Canterbury
District Health Board
Te Poari Hauora ō Waitaha

Community and Public Health

Achievements Contributing to Improved Maori and Pacific Health

1 July 2009 to 31 December 2009

Introduction

The work of Community and Public Health (CPH) reflects a commitment to improving the health of Māori, reducing inequalities, and fostering mental wellbeing. Unless otherwise stated, our work is undertaken primarily in low decile schools and early childhood education centres, and in communities and workplaces which have the greatest health need. The following information has been extracted from our latest six-month report to the Ministry of Health, and summarises the achievements of CPH staff which have contributed to improvements in Maori and Pacific health in our region. The achievements are divided into the following four categories which relate to the programme structure of Community and Public Health:

- Public Health Information and Capacity (Programme One)
- Emergency Response and Disease Control (Programme Two)
- Healthy Physical Environments (Programme Three)
- Chronic Disease and Injury Prevention (Programme Four)

Following the achievements for each of the four areas, a section on outcomes shows how these achievements have contributed to improving Maori and Pacific health in the CDHB region.

1.0 Public Health Information and Capacity

1.1 Achievements

Literature searches

The following literature searches were undertaken to support the work of other programme areas at CPH, and other Divisions of the CDHB. Detailed literature searches with summaries and/or analyses of the available evidence were provided on:

- international and national evidence of measures to address food security
- evidence about the effectiveness of small grants programmes
- sexuality education in young children and the available evidence on best practice (this literature search was undertaken at the request of the West Coast Office, settings team)
- the latest evidence regarding the effects of warm or damp housing on health.

The following literature searches were completed at the request of external agencies. This work provides evidence-based guidance for these agencies and builds the capacity of the wider public health workforce.

- Researching and writing twelve briefing papers on the wider determinants of health in relation to transport planning for the Christchurch City Health Plan 2010-2041. This work will also contribute to the Regional Transport Plan.

Literature search and review on the effectiveness of Health Education Resources with regard to print materials

This literature review was focused on the priority populations of Māori and rural dwellers. The review recommended the need for further work in the area of the effectiveness of electronic media. The report contributed to the work undertaken by the Community and Public Health Resource Approval Panel.

Inequalities workshops

Understanding Health Inequalities workshops were delivered in Christchurch (on 27 October) and Timaru (on 10 November). Most of the participants in the Christchurch workshop were from external organisations. Participants gained information on current health inequalities and indicated in their evaluations that they will integrate the use of the Health Equity Assessment Tool in their professional practice. The workshop helped Timaru staff to re-assess their work with certain schools in order to foster equity of outcomes for Māori children.

Compilation of information on who receives specialist mental health care

This information led to recognition of the over-representation of 35-39 year olds, Māori aged 15-19, and young people generally, among those who receive specialist mental health care services in the CDHB region. The information was provided to CDHB Specialist Mental Health Services.

Komiti Kotuitui O Waitaha

This committee, led by CPH's Cultural Advisor, with membership from Māori people working in government organisations, has continued to meet regularly. It is anticipated that Māori will benefit through the provision of a public health perspective

on this committee, ensuring that other government organisations focus on the determinants of health in their work.

Links with Māori health providers

Visits by the Community Health Information Centre (CHIC) staff with CPH kaumatua to five local Māori health providers, have increased awareness of and access to the services and the public health information available, and resulted in numerous visits to CHIC by these providers.

Information for Novel Influenza A H1N1 09 response

CPH staff established a temporary Influenza display in the International Arrivals hall at Christchurch Airport (for 13 weeks from early July), allowing access to pandemic influenza information to both staff and incoming passengers, including those with language requirements other than English.

Eastgate Mall information outlet

Health information and resources available through CHIC were provided, as part of a Christchurch City Council initiative to create a temporary community information outlet in a vacant shop at Eastgate Mall. This facilitated increased access to health information and resources by people from lower socioeconomic groups in this area.

Contribution to CDHB submissions

CPH staff contributed evidence to support the CDHB submissions on the Law Commission's issues paper on the reform of New Zealand's liquor laws, and on the Inquiry into the tobacco industry in Aotearoa and the consequences of tobacco use for Māori.

Evaluation of Appetite for Life (AFL)

Evaluation of AFL has continued. Regular three-monthly progress reports have been produced. Focus group feedback, the analysis of participant responses and facilitator feedback have contributed to the process evaluation. Quarterly reports of progress with the evaluation of AFL continued to be presented to Planning and Funding, as required by the evaluation plan. Information obtained from the various sources contributed to changes in resources, administration processes, and delivery mechanisms of the programme. The evaluation now includes AFL programmes undertaken within the Māori community. Progress is being made on how to improve the collection of data on those who identify as Māori and participate in the AFL programme within the wider community.

Provision of Geographic Information Systems (GIS) outputs to CDHB and external agencies

Apart from normal line-of-business GIS outputs for CPH staff, examples of GIS outputs for other requestors in this period include an extensive series of enteric disease maps and associated statistics and analysis for Environment Canterbury; a map series of HPV vaccination rates by medical practice and domicile for CDHB planning and funding, maps depicting coverage of B4 school programme checks; PHO affiliation maps; well child maps and data for Pacific Trust Canterbury; membership and coverage maps for Neighbourhood Support Canterbury; maps; Aukati Kai Paipa (Māori Smoking Cessation) client mapping and analysis; measles outbreak mapping, concentrating upon visualisation of the education institutions and

workplaces which formed nodes of transmission and contact during the outbreak. GIS outputs continued to be effectively turned around and produced at short notice.

Development of an information portal in partnership with MSD

P1 staff members have continued to work in partnership with staff from the Ministry of Social Development (MSD) on the development of a web-based information portal. It is envisaged that indicator data for MSD, CPH, and the Strengthening Families partner organisations will be posted on this website. A template for the indicator data has been developed, and an MSD staff member has produced some initial indicators to be loaded onto the information portal. It is envisaged that the information portal will be a useful website for many organisations by facilitating efficient sharing of information and reducing duplication of effort in reporting on health indicators.

Analysis of data for Smokefree Parks and Playgrounds

The analysis of data including deprivation score, ethnicity, age and sex, and people's attitudes to smokefree parks and playgrounds enabled the Cancer Society and Christchurch City Council to review and plan for the future direction of Smokefree Parks and Playgrounds. A population telephone based survey was undertaken with a total of 383 questionnaires completed. The main finding was that the vast majority of respondents (81.7%) agreed that the new policy will be an effective tool in encouraging people not to smoke around children in public places. Over half the respondents (66.6%) said they would mention the policy as a supporting reason if they wanted to ask people to stop smoking in public places. In addition, the majority of respondents thought that the following aims of the Christchurch City Council Smokefree Parks and Playgrounds Policy were very important:

- To encourage smokefree environments to provide smokefree role models for children and young people
- To reduce the negative impacts of smoking on peoples' health
- To encourage people who smoke to quite smoking
- To reduce the negative impact of smoking on the environment

Significantly more non-smokers thought that the Christchurch City Council Smokefree Parks and Playgrounds Policy aims were very important than people who identified as smokers.

Report: Weaving Our Way To Child Health: Tamariki Ora

A briefing paper was prepared for Community and Public Health Strategic Management Group (SMG) regarding Public Health services for Children aged 0-4 years in the Canterbury District Health Board area. This involved a literature review, policy reviews (national and regional), key informant interviews (existing public health initiatives) and mapping of current services provided both internally and external to Community and Public Health. An analysis was carried out and recommendations made. The report provided SMG with a strong evidence-base for their planning.

Provision of resources through CHIC

Regular correspondence and discussion with local Public Health Organisations, CDHB staff, and other organisations such as Pacific Trust Canterbury and He Waka Tapu, have improved existing relationships and increased resource and equipment usage by these organisations. Visits from participants from groups organised by CPH

and CDHB staff has increased awareness and access to the services CHIC is able to provide for these groups. There has been increased provision of resources to Canterbury Public Health Nurses and schools particularly in the area of sexual health and puberty during this reporting period.

Te Reo Māori assistance to CDHB staff
Staff at CPH and in the wider CDHB have continued to receive assistance with translating health resources into Te Reo Māori. This is an effective way to increase access by the Māori community to public health information.

Resources targeted to high priority communities
Increased distribution and provision of resources to service providers targeting Māori, Pacific and those of low socio-economic status, particularly in the areas of nutrition, physical activity and child health. The content of most existing community-based Satellite Information Stands has been tailored to meet the demographics of the surrounding area. The presence of P1 staff and resources at Aranui Health Day has resulted in great awareness of CHIC by and closer connections with community groups servicing this high-priority community.

Ten Auahi Kore marae in our region
Ten marae in our region are Smokefree/Auahi Kore as a result of support from CPH and the Cultural Advisor at CPH, and the networking activities between those representing the marae and CPH. In addition, four Māori organisations (He Waka Tapu, Nga Peka, Te Wananga o Aotearoa and the Southern Regional Office of Kohanga Reo) are now smokefree.

Healthy Christchurch hui-iti
These hui provided an opportunity for Healthy Christchurch signatories to have input into a strategic plan for Healthy Christchurch. Three hui-iti have been convened. The final hui is aimed at organisations who work city-wide and is planned for 4 February 2010. Recommendations from signatories are being sought on issues of priority for the community. The two top priorities chosen by the signatories will provide areas of focus for collaboration for Healthy Christchurch over the following 12 months. The identified issues will be reviewed by signatories at an annual hui.

City Health Profile
Work on the City Health profile (the first phase of the City Health Plan) has begun. Several hui have already been held under the Healthy Christchurch banner to seek information on communities' health and wellbeing priorities. A separate consultation process with Māori has been initiated as part of this project.

Health Promotion Small Grants Fund (HPSGF)
Ten community organisations received health promotion small grants in the 2008-2009 funding round. These grants included one in Timaru, one in Ashburton, three on the West Coast and five in Christchurch. Project types included two for Māori focused on cultural development, three youth-focused projects, two with community mental health services, and one street-based project. The remaining two projects concentrated on a particular health issue and provided support for users of the service. Support was offered to all grant recipients by health promoters in the Timaru, West Coast and

Christchurch regions. Evaluation templates were provided to assist groups to complete end of year evaluation reports. The HPSGF support position at CPH was vacated in December 2008 and was not filled until March 2009, which created some difficulties in meeting CPH's obligations to advise and support the groups in this region. Despite this setback groups expressed their appreciation for the fund, and stated that they could not have achieved the projects they were funded for without this support. Advice was given to Christchurch recipients about other sources of funding, and how to work towards sustainability and independence.

Relationship with Te Wananga O Aotearoa

The CPH Cultural Advisor, in partnership with staff from Te Wananga O Aotearoa, developed a customised Tikanga/Te Reo programme for CPH staff. The programme helped staff to develop linguistic and cultural knowledge and skills, as well as building confidence in working in Māori settings. The first course has been completed, and the second course was attended by CPH SMG staff and staff from the Ministry of Health Christchurch office. Staff who have completed the first course are being invited to attend an 'advanced' Te Reo course which will be delivered by a tutor from Te Wananga o Aotearoa.

1.2 Outcomes

As a result of the work of the CPH Cultural Advisor (based in P1) and P4 staff in partnership with Iwi, there are now ten Smokefree/Auahi Kore marae in our region, and four large Māori organisations (He Waka Tapu, Nga Peka, Te Wananga o Aotearoa and the Southern Regional Office of Kohanga Reo) are now smokefree. CPH in partnership with the Cancer Society and the Christchurch City Council contributed to the implementation of the Smokefree Outdoors policy in Christchurch, and P1 analysts are involved with the evaluation of this policy. There is strong scientific evidence that population-level tobacco control interventions such as these are effective in reducing the prevalence of smoking (Wilson 2007). This work is important, because smoking is the major cause of burden of disease in New Zealand (Ministry of Health 2001):

Burden attributable to major risk factors

Rank	*Male*	*Female*
1	Smoking (15%)	Smoking (9%)
2	Physical inactivity (7%)	Physical inactivity (6%)
3	High blood pressure (6%)	High blood pressure (5%)
4	Diabetes (5%)	Diabetes (5%)
5	High cholesterol (4%)	Obesity (5%)
6	Obesity (4%)	High Cholesterol (3%)

7	Low fruit & vegetable intake (4%)	Low fruit & vegetable intake (2%)
8	Alcohol (2%)	Alcohol (<1%)

There has been an increase in visits to the CPH Community Health Information Centre (CHIC) and an increase in demand for CHIC resources (both hard copy and online resources) during this reporting period. The CHIC website was updated and redesigned in February 2009. From 1 July to 30 November 2009 there were 3,916 visits to the website, and 4,718 visits to the resources page. Provision of health information, particularly as part of wider health communication campaigns, can change people's behaviour (Snyder 2007) with websites proving to be more effective than other modalities for some populations (Silk *et al* 2008). Further information on the effectiveness of Health Education Resources with regard to print materials has been reported in a CPH literature review (Mackay 2009), which recommended that further work be done on the effectiveness of online health resources. This literature review was focussed on the priority populations of Māori and rural dwellers.

The work of CPH staff has contributed to improving the public health capacity of the workforces of CPH, the wider CDHB, PHOs, TLAs, and community groups. This work aligns with national priorities, since workforce development and retention feature in the Ministry of Health Statement of Intent 2009-2012 (Ministry of Health 2009). In particular, a customised Tikanga/Te Reo programme has been introduced for CPH staff and staff at the Christchurch Office of the Ministry of Health. The programme has helped these staff to develop linguistic and cultural knowledge and skills, as well as building confidence in working in Māori settings. These are important skills for public health practitioners so that they can work in true partnerships according to Te Tiriti o Waitangi, and given the recognised inequalities in Māori health in New Zealand (Robson and Harris 2007), and the increased government focus on Whanau Ora (Turia 2009).

CPH staff contributed to a Māori Health Profile (full document and summary document) which was prepared by a Public Health Medicine Trainee for the CDHB. This contribution included supervision from Public Health Specialist staff and geospatial analysis by information systems staff. The Canterbury Māori Health Profile is a comprehensive epidemiological health profile, which is modelled on the West Coast -Te Tai O Poutini Māori Health Profile, previously developed by CPH staff (Begg *et al* 2008) and the Hauora IV document (Robson and Harris 2007). The CDHB Māori Health Profile is now at final draft stage and was presented to Manawhenua Ki Waitaha on 1 December 2009.

CPH staff contributed evidence to support the CDHB submissions on the Law Commission's issues paper on the reform of New Zealand's liquor laws, and on the Inquiry into the tobacco industry in Aotearoa and the consequences of tobacco use for Māori. Provision of strong evidence to support these submissions is important, since tobacco and alcohol are major contributors to morbidity and mortality in New Zealand (Ministry of Health 2001) and tobacco and alcohol control initiatives reduce the global economic burden associated with alcohol and tobacco (Baumberg 2006; Chisholm *et al* 2004; Hurley and Matthews 2008).

The literature review, data analysis, and information services sections of CPH have continued to provide evidence to inform the practice of the public health workforce, within CPH and in external organisations. Ongoing formal evaluation of projects has continued to ensure that the strengths and limitations of specific projects are understood early on, providing the opportunity to improve practice. As noted in our previous six-month report, the importance of providing an evidence base for public health practice has been recognised in the Generic Competencies for Public Health in Aotearoa-New Zealand (Public Health Association 2007). The importance of evidence-based practice is also recognised in the Competencies developed by the New Zealand College of Public Health Medicine (New Zealand College of Public Health Medicine 2008), and as a foundation for effective health promotion practice (Saskatchewan Health 2002).

An example of the provision of evidence to inform public health practice is the literature review on food security, which was requested from the Public Health Information and Analysis (PHIA) team at CPH to provide evidence to support the work of P4 health promotion staff (Bidwell 2009). Food insecurity occurs when people do not have enough food to satisfy hunger, have an insufficient and limited diet, are anxious about having enough food or need to resort to makeshift coping strategies such as begging, scavenging, or relying on emergency assistance programmes (Cook and Frank, 2008).

Strategic relationships with other sectors, organisations and communities have been maintained. Examples of intersectoral collaborations maintained during this reporting period include mutually beneficial relationships with education providers (such as the University of Otago, CPIT, NZCPHM, and the Health Promotion Forum), the Christchurch City Council, Environment Canterbury, Partnership Health PHO, Hurunui-Kaikoura PHO, Pegasus Health, and the Ministry of Social Development.

References:

Baumberg B. The global economic burden of alcohol: a review. Drug and Alcohol Review. 2006; 25: 537-551.

Begg A, Brunton C, Hamilton G. West Coast –Te Tai O Poutini Māori Health Profile. West Coast District Health Board, 2008.
Bidwell S. Food security: a review and synthesis of themes from the literature. CDHB, 2009.

Chisholm D, Rehm J, Van Ommeren M, Monteiro M. Reducing the global burden of hazardous alcohol use: a comparative cost-effectiveness analysis. Journal of Studies on Alcohol and Drugs 2004; 65: 782-93.

Cook JT, Frank DA. Food security, poverty, and human development in the United States. Annals of the New York Academy of Sciences 2008; 1136: 193-209.

Hurley SF, Matthews JP. Cost-effectiveness of the Australian national tobacco campaign. Tobacco Control. 2008; 17: 379-84.

Mackay C. Literature search and review on the effectiveness of Health Education Resources with regard to print materials, and the priority populations of Māori and rural dwellers. CDHB, 2009.

Ministry of Health. The burden of disease and injury in New Zealand. Public Health Intelligence Occasional Bulletin No.1 Wellington: Ministry of Health, 2001.

Ministry of Health. Statement of intent 2009-2012. Wellington: Ministry of Health, 2009.

New Zealand College of Public Health Medicine. New Zealand College of Public Health Medicine Competencies. Wellington: NZCPHM, 2008.

Public Health Association. Generic Competencies for Public Health in Aotearoa-New Zealand. Wellington: Public Health Association of New Zealand, 2007.

Robson B, Harris R (eds). Hauora: Māori standards of health IV. A study of the years 2000-2005. Wellington: Te Ropu Rangahau Hauora a Eru Pomare, 2007.

Saskatchewan Health. A population health promotion framework for Saskatchewan Regional Health Authorities. Regina: Saskatchewan Health, 2002. http://www.publications.gov.sk.ca/details.cfm?p=12156

Silk KJ, Sherry J, Winn B, *et al.* Increasing nutrition literacy: testing the effectiveness of print, web site, and game modalities. Journal of Nutrition Education and Behaviour 2008; 40: 3-10.

Snyder LB. Health communication campaigns and their impact on behaviour. Journal of Nutrition Education and Behaviour 2007; 39: S32-S40.

Turia T. Whanau Ora taskforce announced. Wellington, 2009: http://www.beehive.govt.nz/release/whanau+ora+taskforce+announced

Wilson N. Review of the evidence for major population-level tobacco control interventions. Wellington: Ministry of Health; 2007. Available from: http://www.moh.govt.nz/moh.nsf/pagesmh/6142/$File/review-evidence-major-population-level-tobacco-control-interventions.pdf

2.0 Emergency Response and Disease Control

2.1 Achievements

Measles outbreak control

An outbreak of measles continued during this reporting period until mid-November, when it declined due to the significant efforts in primary care along with the diagnostic support of the community and DHB laboratories. CPH continued to monitor the situation, and in mid-December responded to a notification of a passenger infected with measles on a London-Auckland-Christchurch flight. Passengers sitting close to the index case were traced where possible (contact details were unavailable for some passengers), and a press release and media interviews were given in an attempt to alert passengers who could not be traced. All other notifications received a prompt public health response.

Surveillance systems

Surveillance systems were modified and enhanced in order to monitor both the Influenza H1N1 09 pandemic and the measles outbreak. These systems are integral to the CPH response. Surveillance of H1N1 09 continues.

Emergency preparedness

Relationships were maintained between Community and Public Health, other Divisions of the CDHB, Christchurch City Council, Civil Defence, Canterbury Joint Emergency Service Committee, Canterbury District Health Board Emergency Planners Group, and the Primary Care Influenza Reference Group. These relationships are very important in mounting an efficient and effective outbreak response mechanism.

Targeted prevention programmes in high-risk settings

CPH staff continued to provide education sessions and professional updates to teachers, prison inmates and people in community based addiction recovery programmes. Topics for these sessions included sexually transmitted infections, HIV/AIDS, hepatitis and safe sex. Six training sessions were presented during the last six months at venues including secondary school health co-ordinators, Christchurch Men's Prison (Drug Treatment Unit), Vincentian Women's Group and The Salvation Army Bridge Programme. Condoms were supplied to a Young Parents Group. Two half day seminars were organised for people working in the sexual health and youth health area with topics including an update on syphilis and feedback on the NZ Sexual Health Society's annual conference. Another sexual health newsletter was produced and distributed to health co-ordinators in schools and others working in the sexual health/youth health area (these are produced twice a year).

Tuberculosis control

CPH staff undertook extensive contact tracing and follow-up of tuberculosis cases. Eleven new cases and 63 contacts were identified during this reporting period. The investigation included organising 92 Mantoux tests, 22 chest x-rays, 7 Quantiferon TB Gold tests, and 17 specialist referrals.

Improved immunisation rates for Māori children
Work continued in this area, with relationships strengthened with staff at the National Immunisation Register and Outreach Immunisation Services. P2 staff participated in a review of immunisation services in the Canterbury region, with a focus on how to target services to tamariki Māori. Independent vaccinators for outreach immunisation services have been authorised. These independent vaccinators will target Māori and Pacific populations.

2.2 Outcomes

In response to the measles outbreak, there was an outstanding effort from CPH, local immunisation coordinators, primary care, and the Canterbury general public, resulting in increased MMR immunisation coverage. As a result of the timely response to this outbreak 6,081 children aged between six months and four years received their second MMR early because of the recommendation to bring forward the timing of MMR doses, 1,456 children aged 12-17 months received their first dose of MMR, and 47 infants aged 6-8 months and 85 infants aged 9-11 months received their first MMR.

The measles outbreak received international, national, and local attention, and CPH medical officers of health responded to requests for interviews from television, radio, and the print media. They recommended that MMR vaccination is the best way for parents to protect their children against measles. Nationally, only 82% of children are fully vaccinated against measles (coverage in Canterbury is higher at 88%). Coverage of 95% is required to prevent outbreaks of measles. Work to reduce the impact of measles is important for protecting and improving the health of young people in our region. It is also cost-saving (Abelson *et al* 2003). Increased immunisation is one of the New Zealand government's health targets (Ministry of Health 2009).

CPH continues to work on improving our readiness to respond to future outbreaks, including pandemic influenza, by holding debrief meetings after each outbreak and incorporating any recommendations from the debriefing into plans and protocols to improve effective responses and control of outbreaks.

Tuberculosis control has continued. This is important work as unfortunately tuberculosis incidence in New Zealand has not declined since the mid-1980s (Das *et al* 2006). Tuberculosis disproportionately affects poor, Māori, Pacific, and overseas-born New Zealanders (Das *et al* 2006; Thomas and Ellis-Pegler 2006).

CPH continues to be in a very good position to manage an emergency. Updating of the generic emergency response plan is continuous and remains a high priority for this team. The plans in place are reviewed and revised as new information and protocols are developed both locally and nationally. The importance placed by CPH on maintaining and updating emergency plans and undertaking regular training is in alignment with the Ministry of Health's National Health Emergency Plan: "Readiness involves planning and developing operational arrangements before an emergency happens. It includes consideration of response and recovery. It involves equipping, training and exercising in preparedness for all emergencies identified in the risk analysis. All systems need to be developed, tested and refined in readiness for

response". (Ministry of Health 2008).

References:

Abelson P, Taylor R, Butler J, Gadiel D. Returns on investment in public health: an epidemiological and economic analysis prepared for the Department of Health and Ageing. Canberra: Department of Health and Ageing; 2003.

Das D, Baker M, Calder L. Tuberculosis epidemiology in New Zealand: 1995-2004. NZ Med J 2006; 119: URL: http://www.nzma.org.nz/journal/119-1243/2249

Ministry of Health. National Health Emergency Plan. Wellington: Ministry of Health, 2008.

Ministry of Health. Statement of intent 2009-2012. Wellington: Ministry of Health, 2009.

Thomas M, Ellis-Pegler R. Tuberculosis in New Zealand: poverty casts a long shadow. NZ Med J 2006; 119: URL: http://www.nzma.org.nz/journal/119-1243/2267/

3.0 Healthy Physical Environments

3.1 Achievements

Improved quality of drinking water supplies.
Assessment of adequacy and implementation of Public Health Risk Management Plans (PHRMPs) has continued. Fourteen PHRMPs were received for assessment of adequacy, with implementation visits subsequently undertaken in all cases. A number of the PHRMPs submitted were from suppliers that have been participating in the Drinking Water Assistance Programme (Governors Bay Preschool, Kincaid, Oaro, Peketa, Kaikoura East Coast Rural, Mt Cook, Highbank, Carew Peel Forest School). The assessment of PHRMPs enabled suppliers to examine the health risks associated with their proposed water supply and implement measures to address those risks.

Algal bloom response protocol for Te Waihora
Due to increased algal blooms over the 2008/09 summer it became apparent a written algal bloom response protocol for Te Waihora (Lake Ellesmere) was required for this season. This was developed in consultation with the three TAs involved. The response protocol for algal blooms on Te Wairewa (Lake Forsyth) was revised for the 2009/10 summer season with the three TAs involved.

Christchurch City Council Climate Change Policy
Discussions are underway with the Christchurch City Council regarding their proposed Climate Change Policy. Areas of discussion include potential health issues; responses to Resource Management applications and how various issues (including surface and recreational waters, biosecurity, air quality and transport) may be affected by climate change in the Canterbury region.

Warm Families Programme
The key role of public health in the delivery of the Warm Families Programme is to ensure the Programme improves the health status of deprived families. During the current reporting period, a total of 476 insulation retrofits were completed for low income households across all ages. All referrals were from PHOs. The ethnic breakdown of participants is 70% European, 19% Māori, Pacific Islands 6.2%, Asian 4.3%. 86.4% were owner occupied and 13.6 were rental housing. Early feedback indicates a high level of satisfaction with an improvement in health and household warmth. This programme has resulted in greater collaboration between primary care, the energy sector and public health. Assistance with enrolling Kaumatua housing tenants in the Warm Families programme was provided to Rapaki Marae, with similar collaborative work underway with Rehua Marae.

Drinking Water Assistance Programme (DWAP)
There are a number of Māori communities participating in the DWAP including Arahura Pa, Arowhenua, Bruce Bay, Hakatere Marae, Koukourarata Marae, Onuku Marae, Wai Ora Trust (Rakautara). The Technical Assistance Programme (TAP) facilitator will continue to establish and build relationships with Māori communities in 2010, with assistance from other staff within CPH. The TAP facilitator has been personally invited to attend the Onuku Marae Waitangi day celebrations. This will be

an excellent opportunity to build and establish relationships with South Island Māori communities

Active Transport
Support has been provided to Te Whare Roimata through the establishment of the Te Whare Bike Group. The objectives of the Group include the presentation of quarterly bike maintenance and cycling traffic skills workshops and the allocation of donated bikes to those most in need.

3.2 Outcomes

CPH staff continued to have extensive discussions with the Selwyn District Council about the potential health risks of septic tanks. Contamination of ground water from septic tanks can lead to bacterial contamination or increased levels of nitrates and nitrites in water (Ministry of Health 2001). The Council has recognised that a community treatment system is required, and it appears that this may be implemented in the future.

CPH has also provided feedback on the Christchurch City Council's proposed climate change policy. Climate change is increasingly becoming recognised as a major threat to public health in New Zealand (Metcalf *et al* 2009; Hosking *et al* 2009). Maintaining effective communication with territorial authorities is an important way for us to influence the determinants of health in our communities.

Safe drinking-water is a necessity for people's health, but some areas in New Zealand do not have safe drinking water supplies. New Zealand has an average of 17 waterborne outbreaks each year (Ball 2006) and this is likely to be an underestimate, since not all outbreaks are recognised. In particular, many small rural communities in New Zealand do not have access to drinking-water that is shown to be safe (Ministry of Health 2007).

In October 2009 the Government made subsidies available to small communities throughout New Zealand to help improve their water supplies. Subsidies were approved to help improve twelve drinking water supplies in the Canterbury and West Coast Region. The drinking water assistance applications came from a variety of territorial authorities, marae and community organisations - all with communities of under 5,000 people.

The South Island Drinking Water Assessment Unit (SIDWAU) is a partnership between all South Island Public Health Units, with its administration system based at CPH. The report of the recent annual inspection of SIDWAU from International Accreditation New Zealand (IANZ) was particularly good with no Corrective Action Requests (CARs) being issued. In addition three new trainees were approved as signatories. The work of CPH has contributed to improving the quality and safety of water supplies in our region; thereby protecting people from waterborne disease and improving their health.

As part of Budget 2009, a new initiative to subsidise the retrofitting of more than 180,000 New Zealand homes with ceiling and under floor insulation was announced.

New Zealand research (which involved CPH staff) has shown that retrofitting houses can increase indoor temperatures, reduce humidity, and improve health (Howden-Chapman *et al* 2005; Howden-Chapman *et al* 2007; Howden-Chapman *et al* 2008).

Community and Public Health has continued to work through its existing partnerships to ensure that those in need (older people, those with respiratory illness, and the most socioeconomically deprived) have access to this home insulation initiative. As a result of the efforts of Community and Public Health, Partnership Health PHO, Community Energy Action, and the Canterbury Initiative, the Warm Families programme exceeded expectations, with nearly 900 Canterbury households receiving home insulation upgrades including insulation, curtains and heaters at minimal or no cost to the households. The Warm Families Programme continued to ensure that eligible Māori households have equitable access to the home insulation programme. This result was made possible by a high level of co-operation between primary care, the energy sector and public health.

Community and Public Health is presently co-ordinating a follow up survey which is designed to obtain feedback about the referral process and the impact of the Warm Families programme on health and household wellbeing. The findings will contribute to an overall report. Other District Health Boards are interested in the approach being taken in Canterbury to reduce avoidable illness resulting from cold and damp homes in winter.

Surveillance for exotic mosquitoes has continued at Lyttelton Port and at Christchurch Airport. P3 staff attended biosecurity courses endorsed by the Ministry of Health in order to maintain their expertise and increase CPH's response capacity. Fifty-one pratique applications were granted and seven Ship Sanitation Control Exemption Certificates were issued during the current reporting period. This is important public health work. A review of exotic mosquito species intercepted in New Zealand found that 27 exotic species not yet established in New Zealand have been intercepted, with aircraft being the main source of exotic mosquitoes since the 1990s (Derraik 2004). In the absence of effective biosecurity, serious mosquito-borne arboviral diseases which could potentially become established in New Zealand include Ross River virus infection and dengue fever (Derraik and Calisher 2003).

During this reporting period, CPH staff continued to work with the Arowhenua marae to assist with the implementation of their PHRMP and CAP project milestones. Several other Māori communities are participating in the DWAP, including Arahura Pa, Bruce Bay, Hakater Marae, Koukourarata Marae, Onuku Marae, and Wai Ora Trust (Rakautara).

Active transport support was provided to Te Whare Roimata through the establishment of Te Whare Bike Group, which included bike maintenance and cycling traffic skills workshops and provision of donated cycles to those most in need. Initiatives to increase physical activity are important because regular physical activity promotes good mental and physical health (Blair and Morris 2009; van Praag 2009; Heitzler *et al* 2006; Ekeland *et al* 2004).

This work with the Māori community aligns with national priorities; supporting Māori families to achieve their maximum health and wellbeing is a priority outcome in the

Minister of Health's Statement of Intent 2009-2012 (Ministry of Health 2009) and in He Korowai Oranga, the Māori Health Strategy (Ministry of Health 2002).

References:

Ball A. Estimation of the burden of waterborne disease in New Zealand: preliminary report. Wellington: Ministry of Health, 2006. Available from: http://www.moh.govt.nz/moh.nsf/pagesmh/5821/$File/water-borne-disease-burden-prelim-report-feb07-v2.pdf

Blair SN, Morris JN. Healthy hearts – and the universal benefits of being physically active: physical activity and health. Annals of Epidemiology 2009; 19: 253-6.

Derraik JGB. Exotic mosquitoes in New Zealand: a review of species intercepted their pathways and ports of entry. Aust NZ J Public Health 2004; 28: 433-44.

Derraik JGB, Calisher CH. Is New Zealand prepared to deal with arboviral diseases? Aust NZ J Public Health 2004; 28: 27-31.

Ekeland E, Heian F, Hagen KB, Abbott J, Nordheim L. Exercise to improve self-esteem in children and young people. Cochrane Database of Systematic Reviews 2004; 1: DOI: 10.1002/14651858.CD00s683.pub2.

Heitzler CD, Martin SL, Duke J, Huhman M. Correlates of physical activity in a national sample of children aged 9-13 years. Preventive Medicine 2006; 42: 254-260.

Hosking J, Connor J, Metcalf S, *et al*. New Zealand's emissions trading scheme and health: wasting our opportunities. NZ Med J 2009; 122: 130URL: http://www.nzma.org.nz/journal/122-1305/3859/

Howden-Chapman P, Matheson A, Crane J, *et al*. Effect of insulating existing houses on health inequality: cluster randomised study in the community. BMJ. 2007: doi:10.1136/bmj.39070.573032.80.

Howden-Chapman P, Crane J, Matheson A, *et al*. Retrofitting houses with insulation to reduce health inequalities: aims and methods of a clustered, randomised community-based trial. Social Science and Medicine. 2005; 61: 2600 - 10.

Howden-Chapman P, Matheson A, Crane J, *et al*. Effect of insulating existing houses on health inequality: cluster randomised study in the community. British Medical Journal. 2007:doi:10.1136/bmj.39070.573032.80.

Howden-Chapman P, Pierse N, Nicholls S, *et al*. Effects of improved home heating on asthma in community dwelling children: randomised controlled trial. BMJ. 2008; 337: doi:10.1136/bmj.a411.

Metcalf S, Woodward A, Macmillan A, *et al*. Why New Zealand must rapidly halve its greenhouse gas emissions. NZ Med J 2009; 122: 130URL: http://www.nzma.org.nz/journal/122-1304/3827/

Ministry of Health. Public Health Risk Management Guide: surface and groundwater sources version 1, ref S1.1. Wellington: Ministry of Health, 2001.

Ministry of Health. He Korowai Oranga: Māori Health Strategy. Wellington: Ministry of Health, 2002.

Ministry of Health. Drinking water in New Zealand: the Health (Drinking Water) Amendment Act 2007. Wellington: Ministry of Health, 2007. Available from: http://www.moh.govt.nz/moh.nsf/indexmh/drinking-water-proposed-legislation

Ministry of Health. Statement of intent 2009-2012. Wellington: Ministry of Health, 2009.

Van Praag H. Exercise and the brain: something to chew on. Trends in Neurosciences 2009; 32: 283-90.

4.0 Chronic Disease and Injury Prevention

4.1 Achievements

Healthy food and food preparation guidelines for marae

These guidelines were developed in conjunction with the New Zealand Food Safety Authority (NZFSA) in 2008. The guidelines have now been distributed to marae, and CPH staff continue to support Hakatere Marae to use the guidelines and to provide healthy food. Hakatere Marae is developing a food policy (work to support the other marae in our region is undertaken under a separate contract; Rangatahi and Tamariki).

Submission to the Maori Affairs Select Committee on Tobacco

CPH staff coordinated the CDHB submission to the Māori Affairs select committee inquiry into the tobacco industry in Aotearoa and the consequences of tobacco use for Māori. This submission includes evidence-based information and local data on tobacco use among Māori and the impact of tobacco use on the health, economic, social, and cultural wellbeing of Māori. Support was provided by CPH staff to local organisations that wanted to make submissions, and TRONT, Partnership health, Rural Canterbury PHO, Smokefree Canterbury, He Oranga Pounamu Hornby Project, and the Cancer Society have all sent submission to the Maori Affairs Select Committee.

Submission to the Law Commission on the reform of New Zealand's liquor laws

CPH staff also coordinated the CDHB submission on the Law Commission's issues paper on the reform of New Zealand's liquor laws. The submission included evidence-based information on alcohol-related harm, and examples of the work undertaken by CPH staff to reduce alcohol-related harm in our regions (also see section 1.0 above). The Alcohol Advisory Council (ALAC) recommended that the President of the Law Commission, Sir Geoffrey Palmer, meet with representatives of the Christchurch Tri-Agency Group while he was in Christchurch. Representatives from the Police, the Christchurch City Council, Sale of Liquor inspectors from Selwyn and Ashburton, and CPH staff attended the meeting with Sir Geoffrey Palmer. Sir Geoffrey Palmer congratulated the members of the Tri-Agency Group on their model for working together, said that he would like to see this model used throughout the country, and asked if the members of the Tri-Agency Group would be prepared to meet with him again and to provide feedback on the future work of the Law Commission once submissions have closed.

Aukati Kaipaipa Smoking Cessation

The Aukati Kai Paipa (AKP) smoking cessation service was promoted by staff members to raise awareness of smoking cessation options for Māori, at a health day in Ashburton for Canterbury Meat Packers. Referrals to AKP remain high, with a waiting list for the AKP service.

Voice of Pacific Women on Air

A CPH staff member is Chair of the "Voice of Pacific Women on Air" network group. Voice of Pacific Women on Air is a weekly radio programme on Plains FM 96.9 which is designed to encourage healthy eating and physical activity to Pacific music. Information and resources from CPH were provided for the presenters of

the Voice of Pacific Women on Air. Many listeners have requested the resources (in particular recipe books).

Pacific Island Health Information and Awareness Day
A CPH staff member provided CPH health resources for the Pacific Island Health Information and Awareness Day held on 8 July 2009. Resources (including H1N1 information in different languages) were also provided for the Pacific, Refugee and Migrant Women's Celebration Day held on 18 July 2009.

Pacific Older People's Healthy Lifestyle Fono
A Pacific Older People's Healthy Lifestyle Fono was held in conjunction with Elder Care Canterbury, in November 2009 with 36 attendees. Presenters were David Meates (CEO, Canterbury District Health Board), Michael Chan (Pacific Trust Canterbury), Janne Pasco (CPH), and Maria Glanville (LMLM). Another fono has been requested and is being planned by Elder Care Canterbury for March 2010.

Information for dietetic students
CPH staff presented to postgraduate dietetic students on the role of dieticians in health promotion, and on health promotion, nutrition and physical activity in the Māori community. Feedback from the students continues to be positive, with the students learning about practical examples of work in health promotion.

Work with Hakatere Marae
A CPH staff member has continued to work with Hakatere Marae to ensure that the marae is Auahi Kore, alcohol free, and has a nutrition policy. An edible garden gardening project is underway on the marae. Plans for the marae gardens are complete and work on the gardens has now started. Two health promotion presentations (to a men's group and to whanau) were delivered on the marae. More presentations have been requested.

Ambassadors Team
An "Ambassadors" Team has been set up in Ashburton to carry the Auahi Kore message to Māori in the Ashburton community. The Ambassadors Team has their own touch rugby team, which is a way to link with other Māori touch teams and spread the Auahi Kore message.

Appetite For Life
CPH staff continued to work in partnership with He Waka Tapu to deliver the Appetite For Life (AFL) programme to Māori women and their whanau. CPH staff supported a community worker to deliver the programme and to become a fully-qualified AFL deliverer; a good outcome for community development and the future sustainability of AFL for Māori women and their whanau.

Hundy Club
The "Hundy Club", which was established in partnership with Ngai Tahu and Tahu FM to support weight loss, healthy nutrition, and physical activity among people who weigh over 100kg, continues to be very successful. Work with Ngai Tahu to ensure that the Hundy Club becomes self-sustaining (funded by the Iwi) has continued. A handover strategy has been drafted and funding opportunities have been explored.

Healthy Nibbles

"Healthy Nibbles" newsletters have continued to be produced regularly, and distributed to all early childhood education centres, primary and secondary schools, OSCAR, and school canteen managers in Canterbury and mid-Canterbury. Topics included physical activity, measles, changes to the Health and Safety regulations for preschools, and suggestions for healthy Christmas foods. An agreement to work in partnership with Nga Tahu has allowed "Healthy Nibbles for Tots" to be translated into Te Reo, to receive radio exposure on Tahu FM and on the Ngai Tahu website The newsletters are also available on the CPH website at: http://www.cph.co.nz/About%2DUs/Nutrition/ Feedback from schools and early childhood education centres has been positive.

Aranui AFFIRM Festival

CPH staff contributed to the Aranui AFFIRM festival, which was held in Wainoni park in December 2009. AFFIRM is the largest community festival in Christchurch, and this year it included activities, food and drink stalls, 30 health and wellbeing information stalls and a performance from Neisan Mystik. Police estimated the crowd to be approximately 7,000 people. CPH staff received very positive feedback, especially about the amount of fruit available and the healthier food options that were available at the festival this year.

Auahi Kore Marae

CPH staff have continued to work with marae in the Canterbury, South Canterbury, and West Coast regions. There are now ten smokefree/auahi kore marae in our regions (the latest to become smokefree is Onuku Marae in Akaroa), and four Māori organisations (He Waka Tapu, Nga Peka Matauranga, Te Wananga o Aotearoa and the Southern Regional Office of Kohanga Reo) are smokefree. The National Marae, Nga Hau E Wha is planning to become completely smokefree (at present Nga Hau E Wha has a designated smoking area). CPH staff have continued to work in partnership with Ngai Tahu towards Ngai Tahu becoming the first Iwi to be branded Auahi Kore (also see section 1.0 above).

Smokefree Community Gardens

CPH staff have worked in partnership with Healthy Christchurch towards three community gardens (Seven Oaks, Rapaki Marae, and the City Mission gardens) agreeing to become smokefree/auahi kore.

Smokefree Parks and Playgrounds

Community and Public Health, in partnership with the Christchurch City Council, the Cancer Society and Partnership Health PHO, have been working on a joint project on the adoption of the Smokefree Public Places Policy. This policy was successfully introduced by the Christchurch City Council on 25 June 2009. Since the introduction of the policy the partners (CCC, C&PH, the Cancer Society and Partnership Health) have developed and implemented a Communications and Marketing Plan. The Plan is based on positive messages and is strongly focused on behavioural and attitudinal change; focussing on 'choice' and providing smokefree role models for children and young people. In addition to this, efforts have focused on briefing those Christchurch City Council staff who act as key advocates for the policy, particularly 'front line' staff such as parks area managers, park rangers and events production staff who work

in the public places where the Council wants to discourage smoking. There has also been a focused public advertising campaign to raise awareness of the policy via press, radio and outdoor advertising. The campaign was held during October and November, based on the assumption that more people would be likely to be outdoors. It was hoped that this would make it more likely that people would remember key messages from the advertising while using outdoor public places. In addition, over the summer, approximately 700 signs were erected in playgrounds and parks. Signs were also erected at the Halswell, Waltham, Lyttelton and Jellie Park pools (these pools attract over 60,000 visitors a season). Radio and television interviews were held, and radio advertisements ("Kids copy what they see") were broadcast, to raise awareness about the policy. C&PH staff worked with Cancer Society and CCC staff to develop and implement an Evaluation Plan for this policy. A telephone survey was completed as part of this evaluation. The main finding of the survey was that most respondents (81.7%) agreed that the new policy will be an effective tool in encouraging people not to smoke around children in public places. Two thirds of the respondents (66.6%) said they would mention the policy as a supporting reason if they wanted to ask people to stop smoking in public places. Interest in the project and the policy has been shown by Blenheim, Ashburton and Waimakariri Councils with C&PH and the Cancer Society being asked to present on the project in these regions in 2010.

Smokefree Pacific Church

On 4 August, at the Presbyterian Parish Council Elders' meeting, Edith Ieremia, CPH Pacific Communities health promoter, moved that the St Paul's Trinity Pacific Presbyterian Church should become smokefree. This motion was seconded and passed at the meeting. On 16 August the proposal for the Church to become smokefree was taken to the Congregational Meeting, where it was unanimously agreed that the Church, the Church Hall, the grounds, and the manse would all become smokefree. CPH is providing smokefree signage to the St Paul's Trinity Pacific Presbyterian Church.

Smokefree Training at Burnham Camp

A CPH health promoter attended the induction training for all new recruits (including officers) at Burnham Military Camp, and presented on Auahi Kore. This induction training is delivered to between 500 and 600 new staff. In the last two months of exercises a Warrant Officer from Burnham reports that there has been a 30% drop in smoking. The Warrant Officer attributed this to the work done by CPH health promoter at the induction training.

Smoking cessation

Smoking cessation (in the form of eight-week group sessions) has been provided in a partnership between CPH Health Promoting Schools advisors and Aukati Kaipaipa staff, at Karanga Mai (a young parent college at Kaiapoi) and at Mairehau High School.

Reducing Alcohol-Related Harm

The workplaces team continued to play a significant role in the Christchurch Central Business District Alcohol Accord. This industry-led group comprises nearly all the Christchurch inner city licensees. One of the initiatives developed by the Accord is the "One Way Door" policy, which sees late trading premises restricting access to licensed premises after 3am. P4 staff worked with the Tri-

Agency Group (CDHB, CCC, and Police) in this process and helped to facilitate a joint submission from the Accord Management Committee on the Law Commission's issues paper on the reform of New Zealand's liquor laws.

Training for Staff of Licensed Premises

CPH staff, in partnership with the Police, established a security provider accreditation initiative. This initiative provides training for door staff, with the aim of raising the standards of security staff in Christchurch. The training programme is offered every six weeks, with new security staff required to attend training within eight weeks of starting work in order for the club to maintain its accreditation. Thirty-five security staff participated in the last training programme. CPH staff also provided Host Responsibility Training at Licensed Controller Qualification Courses for duty managers. During this reporting period 26 (90 minute) sessions were provided for 466 manager trainees. CPH staff also provided Host Responsibility Training for on site Licence premises (this was the result of licensee requests). During this reporting period five (75 minute) sessions were provided for 53 staff.

Health Promoting Schools

Two new issues of the Health Promoting Schools (HPS) magazine were produced (four issues are produced each year). Issues of the HPS magazine are available on the CPH website http://www.cph.co.nz/About-Us/Health-Promoting-Schools.asp From May 2009 the Health Promoting Schools magazine has included articles in Te Reo Māori. Feedback from schools shows that the magazines are useful, and the magazine was accessed online 270 times from 1 July – 30 November 2009. Te Hononga processes and templates have been updated, including a revised guide for facilitators and improved introductory information for schools. (Te Hononga is an online survey completed by school pupils. It assesses students' sense of belonging, relationships at school, and safety, and provides schools with baseline data and information about where to focus their attention). Seven more schools have completed Te Hononga surveys during this reporting period, with the results collated and fed back to the schools.

4.2 Outcomes

CPH staff members continue to facilitate Health Promoting Schools (HPS) according to the HPS framework http://www.cph.co.nz/About-Us/Health-Promoting-Schools.asp There are now 39 schools participating in HPS in our region (and a further 26 decile one and two schools participating in an HPS approach through the Fruit in Schools programme). The HPS approach is an evidence-based health promotion initiative. Systematic reviews of the efficacy of health promotion in schools have found that health promotion in schools can improve children's health and wellbeing, with the most effective programmes being those that promote mental health, healthy eating, and physical activity (Stewart-Brown 2006, Mukoma and Flisher 2004, Lister-Sharp *et al* 1999).

For health promotion programmes in schools to be effective the approach must be multi-faceted, combining classroom programmes with changes to the school ethos and environment, and with family/community involvement (Lister-Sharp *et al* 1999). This multi-faceted approach is consistent with the HPS approach, which

therefore can be expected to continue to lead to positive changes in participating schools.

Funding for Fruit in Schools advisors has ceased, but these schools will be included in the HPS work being undertaken by the CPH Education Team. The FIS schools were identified as the most deprived schools in our region so it was decided that it would be unethical to withdraw HPS support from these schools while maintaining HPS support to less needy schools.

Evidence-based HPS projects supported by CPH health promotion staff during the last six months included:

- Projects to increase physical activity. International research has shown that having access to places to be physically active is strongly related to free-time physical activity in young people (Heitzler *et al* 2006). A systematic review found that exercise improves self-esteem in young people (Ekeland *et al* 2004). School gardens.
- School gardens are associated with positive attitudes towards fruit and vegetable consumption, and may increase consumption of fruit and vegetables among school children (McAleese and Rankin 2007, Hermann *et al* 2006, Graham and Zidenberg-Cherr 2005, Graham *et al* 2005, Ozer 2007).
- Initiatives to improve connectedness to school and to increase student resilience. School-based interventions to reduce bullying have been shown to reduce bullying, and produce the best results when they take a school-wide, multidisciplinary approach (Vreeman and Carroll 2007).

Alcohol-related harm is being reduced in our district as a result of continued refinements to the Christchurch Central Business District Alcohol Accord "one way door" policy and ongoing monitoring and enforcement activities. Work with tertiary institutions has continued, with a strong partnership developed between CPH and the University of Canterbury students' association. CPH staff coordinated the CDHB submission on the Law Commission's issues paper on the reform of New Zealand's liquor laws. The submission included contributions from CPH liquor licensing officers, health promoters, public health specialists, and CDHB treatment services staff. The CDHB submission also formed the basis of the Healthy Christchurch submission.

This work is evidence-based and designed to reduce alcohol-related harm in our region. Alcohol-related harm includes the immediate effects of intoxication such as increased risks of injury, violence, and death, and the long-term effects of alcohol on health (including increased risks of some cancers, liver disease and its impact on mental health). People who misuse alcohol also place the health of others at risk, through impaired judgment which can lead to dangerous driving and violence. Because of this, minimising the harm caused by alcohol and illicit and other drug use to individuals and the community is one of the objectives of the New Zealand Health Strategy (New Zealand Ministry of Health, 2000).

It has been shown that increases in the density of alcohol outlets and bars are related to increased violence in cities (Gruenewald, 2006; Livingstone, 2008) with every six outlets being associated with an increase in assaults resulting in at least one

extra overnight stay in hospital (Gruenewald, 2006). In New Zealand, the density of alcohol outlets is strongly related to teenage drinking (Huckle, 2008) and university student drinking (Kypri, 2008). Outlet density is also associated with drinking levels and with alcohol-related harm. These associations for university student drinking remain after controlling for demographic variables and pre-university drinking patterns, and are therefore unlikely to be due to self-selection (Kypri, 2008).

Following the lowering of the minimum legal drinking age in 1999, a retrospective observational study of presentations to the Auckland Hospital emergency department found that the number of intoxicated 18 and 19 year olds presenting to the emergency department increased in the year after the law change (Everitt, 2002). This was a statistically significant increase in the proportion of presentations in this age-group (RR 1.51, 95% CI 1.11 – 2.03), whereas there was no evidence of an increase in the proportion of presentations for those aged over 19 years (RR 0.97, 95% CI 0.89 – 1.06).

In Christchurch, alcohol was involved in 14% of all motor vehicle crashes in urban areas and 20% of all motor vehicle crashes in rural areas in 2002 (Christchurch City Council, 2004). Of frequent attendees at Christchurch Hospital emergency department, 26% had a diagnosis of alcohol or substance abuse (Kennedy, 2004).

An editorial by two leading New Zealand injury prevention researchers entitled "Politics can be deadly" presents a strong argument that the combination of New Zealand's low driver licensing age and low alcohol purchase age is a lethal combination. New Zealand's motor vehicle crash death rate for 15-24 year olds was 22.4 per 100,000 in 2003; the third highest rate of the 30 countries contributing to the Road Traffic and Accident Database (Langley, 2006).

A review of the global economic burden of alcohol found that alcohol contributes to between 1.3% and 3.3% of total health costs, 6.4% to 14.4% of total public order and safety costs, 0.3% to 1.4% of GDP for criminal damage costs, 1.0% to 1.7% of GDP for drink-driving costs, and 2.7% to 10.9% of GDP for workplace costs; these costs were in the range of $210 to $665 billion in 2002 (Baumberg, 2006).

Key approaches to address alcohol that have been found effective in tertiary students include: (Alcohol Advisory Council of New Zealand, 2004)

- denormalising alcohol use by changing the "drinking culture"
- de-emphasizing alcohol's role in social events
- harm reduction activities such as reducing outlet density.

These approaches include intersectoral planning and urban design to address such issues as legislation and regulation, density of alcohol outlets and bars, alcohol bans, monitoring and enforcement, labelling, and workplace policies (Ministry of Health 2008). There has been a significant emphasis on education as a way to change behaviour. The World Health Organization (WHO) has stated that while information and education programmes have a role in providing information, reframing alcohol-related problems and increasing attention to alcohol on the

political and public agendas, they do not reduce alcohol-related harm (World Health Organization, 2009).

Tobacco control initiatives are continuing, with ten smokefree marae, four smokefree Māori organisations, the partnership with Ngai Tahu towards branding the Iwi Auahi Kore, involvement with the evaluation of the CCC Smokefree Outdoor Places Policy, and continued enforcement of smokefree environments legislation. Based on evidence about the effectiveness of tobacco control interventions, these initiatives are very likely to have contributed to the continued reduction in the prevalence of smoking in our region (Wilson 2007, Lee 2008). The latest ASH Year 10 Survey (Paynter 2009) found that the CDHB region has one of the lowest percentages of regular smokers. Parental smoking and exposure to smoking in the home as reported by students have also decreased significantly in the CDHB ($p<0.05$). Smoking cessation has been promoted assiduously by CPH staff in education, workplace, and community settings. Smoking cessation has been recognised as one of the most effective public health interventions (Schroeder 2007), and is one of the New Zealand government's health targets (Ministry of Health 2009).

CPH work resulted in the St Paul's Trinity Pacific Presbyterian Church becoming smokefree. Smoking leads to the premature deaths of 4,500 to 5,000 New Zealanders every year (Ministry of Health 2009). Pacific people are more likely to be current smokers compared with the total New Zealand population. The prevalence of smoking for Pacific 15-64 year olds in New Zealand in 2008 was 31.4% (compared with 21.3% for European and 45.4% for Māori), with nearly 50,000 Pacific people smoking in 2008 (Ministry of Health 2009). There is strong scientific evidence that tobacco control interventions such as smokefree environments are effective in reducing the prevalence of smoking (Wilson 2007).

Regular physical activity has been promoted by CPH staff on marae, in schools, and through the Active Canterbury Network. Regular physical activity promotes good mental and physical health and reduces the risk of obesity. Obesity is a major problem in New Zealand (Ministry of Health 2008). If the obesity epidemic is not reversed, today's children may live less healthy and shorter lives than their parents (Olshansky *et al* 2005).

Work such as this, which encourages the adoption of healthy nutrition and increased physical activity can have a positive impact on diseases such as cardiovascular disease, diabetes and some cancers. Modelling of coronary heart disease mortality has estimated that modest reductions in cardiovascular risk factors in England and Wales during 1981-2000 resulted in gains in life-years which were four times higher than the gains in life-years resulting from cardiological treatments (Unal *et al* 2005). In Australia, the estimated net benefit of programmes to reduce cardiovascular disease from 1971 to 2000 was $8.478 billion (Abelson *et al* 2003).

References:

Abelson P, Taylor R, Butler J, Gadiel D. Returns on investment in public health: an epidemiological and economic analysis prepared for the Department of Health and Ageing. Canberra: Department of Health and Ageing; 2003.

Alcohol Advisory Council of New Zealand. Alcohol Use and Tertiary Students in Aotearoa – New Zealand. Wellington: Alcohol Advisory Council of New Zealand, 2004.

Aldana SG. Financial impact of health promotion programs: a comprehensive review of the literature. American Journal of Health Promotion. 2001; 15 (5): 296 - 320.

Aldana SG, Merrill RM, Price K, Hardy A, Hager R. Financial impact of a comprehensive multisite workplace health promotion program. Preventive Medicine. 2005; 40: 131 - 7.

Baumberg, B. The global economic burden of alcohol: a review. Drug and Alcohol Review 2006; 25: 537-551.

Chisholm D, Rehm J, Van Ommeren M, Monteiro M. Reducing the global burden of hazardous alcohol use: a comparative cost-effectiveness analysis. Journal of Studies on Alcohol and Drugs, 2004; 65: 782-793.

Christchurch City Council. Christchurch Road Safety Strategy. 2004 Available from http://www.ccc.govt.nz/Publications/RoadSafetyStrategy/RoadSafetyStrategy04Speed.pdf

Ekeland E, Heian F, Hagen KB, Abbott J, Nordheim L. Exercise to improve self-esteem in children and young people. Cochrane Database of Systematic Reviews 2004; 1: DOI: 10.1002/14651858.CD00s683.pub2.

Everitt R, Jones P. Changing the minimum legal drinking age - its effect on a central city emergency department. New Zealand Medical Journal, 2002; 115: 9-10.

Graham H, Beall DL, Lusser M, et al. Use of school gardens in academic instruction. J Nutr Educ Behav 2006; 37: 147-151.

Graham H, Zidenberg-Cherr S. California teachers perceive school gardens as an effective nutritional tool to promote healthful eating habits. J Am Dietetic Assoc 2007; 105: 1797-1800.

Gruenewald PJ, Remer L. Changes in outlet densities affects violence rates. Alcoholism-Clinical and Experimental Research 2006; 30(7): 1184-1193.

Heitzler CD, Martin SL, Duke J, Huhman M. Correlates of physical activity in a national sample of children aged 9-13 years. Preventive Medicine 2006; 42: 254-260.

Hermann JR, Parker SP, Brown BJ, et al. After-school gardening improves children's reported vegetable intake and physical activity. J Nutr Educ Behav 2006; 38: 201-202.

Huckle T, Huakau J, Sweetsur P, Huisman O, Casswell S. Density of alcohol outlets and teenage drinking: living in an alcogenic environment is associated with higher consumption in a metropolitan setting. Addiction 2008; 103: 1614-21.

Kennedy D, Ardagh D. Frequent attenders at Christchurch Hospital's emergency department: a 4-year study of attendance patterns. New Zealand Medical Journal 2004; 117(1193): 1-8.

Kirkwood L, Parsonage P. Evaluation of the Christchurch city one-way door intervention. Alcohol Advisory Council of New Zealand (ALAC): Wellington, 2007.

Kypri K, Bell ML, Hay GC, Baxter J. Alcohol outlet density and university student drinking: a national study. Addiction. 2008; 103:1131 – 1138.

Lee K. Tobacco control yields clear dividends for health and wealth. PLOS Med 2008; 5: 1308-9.

Lister-Sharp D, Chapman S, Stewart-Brown S, Sowden A. Health promoting schools and health promotion in schools: two systematic reviews. Health Technology Assessment 1999; 3 (22) http://www.hta.ac.uk/1023

Livingstone M. A longitudinal analysis of alcohol outlet density and assault. Alcoholism-Clinical and Experimental Research 2008; 32(6): 1074-1079.

McAleese JD, Rankin LL. Garden-based nutrition education affects fruit and vegetable consumption in sixth-grade adolescents. J Am Dietetic Assoc 2007; 107: 662-665.

Ministry of Health. A Portrait of Health: key results of the 2006/07 New Zealand Health Survey. Wellington: Ministry of Health, 2008. Available from: http://www.moh.govt.nz/moh.nsf/pagesmh/7601/$File/portrait-of-health-june08.pdf

Ministry of Health. Statement of intent 2009-2012. Wellington: Ministry of Health, 2009.

Ministry of Health. Tobacco trends 2008: a brief update of tobacco use in New Zealand. Wellington: Ministry of Health, 2009.

Ministry of Health. The New Zealand Health Strategy. 2000. Available from http://www.moh.govt.nz/moh.nsf/pagesmh/2285/$File/newzealandhealthstrategy.pdf.

Ministry of Health. Alcohol Use in New Zealand: Analysis of the 2004 New Zealand Health Behaviours Survey – Alcohol Use. Wellington: Ministry of Health, 2007.

Mukoma W, Flisher AJ. Evaluations of health promoting schools: a review of nine studies. Health Promotion International 2004; 19: 357-68.

Olshansky SJ, Passaro DJ, Hershow RC, Layden J, Carnes BA, Brody J, Hayflick L, Butler RN, Allison DB, Ludwig DS. A potential decline in life expectancy in the

United States in the 21st century. New England Journal of Medicine 2005; 352: 1138-1145.

Ozer EJ. The effects of school gardens on students and schools: conceptualization and considerations for maximising healthy development. Health Education and Behaviour 2007; 34: 846-863.

Paynter J. National Year 10 ASH Snapshot Survey 1999-2008: trends in tobacco use by students aged 14-15 years. Report for the Ministry of Health, Health Sponsorship Council, and Action on Smoking and Health. Auckland, 2009.

Proper K, van Mechelen W. Effectiveness and economic impact of worksite interventions to promote physical activity and healthy diet. Geneva: World Health Organization; 2008.

Schroeder SA. We can do better - improving the health of the American people. NEJM. 2007; 357(12):1221 - 8.

Stewart-Brown S. What is the evidence on school health promotion in improving health or preventing disease and, specifically what is the effectiveness of the health promoting schools approach? Copenhagen: WHO Regional Office for Europe, 2006.

Unal BC, JA. Fidan, D. Capewell, S. Life-years gained from modern cardiological treatments and population risk factor changes in England and Wales, 1981-2000. American Journal of Public Health. 2005; 95(1):103-8.

US Department of Health and Human Services. Prevention makes common "cents". Washington: US Department of Health and Human Services; 2003. Available from: http://aspe.hhs.gov/health/prevention/

Vreeman RC, Carroll AE. A systematic review of school-based interventions to prevent bullying. Archives of Paediatrics and Adolescent Medicine 2007; 161: 78-88.

Wilson N. Review of the evidence for major population-level tobacco control interventions. Wellington: Ministry of Health; 2007. Available from: http://www.moh.govt.nz/moh.nsf/pagesmh/6142/$File/review-evidence-major-population-level-tobacco-control-interventions.pdf

World Health Organization. Evidence for the effectiveness and cost–effectiveness of interventions to reduce alcohol-related harm. Copenhagen: WHO Regional Office for Europe, 2009.