinks while limiting the opportunities for physical activity.

One of a continuum of whanau focused healthy lifestyle initiatives, *Appetite for Life* is a Canterbury-wide primary care-based initiative that tackles this issue head-on. A clinically-developed weight management and healthy lifestyle programme for women, the key outcome is to promote good health and reduce the burden of chronic disease through better nutrition and improved physical activity. Women are the target market because they are most likely to influence the eating behaviours of their families, especially their children. Participants are referred through their primary care practitioner to enable their individual health status and any relevant social issues to be taken into consideration before, during and after course attendance. Working through general practices in Canterbury, 120 clinicians (nurses, GPs and dietitians) have been trained to teach and support women to identify nutritious foods, how to prepare and eat food, to maintain a balanced diet and how to improve their levels of physical activity in a way that is both manageable and sustainable. General practices were selected because of their ongoing relationship with the client base.

Appetite for Life was developed as a result of a pilot programme conducted in 2004. It was formally evaluated using specially designed tools over a 12 month period. The outcomes included a noticeable reduction in mean LDL and total plasma cholesterol levels, some weight reduction, greater awareness of healthy eating and improved understanding of health management. In addition, practice nurses also identified the need for clinically sound information and resources to provide an effective and sustainable practice-based approach for the increasing problem of overweight and obesity patients. On the basis of these findings, a funding proposal was approved by the Canterbury CDHB and the five Canterbury Primary Health Organisations for a three-year project to be established (2008-2011).

Using qualitative and quantitative measures, a participant survey conducted during 2008/2009 suggests *Appetite for Life* is making a real contribution to improving the community's health. With 108 courses delivered to date, nearly 2000 women will have participated in the six-week courses by the end of the current funding period.

New Zealand's national health goals, and the Canterbury DHB's regional health goals, identify diabetes, respiratory disorders, heart disease, hypertension and some cancers as being critical issues that are directly linked to obesity and overweight. *Appetite for Life* demonstrates that a clinically-driven, primary care-based initiative will contribute positively to improved individual and family/community health while providing economic improvement for social, environmental and general health gain.

Contact Person: Michael O'Dea, Partnership Health Canterbury PHO

**Canterbury B4 School Check Project:
Implementing the Eighth Core Well Child/Tamariki
Ora Check in Primary Care
B4 School Check Coordination Team and Canterbury DHB**

All children in New Zealand are eligible to receive eight core Well Child/Tamariki Ora Checks in the first five years of their life. The first seven of these are delivered in the first three years of a child's life mainly by the Royal New Zealand Plunket organisation and Maori and Pacific providers

The Ministry of Health (MOH) reviewed the Well Child/Tamariki Ora Framework in 2007 with the goal of reducing disparities and improving child health outcomes. One of the major changes from this review was to redevelop the eighth core check at 4 years of age through the introduction of the B4 School Check. A plan was put in place to introduce a new national standardised health, developmental and behavioural screen for all children as they turn four years old. It would be a comprehensive assessment that would enable any areas of concern to be identified and interventions put in place in time for the child to start school fit, healthy and ready to meet their learning potential. The MOH gave each DHB the freedom to develop a delivery model that they believed would support them to reach their population and MOH delivery targets.

In Canterbury the project development began in January 2008. The challenge was to develop a flexible service delivery model that would enable over 6,800 children who turned four each year, from urban and rural areas of Canterbury, to access their B4 School Check.

A Canterbury wide B4 School Check coordination team of 2.5 FTE was established. They developed creative ideas to ensure all providers were well educated and supported, data was analysed and a quality service was delivered. As a result of extensive work by stakeholders, steering and working groups a collaborative model was developed to deliver B4 School Checks using three key provider groups: practice nurses in general practices, public health nurses in a variety of venues throughout the district and hearing and vision technicians in early childhood centres. In addition to these three providers, childhood education centre staff would be required to complete one of the questionnaires related to the check.

On 30 June 2010, at the end of the project's first complete year, the targets that were agreed with the MOH have been achieved. 4813 of all children have received a check which is 26% above the target of 3831. A total of 873 children from deprivation quintiles 0-5 have received a check. This was 10% above the target of 792.

Children and their parents who are referred to other services as a result of their B4 School Check are also receiving consistent and timely follow-up. Quality data is also now being collected in order to understand the health trends of the 4 year old population of Canterbury.

In November 2009 the MOH conducted a survey to gather information from parents/caregivers regarding their satisfaction with the B4 School Check programme and results showed a high level of consumer satisfaction in Canterbury. The greatest percentage of respondents felt that; they were satisfied with the service, they would recommend the B4 School Check to their friends, the nurse listened to their concerns and identified their child's needs. Resources that have been developed within the Canterbury B4 School Check project have also been shared nationally on the MOH Quickplace website which is accessible to all coordination teams.

The project is now a programme and will transition from Project Implementation phase to 'business as usual' in July 2011.

Contact Person: Brigid Jenkinson, Canterbury B4 School Check Coordinator

**From Cooking Skills to Life Skills:
Using the Great Little Cookbook to
Promote Healthy Eating on a Budget**
Community and Public Health

Having a healthy, nutritious diet is often seen as too expensive for many people, especially in the face of aggressive advertising by the fast food industry. Lack of cooking skills and life skills also fosters a dependency on takeaways and fast foods. The Great Little Cook Book (GLCB) is a resource developed by Ministry of Social Development, Nelson in response to an identified need to demonstrate that a healthy diet is indeed accessible - that is, if you are able to cook. The cookbook shows simple ways to choose, prepare and serve healthy, inexpensive food, also adding nutrition tips where appropriate.

In October 2005, the Canterbury District Health Board (CDHB), Community and Public Health (C&PH), and the five Canterbury Primary Health Organisations (PHOs) forwarded a proposal to the Healthy Eating Healthy Action (HEHA) innovation fund to provide funding for the Community Action to Increase Nutritional Capacity (CATINC) project with the lead being taken by Partnership Health Canterbury PHO.

Through research, a Needs Assessment, and various community development opportunities, the CATINC Team developed the teaching resource "From Cooking Skills to Life Skills" programme, utilising "The Great Little Cookbook." The practical cooking skills sessions are preceded by compulsory topics covering nutrition and eating guidelines, budgeting and supermarket shopping, and menu planning. As in true community action, strategic people within a community or organisation such as the Salvation Army are trained to become Facilitators and deliver the course into their communities which has been shown to reduce inequalities, minimise social isolation and improve the wellbeing of participants and their whanua/families.

The course has been shown to increase participants' nutritional knowledge, develop their confidence and increase their motivation to prepare and cook healthy meals. At the conclusion of the course, participants were asked to recall ways in which they could eat healthy, and try to save money on food. The most frequent response for healthy eating was to increase the amount of fruit and vegetables in the diet. Increasing fibre, decreasing sugar and fat were also mentioned. Participants recalled a variety of ways in which they could save money on food, including shopping at specialty stores (eg. fruit and vegetable markets), looking out for reduced to clear items and buying in bulk.

Evaluation also revealed the unintended outcomes for participants – reduction in social isolation, increased community cohesion and raised self esteem. The social benefit of these courses was apparent in each group, with participants reflecting that the best part of the course was meeting and getting to know everyone and being able to share ideas.

"It's not just cooking, its family..., raising your kids..., its life..."

"From Cooking Skills to Life Skills" has been translated into Cantonese and several courses have already utilised this resource in order to address the increasing problem of poor nutrition amongst our Asian population. This resource has also formed the base for the development of Senior Chef – a resource developed to improve nutrition in older people based on the CDHB developed "Cooking for Older People." As a result of the "From Cooking Skills to Life Skills" programme, sustainable nutrition education programmes are now evolving in other communities in Canterbury, the West Coast, Timaru, Counties Manukau and Hutt Valley.

Contact Person: Janne Pasco, Community and Public Health

The Benefits of Sensory Stimulation through Food Preparation Therapy in a Dementia Unit

Radius St Winifreds Hospital

Dementia is the significant loss of intellectual abilities, such as memory capacity, severe enough to interfere with social or occupational functioning. Although some kinds of memory loss are normal parts of the aging process, the normal changes due to aging are not severe enough to interfere with the normal level of function. Many different diseases can cause dementia; however Alzheimer's disease is by far the most common cause for dementia in most countries in the world (*McGonigal-Kenney M.L., Schutte D., 2004*). It is estimated that 74,821 people will have dementia in New Zealand by 2026, and 146,699 people by 2050 (www.alzheimers.org, 2010). For every one person in New Zealand with dementia, it takes seven people to help care for them – that is nearly 300,000 people nationwide involved in caring for people with dementia and related disorders. The current short supply of Registered Nurses and Health Care Assistants compounds this situation.

The increasing number of residents presenting with dementia and the shortage of nurses were the motivating factors for “The Benefits of Sensory Stimulation through Food Preparation Therapy” project at Radius St Winifreds Hospital. The nursing inputs for a happy, satisfied resident are less than for an angry, frustrated resident. The objective of the project was to verify the effect of sensory stimulation through food preparation therapy in a dementia unit on the general wellbeing of residents and the impact of the activity on staffing requirements especially over the sun-downing period.

Food Preparation Therapy commenced in Brunner Secure Unit on a weekly basis in December 2009 and a further unit was reconfigured and opened in June 2010 to extend this type of care provision to more dementia residents. With the preparation of food in the secure unit as opposed to the hospital kitchen, we achieve stimulation of all five physical senses. The sense of vision is stimulated by the colours of the food - the red tomato or yellow orange. The sizzling of fish fingers in a frying pan, or the crackling sounds of pork or bacon stimulate the auditory senses of the older person, while the haptic sense (touch) is stimulated by the feeling of the different food textures. (*Drewnowski, A., Henderson, S.A et al 1997*).

The results of the project underlined the impact of sensory stimulation in a dementia unit on the residents as well as on the staff. Questionnaires were circulated between staff members and relatives and qualitative data was gathered through a video recording of an activity of food preparation in the unit, and photographs of activities held in the unit. Enjoyment of the finger foods is very evident as some of the residents were eating more than they were preparing. This is an added bonus as malnutrition is another huge problem facing the elderly and especially those with dementia. Participation is also very noticeable and those residents who are capable are more than willing to lend a helping hand. The activity definitely seemed to reduce the "sun-downing" effect as residents appeared far calmer, in contrast to their normal anti-social behavior. Social interaction was also witnessed between certain residents, which is not the norm. Even a couple of our "walkers" (those who continuously pace up and down and rarely sit) came and participated for a short while.

With the implementation of the project at St Winifred's Hospital the awareness of each resident's individual needs has increased. Staff members have started asking residents about their preferences at meal times and walk the extra mile to satisfy a client's request. The social interaction between the residents and staff members has flourished, and provided an opportunity for staff members to learn more from residents. It is clear that food preparation therapy activities have a positive effect within secure Dementia units.

Contact Person: Linda Fourie, Radius St Winifreds Hospital

Integrated Model of Care: Improving Primary Healthcare for Pacific Youth Pacific Trust Canterbury Health and Social Services

Pacific Trust Canterbury (PTC or “The Trust”) is the major provider of health and social services for the Pacific community in the Canterbury region. It is only service of its type in the South Island with its own GP clinic, mental health and social service programmes.

PTC has been delivering health and social programmes for over a decade and during that time experienced gaps within the services being provided to Pacific youth and fanau. The gaps were also due to the inability of clinicians, mental health workers and social workers to identify the complete health and social problems of youth and fanau and to provide the proper support and wrap-around services. Pacific youth and fanau have multiple complex needs that require multi-agency support and programmes from a whole range of organisations. In order to address this problem, the

The Trust developed the Integrated Model of Care, which incorporates “wrap-around” services, including mental health, Child and Family Health and social services, as well as external programmes into the primary care service to create a holistic approach to service delivery provided for the community. The new model of service delivery uses a tailored “screening tool” designed and developed specifically for Pacific youth and fanau by the Trust and experienced clinicians. This screening tool is used to assess the youth or fanau thoroughly so that clinicians and support workers could identify problem areas and design treatment plans much more effectively.

The access point is from the GP clinic where the assessment is conducted by a clinician and supported by a mental health worker, community support worker or social worker to provide a complete diagnosis. Once this is completed, the information is then used by the clinicians and staff to determine the best course of action and to seamlessly transition the youth or fanau to one of its programmes or to an external provider. The screening process also enables the Trust to identify problems within the fanau who act as the “supports” for the youth. If they have health or social problems then they too will be taken through the same process and provided with the appropriate treatment and support.

This was a very valuable pilot for Pacific youth especially given that the Pacific Population are mostly young and given the huge issues that New Zealand society is struggling with at the moment with issues such as youth crime, mental health, low access to GP’s, under achievement at school, teen age pregnancies and other similar problems. The Ministry of Health assessed the merits of the model and contracted the Trust to pilot it in Canterbury, Auckland and Wellington. The Trust sub-contracted West Fono Health for Auckland and Compass Health (in partnership with Taeaomanino Trust) for Wellington.

The results have been extremely positive with youth and fanau experiencing significantly effective treatment and receiving the appropriate support to address their social and health problems. The Trust has assessed well above the projected number of enrolled youth yet many more fanau are enquiring to be assessed. This project has the potential to not only help to identify gaps for services but also issues (health, social, psychological) faced by Pacific youth. We have experienced a change in our operation where the silos are broken down and all units are working collaboratively and cooperatively to provide an effective intervention and treatment plans for our young people and their fanau.

Contact Person: Michael Chan, Pacific Trust Canterbury Health and Social Services

PHO-Based Oral Health Promotion for Adolescents and 0-5 Year Olds

Canterbury Community PHO

Oral health is recognised by the World Health Organisation as an integral part of general health and a basic human right. Poor oral health in 0-5 year olds can cause dental caries in later childhood and adolescence, and impact significantly on quality of life in adulthood (Ministry of Health, 2006).

Primary Health Organisation (PHO)-Based Oral Health Promotion for Adolescents and 0-5 Year Olds is an initiative which aims to improve oral health outcomes for Canterbury adolescents and children aged 0-5 years and reduce oral health inequalities, particularly for Māori, Pacific peoples and those from socially disadvantaged families/whānau, by increasing awareness of the importance of effective oral health care and encouraging uptake of free oral health services.

The current project builds on an oral health promotion pilot initiated in 2003 by Canterbury Community PHO which targeted pre-schoolers and adolescents at three general practices in Christchurch: Te Amorangi Richmond, Union and Community Health Centre and 198 Youth Health Centre. At the time, oral health was one of Ten National Health Targets and the purpose of the pilot was to promote access to and raise awareness of free oral health care available to 0-5 year olds and adolescents up to age 18 years. In 2006, the Ministry of Health assigned funding to Canterbury DHB for an adolescent oral health service based within primary care to be run over two years. This presented an opportunity to increase the profile of oral health care within general practice and encourage collaboration among general practice, community dental providers, and the Community Dental Service. In January 2007, Canterbury Community Primary Health Organisation (CCPHO) became the lead provider of a two year *PHO-Based Adolescent Oral Health Promotion* project funded by the Ministry of Health. This new initiative was led by CCPHO on behalf of all five PHOs in the Canterbury DHB area. It is the first initiative of its type, nationally. The service is Canterbury wide and targets youth at risk, especially Māori, Pacific and those living in socially disadvantaged families. In July 2008 the *PHO-Based Adolescent Oral Health Promotion* project was extended for three years (until June 2011) in conjunction with a new PHO-based initiative promoting oral health for the 0-5 year old population living in Canterbury. CCPHO is the lead provider for both projects on behalf of all five Canterbury PHOs.

A primary objective for the project was to add to the range of oral health promotion resources targeting 0-5 year old children and adolescents. Since 2007, collaboration has occurred between key stakeholders to develop Oral Health Information folders for general practices and an Early Childhood Education pack, as well as adolescent wallet cards, tip cards, stickers and a tooth brushing chart to distribute at community events.

It is difficult to assess changes in the utilisation of free dental services in Canterbury due to limited oral health statistics for the region; however, survey results indicate positive changes in awareness of oral health in the PHO environment. General practice staff feel more prepared to promote oral health to 0-5 year olds, adolescents and parents/caregivers, and more practices have indicated that they now facilitate enrolment of 0-5 year olds and adolescents to the CDHB Community Dental Service and contracted dentists as a result of the PHO-Based Oral Health Promotion Project. The project will continue to contribute to improved oral health outcomes for 0-5 year old children and adolescents in Canterbury through oral health promotion for health providers, Early Childhood Educators, and the wider community.

*Contact Person: Louise Matson and Nicola Wilmot, Canterbury Community PHO
(Now based at Partnership Health Canterbury PHO)*

Change 4 Life Aranui: Promoting Improved Nutrition and Increased Physical Activity in the Aranui Community

Canterbury Community PHO

Obesity, diabetes and cardiovascular disease are growing problems in New Zealand. Sedentary lifestyles and poor nutrition are two modifiable risk factors that are often associated with the development of these conditions. The 'Change 4 Life Aranui' project was established in 2008 and aimed to increase the awareness of and access to physical activity and good nutrition and thereby reduce the prevalence of obesity and associated diseases within the Aranui community. The suburb of Aranui was selected due to specific social determinants that place its residents at greater risk of poor health outcomes and thus aimed to also reduce health disparities in Aranui through reducing health inequalities in low socioeconomic and disadvantaged families living in the community. Demographic information from this area includes; 43% of the population hold no school qualification and the median household income is \$18,000 per annum. This health promotion pilot project was adapted from Counties Manukau's project "Swap 2 Win" and is funded through the Canterbury District Health Board's Healthy Eating Healthy Action (HEHA) service.

Current behaviours and attitudes toward physical activity and nutrition in Aranui, along with stakeholder and community consultation, were used to develop the project's three key messages: "Physical activity doesn't have to cost", "Is unhealthy food weighing you down? Kick-start your day with breakfast and you're less likely to snack during the day", "You wouldn't fill your car with the wrong fuel. Why do it to your body? Eating and drinking the wrong fuels can cause weight gain." The project was developed using the bottom-up framework by evaluating the community's needs initially and then working with the community to develop resources to compliment the key messages.

In an attempt to reach the whole community, a multi-media approach was used to deliver the key messages, including a launch event, posters, fliers, information cards, bus shelter posters, radio advertisements, school presentations and promotion at community events. A 30 minute radio show is also aired from 3-3.30pm every Tuesday to discuss topical issues related to the projects key messages on Plains FM. Experts have been recruited to discuss specific topics, such as the Heart Foundation to discuss cardiovascular disease, and NZ Food Safety Authority to promote the importance of food safety during pregnancy. A 'Physical Activities Under \$2' flyer has also been developed to promote the service providers available in Aranui which provide services costing less than \$2 per person. A walking group and a circuit training group were also developed in the Aranui area and merchandise supporting these activities (e.g. walking t-shirts, drink bottles and shopping bags) have been produced and distributed to various local organisations and during promotional events. All of the resources have strong ownership from the community, because they all contain photos of well known members of the Aranui community, in the Aranui community. It was also important to develop a strong relationship with key stakeholders in the community, such as the Aranui Community Trust, schools, health services, sports providers, Nga Hau E Wha Marae and other local community groups to support effective programme delivery.

A questionnaire was developed for the recent Aranui Health Day to assess the level of community awareness of Change 4 Life Aranui's messages and determine if the project has lead to improvements in the quality and duration of physical activity undertaken by Aranui residents, as well as the regularity of meals. Positively, results from the questionnaire indicated that 68% of respondents had heard of Change 4 Life Aranui prior to attending the Heath Day and variety of physical activity had also improved in comparison to initial research results.

*Contact Person: Krystal Somner, Canterbury Community PHO
(Now based at Aranui Community Trust)*

**Establishing the Christchurch Hepatitis C Community Clinic:
A Centre for Early Diagnosis and Improved Access to Treatment**
Hepatitis C Community Clinic

Hepatitis C is a blood-borne virus predominantly affecting the liver. First identified in 1989, the primary modes of transmission are shared drug-injecting equipment, and (prior to blood screening in New Zealand in 1992) transfusion with infected blood products. A small percentage of individuals contract the virus through other modes of transmission including unsterile tattooing, body piercing, and needle stick injury. It is estimated, worldwide, that 200 million people or 3% of the population, are infected with the hepatitis C virus.

Hepatitis C is a significant public health issue in New Zealand as there is a reservoir of chronically infected individuals. An estimated 50,000 people are currently living with the virus and this number is predicted to increase by 50% in the next 10 years. Chronic hepatitis C can lead to years of ill-health and reduced quality of life. Left untreated it may lead to cirrhosis, liver cancer, liver failure and death. Liver cancer from HCV is increasing rapidly in New Zealand (from 1 in 1995 to 29 in 2007) and the proportion of adult liver transplants performed for chronic hepatitis C have increased from < 10% to almost 40%. The estimated cost to New Zealand, if those infected go untreated, is \$400 million annually by the year 2020.

There is currently no vaccine for hepatitis C. Treatment with Pegylated Interferon and Ribavirin combination antiviral therapy can produce a sustained viral response in 50% to 80% of those treated, preventing progression to chronic liver disease. Lifestyle choices, stigma, psychosocial issues and the resulting marginalization often discourage those most affected, current or past injecting drug users (IDU), from accessing health-care services to identify and manage their HCV. Furthermore, these issues deter them from actively seeking treatment. Effective response requires new initiatives to reduce barriers and improve equity of access to testing, early diagnosis and management of hepatitis C (HCV), and to increase uptake of HCV anti-viral treatment thus reducing the morbidity, mortality and reduced quality of life of those infected.

In January 2009 a Nurse-led Christchurch-based Hepatitis C Community Clinic was established as an innovative model of care. The Clinic is located opposite the Christchurch dedicated needle exchange programme and provides a non-judgmental, confidential environment to access testing, diagnosis, monitoring, management, support. It also provides an integrated referral pathway to secondary care based HCV anti-viral treatment.

The service is open to anyone who has reason to believe they have been exposed to hepatitis C, but particularly targets past/current IDU to provide equitable care in this hard to reach population. The Clinic offers a multidisciplinary team approach in order to meet the multiple health needs often faced by IDU. This team includes a full time hepatitis C Nurse Specialist, a part time General Practitioner and Social Worker and access to a peer support worker to provide holistic care.

The Clinic is a three year pilot project currently funded by the Ministry of Health and contractually managed by the Canterbury District Health Board. Eighteen months into the pilot the Clinic is showing promise in meeting outcomes and has enrolled over 340 clients and referred 37 clients to HCV treatment. Feedback from stakeholders, including consumers of the service, has been favourable with increasing numbers accessing the Clinic. An independent evaluation is currently being undertaken. This model of hepatitis C care has the potential to be replicated in other New Zealand centres.

Contact Person: Jenny Bourke, Hepatitis C Community Clinic

**Watch-House Nurse Pilot:
Christchurch Police/CDHB Watch-House Nurse Initiative
Specialist Mental Health Services**

The Watch-house Pilot had its beginnings in Effective Interventions proposals to enable the government to 'stay tough and be smarter' about crime and punishment. The proposals were designed to take a cross sector approach to reducing crime, re-offending and imprisonment. In December 2006 the Ministries of Health and Justice organised a Police focus group to discuss issues for Police when dealing with people with mental health and/or alcohol or other drug (AoD) problems. The Police identified that the main issues were; while Police officers are trained in First Aid and Custodial management the level of care required of intoxicated people and those with mental health conditions often exceeds their expertise; no detox centres exist, Police are the only agency that presently provides a place for intoxicated people to be held; arrested or detained people with mental health problems are often difficult and time consuming for Police to manage; and police cells are environments that are likely to be detrimental to the wellbeing of people with mental health problems and being in this environment may result in an exacerbation of their problems.

The Rotorua Police station has had a mental health nurse in their watch-house in recent years to assist with care of people with mental health issues though does not deal with AoD issues. The then cabinet agreed that the Rotorua initiative be reviewed and that two additional pilot initiatives based on a more comprehensive version of the Rotorua role be established in two other Police stations to test whether such a role would be useful to police, local DHBs and to people held in custody in Police watch-houses.

The Watch-House Nurse Pilot was implemented in June 2008 in Christchurch as a joint initiative between Ministry of Health and Ministry of Justice under the Effective Interventions Initiative. The Pilot aims to provide assessment and clinical management of detainees who are experiencing AoD and Mental Health related problems while they are in Police custody. The Pilot also aims to reduce the risks of harm to detainees and custodial staff through appropriate clinical management of intoxication, withdrawal and mental health disorders. Watch-House Nurses (WHN) liaise with other service providers and make referrals to treatment providers. The WHN Pilot is intended to improve the knowledge and skills of Police custodial staff regarding mental health and AoD issues by providing Police with education about the identification and management of mental health and addiction issues for detainees in Police custody. The intended outcomes are to reduce repeat detention of people with MH/AoD issues, reduce alcohol and drug related harm and improve health status of detainees.

The Pilot was commissioned in June 2008 with the placement of two Mental Health Nurses with AoD training at the Watch-house working alternate shifts both in the Christchurch Police station and Counties-Manukau Police Station. The Watch House Project has had a positive impact on local Police Services, Mental Health Services, AoD Services and the detainees that were assessed by the nurses working at the Christchurch Police station during the two year Pilot period. Positively, the project has been regarded as a successful initiative by the Ministry of Health and the Ministry of Justice and has continued beyond the two-year year Pilot period.

Having the WHNs working at the Christchurch Police station has provided prompt assessment of Detainees with Mental Health and/or AoD issues and appropriate clinical management while they have been in Police custody, also referral to appropriate services where the detainee has been wishing to seek help, educative input and advice for detainees with regards to self-referral for MH/AoD problems and rapid response to detainees who have required further assessment and/or admission to Inpatient Services under the Mental Health Act.

Contact Person: Steve Howie, Specialist Mental Health Services

2010 SYSTEMS IMPROVEMENT ENTRIES

One Lost Is One Too Many: Placentas/Whenua: Consent, Indications List and Tracking Process Birthing Suite, Christchurch Women's Hospital

In October 2008, the Birthing Suite at Christchurch Women's Hospital was the pilot site for the 'Art of Care Project' in the Canterbury DHB. This was a part of a national project to implement lean thinking and lean business practices to improve patient care processes.

The project stemmed from ongoing complaints relating to placentas. Complaints often pertained to lost placentas, which had been discarded and not returned to the women following histological examination. Placentas have a cultural significance. The whenua (placenta) means land and bonds the new born to the earth mother. The loss of a placenta is compounded for families who have experienced the death of their baby. Complaints also occurred over the state of the placenta when it was returned to the women. Following examination a placenta is toxic as it has been treated with formalin and therefore it cannot be used for medicinal purposes. It should be handled with gloves and buried where pets cannot dig it up. Some women expressed that they had no information about why their placenta was being sent to histology. Additionally, birthing Suite staff members were asking for a larger fridge to store the placentas in after examination until they were collected by the women. Frequently there were so many placentas in storage that it was difficult to shut the fridge door.

In February 2009 a project team was established to review the placenta examination and return process and thereby aimed to reduce the incidence of lost placentas. The investigations highlighted that processes for staff were unclear, there was no consent process in place, inadequate documentation, and little information for parents. Placentas were also being sent to histology with no clinical indication. The project objectives were to reduce the incidence of lost placentas, reduce the incidence of complaints from parents, provide a consent process that includes information for parents, review the indications list and write a guideline for histological examination of the placenta, and educate staff on the Placenta Tracking Process

The process of developing and implementing the Placenta Tracking Process included:

1. Reviewing the current status and reasons why placentas were being sent to histology
2. Updating the existing clinical guideline for histological examination using National and international best practice.
3. Developing a consent and placenta tracking form.
4. Educating staff on the process with a staff information flow diagram.

The results of the project have been very positive, with in a 90% reduction in the incidence of lost placentas and a 100% reduction in complaints from women regarding the consent process. 42% fewer placentas are now sent to histology for examination, resulting in \$92,000 saving annually and reduction of laboratory staff time by 41 hours per month. Additionally, 12.5 hours in Perinatal Pathologist time has been released enabling them to focus on critical placentas and post mortems.

Contact person: Di Leishman, Birthing Suite, Christchurch Women's Hospital

Sharps Safety Initiative at Christchurch Hospital

Sharps Safety Project Group, Christchurch Hospital

Historically, routine procedures, training, equipment use (safety and non-safety) and attitudes towards Sharps Safety at Christchurch Hospital have been varied and inconsistent. Extensive international data supports however, several key factors that reduce needle stick injuries for both patients and staff. These factors are referred to as the 'Hierarchy of Controls' and endorsed by the International Council of Nurses and the American Nurses Association. The most effective strategy is to eliminate the hazard; this includes not using needles wherever possible. The second most effective initiative is introducing safety engineered controlled devices. The highest rate of needle stick injuries (NSI) occurs with disposable syringes, needles on IV lines, then IV cannula followed by venipuncture needles (Perry, J., Jagger, J., & Parker, G. (2003).

A variety of devices have been available for use at Christchurch Hospital but no preferred device (standardised) has been systematically introduced across the hospital, nor had there been a coordinated programme to reduce the use of hollow bore needles as much as possible.

This project was developed after extensive collaboration amongst key staff in the medical, surgical division at Christchurch Hospital who believed that practices and processes around the use of sharps could be improved and a safer working environment provided for all staff involved in the use of sharps and their disposal.

The project had the following overarching aims: to establish evidence and support for the introduction of sharps safety devices hospital wide, to look at creative ways for services/wards to incorporate the costings of safety devices into their budgets and manage suitability of the product alongside cost effectiveness.

These aims were then mapped to the following objectives; to eliminate all hollow bore sharps, where appropriate, to introduce standardised safety engineered devices for the following procedures, cannulation, venipuncture, arterial puncture and blood culture sampling; to implement a consistent hospital-wide Best Practice programme that included training and education for all relevant staff; eliminate the choice of cannulation, venipuncture, blood sampling devices through standardisation and links with the Making Time for Caring standardisation of IV trolley project.

The Sharps Safety Initiative was rolled out in all departments of Christchurch hospital, Christchurch Women's hospital, Burwood hospital, Princess Margaret hospital, Kaikoura hospital and outlying Canterbury hospitals from April to June 2009 and successfully addressed all of the project aims and objectives.

Following implementation, results compiled in July 2010 show that there has been a notable reduction in staff injuries related to cannulation, down by 43%, venipuncture incidents down by 40%, blood culture and blood gas sampling reduced by 50% and 67% respectively. The number of sharps found in rubbish bags has decreased by 59% in the last 12 months since the implementation of the sharps safety initiative. For each needle stick injury that occurs there is a base cost of approximately \$1000 for immunosuppressants. Therefore the costs associated with these injuries have also decreased.

Contact Person: Sally Van Voorst, Christchurch Hospital

HealthScape: An Information Management and Accountability Tool for Public Health Services

Community and Public Health

The work of a population and public health unit, such as Community and Public Health (C&PH), is characterised by a very wide range of service provision and activities – ranging, in a very partial sample, from communicable disease control, through to environmental health and drinking water work, prevention of alcohol related harm, tobacco control and smoking cessation programmes, active transport, health promotion work associated with physical activity, nutrition, sexual health, health and housing, and on to larger-scale expert analysis and reporting on public health issues.

This broad scope of activity is characterised by service provision in “settings” – communities, workplaces, early childhood, primary, secondary and tertiary education, built and natural environments, and health service providers. Often, different teams from C&PH interact with the same external entities, but for provision of different services. Historically, recording and reporting of these interactions has either not occurred or has been siloed into informal and unstructured data stores at team or individual level, meaning that C&PH staff in different programme areas were not necessarily aware of prior and current work by other C&PH staff with those setting and entities. Effective provision of reporting and accountability information back to the Ministry of Health and CDHB, as well as linking of line and project-level data through to objectives and outcomes was also compromised by unstructured and incomplete information stores.

Healthscape was developed in response to the need to consolidate information management across C&PH's operations, in a sustainable, adaptable and easy to maintain manner. The aim was to use best-of-breed software tools and commonly accepted methodologies in a low-cost and low-impact manner which delivered greatly improved C&PH's information management capability. . The overall plan was to build a graduated system from the “bottom – up”, placing public health practitioners' needs first and providing effective management reporting and accountability as a natural consequence of meeting those needs.

Healthscape is an online relationship management, reporting, communications and collaboration system which integrates information management, accountability and reporting requirements across the range of C&PH activities, conceptually in much the same way as a patient management system integrates information about an individual patient's care.

Healthscape in its current form was first partially implemented in 2006, but since then has been subject to process of continuous improvement on flexible business-aware development principles. The last 12-24 months have seen the development of new functionality for the system and expansion across Community and Public Health's programme areas and regional offices. Healthscape is subject to a process of continuous improvement based upon feedback and information management needs, with recent developments including a complete help system, enhancements to reporting and data extraction capabilities, and integration with other systems, such as a browser-based GIS (Geographic Information System) application, as well as email and broadcast fax systems.

Healthscape has also been deployed as an extranet system – where it is used by other regional public health services operating as part of the South Island Drinking Water Assessment Unit. Both internal and extranet deployments use the same “back-end” data store- allowing users to exchange and access common sets of data freely, subject to their security permissions.

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CR X-ray Cassette Quality Management System

Medical Physics and Bioengineering Department

Computed Radiography (CR) is the main means of obtaining X-Ray images in the Radiology Departments of the Canterbury District Health Board (CDHB). The CR system is based on Carestream Health NZ Ltd. photo-stimulable phosphor plates which are exposed to X-Rays, then read by scanning a laser across the phosphor plates. The resulting digital image with patient and cassette information is stored to the PACS. There are around 230 cassettes in five Radiology departments in the CDHB, each cassette being worth between \$1000 and \$1250. The plates must be erased weekly, and annually checked for dust, scratches, fingerprints, smears and degradation of the phosphor that results in incorrect Exposure Index (EI) and pixel values on the image, and potential loss of diagnostic information. Performing these checks with existing Intelviewer software is very tedious and inefficient.

The CR Analyser software was developed to provide a simple tool to view all the cassette identification and perform image uniformity calculations automatically, and change the brightness and contrast of all images to the correct value at once, reducing the time spent on QA of the images dramatically.

The improvement to management procedures for the cassettes resulted in the first ever thorough CDHB wide audit of CR cassettes being performed in June 2010. The CR analyser software was used very effectively and significant results were to:

- Identify cleaning artefacts and improve cleaning techniques used on the cassettes, including wiping the plate dry to avoid leaving smears on the phosphor plate and wearing gloves to avoid leaving permanent fingerprints on the phosphor plate.
- Quantify the amount the degradation of the phosphor. Two cassettes were rejected as a result.
- Update the database of cassettes. Approximately one third of cassettes had changed barcodes or departments in which they were used.

The most common reason to take cassettes out of service is the failure of a spring loaded catch to release the phosphor plate from its outer protective shell. Ten cassettes had failed for this reason and were declared unfixable by the Carestream Health engineer. Medical Physics and Bioengineering (MPBE) staff repaired the catches, cleaned and evaluated the condition of the phosphor. Five of the cassettes were found to be in good condition and returned to use.

The CR Analyser software has proved to be a valuable time saving tool for assessing the quality of CR cassettes. The improved cassette management procedures have resulted in five cassettes being returned to useful service rather than being discarded at a replacement cost of approximately \$6250. Two other cassettes that were not functioning correctly were removed from service. These cassettes were causing compromised diagnostic information and time wastage among staff when trying to troubleshoot the problems encountered with the cassettes. The improved management of the cassettes will result in further savings being made each year in the efficiency of the Radiology Departments, money spent on replacement cassettes, and repeat exposures made to patients from poor image quality.

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Improved Drug Detection in Patient Urines

Canterbury Health Laboratories

The urine drug screening service provided by the Toxicology Section of Canterbury Health Laboratories (CHL) generates annual revenues in excess of \$1 million dollars. It has traditionally relied on technologies (thin layer chromatography, immunoassay and gas chromatography mass spectrometry) for the routine drug detection and measurement in patient urine samples from both acute hospitals and also mental health services. This method is expensive, labour intensive and time consuming.

Recently the laboratory had acquired a 3200QTRAP mass spectrometer (MS) in the Specialist Biochemistry section manufactured by ABSciex and this had proved successful in reducing the reagent cost for Vitamin D analyses for the laboratory. Tandem mass spectrometers have a high capital cost (\$300,000 to \$500,000) but have a very low running cost of \$0.50 to \$1.00 per test. Their applications are ideally suitable for the analysis of small molecules in blood and urine. For the analysis of Vitamin D alone the capital expenditure was expected to be recovered within 2 years.

It was a recent software advance called "scheduled MRM's" that enabled the MS to measure up to 600 compounds within a 15 minute period. This offers great potential for detection of drugs in urine, as already demonstrated at a laboratory in Toronto. CHL contacted the ABSciex agent in Australia who confirmed that this is a new application that had just been released on their MS and had not been adopted by any other laboratory to date. ABSciex offered to set the method up at their demonstration laboratory in Melbourne and they would analyse a range of patient samples provided by the Toxicology Section at CHL. The ABSciex agent hosted a delegation from CHL at their Melbourne facility and they were able to confirm the presence of every drug metabolite in ten urine sample provided. This provided the stimulus for CHL to prepare a CAPEX for the purchase of a MS. Approval to purchase the MS was given in December 2008, the instrument was commissioned April 2009 and went into routine use in March 2010 after a 6 month evaluation of our urine drugs of abuse testing was completed.

Moving the CHL analyses over to tandem mass spectrometry has demonstrated improved sensitivity, throughput and reduced costs. The proven advantages are fast speed of analysis and high specimen throughput. The instrument is often run unattended over night for routine samples to enable maintenance, method development and speciality testing to be undertaken during the day. It provides high sensitivity and eliminates the cross-reactivity problems associated with immunoassays and enables the physiologically active moiety to be measured, even in the presence of other drug metabolites. There is enhanced flexibility, providing the capacity to analyse a wide range of compounds on a single analyser without the need to purchase additional reagents. Reagent and consumable costs are minimal.

The requirement for CHL to improve and enhance its use of technology is identified in several places in the CHL Business plan. By installing the new technology, conservative annual savings of \$115,000 were identified by laboratory staff and the finance manager and the 10 year NPV was shown to be over \$1,592,744. We have achieved a significantly improved clinical service, with improved financial balance sheet and the capacity to generate revenue. Current realised savings in consumable costs is over \$200,000 pa and capital purchase price of the instrument was \$470,000 with ongoing running costs of \$20,000.

Contact Person: Grant Moore, Toxicology

Operating Wise: Improving Patient Flow **Perioperative Service, Christchurch Hospital**

Christchurch Hospital provides acute and elective surgery primarily for residents of the Canterbury region but is also a referral centre for most of the South Island. The perioperative service is provided from 16 elective/acute theatres; two acute Caesarian Section theatres; two Post Anaesthesia Care Units (PACU); a Day Of Surgery Admission unit (DOSA); a pre-admission clinic area; and a Day Surgery Unit (DSU). The service is complimented by additional elective capacity available at Burwood (Orthopaedics and Plastics) and Ashburton Hospitals.

In order for Canterbury DHB to meet the requirement of the Ministry of Health to increase the volume of elective surgery it completes, within existing resource constraints, the perioperative service had to identify opportunities for improvement in the service. Operating theatre schedules were already close to full capacity and thus improvements to increase patient flow were needed. Following the inclusion of this need in the 2008/2009 Canterbury DHB District Annual Plan, under the umbrella of the 'Improving the Patient Journey' project, the ValuMetrix team from Johnson and Johnson were recruited to support the Operating Theatre team at Christchurch Hospital to analyse the service and apply the principles and knowledge of lean thinking to improve patient flow. The project aimed to maximise the effective use of the existing and potential future work areas by looking at what is currently done and how then to identify fixable waste within the current systems and processes, and correct them.

The initial analysis value stream mapped patient and product flow through the service and discovered opportunities for improvement too numerous to address within the project resources and timeframe, so key opportunities were selected to be worked on. To maximise the learning and benefits that could be gained from the ValuMetrix team, it was decided to work on a single-service approach to multiple opportunities rather than addressing just one opportunity across the entire Perioperative service. The four areas of focus were: on-time starts; patient pick up; scrub nurse availability; and theatre turnaround. This work involved centralising and standardising equipment and instruments; standardising the way the team prepared for a patient and managed the work flow; and re-organising equipment to ensure it was easily accessible and ready in the right place at the right time.

In each area, the team determined what was to be done, re-designed the processes and systems that were needed, then piloted each innovation. After a period of further data gathering to determine where success had been achieved, where no progress had been made, and where the solutions implemented were not quite suitable, the new processes and systems were further amended and tried again.

As each innovation was finalised as the correct action, it was implemented and transitioned into a continuing improvement process so evaluation is a continuous process and minor adjustments are made as further work changes occur in the future.

This is a project that will not end. Already gains have been made in financial savings, time and smoothing of processes. Staff morale has been improved by increasing security in the way we do our work and we have developed processes for effectively evaluating what we do and planning change based on evidence. This will greatly benefit us as we move towards planning for our new facility which commences construction in approximately five years.

We have introduced a review and planning process within our management team to ensure the gains we have are not lost, and the work continues.

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