### CAPITAL & COAST DISTRICT HEALTH BOARD

#### Health System Committee

### Public Agenda

**24 OCTOBER 2018**
Kapiti District Council Chambers, 175 Rimu Road, Paraparaumu
9.30am to midday

<table>
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<th>ITEM</th>
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<td><strong>1 PROCEDURAL BUSINESS</strong></td>
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<td>1.1 Karakia</td>
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<td>1.2 Apologies</td>
<td>Record</td>
<td>F Wilde</td>
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<td>1.3 Continuous Disclosure – Interest Register</td>
<td>Accept</td>
<td>F Wilde</td>
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<td>1.4 Confirmation of Draft Minutes 26 September 2018</td>
<td>Approve</td>
<td>F Wilde</td>
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<td>1.5 Matters Arising</td>
<td>Note</td>
<td>F Wilde</td>
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<td>1.6 Action List</td>
<td>Note</td>
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<td>1.7 HSC Work Programme</td>
<td>Note</td>
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<td><strong>2 DECISION</strong></td>
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<td>2.1 Community Health Networks – the CCDHB Framework</td>
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<td>2.1.1 Community Health Networks – Central organising point in the CCDHB Health System Plan</td>
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<td>2.1.2 Community Health Networks summary diagram</td>
<td>C Epps, A Balram</td>
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<td>2.2 Kāpiti – Delivering Care in the Community</td>
<td>C Epps, A Balram</td>
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<td>2.3 Porirua – Supporting Equity &amp; Outcomes</td>
<td>A Gray, T P Meihana</td>
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<td><strong>3 DISCUSSION</strong></td>
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<td>3.1 Regional Public Health Bi-Monthly Performance Report</td>
<td>Peter Gush</td>
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<td>3.2 MHAIDS Bi-Monthly Performance Report</td>
<td>Nigel Fairley</td>
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<td>3.3 Maternity Quality Report</td>
<td>Rhondda Knox</td>
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<td>3.4 Investment and Performance – Primary Health Organisations, Older Persons Services and Community Pharmacies</td>
<td>C Epps, S Williams</td>
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<td>3.5 Healthy Housing Update</td>
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<td>3.5.1 Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme</td>
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<td>3.5.2 Risk of rehospitalisation and death for vulnerable New Zealand children</td>
<td>Peter Gush</td>
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<td><strong>4 INFORMATION</strong></td>
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<td>CCDHB/RPH Housing Submission on Legislation</td>
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<td>4.1.1 Submission on Reform of the Residential Tenancies Act (1986)</td>
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<td>4.1.2 Submission on Health Housing Standards</td>
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|   | Jenny Langton |

**DATE OF NEXT MEETING**
28 November – LEVEL 11, BOARD ROOM GRACE NEILL BLOCK
WELLINGTON REGIONAL HOSPITAL
# HEALTH SYSTEM COMMITTEE

## Interest Register

UPDATED AS AT SEPTEMBER 2018

<table>
<thead>
<tr>
<th>Name</th>
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| Dame Fran Wilde         | • Ambassador Cancer Society Hope Fellowship  
                         • Chief Crown Negotiator Ngati Mutunga and Moriori Treaty of Waitangi Claims  
                         • Chair, Remuneration Authority  
                         • Chair Wellington Lifelines Group  
                         • Chair National Military Heritage Trust  
                         • Deputy Chair, Capital & Coast District Health Board  
                         • Deputy Chair NZ Transport Agency  
                         • Director Museum of NZ Te Papa Tongarewa  
                         • Director Frequency Projects Ltd  
                         • Member Whitireia-Weltec Council                                                                                                                  |
| Mr Andrew Blair         | • Chair, Capital & Coast District Health Board  
                         • Chair, Hutt Valley District Health Board (from 5 December 2016)  
                         • Advisor to the Board, Forte Health Limited, Christchurch  
                         • Owner and Director of Andrew Blair Consulting Limited, a Company which from time to time provides governance and advisory services to various businesses and organisations, include those in the health sector  
                         • Former Member of the Hawkes Bay District Health Board (2013-2016)  
                         • Former Chair, Cancer Control (2014-2015)  
                         • Former CEO Acurity Health Group Limited  
                         • Advisor to Southern Cross Hospitals Limited and Central Lakes Trust to establish an independent short stay surgical hospital in the Queenstown Lakes region  
                         • Advisor to the Board of Breastscreen Auckland Limited  
                         • Advisor to the Board of St Marks Women’s Health (Remeura) Limited                                                                                       |
| Ms Sue Kedgley          | • Member, Capital & Coast District Health Board  
                         • Member, CCDHB CPHAC/DSAC committee  
                         • Member, Greater Wellington Regional Council  
                         • Member, Consumer New Zealand Board  
                         • Deputy Chair, Consumer New Zealand  
                         • Environment spokesperson and Chair of Environment committee, Wellington Regional Council  
                         • Step son works in middle management of Fletcher Steel                                                                                                 |
| Dr Roger Blakeley       | • Member of Capital and Coast District Health Board  
                         • Deputy Chair, Wellington Regional Strategy Committee  
                         • Councillor, Greater Wellington Regional Council  
                         • Director, Port Investments Ltd  
                         • Director, Greater Wellington Rail Ltd  
                         • Economic Development and Infrastructure Portfolio Lead, Greater Wellington                                                                                   |
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<th>Name</th>
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<td>Ms ‘Ana Coffey</td>
<td>Regional Council</td>
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<td></td>
<td>• Member, Harkness Fellowships Trust Board</td>
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<td>• Independent Consultant</td>
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<td>• Brother-in-law is a medical doctor (anaesthetist), and niece is a medical doctor, both working in the health sector in Auckland</td>
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<td>• Son is Deputy Chief Executive (insights and Investment) of Ministry of Social Development, Wellington</td>
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<td>• Invited to join the Board of the Wesley Community Action Group</td>
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<td>• Member of the Regional Steering Group, Warm Healthy Homes</td>
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<td>Ms Eileen Brown</td>
<td>Regional Council</td>
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<td></td>
<td>• Member of Capital &amp; Coast District Health Board</td>
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<td>• Councillor, Porirua City Council</td>
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<td>• Director, Dunstan Lake District Limited</td>
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<td>• Trustee, Whitireia Foundation</td>
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<td>• Brother is Team Coach for Pathways and Real Youth Counties Manukau District Health Board</td>
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<td>• Father is Acting Director in the Office for Disability Issues, Ministry of Social Development</td>
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<td>Ms Sue Driver</td>
<td>Regional Council</td>
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<td>• Community representative, Australian and NZ College of Anaesthetists</td>
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<td>• Board Member of Kaibosh</td>
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<td>• Daughter, Policy Advisor, College of Physicians</td>
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<td>• Former Chair, Robinson Seismic (Base isolators, Wgtn Hospital)</td>
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<td>• Advisor to various NGOs</td>
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<td>Mr Fa’amatuainu Tino</td>
<td>Regional Council</td>
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<td>Pereira</td>
<td>• Managing Director Niu Vision Group Ltd (NVG)</td>
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<td>• Chair 3DHB Sub-Regional Pacific Strategic Health Group (SPSHG)</td>
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<td>• Chair Pacific Business Trust</td>
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<td>• Chair Central Pacific Group (CPC)</td>
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<td>• Chair, Pasefika Healthy Home Trust</td>
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<td>• Establishment Chair Council of Pacific Collectives</td>
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<td>• Chair, Pacific Panel for Vulnerable Children</td>
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<td>• Member, 3DHB CPHAC/DSAC</td>
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<td>Dr Tristram Ingham</td>
<td>Regional Council</td>
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<td></td>
<td>• Senior Research Fellow, University of Otago Wellington</td>
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<td>• Member, Capital &amp; Coast DHB Māori Partnership Board</td>
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<td>• Member, Scientific Advisory Board – Asthma Foundation of NZ</td>
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<td>• Chair, Te Ao Mārama Māori Disability Advisory Group</td>
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<td>• Councillor at Large – National Council of the Muscular Dystrophy Association</td>
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<td>• Member, Executive Committee Wellington Branch MDA NZ, Inc.</td>
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<td>• Trustee, Neuromuscular Research Foundation Trust</td>
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<td></td>
<td>• Member, Wellington City Council Accessibility Advisory Group</td>
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<td>• Member, 3DHB Sub-Regional Disability Advisory Group</td>
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<td>• Professional Member – Royal Society of New Zealand</td>
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<td>• Member, Institute of Directors</td>
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<td>• Member, Health Research Council College of Experts</td>
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<td>• Member, European Respiratory Society</td>
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<td>• Member, Te Ohu Rata o Aotearoa (Māori Medical Practitioners Association)</td>
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<td>• Director, Miramar Enterprises Limited (Property Investment Company)</td>
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<td>• Wife, Research Fellow, University of Otago Wellington</td>
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CAPITAL AND COAST DISTRICT HEALTH BOARD
DRAFT Minutes of the Health System Committee (HSC)
Held on Wednesday 26 September 2018 at 9.30am
Board Room, Level 11, Grace Neill Block, Wellington Regional Hospital

PUBLIC SECTION

PRESENT:
BOARD
Dame Fran Wilde (Chair)
Ms Sue Kedgley
Dr Roger Blakeley
Ms Eileen Brown
Ms Sue Driver
Mr Tino Fa’amatuainu Pereira
Dr Tristram Ingham joined via Zoom video conference

APOLOGIES
Mr Andrew Blair
Ms ‘Ana Coffey

STAFF:
Ms Julie Patterson, Interim Chief Executive joined at 10.30am
Ms Rachel Haggerty, Director, Strategy Innovation and Performance

PRESENTER:
Te Para Meihana, General Manager, Child, Youth and Localities item2.1
Astuti Balram, Manager, Integrated Care, items 2.1; 3.2; and 4.2
Sandra Williams, General Manager, Primary and Complex Care, item 2.1
Catherine Epps, Executive Director, Allied Health, Technical and Scientific, item 2.2
Dorothy Clendon, Project Manager, Integrated Care, item 2.2
Peter Guthrie, Manager, Planning and Performance, item 3.1
Carey Virtue, Executive Director Operations, Medicine Cancer and Community, item 4.1
Delwyn Hunter, Executive Director Operations, Surgery Women and Children’s item 4.1

GENERAL PUBLIC:
One members of the public was present

1 PROCEDURAL BUSINESS

1.1 PROCEDURAL
The Karakia was led by Tino Fa’amatuainu Pereira. Committee Chair, Dame Fran Wilde, welcomed the public, members and Taulalo Fiso, manager for Community Partnerships and the DHB staff.

1.2 APOLOGIES
Apologies was received from Andrew Blair and ‘Ana Coffey.

1.3 INTERESTS
1.3.1 REGISTER OF INTERESTS
Fran Wilde and Tristram Ingham to advise their changes to the Committee Secretary.

1.4 CONFIRMATION OF PREVIOUS MINUTES

CCDHB Minutes – 27 June 2018
The minutes of the CCDHB Health System Committee held on 29 August, taken with public present, were confirmed as a true and correct record.

Discussed whether the Recommendations paper to the Board and the minutes could be combined. Minutes are a formal part of proceedings that need to stand alone whereas the Board paper represents the Committee’s advice and recommendations to the Board. Therefore both are required. The Board paper will continue to be refined.

The Committee noted the great session on housing at the August meeting and reiterated their interest in seeing the actual follow up to this. A member noted that while the Committee hadn’t discussed the housing warrant of fitness work, City Councils are doing, they wondered if it was possible to provide an indication of support for this work in the minutes. It was agreed this was a missed opportunity, but could be managed when housing is brought back to the Committee.

Noted that support for the Housing Warrant of Fitness should be discussed at a future meeting

Moved: Roger Blakely Seconded: Tino Fa’amatuainu Pereira Carried:

1.5 MATTERS ARISING

1.6 ACTION LIST

The reporting timeframes on the other open action items were noted.

Rachel advised that Regional Public Health is preparing the submissions on the consultations to proposed changes to Residential Tenancies Act and new regulations under the Healthy Homes Guarantees Act. We have also asked RPH to draft a letter on our behalf to the Greater Wellington Regional Council about regulating home heating methods.

The Chair also noted that the Committee needed to start work on the 2019/20 investment planning and equity should also be on the forefront of everything.

1.7 HSC Work Programme

The Committee noted the plan.

It was also noted that it is important that the agenda for the October meeting in Kapiti should reflect the priorities of Kapiti.

2 PRESENTATION

2.1 Key drivers for investment for 2019/20 and beyond

The Committee noted the presentation.

Discussion:
- The presentation sets out government priorities for health
- Some concern that the priorities appeared hospital centric, which was clarified – highlighting the key priorities of primary care and equity. For CCDHB, primary and community care is a big driver. The Porirua Integration project will enable us to strengthen investment in Porirua to provide a better service infrastructure; moving more services into community settings and focus efforts on addressing equity so that services are more accessible and outcomes improve.
- It was acknowledged that this list shows the scale and change in thinking within government and the Ministry including increased focus on prevention. Some concern about the sheer amount of work and ability to deliver.
- Rolleston project – we need to ensure the Wellington City Council remains focused on delivering better outcomes for the high risk group of people with addictions in our community.
• The good work on community mental health being undertaken in Newtown through the Bloom Collective was highlighted.
• There was comment about the community transfer of mental health services noting the importance of shifting care upstream into the community. He also noted that the Pasifika services are too small at the moment. Nigel Fairley agreed that there was a need to look at Pacific mental health services.
• The Chair noted the priorities list aligns with our strategic focus.

HSC recommends to the Board:

a) To note the changes in the government’s priorities aligns with CCDHB’s.
b) To write formally to the Mayor and the CEs of Housing NZ and Ministry of Social Development to emphasising support for the Rolleston development model and concern at the potential change of direction for this development noting this is inconsistent with the memorandum of understanding that we signed up to with the other parties

Actions:
1. SIP to pull together a response including analysis of the likely number of people that will potentially be excluded from this development and its implications.
2. Upload the presentation to Boardbooks resource centre

2.2 Allied Health Models of Care – Reaching in to our community

The Committee noted the presentation.

Discussion:
• Catherine Epps and Dorothy Clendon presented the work underway within Allied Health through Even Better Health Care (EBHC) and the objectives of the Health System Plan to change the way the Allied Health workforce cares for people to improve health outcomes.
• Dorothy shared the Life Curve which is being used in Scotland to drive change in the way Allied Health resources are used so that there is greater focus on intervening early at the top of the curve where restoration and rehabilitation have the greatest impact.
• Catherine reinforced Allied Health’s priorities which are:
  o Equity
  o Shifting focus from hospital to community
  o Acting early to improve health and wellbeing
  o Enhancing the efficiency of urgent and planned care
• Tino thanked Catherine for the presentation and said it provided a good insight into Allied Health’s work. Tino extended the invitation to Catherine to present at the next Sub-Regional Pacific Advisory Group.
• Broad discussion about the future opportunities with Allied health including the use of practitioners not currently funded or employed to deliver care.

HSC recommends to the Board:

a) To Note the potential impacts of better use of the Allied health workforce for improving health outcomes and reducing demand on complex hospital level services.

Actions:
1. Dorothy and Catherine to arrange to present at the next Sub-regional Pacific Advisory Group

3 FOR DECISION
3.1 Long-Term Investment Planning

The paper was taken as read.

The Committee:

a) **Noted** that CCDHB provided Treasury with its first Long-Term Investment Plan (LTIP) in 2017. CCDHB is required to review and provide Treasury with an updated LTIP by July 2019;

b) **Noted** that understanding our current and future whole of system service demand and service configurations is essential to identifying the assets we require to deliver these services;

c) **Notes** that Hutt Valley and Capital & Coast DHBs have entered into a joint sub-regional planning process;

d) **Noted** that the Investment planning process includes future service configurations and master site planning.

e) **Endorses** the direction of the LTIP development, **noting** the need to ensure the Māori Partnership Board, Sub-regional Pacific Advisory group, Subregional Disability Advisory group are included in the oversight

Discussion:

- The Chair reiterated the two important aspects of investment planning – the Capex investment which will be discussed at the FRAC meeting; and the service delivery across CCDHB and HVDHB.
- This plan creates the big picture that bring together the facilities state, assets state and the future service configuration. It provides the frame through which Health System Plan objectives can be delivered.
- Tristram asked whether this plan would be whole of system and was concerned that primary care wasn’t visible in the governance diagram. Primary care will be engaged with the future service configurations work and this will be made clearer on the diagram.
- Tino asked for clarity on the impact on the current Pacific plan in regards to the future of service configuration. It was clarified that the process will link to the Maori Health and Pacific plans.

**HSC recommends to the Board:**

a) **To set up the LTIP Planning Joint Board Sub-Committee through the CEs of CCDHB and HVDHB.**

**Actions:**

- SIP to keep the Board and FRAC updated as this work progresses.
- SIP to refine the Governance Structure to reflect all the sub-committees, clinical council.

3.2 3D Health Pathways Update

The paper was taken as read.

The Committee:

a) **Noted** the 3DHB Health Pathways programme was introduced in 2014 as a key enabler for progressing integration and is part of the Integrated Care Collaborative (ICC);

b) **Noted** the 3DHB Health Pathways Evaluation Report has been completed and recommendations have been reviewed by the 3DHB Governance Group;

c) **Noted** in June 2018 there were 390 live Pathways on the 3D HealthPathways site and on the 3rd January 2018, the milestone of one million-page views had been reached;
d) **Endorsed** the development of 3D HealthPathways investment proposal for 2019/20 and future years to meet the increasing demand required for technical writing and manage the increased workload in managing revisions;

e) **Endorsed** the development of an investment proposal for Hospital HealthPathways.

**Discussion:**

- Fran asked whether pathways encourage clinicians to work more consistently and staff agreed that it does lead to more consistency. Carey noted it is timely that we do something for the hospital system. It is important to run a central system for all our clinical guidelines and peer review.

- Discussed making the HealthPathways content accessible to patients/the public. Astuti advised there are patient and community resources that align with Health Pathways, through our investment in Health Navigator. This is a platform that provides information and tools written with the community as the target audience. Members of the public can go to the Health Navigator website to get information.

- Tristram would still like to propose that the Health Pathways to be made publicly available as well. He appreciates that there are also other resources, multimedia support tools for patients but it is important for patients and the community to know how our systems are working. It was noted that the provider of HealthPathways requires access to be limited to clinicians currently.

- The Committee provided positive feedback and confirmed that 3DHB HealthPathways should continue to be enhanced and invested in.

**HSC recommends to the Board:**

- **a)** Endorse the development of 3D HealthPathways investment proposal for 2019/20 and future years to meet the increasing demand required for technical writing and manage the increased workload in managing revisions.

**Actions:**

1. Management to explore the issue of provision of HealthPathways to patients.

**FOR DISCUSSION**

**4.1 Hospital and Healthcare Services (HHS) Bi-Monthly Performance Report**

The paper was taken as read.

The Committee:

- a) **Noted** that winter demand and influenza have been later to arrive this year but have had an impact on staffing and occupancy over the last month;

- b) **Noted** that the implementation of Schedule 10 rosters for RMO’s continues across the services, however both RMO and Registrar recruitment is being affected nationally by a shortage of suitable candidates;

- c) **Noted** that anticipated disruption to services resulting from the NZNO industrial action impacted on elective surgery and outpatients resulting on us being behind target for the elective services health target;

- d) **Noted** that the backlog of Ophthalmology patients awaiting follow up will be cleared by November;

- e) **Noted** that we are seeing an immediate impact of the additional ICU beds leading to a reduction in surgery cancellations;
f) **Noted** that wait times for MRI and CT remain high but that a programme of work focusing on workforce development and demand management is in place;

g) **Noted** that activity to develop the case to expand dialysis service by 2020 has started;

h) **Noted** that work is underway to develop the business case and support the MOH to develop a treasury business case to commence bowel screening in November 2019.

**Discussion:**
- It was noted that the Ophthalmology Outpatient Services is doing well.
- Tino asked whether it is possible to track Pacific peoples in HHS data – this is really important for equity. Arawhetu and Rachel replied that the pro-equity work is underway. The cancer report will be out later this year.
- Tino also asked to what extent the Pacific inpatient service connects with rest of HHS. Arawhetu advised that the Pacific team are active across the hospital.
- Development of the MRI and CT workforce is challenging and it is a national staffing issue. Julie noted the impact of the private sector on this workforce is a contributor to the pressure given they can offer better terms and conditions.

**HSC recommends to the Board:**

- *It note the contents of the HHS bimonthly update*

**Actions:**

1. Ask Regional Public Health to provide an update on community MRSA in its next update to the Committee.

**4.2 Health Care Home – Enabling practice development and innovation**

The paper was taken as read.

The Committee:

a) **Noted** that the Health Care Home (HCH) roll-out will reach 240,000 people, 78% of CCDHBs population, by the end of 2018/19 including 78% and 73% of the Māori and Pacific populations respectively;

b) **Noted** the HCH model was part of the review on State Sector Productivity, by the Productivity Commission with Auckland University of Technology. The review found a statistically significant drop in ED admissions;

c) **Noted** that the Health Service Research Centre report on Primary Health Care Innovation (June 2018) identified the CCDHB approach with PHOs in the delivery of HCH model as an example of the positive impact of PHO and DHB collaboration;

d) **Noted** the CCDHB HCH model was selected as a finalist in the 2018 Wellington Gold awards;

e) **Recommends** to the Board that HCH investment remains a priority and that the initial evaluations of the HCH model show a positive impact on ED admissions, and independently cited as an excellent model of PHO and DHB collaboration.

**Discussion:**
- There was discussion around resistance versus readiness to adopt the HCH model. Rachel noting that we will reach a tipping point where this becomes the norm. Tristram noted concern over whether HCH model met the needs of populations experiencing inequities and that there had been previous discussions about the model needing to be more pro-equity for
future role outs. Arawhetu noted that the key focus over the past year has been building trust and relationships before focusing on any specific issues with the HCH model.

- There was a broader discussion about challenges with current primary care models, and concern that there is disproportionate funding going to mainstream practices. Rachel noted that it was important to ensure discussions in this space remain fact based and that in large part the challenges relate to the funding model. The DHB also needs to acknowledge the role it plays in perpetuating inconsistencies in funding.

**HSC recommendations to the Board:**

a) **Recommends** to the Board that HCH investment remains a priority and that the initial evaluations of the HCH model show a positive impact on ED admissions, and independently cited as an excellent model of PHO and DHB collaboration.

**Action:**
1. SIP to bring back the funding discussion in the next Primary Care paper to the Committee.

**4.3 Verbal SIP Update**

The Committee were introduced to the new Director of Community Partnerships, Taulalo Fiso, who will take on a key role driving our focus on localities. The Committee were also advised of progress with the Citizens’ Health Council including the appointment of new members and the Council’s work to determine what its best contribution would look like.

The Committee **noted** the members of the Citizens Health Council.

The meeting closed at 12.20 pm.

**5 DATE OF NEXT MEETING**

24 October 2018, 9.30am, Kapiti District Council Chambers, 175 Rimu Road, Paraparaumu.
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<tr>
<td>2.1</td>
<td>Key drivers for investment for 2019/20 and beyond</td>
<td>1. SIP to pull together a response and the number of people that Housing NZ and MSD are potentially excluding from this development and its implications.</td>
<td>Director, SIP</td>
<td>A short note will be tabled at the meeting.</td>
<td>Oct 18</td>
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<td>3.1</td>
<td>Long-Term Investment Planning</td>
<td>1. SIP to keep the Board and FRAC updated with the findings as we head into a new financial year. 2. SIP to refine the Governance Structure to reflect all the sub-committees and clinical council.</td>
<td>Director, SIP</td>
<td>Next update at the November meeting</td>
<td>Nov 18</td>
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<td>3.2</td>
<td>3D Health Pathways Update</td>
<td>1. Management to explore the issue of provision of Health Pathways to patients.</td>
<td>Director, SIP</td>
<td>The Health Pathways are owned by Canterbury DHB. The short public version is available on Health Navigator and available to anyone. The detailed clinical versions are not publicly available. Canterbury DHB do not intend to make them public.</td>
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<td>2.1</td>
<td>Investment Planning Approach</td>
<td>1. SIP to present the results of the approach, specifically the partnership table at a future HSC meeting</td>
<td>Director, SIP</td>
<td>To be discussed in February 2019</td>
<td>Open</td>
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<tr>
<td>5.1</td>
<td>Investment Planning to Support Living Well, Dying Well</td>
<td>1. SIP to provide more information on the investment to increase practitioner’s resources to Maori and Pacific areas when we get to the budget 2. HSC to be kept informed about the budget in this area</td>
<td>Director, SIP</td>
<td>To be discussed at the November meeting.</td>
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### 3.1 Investment in & performance of CCDHB Primary Health Organisations (PHOs)

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<tr>
<td>SIP to create space on the dashboard that focuses on child population to mitigate risk of losing the fidelity of this population in amalgamated data.</td>
<td>Director, SIP</td>
<td>Under development</td>
<td>Open</td>
<td>Closed since last meeting – 26 September 2018</td>
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**AP No: Topic: Action: Responsible: How Dealt With: Delivery Date:**

**HSC Public Meeting 27 June 2018**

| 3.1 | 2018/19 CCDHB Draft Annual Plan Excluding Financials | 1. SIP to clarify the healthy ageing workforce approach and to report at a future HSC meeting. 2. SIP to provide a graphic of all of the HSP design processes in a compact way. | Director, SIP | The reference is to the workforce for the Ageing population. Page 43 of the draft Annual Plan is summarised below: “During 2018/19 CCDHB will work closely with regional DHB shared services to identify the workforce requirements for service delivery to older people and their family / whānau / informal carers. This work builds on current data collection processes and continues within the context of existing sub-regional service developments and national workforce programmes. The work will include the ongoing implementation of pay equity, guaranteed hours, in-between travel and regularisation. The work will enable development of a workforce plan to ensure ensures that those working with older people have the training and support they require to deliver high-quality, person-centred care”. | Closed |

**HSC Public Meeting 26 September 2018**

| 2.1 | Key drivers for investment for 2019/20 and beyond | 1. Upload presentation to Board Books Resource Centre | Committee Secretary | Presentation uploaded to Board Books Resource Centre | Closed |
| 2.2 | Allied Health Models of Care – Reaching In to Our Community | 1. Catherine Epps and Dorothy Clendon to present at the next Sub-Regional Pacific Advisory Group | Committee Secretary | Organisers of the Sub-Regional Pacific Advisory Group have been duly informed and will liaise with Catherine and Dorothy. | Closed |
| 4.2 | Health Care Home – Enabling practice development and innovation | 1. SIP to bring back the funding discussion in the Primary Care paper to the Committee. | Director, SIP | A paper on investment in Porirua will be discussed at the October meeting. | Closed |

**HSC Public Meeting 29 August 2018**

| 2.1 & 2.2 | Housing and Health & Regional Public Housing Approach | 1. Nevil to provide the report showing that intervention to the current 300,000 people made a difference to healthy housing. | Nevil Pierse | Report is covered in the October’s Regional Public Health paper. | Closed |
| | | 2. Staff to provide regular data and reporting of impact from health housing action. | Tara D’Sousa | Report is covered in the October’s Regional Public Health paper. | Closed |
| | | 3. HSC to write to the Greater Wellington Regional Council to ask it to consider regulating heating methods within the region. | Director, SIP | Submission drafted by Regional Public Health on CCDHB’s behalf. | Closed |
| | | 4. CCDHB to submit to the consultation on changes to the RTA and any upcoming consultations on new regulation to be introduced under the Healthy Homes Guarantee Act. | Director, SIP | Submission drafted by Regional Public Health on CCDHB’s behalf. | Closed |
| 3.2 | Investment in & Treatment of Long-Term Conditions | 1. Provide an update on the Porirua integration project at the next HSC meeting. | Director, SIP | Paper on October Agenda. | Closed |
| 4.1 | Bi-Monthly Regional Public Health Performance Report | 1. SIP to work with RPH to identify specific topics and bring these back as a series that allows a deeper dive into these individual issues instead of general compendium updates. | SIP & RPH | Schedule being developed commencing Oct 2018. | Closed |
| 4.3 | Bi-Monthly SIP Update | 1. SIP to provide an update to HSC at its next meeting on how we are addressing equity concerns within the HCH roll out. | Director, SIP | To be discussed at the October meeting | Closed |
## CCDHB Health System Committee (HSC) Work Programme 2018

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### Provider Performance

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### System and Service Planning

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### Prioritisation and Investment Update for implementing the Health System Plan

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### Holding topics for HSC
1. Primary Birthing Unit
2. Healthy Ageing Workforce approach
3. Present results from the Investment Planning Approach – specifically the partnership table
4. Integration of Child Health Services
1 PURPOSE

This paper seeks Health System Committee endorsement to progress to implementation planning for the Community Health Network as identified in the Health System Plan and described in the attached paper.

2 INTRODUCTION

The Community Health Network concept was developed as a key component of the CCDHB Health System Plan.

The Health System Plan identifies the variety of settings that health care is delivered through, including Community Health Networks. The Networks will deliver more care in the community, closer to people.
Networks are CCDHBs mechanism to organise the delivery of health services to meet the needs of the population in the network. Networks will link health services to deliver the right care to the right people in their community.

The development of this Network framework has been developed through a collaborative approach supported through the CCDHB Integrated Care Collaborative (ICC). The ICC includes the Primary Health Organisations (PHOs), the hospital health service, mental health hospital services, Māori Health Directorate, the Pacific Health Directorate and Strategy, Innovation and Performance Directorate. Consultation with Ngāti Toa about the Network framework has been included as part of this development.

3 NETWORKS – DESIGNING A STRONG SYSTEM

Community Health Networks will build a strong system, rather than focus on individual service providers. The Networks will include and deliver services tailored for particular population groups and particular health needs. Goals and targets will be tailored to each Network and incorporated into each Network’s outcome framework. The Networks will focus on improving outcomes for populations who currently experience inequitable health outcomes, particularly Māori and Pacific.

The principles driving the CCDHB Health System Plan will drive the Community Health Network design. Communities, whānau and people are the central focus for Networks. Working together, innovating, creating efficiencies, simplifying and intensifying based on the populations heath needs, as well as shifting to supporting the person earlier in their health journey are key design principles for the Networks.

The Networks core will include a group of Health Care Homes as the accredited model that delivers even better primary health care. Networks will provide the infrastructure that will enable the connection of other services suitable for the particular population grouping within the Network. Specialist services such as District Nursing and Allied Health services are connected with Health Care Homes already. Further services such as Palliative Care Co-ordinators and Co-ordination Centre Case Managers have more been recently been aligned with Health Care Homes. Health Care Home teams are also engaging with other specialist services for establishing connectivity. The Network approach will enable this to be progressed effectively.

Networks they will be expected to deliver enhanced services. There will remain flexibility of how these services will be delivered as they will need to be tailored to the population health needs within the Network. The services that will be the focus are as follows:

- Responsive services delivered in acute circumstances
- Co-ordinated and centralised proactive care planning
- Care around the clock.
- Specialist consultation services reach more people
- Streamlined referrals and access
- Active support at the transition of care
- Skill sharing and development

4 NETWORKS ACROSS CCDHB

Eight Networks will be established in specific geographies across CCDHB based on demographics, health need and physical proximity. Māori and Pacific populations have been identified across each Network and improving services to support their health needs will be a key focus for the Networks.

People have been grouped into Networks based on demographics, health need and physical proximity. It is acknowledged that this broad groupings do not represent a homogeneous population, but provides identify people with similar needs and allow for practical grouping of services in geographies. Each Network will generally include 20,000 – 50,000 people supported by enhanced primary health care services and specialist services.
The Network population groupings while established will be flexible particularly through the implementation planning stages. Further consultation and analysis may result in some adjustments to the Network groupings. The map below outlines the proposed location of Community Health Networks.
Kāpiti has the highest population aged 65 years and over.

South Porirua has the highest proportion of children and youths.

Wellington CBD has high proportion of 15-24 year olds.

South Porirua has the largest proportion of Maori and Pacific people.

Most Networks have by far, higher proportions of “other” populations.

Miramar Peninsula has the second highest proportion of...
5 INFRASTRUCTURE FOR NETWORKS

To fulfil their role as the key organising platform within the Community Health Networks will need to be supported with key infrastructure. This infrastructure will move the system from focusing on individual services and service providers to a system of services to meet the needs of the population. These will include:

- Governance and Shared Goals: Community Health Networks will be supported by a collaborative governance group to drive improvements in population health outcomes for the people enrolled within the Network. The governance groups will include a member from the Health Care Homes, linked specialist services, relevant PHO members and Strategy, Innovation and Performance and a representative from the community. They will be responsible for establishing the local outcome framework, drive quality improvement processes and be the platform to maintain effective working relationships.

- Management & Support: Community Health Networks will be supported by a Network Lead who will be responsible for the operational establishment and maintenance of the Network. Network Lead will be responsible for establishing cross-organisation charter/agreements, maintaining service information across the network and operational support for the services and Governance Group.

- Tools and enablers: Community Health Networks will reach their potential if they are supported with a number of enablers. There are number of e-tools such as e-referrals as well as Health Pathways and the expansion of the Primary Options for Acute Care services.

6 NEXT STEPS – NETWORK IMPLEMENTATION PLANNING

The attached document outlines in more detail the Community Health Network concept. Following endorsement by the Health System Committee implementation planning of the Networks will commence. The implementation plans will outline the process and resources that will be required to establish the Networks. It is likely that they will commence in identified “prototypes” that will have focused development processes and opportunities for reflective learning and adaption.

The Porirua South and Kāpiti Networks will be two prototype Community Health Networks in CCDHB that will the first to be developed and include additional services that are specific to their population health need. The Porirua South Community Health Network will focus on mothers, babies, children and youth. The Kāpiti Community Health Network will focus on supporting the people to receive more care in the community and reducing their travel from Kāpiti.
COMMUNITY HEALTH NETWORKS
THE FRAMEWORK

Keeping our communities healthy and well

In your home
GIVING PEOPLE BETTER CONTROL OF HEALTH SERVICES WHERE AND WHEN THEY NEED THEM

In your community
COMMUNITY HEALTH NETWORKS HELP PEOPLE ACCESS THE SERVICES THEY NEED

In your hospital
PROVIDING SPECIALIST SERVICES TO THOSE WHO NEED THEM THE MOST

MA TINI, MA MANO, KA RAPA TE WHAI - BY JOINING TOGETHER WE WILL SUCCEED
Community Health Networks
CCDHB Health System Plan

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1. Our Community

Capital and Coast District Health Board serves a district population of over 310,000, reside in three localities, of which 68% Wellington, 18% in Porirua and the 14% in Kāpiti.

Our population is growing, albeit more slowly than others being 4.5% by 2022/23 being an additional 14,000 people. We have greater proportional growth in Māori and Asian populations, and like others our greatest growth is in our older population especially those over 75 years. Our total young population is declining but more and more of our children and young people are experiencing social and economic inequalities that increase their chance of poor health outcomes.

Our Capital & Coast district population has a dominance of wealthier and healthier people who are adults of working age, in employment. Over 70% of the Wellington population are in the ‘other’ (non-Māori, non-Pacific) ethnic group. Porirua has a larger proportion of Māori (20%) and Pacific people (21%) and eight-five percent of the Kāpiti Coast population were in the ‘other’ ethnic group. Overall 44% of the population live in low deprivation, and 19% live in areas of high deprivation. The significant pockets of deprivation are in Porirua, particularly east Porirua and in small parts of central Wellington and Kāpiti.

This means we have unique opportunities to ‘simplify’ the care we provide to our population that has greater resources, and ‘intensify’ the care we provide in our communities who are disadvantaged to achieve equity, particularly for Maori, Pasifika, those who experience poverty, those with disability and those with enduring mental illness. Through doing this we aim to achieve greater equity amongst our populations.
2. What is a Community Health Network?

“Community Health Networks are the central organising point for the delivery of effective and efficient healthcare.”

CCDHB Health System Plan 2018

Healthcare is delivered in a variety of settings and Community Health Networks will deliver more care in the community, closer to people. Networks will link health services to deliver the right care to the right people in their community. As identified in the Health System Plan, Networks are CCDHBs mechanism to organise the delivery of health services to meet the needs of the population in the network.

Each Network will generally include 20,000 – 50,000 people supported by enhanced primary health care services and specialist services. The Network will include a grouping of Health Care Home practices at its core service with robust connections with other health services relevant to the population. The Networks will as a collective deliver better preventative care, pro-active care, acute care and after-hours access. They will provide a collection of services to support them in the community and be a conduit for further support from the hospital services as needed.

Eight Networks will be established in specific geographies across CCDHB based on demographics, health need and physical proximity. Māori and Pacific populations have been identified across each Network and improving services to support their health needs will be a key focus for the Networks.

To establish Networks across CCDHB we will need a collective commitment to a new way of care delivery in the community. We will need to progress the roll-out of the Health Care Home model, enable specialist services to work in the community, implement new infrastructure, deploy enablers and adapt an ongoing learning environment to the changes.

The Networks are complimentary to the locality approach within the CCDHB Health System Plan. The locality approach will focus on partnering with the community to maximise benefits as a collective.

Networks are a key component within the CCDHB Health System Plan and align to the principles of care in the community, working together, creating efficiency, innovation and acting early.
3. Who are the key partners in developing Community Health Networks?

The Community Health Network concept was developed as a key component of the CCDHB Health System Plan. The Health System Plan was built through engagement with the sector and will be implemented in partnership with the sector.

The development of this Network framework has been through a collaborative approach supported through the CCDHB Integrated Care Collaborative (ICC). The ICC includes the Primary Health Organisations (PHOs), the hospital health service, mental health hospital services, Māori Health Directorate, the Pacific Health Directorate and Strategy, Innovation and Performance Directorate. Consultation with Ngāti Toa about the Network framework has been included as part of this development.

Following the development of this framework that describes the Networks for CCDHB, implementation plans will be completed. This phase will require wider consultation with the community, service providers and key stakeholders in each Network. This wider engagement will be maintained in the ongoing implementation of the Networks into the future. This will strengthen the links with the locality approach.
4. Why do we need Community Health Networks?

4.1. Community Health Networks will deliver on the quadruple aim

Community Health Networks will include and deliver services tailored for particular population groups and particular health needs. It will allow us to build on the benefits that the Health Care Home model and other service improvements are demonstrating for the population and system. The Networks will focus on improving outcomes for populations who currently experience inequitable health outcomes, particularly Māori and Pacific.

Goals and targets will be tailored to each Network and incorporated into each Network’s outcome framework. These goals will be linked to the overarching system wide goals driven by key partners in CCDHB, including the DHB and PHO Executive Leadership Teams and the Integrated Care Collaborative Alliance Leadership Team. The system wide goals for the Networks will be measures by ethnicity and are as follows:

- Patient satisfaction survey
- Workforce development planning
- Increased workforce diversity
- Acute Demand Measures
- Patient related outcome measures
- Integrated health services model
- Patient goal achievement
- Reduced outpatient utilisation
- Reduced hospital utilisation
- Cost-effective primary care utilisation (virtual)

![Fig 2. Community Health Network outcome measures](image)

These measures will be underpinned with relevant process and quality measures that will enable the implementation of the Networks to be closely monitored.

4.2. Community Health Networks will build a strong system, rather than focus on individual services

People access primary health care, specialist care and various other support services for their care. Many people have their health care needs met in the community and some access the hospital for periodic specialised care. Community Health Networks will provide an infrastructure to organise health services for people closer to the community.

The Networks core will include a group of Health Care Homes as they are an accredited model that delivers even better primary health care. The Health Care Home practices are delivering a new model of primary health care to provide better pro-active, preventative and acute care for people in the community. The number of practices that are developing into Health Care Homes is growing.
in CCDHB. The aim is to reach 80% of the CCDHB population by the 30 June 2019. The Health Care Home practices provide a robust platform into which other services are being connected and further services will be connected.

Specialist services such as District Nursing and Allied Health services are connected with Health Care Homes already. Further services such as Palliative Care Co-ordinators and Co-ordination Centre Case Managers have more been recently been aligned with Health Care Homes. Health Care Home teams are also engaging with other specialist services for collaborative care planning.

The Networks will provide the organising infrastructure to provide better primary care and specialist services in the community. They will create a system, rather than focus on individual services to deliver a number of benefits including the following:

- People have multiple health needs and to achieve better patient related outcome measures service integration is required. The Networks will support services to collaborate together around the needs of the patient, rather than the patient seeking support from multiple services to get support for their different needs.
- Networks will be have population based health outcomes which can only be realised through the collective action of various health service providers.
- Health Care Home may vary in areas of specialisation. Networks will formalise the relationships between Health Care Homes so they can refer to each other (horizontal referrals) for support with specialised skills and services.
- The number of hospital specialist services are limited. The Networks will provide a consolidated point of contact for specialist services. Specialist services can connect with a smaller number of Networks, rather than individual primary care practices and/or Health Care Homes.

4.3. Community Health Networks will enable a more services to work in the community

The CCDHB Health System Plan and national Health Strategy call for service delivery closer to where people live. Community Health Networks will provide the infrastructure that will enable services to connect through the following:

- Each Network will include a particular population with known health care profile within a geography. The services will be able to tailor their services and models to better meet the needs of the specific populations in those particular areas.
- A group of accredited Health Care Home practices will form the core of each Network. Other services will have assurance for high standards of quality of primary care that they would be working closely with.
- Governance and quality improvement processes with be established for each Network to ensure that as a collective they are improving population health. Other services will be able to understand the benefit of being part of this new way of working and be assured that quality processes are underpinning the collective services.
- The Network management infrastructure and enablers will support the ongoing connectivity of services

These aspects of the Networks will support new services participate and be a partner in delivering better care in the community.
The principles driving the CCDHB Health System Plan will drive the Community Health Network design. Communities, whanau and people are the central focus for Networks. Working together, innovating, creating efficiencies, simplifying and intensifying based on the populations health needs, as well as shifting to supporting the person earlier in their health journey are key design principles for the Networks. These principles are detailed below:

**Innovate**
- Innovation at the core and agility in decision making
- Accurate and timely data sharing and analysis for ongoing quality improvement
- The organising place to test and prototype new models of care in a rapid cycle learning process

**Work together**
- Shared goals across all the Networks and local focus areas for each Network – reflected in performance frameworks
- Primary care core with integrated specialist teams
- Supported by shared clinical leadership roles and Network development team
- Processes, structure and tools to establish and maintain Networks to deliver on the shared goals

**Simplify**
- People are enabled to manage their own conditions – with tools and information
- Multidisciplinary care teams are simplified as the persons needs change
- Tools and pathways to enable services to work together
- Make it simple, for people and providers, to do the right thing

**Communities**
- People/whanau at the front of the networks design
- The needs of Māori and Pacific populations determine the services in each Network
- Services and teams around populations not institutions in geographical based Networks
- People are part of the team to design and oversee the networks
- Networks will link closely with the locality approach in the Health System Plan environment

**Intensify**
- Increased services are available for complex populations and concentrations of complex populations
- Multidisciplinary care teams are developed and grown around a person’s increasing needs
- Additional support will be made available during higher times of need – to prevent and acute admission and to support transition back into the community

**Efficiency**
- Local governance and autonomy around decision making within a framework
- Workforce development for optimal workforce utilisation
- Technology for people and services
- People and services have timely and easy access to health information

**Act early**
- Risk stratification of the population across the network to enable planned and early care
- Preventative care and proactive planning for people, with the required support tools in place

Fig 3. Community Health Network design principles
6. What will Community Health Networks deliver?

Community Health Networks will be expected to maintain a population focus within their identified geography. They will utilise an outcome framework with process, quality and impact measures and ongoing improvement processes to drive improved care for their population. To deliver on the system wide goals of Networks (as included in Section 3.1) they will be expected to deliver enhanced services as outlined below. There will remain flexibility of how these services will be delivered as they will need to be tailored to the population health needs within the Network.

| **Responsive services delivered in acute circumstances** | Networks will provide timely access to services to support people in the community as their health needs escalate. New pathways to support Māori, Pacific and other vulnerable populations will be implemented. The co-ordination and clinical oversight would be expected to be led by members of the Health Care Home teams. |
| **Co-ordinated and centralised proactive care planning** | Networks will identify people who are identified as higher risk of admission and enable a care team from across the Network to develop a proactive care plan with patient centred goals. This would include a focus on including Māori and Pacific people with multiple long term conditions. |
| **Care around the clock.** | Networks will develop processes and pathways to better manage Māori, Pacific and other vulnerable populations in the community for as long as possible. Developments between the Health Care Home practices, after-hours services, District Nurses and Allied Health practitioners are likely to be required. |
| **Specialist consultation services reach more people** | Specialist teams within the Network will participate in providing their expertise through new approaches instead of traditional outpatient consultations or during admission e.g. virtual advice, multidisciplinary care planning. Services that support the needs of Māori and Pacific people will be prioritised to be part of the networks. |
| **Streamlined referrals and access** | Referral process within Networks could be refined, or even removed as Network services work in partnership. A co-ordinator within the Health Care Homes will utilise the electronic Shared Care Planning tool to liaise communicate and manage the delivery of relevant tasks around a patient for acute and planned care. |
| **Active support at the transition of care** | Networks will establish pathways and service linkages to support people to be transitioned back to the community as soon as possible after an admission and/or presentation to the emergency department. Linkages with Pacific and Māori support services will be a key enabler within the Networks. |
| **Skill sharing and development** | Clinical expertise skill sharing between services in the Networks will enable the expansion of the Health Care Home team roles as providers of more complex care (e.g. wound management, IV therapy, insulin initiation) and specialists to gain a better understanding of capability of primary care. This may progress to some of the Health Care Home teams that have highly developed skills in certain areas to also provide support, via horizontal referrals, to other practices in the Network. |
7. Where will the CCDHB Community Health Networks be established?
The CCDHB Community Health Networks will be based around geographical groups of people in the community as follows:

People have been grouped into Networks based on demographics, health need and physical proximity. It is acknowledged that this broad groupings do not represent a homogeneous population, but provides identify people with similar needs and allow for practical grouping of services in geographies.

The Network population groupings while established will be flexible particularly through the implementation planning stages. Further consultation and analysis may require some adjustments to the Network groupings.

Fig 4. Community Health
The following is a summary of the population profile of each of the Networks:

**Kapiti** has the highest population aged 65 years and over.

**South Porirua** has the highest proportion of children and youths.

**Wellington CBD** has a high proportion of 15-24 year olds.

South Porirua has the largest proportion of Maori and Pacific people.

Most Networks have by far, higher proportions of "other" populations.

Miramar Peninsula has the second highest proportion of Maori and Pacific people.

South Porirua has the largest proportion of Maori and Pacific people.

Most Networks have by far, higher proportions of "other" populations.

Miramar Peninsula has the second highest proportion of Maori and Pacific people.

Kapiti has the highest population aged 65 years and over.

South Porirua has the highest proportion of children and youths.

Wellington CBD has high proportion of 15-24 year olds.
8. What services will be included in Community Health Networks?

Each Community Health Network, as described in Section 6, includes a population with different health needs. As a consequence each Network will include service that meet the needs of the population. There are some services that are likely to be beneficial to most of the Networks (the first circle of integration), and there are others that will be included based on more specific population health needs (the second circle of integration). While the linkages will be established across these services, their involvement in individuals care will vary over time based on their need as demonstrated below:
8.1. Health Care Homes – the core of Community Health Networks

Primary care services are known to be effective partners with people to manage most of their care. Health Care Home practices are delivering even better primary care in CCDHB and will form the core services in the Networks. There will be a group of Health Care Home practices, and potentially other primary care practices in each Network. It is expected people’s key contact for health services will be via the primary care practices.

The practice team membership will evolve over time as workforce development is progressed and roles move to working at the top of their scope. There will be a member of each of the primary care practice teams that will be identified as care coordinators. Their role will be to manage the changes to a person’s care team from the services in the Network based on the changing needs for a person. This would for proactive, acute and preventative care planning. It will include increasing as well as reducing the number of Network services involved in the patient’s care as their needs change.

8.2. Specialist Services Integrated as the first circles of care Community Health Network

The first circle of integrated services are those that are like to be aligned with all Networks. The first specialist services to be linked into all Community Health Network are likely to be ones that maximise the benefits to the population and health system, as well as have developments underway moving them closer to the community.

The following is a summary of services that are likely to be in the first circle of care:

**District Nurses and Community Allied Health** teams are connected with Health Care Homes through the existing community service development. There is an identified District Nurse and Allied Health practitioner aligned with each Health Care Home and they will provide the first point of contact for their services, participate in regular proactive care planning meetings and in the future share skills with the practice team that would be beneficial for the population. **Case Managers from Care Co-ordination and Palliative Care** have also been partnered with Health Care Homes to participate in proactive care planning meetings for people that would benefit from their...
input. These existing partnerships with Health Care Homes will be further supported and enhanced through this Network approach. The Network approach will also help to resolve some capacity issues as the specialist team members could move to work with a wider group of practices that are the core of the Network, rather than individual practices. Also as the majority of the work delivered by these services are in the community already there may be opportunity to develop a collective community team with members from across these services to work in partnership with primary care teams.

**Diabetes specialist services** are connected with priority practices through the existing Diabetes Care Improvement Programme. The Diabetes team members, including the Consultants and Diabetes Nurse Specialists, that are associated to the practices provide the first point of contact for diabetes support, participate in long term condition planning, provide training for insulin initiation and titration, and participate in case collaborative conferencing. The relationships between the teams are mature and quality improvement processes continue. These services could be incorporated into the Networks to strengthen the linkage with other teams across the Network.

The **Health of Older People** specialist team are due to start working with key stakeholders to develop a new model of care that focuses on improved care in the community. This would involve the Consultants, Nurse Practitioners and Pharmacist. The actual service model is to be defined and is likely to link Gerontology Specialist services with the Health Care Homes and support proactive and acute care for older people. Similarly, there are developments underway with **Mental Health** services to trial new models of care that support care in the community that are connected with Health Care Homes.

There is a new model of care being developed for **Allied Health** teams that will expand on the existing services and relationships with Health Care Homes, as well as the delivery of innovative care models in the community.

**Community Pharmacists** and Pharmacy teams are well placed to work closer with primary care to improve medicine related care. The services that they provide can be developed specific to the population within the Networks with a focus on supporting long term conditions.

### 8.3. Specialist Services linked to Community Health Networks

There will be a number of additional specialists teams, from the hospital and other support services that will be linked into particular Networks only.

These services will be linked into the Network on occasion based on particular peoples and population need and work with partners to support acute care or participate in proactive care planning. The process of linkage with the other services is likely to be bespoke to each Network and may be periodic based on the population health need.
8.4. Community Health Network Prototypes

The Porirua South and Kapiti Networks will be two prototype Community Health Networks in CCDHB that will be the first to be developed and include additional services that are specific to their population health need.

The Porirua South Community Health Network will focus on mothers, babies, children and youth. This Network includes a higher percentage of high needs populations, younger demographic and have a higher utilisation rate for hospital services. Opportunities within this Network will link with the localities approach that is likely to focus on:

- Mothers and babies
- Children
- Establishing youth health support by building on existing services
- Kenepuru afterhours service access that can be supported in partnership with Health Care Homes

The Kapiti Community Health Network will focus on supporting the people to receive more care in the community and reducing their travel from Kapiti. This Network has a population with a higher percentage of older people, lowest rate of self-referral to ED and the highest rate of ED admission. Opportunities within this Network will link with the localities approach and will include:

- Specialist video conferencing as an alternative to some outpatient appointments
- Kapiti afterhours service access that can be supported in partnership with Health Care Homes
- Transport destination options by ambulance within Kapiti
9. What infrastructure is required for Community Health Networks?

9.1. Governance and Shared Goals

Community Health Networks will be supported by a collaborative governance group to drive improvements in population health outcomes for the people enrolled within the Network. The Governance Group will be responsible for:

- Establishing an outcome framework for their network as a tool to ensure improvements in the four domains of health are a focus
- Regular monitoring, reflection and development of improvement processes that would drive further improvements in agreed outcomes.
- Clinical audit and adverse event management
- Driving discussion between services to support the maintenance of effective working relationships, identify further synergies and develop local innovations
- Quarterly updates to the Integrated Care Collaborative Alliance Leadership Team about key progress, issues and opportunities
- Making recommendations through to the Integrated Care Collaborative Alliance Leadership Team for service improvements that would require significant changes to services and/or additional resources.

As Networks mature, there is a potential to establish improvement goals and introduce incentives for improvements. The Governance Group would be responsible for driving these improvements.

The governance groups will include a member from the Health Care Homes, linked specialist services, relevant PHO members and Strategy, Innovation and Performance and a representative from the community. Each member will be a representative of their service. A Chair would be elected from within the group and will be supported with a Network Support Team (see 6.2).
9.2. Management & Support

Each Community Health Network will be supported by a Network Lead who will be responsible for the operational establishment and maintenance of the Network.

In the first instance, there will be a team of Network Leads established that will develop specific implementation plans for each Network. This will require significant focus on establishing relationships with future Network members, developing a shared understandings of Community Health Networks and plan specific milestones that will be tailored to each Network.

Once the Community Health Network is established, the Network Lead will be responsible for:

- Establishing the required cross-organisation charter/agreements to drive members of the Network to work together to drive collective improvements for the enrolled population
- Maintain contact and service information across the Network
- Providing support to people within the services to work through operational issues. This will include maintain a linkage with the services existing management structures and personnel.
- Providing operational support for the Governance Group to delivery on its activities. This would include the running of meetings, managing quality improvement processes and delivering comprehensive data and analysis.
- Collaborating with other leads to support ongoing process improvements.

As Networks mature and the relationships and shared responsibilities between the services mature there is likely to require changes in management and support. The role of the Network Lead and the agreements between services will be strengthened to further support care in the community.

9.3. Tools and enablers are required for an effective Community Health Network

For Community Health Networks to reach their potential they will need to be supported with a number of enablers. The services must be able to connect and collaborate with each other, as well as deliver care in flexible settings across the community. The services in the Networks will also need to be supported with clinical tools to streamline care amongst the various services. In acute situations the services will need access to resources to support people in the community during episodes of higher health need.

There are a number of enablers in place or in development that will support the Networks:

- Electronic access to comprehensive patient information and care planning will be essential between Network members. These developments are underway and should be available as Networks are established.
- A new E-referral system is being scoped and will enable services to be accessed as required for patient care.
- Mobile devices are available for many hospital services working in the community and there is a programme underway to expand access.
- Health Pathways provide guidance on the best practice management of conditions, including referral criteria. The programme is well established and is likely to be expanded.
- The current Primary Options for Acute Care service provides resource to Health Care Homes and practices to deliver enhanced services to prevent acute presentations for certain conditions.
Community access to radiology is available and work is being planned to further enhance this service to enable more investigations to be completed in the community. This would support both acute care and planned care in the community.

There are a number of enablers that are likely to require scoping and implementation as Networks are developed:

- Expansion of Primary Options for Acute Care with a rapid response nursing team would be a key tool that the Networks could utilise to support a wider range of people during higher health need in the community. In the future this could be further supported with the respite beds as an alternative to admission to the hospital.

- Virtual advice from specialists is being delivered electronically on request by a number of services and there are trials underway for video based consultations. Both aspects of virtual care could be expanded across the number of services delivering these services by improving the processes that support the delivery of these services.

- A scheduling and tracking tool to support service deployment within and across the Networks will be required. This will be key not only for individual services to ensure they are delivering the right care in the right place, but also for the Network as a collective to ensure there are efficiencies in care provision across a range of services.

- The ability to directly book services would complement the e-referral development underway. In the first instance this may focus on service and people in the community managing bookings with a specialist service. As referrals between other services in the Network are expanded (e.g. horizontal referral) improved bookings with Health Care Homes would be beneficial.

- Common assessment processes across services will consolidate assessment processes and reduce duplicated efforts. With the expansion of the teams involved in a person’s care, there is a risk of even more assessments to be completed. It would be beneficial for a common assessment form to be completed, that would be added to by various specialities as required.

- A capacity planning tool to analyse and subsequently organise services required to support the population with in the Networks.

A complementary work programme for these developments will be required, and could be completed in a number of the workstreams in the Integrated Care Collaborative.
Community Health Networks will organise the delivery of health services in the community and meet the needs of the population.
HEALTH SYSTEM COMMITTEE PUBLIC - 2.2 Kapiti - Delivering Care in the Community

1 PURPOSE
This paper provides an update to the Health System Committee on service development in the Kāpiti community that improves health outcomes and reduces the burden of travel for avoidable hospital care. The paper also seeks endorsement of the initiatives and future developments that will support the DHB locality approach and establishment of Community Health Networks.

2 INTRODUCTION
The Capital & Coast DHB (CCDHB) Health System Plan outlines a new way to support wellbeing for people in the community. Internationally there is growing evidence and interest in place-based approaches to health and social systems to support wellbeing, build resilience and reduce demand for acute care. It has a focus on equity and improving health and wellbeing through working with our communities, people and their whānau.

The DHB is working with communities and the provider networks to improve access to care, service delivery models and outcomes for the people across the DHB, including Kāpiti. The plan focuses on people, place, community and supporting people with higher health need as described below. The delivery of good care closer is important as distance has a significant impact on how people use publicly funded healthcare.
Communities are at the centre of our localities and we have established mechanisms for engaging with our communities in Kāpiti and Porirua. These mechanisms provide a sound base for strengthening and developing sustainable partnerships that grow community confidence through a shared responsibility. The Community Health Network development is a key mechanism to connect and organise health services to enable them to better meet the needs of the community.

The locality development spans wider and includes further connection with the community members in driving health and well-being. Both of these concepts are maturing and will be the platforms for delivering connected care in Kāpiti and improve health outcomes for Māori, Pacific and other vulnerable populations. They will enhance the services that are being developed and roll-out across Kāpiti.

3 PARTNERING WITH THE KĀPITI COMMUNITY

The Locality approach focuses on targeting investment towards equity through action on access, utilisation, availability of service, affordability and ultimately acceptability of quality service provision that in turn should translate to increased trust and confidence.

Through our localities approach CCDHB is committed to community relationships that will deliver for the community. Our approach acknowledges communities as partners in service planning and it is improving co-ordination and integration between those who use services and those who develop and provide them.

In listening to the Kāpiti community the locality focus is service delivery models that support care closer to home to improve outcomes and ensure people do not travel unnecessarily for hospital and specialist care that is avoidable.

In 2018/19 the Board of CCDHB supported investment towards initiatives that has enabled service developments that will deliver on this focus. Below we outline how these approaches and seek your support for this focus.

4 DEVELOPING HEALTH SERVICES IN KĀPITI

There are five service development areas in Kāpiti is to improve access to services locally. The Healthcare Home development in our Kāpiti practises provides core capability to support integrated local service delivery. There are four additional areas of service development:

- Access to acute and urgent care
- Support for older people in the community
- Telehealth and access to more specialist advice locally
4.1 Health Care Home

HCH is a model that provides comprehensive and continuous health care including improved urgent, proactive and preventative care by the practices. The third tranche of HCH roll-out has begun from 1 October 2018, and by the end of 30 June 2018 will reach 80% of CCDHBs population.

This includes all but two practices in Kāpiti increasing coverage from 6% in 2017 to 90% of the population, including 90% of the Maori enrolled population and 84% of Pacific.

To realise the required changes, the HCH change team continue to support practice development against the agreed HCH implementation plans and additional members of the HCH project team continue to focus on integrated identified specialist services with these HCH practices.

In addition to the new practices entering the HCH programme, the two Kāpiti practices that were part of the initial tranche continue to deliver new services including longer opening hours, group consultations, workforce development and proactive planning processes for people with long term conditions.

4.2 Acute & Urgent Care

The Kapiti Health Advisory Group (KHAG) has identified that accessibility to after hours care is a key concern for the community. There are 8,600 presentations by the Kapiti community at emergency departments per annum. Including 6,500 Wellington Regional Hospital of which 4,700 are by ambulance and 2,000 of these presentations do not result in admission to hospital. A further 1,200 presented to Midcentral ED and 1,200 to Kenepuru A&M.

This development is planning pathways to support people in Kāpiti with urgent care services that are closer to home and accessible for people and their whanau. We are currently consulting with service providers, seeking community input and developing the service model. The development is being collaboratively developed with Strategy, Innovation and Performance, Primary Health Care and Wellington Free Ambulance. The engagement of the community through KHAG is planned in this quarter.

The development will lead to new partnerships being formed between ambulance services, the community and primary care to prevent the need for people to travel through to Wellington. It will make greater use of the existing home visiting service offered by Wellington Free Ambulance and how they connect with primary care. Supporting this work will be new pathways into local radiology options and District Nursing and Allied Health. It is intended that care will also be more affordable. Implementation is planned for early 2019.

4.1 Health of Older People

The Kāpiti has the largest proportion of older people aged over 70yrs with significant growth in those over 80yrs. These older people also make up a significant proportion of the people presenting to emergency care.

What we know is that if older people are better supported in the community with access to care and support earlier they are less likely to attend emergency care and be admitted to hospital. We also know that polypharmacy (multiple prescriptions for individuals) contributes to poor health in our older
community. Greater involvement of clinical pharmacists working with general practice is known to reduce polypharmacy and improve the health of older people.

As part of the Community Health network development a community based older persons service is being expanded and enhanced in collaboration with the specialist services and primary health care. This will includes greater access to specialist gerontology advice and nurse practitioner expertise and the inclusion of clinical pharmacy.

The expansion of this older person’s service, the urgent care service development and Healthcare Home has also created the opportunity to support those older people who are more isolated in their homes and find it hard to access primary care early.

This service development and integrated response is planned for implementation in early 2019.

4.1 Telehealth

Telehealth is a collection of means or methods for enhancing health care, public health, and health education delivery and support using telecommunications technologies.

Telehealth options as alternatives to traditional outpatients is being trialled between the Paediatric Specialist Service and a number of primary care practices including Hora te Pai. The trial includes paediatric specialists being available over the Zoom videoconference to support three-way hospital specialist, practice team member, patient/whanau consultations.

While the pilot is still underway, initial reflections suggest that the videoconferencing service provide an appropriate alternate to the face-to-face traditional consultations and that the technology for the videoconferencing meets the user requirements. Early reflections have also identified that the co-ordination and scheduling for the new way of working is not supported with the current systems and this will need to be addressed if the model is roll-out further. This may require investment consideration in the future.

In addition to the outpatient paediatric Zoom trial, District Nurses and Allied Health teams are now using the technology to participate in Health Care Home multidisciplinary team meetings. There are additional services that are looking to join the Health Care Home team meetings via this mechanism.

A framework is under development to underpin how telehealth applications can support and enrich other services and expand the use of telehealth locally. This should reduce patient travelling time to outpatient clinics and where appropriate improve a person’s access to specialist advice to supplement their care in the community.

4.2 Transport Services

KHAG have identified transport from Kapiti to Kenepuru and Wellington Regional Hospital as a significant barrier to healthcare. There is a shuttle between Kenepuru and Wellington regional hospital.

In working with KHAG it was identified that running the shuttle service from the railway station in Porirua would improve the utilisation of the shuttle between Kenepuru and Wellington Regional Hospital. This service change commenced in June 2017. The service has been used by almost 30 people per month and the change in route will be maintained.

KHAG have identified that there is demand for a service from Kapiti to Kenepuru and Wellington Regional Hospital. This service would need to include disability (wheelchair) access. KHAG are developing a community approach to this challenge.

4.3 Community Circles

Community circles aim to reduce social isolation and increase the opportunity of people to engage with community based services. It will focus on Māori and Pacific populations, who will be involved in the design of the programme. A Community Circle brings together two or more people around someone who wants help to make a change in their life. Examples are to start a hobby, get out more, or spend time with
friends or family. The development will commence at the end of the year with implementation due in April 2019. We will partner with community groups/NGO and utilise their volunteer networks.

5 FUTURE OPPORTUNITIES

While noting the service development underway, there are future opportunities that could further enhance the care closer to home for people in Kāpiti. These concepts will require further development following engagement with the community and be part of the investment planning and prioritisation processes for future years.

Priorities for Kāpiti may focus on supporting the settings of care, targeting particular service user groups and focusing on care in the community. These include a range of developments that support the organisation of health care, support people with particular health needs, enable the community to self-care and establish services that can provide additional acute services. Together they will move the system of care within Kāpiti towards the Health System Plan goals.

We will work closely with KHAG and our provider networks to continue to develop Community Health Networks in Kāpiti.
RECOMMENDATION

It is recommended that the Committee:

- **Notes** we are prioritising the development of our localities approach in Porirua through targeted investment during 2018/19 and the establishment of a localities plan grounded in partnership, reciprocity and strong communication and engagement.

- **Notes** the focus on South Porirua to reconfigure existing funding as well as additional marginal investment in key service development/integration priorities:
  - Nurse-led services to work with family groups in our Pacific neighbourhoods with multiple and complex health services.
  - Youth services for young people who need greater support including sexual health, mental health and addiction and gender/sexual identity.
  - Services to support mothers and families with babies and young children who need greater support in this start of life.

- **Endorses** the focus on South Porirua and the development of services to support the formation of the Community Health Network within this locality.

1 PURPOSE

This paper seeks endorsement of the initial priority areas for integration in the Porirua community. The South Porirua locality is a priority for CCDHB because we know this community experiences disproportionate levels of unmet need and inequitable health outcomes.

These priorities support development of the Community Health Network and focus on Pacific neighbourhoods, youth and mothers, babies and families with young children.

2 INTRODUCTION

The Health System Plan provides the framework for service delivery, planning and investment decisions. It is organised around four major themes designed to support people and whānau wellbeing:

- People – providing services for everyone in the community
- Place – providing care in the most appropriate environment
- Priority - Recognising those who need more help
- Partnership - Working in the community.
These four areas create the structure around which existing and future health services can be organised. They make explicit where services are provided, who they are for, and the results they are expected to achieve. This clarity assists people, communities, social services and other healthcare providers to work collectively and in a structured way to deliver improved outcomes.

We have the opportunity to work alongside our partners and reorganise our investment to focus on equity and developing service responses that support those with the greatest need, so they are better able to access health services and have greater control over their health and wellbeing, no matter who they are or where they live).

The Locality approach focuses on targeting investment towards equity through action on access, utilisation, availability of service, affordability and ultimately acceptability of quality service provision that in turn should translate to increased trust and confidence. Over time as we change investment so that providers are able to intensify services where this is most needed we will expect to see progress towards equity of health outcomes.

This means we have unique opportunities to ‘simplify’ the care we provide to our population that has greater resources, and ‘intensify’ the care we provide in our communities who are disadvantaged to achieve equity, particularly for Māori, Pasifika, those who experience poverty, those with disability and those with enduring mental illness. Through doing this we aim to achieve greater equity amongst our populations.

We will be working in communities where we know our investment is not currently achieving the positive impact on health outcomes that we need it to. While providers in these areas have developed innovative models of care to better meet the needs of whānau, the DHB commissioning framework has not evolved alongside these models. Therefore, providers often struggle with deploying interventions they know make a difference for whānau as our approach to contract management and reporting is disconnected from these community priorities.

2. PORIRUA LOCALITY

The health needs for the populations across CCDHB help determine the appropriate localities approach to planning. Overall, when compared to other DHBs, the CCDHB population has generally better health outcomes. However variation exists across the DHB, indicating equity gaps and concentration of complex needs in some areas.

Overall 44% of the Capital and Coast population live in low deprivation, and 19% live in areas of high deprivation. The significant pockets of deprivation are in Porirua, particularly south Porirua and in small parts of central Wellington and Kāpiti.

Porirua is a vibrant and dynamic community where 18% (55,000) of our total population reside, of which 41% are Māori and Pasifika. A quarter of the population is under 25 years of age, and overall younger than the rest of our district. There are 700 babies born every year in Porirua. There are also a greater proportion of homes with six or more people and fewer older people.

People who live in Porirua have high regard for their community and express satisfaction with their lives in Porirua. There are great strengths within its community but it is also fair to say it has less resources than other communities. As a consequence it experiences greater hardships and greater health inequities than our other communities.

2.1 Our community health care

Our analysis of PHO enrolment indicates there are gaps in access to primary care with under enrolment for Māori and low utilisation of services for Pacific peoples. Furthermore, although individuals are enrolled in primary care they have greater needs and carry the burden of disease and greater social complexity.

Porirua has six Very Low Cost Access (VLCA) practices that support these concentrations of high need. One in two people in Porirua are enrolled in a VLCA practice (46%), but Māori (62%) and Pacific peoples (87%) make up the majority of the VLCA enrolled population.
Tu Ora Compass Health recently completed analysis of the health need of people involved in VLCA practises. It highlighted that these populations have more complex medical, mental health and social needs resulting in high use of services with a more and longer appointments. This included up to five times the rates of metabolic disease, diseases such as hepatitis and mental health conditions.

ASH rates are a proxy for poorly co-ordinated health services or service access issues and are indicative of levels of high unmet need. There is a disproportionate burden that Porirua experiences through hospital admissions for conditions that could be managed in community settings. This reinforces the priority we need to place on investing in the Porirua locality.

- Porirua East has the highest rate of preventable hospital admissions (ASH) among 5-13 year olds in the CCDHB district.
- People in Porirua East are seen in secondary mental health and addiction services at nearly twice the rate of the wider CCDHB district.
- Families in Porirua are more likely to have both adults and young people using mental health and addiction services.
- Porirua has poor oral health outcomes for Maori and Pacific children with a greater level of dental extractions for children under 5 years.
- Porirua has a high prevalence of diabetes and other metabolic disease.

3 OUR APPROACH IN PORIRUA

Our overall approach in Porirua is to acknowledge our communities as partners in service planning to improve co-ordination and integration between those who use services and those who develop and provide them.

Our first contribution, was to strengthen our primary care service delivery in Porirua. The Healthcare Home project has focussed our energy on improving performance of our investment in primary care by supporting the transformation of general practise with the use of technology, extended hours of care, increasing options for consultation and multidisciplinary team development.

This next step is to better organise our investment in health service in Porirua and work with our core provider network. This commences the process of intensifying services by introducing new initiatives to improve health outcomes, improve access to primary and community care and prevent and delay the onset of illness resulting in the avoidable use of emergency department and hospital services.

We will then be in a stronger position to working collaboratively with our community partners, providers, Agencies and local council.

Funding for these approaches and initiatives are included within the operating budget of CCDHB and include existing investment and marginal additional investment included in the 2018/19 budget to improve outcomes for Maori and Pacific, improve equity and reduce demand on our hospital services.

3.1 Our partners

A critical element of success is that we are working with our core health provider partners to improve health service delivery and develop these approaches in this next phase. Our provider partners in this phase are:

- Ora Toa PHO
- Tu Ora Compass Health PHO
- Central Pacific Collective
- Tauhi Alliance (Pacific Collective and Tu Ora Compass Health)
- Regional Public Health

We have agreed with our partners that the greatest concentration of need and opportunity to improve outcome is in Porirua South.
South Porirua is inclusive of Porirua East, Cannons Creek, Ascot Park, Waitangirua, Ranui Heights, Porirua Central, Elsdon-Takapuwahia, Titahi Bay and Onepoto where the largest proportion of Māori, Pacific peoples, children and youth in CCDHB are enrolled in general practice.

3.2 Health Care Homes

Health Care Home (HCH) is our core primary care model to provide comprehensive and continuous health care with the goal of supporting individuals to obtain maximised health outcomes through strengthened primary care. Key HCH elements and services of provide improved urgent, proactive and preventative care.

Five of the eight practices in South Porirua are included in the HCH model. This includes Ora Toa Takapuwahia, Ora Toa Mungavin, Ora Toa Cannons Creek, Porirua Union Community Health Service and Titahi Bay Medical. These practices are progressing through their implementation plans, as well as introducing a number of innovative solutions to support their communities, including youth focused clinics within Ora Toa general practises.

By 30 June 2018 the HCH model will reach about 31,002 people in Porirua being 60% of the population. This includes 72% of the Māori population and 65% of the Pacific populations respectively. In South Porirua this coverage increases to 71% of the population being 81% Maori and 65% Pacific.

4 SOUTH PORIRUA INTEGRATION PRIORITIES

The evidence base regarding what works in health services for high needs communities demonstrates that some elements are critical. This includes:

- Partnering with local providers who have local relations and the trust of communities
- Collaborating with individuals families and their communities
- More intensive case based management where health professionals can work with people and their families to build their independence and health skills
- The ability to respond rapidly and prevent and/or delay complex health needs
- Using technology to improve access, manage and monitor care and measure results
- Using evidence and research to inform practice

In South Porirua the service development/integration priorities are:

- Nurse-led services to work with family groups in our Pacific neighbourhoods with multiple and complex health services.
- Youth services for young people who need greater support including sexual health, mental health and addiction and gender/sexual identity.
- Services to support mothers and families with babies and young children who need greater support in this start of life.

4.1 A Pacific neighbourhood nurse-led service

A Pacific neighbourhood nurse led initiative has been developed by the Central Pacific Collective. It is important that this proposed service model has been generated from Pacific leaders and the community. There is a strong evidence that links the level of socio-economic deprivation experienced by Pacific communities and poor health outcomes with poor education, poor employment opportunities and poor housing. There is also strong evidence that a nurse-led service can be successful in supporting families, to be independent and improve their own health and wellbeing.

The proposed service is innovative and culturally responsive to improving access and utilisation of community services within neighbourhoods

This unique nurse-led service aims to:

1. Develop and implement a nurse led service based on an innovative nurse led model of care within a neighbourhood of high unmet need amongst pacific households,
2. Build on the capacity and capability of the Pacific nursing workforce that will actively promote culturally appropriate leadership and nursing practice to drive health promoting approaches to support at-risk Pacific families and households,

3. Use a research base that promotes service delivery that is a comprehensive change from our current models of care and be more cost-effective than traditional models of practise

4. Be an exemplar model of care service, focused on person centred approaches, leveraging multisector responses to address wider determinants of health prevalent in Pacific communities.

This service will be developed within the Community Health Network model and leverage from our healthcare home capability. The sharing of infrastructure and technology is an important aspect of this model to support its cost effectiveness. The team will work alongside existing community nursing resources, and through the implementation and performance monitoring greater opportunities to leverage services will be identified.

4.2 Youth health services for Porirua

Youth experience significantly high rates of suicide, hospitalisation for self-harm, mental illness, drug and alcohol abuse, and need sensitive support to manage new health risks – unintended pregnancy and sexually transmitted diseases – as they become sexually active. The significant psychosocial and physical changes experienced during adolescence occur at the same time as young people seek independence in managing their own health and wellbeing (with limited financial means).

Primary services that specifically address young peoples’ needs and barriers are critical to ensuring youth access to early intervention and preventative care. Ora Toa has been providing youth clinics within primary care. There is evidence that young people use health services in different ways to other population groups, and often choose to access services from a number of different providers rather than a single GP practice. Being able to access services outside their family’s provider increases the likelihood a young person will seek support for health issues they feel sensitive or unsafe talking about with the family GP.

Evaluations have shown that youth-centred and integrated approaches increased access to services for youth, particularly those who have higher need including rangatahi Māori users.

CCDHB currently has two youth services - called Youth One Stop Shops (YOSS) - in Wellington City and Kāpiti that provide free, youth-oriented, wraparound services to 9,420 young people aged 10 -24. Porirua does not have a YOSS and this service gap will be specifically addresses in this integration process. The model will be developed collaboratively with our partners and reflect the communities and neighbourhoods of Porirua.

4.3 Support for mothers, babies and families with young children

There are 700 babies born every year in Porirua. The opportunities to ensure these mothers, and families receive the antenatal, maternal and early childhood care they are entitled to in a way that improves their outcomes and supports them and their whanau is a significant opportunity to improve outcomes and reduce preventable demand for avoidable hospital care.

There are already a range of services for these families and their babies. They are not well connected, can result in many care in the driveways of our families and are not able to concentrate their effort on supporting this critical time in life.

This service opportunity to better support our mother and babies bringing together existing and additional resources will have an impact by supporting families with services that are evidence informed and responsive and nurse-led.

5 LEADING IMPLEMENTATION

The service models are being co-designed with our providers within South Porirua. The development of these services will form an initial ‘Investment Table’ with our provider partners enabling us to leverage existing services and resources and new investments deliver the greatest value to this community.
Communities and consumers will be involved in the service design and importantly in its ongoing monitoring and evaluation. Developing the methods and processes for this approach is currently under development and will be updated to the Health System Committee in November. This includes the performance monitoring dashboard.

The success of the investment plan will be supported by the following:

- **People** - Investing in people and family capability to take control of health and wellbeing in the home
- **Place** – Investing in communities and greater access to services and utilisation more locally
- **Priority** – Investing in those who are vulnerable and in need, responsive to equity considerations
- **Partnerships** – Investing in partner relationships and collaborations to keep our communities healthier and well
- **Publication & Promotion** - Provide targeted communications and evaluation to champion key messages
HEALTH SYSTEMS COMMITTEE
DISCUSSION
Date: 15 October 2018

Author
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Endorsed by
Rachel Haggerty, Director Strategy, Innovation and Performance

Subject
Regional Public Health Bi-Monthly Report

RECOMMENDATION

It is recommended that the Board:

a) Notes the update on work in Porirua.

b) Notes the update on alcohol related harm reduction (including Kapiti).

c) Notes the update on public health nurse services in primary and intermediate schools in the CCDHB area.

d) Notes the update on influenza surveillance and SHIVERS II research project

e) Notes the update on the Australasian Tuberculosis conference 2018.

f) Notes the RPH 2017-2018 visual ‘snapshot.’

APPENDICES

1. RPH Snapshot 2017-18
2. RPH Service Areas

1. INTRODUCTION

1.1 Purpose

The purpose of this paper is to update the Health System Committee of Capital & Coast District Health Board on the sub-regional public health unit (Regional Public Health) recent activities.

2. BACKGROUND

Regional Public Health (RPH) is the sub-regional public health unit of Hutt Valley, Wairarapa and Capital & Coast DHBs. All five core public health functions including health promotion; health protection; health assessment and surveillance; public health capacity development; and preventative interventions are provided. In addition, regulatory (health protection) services are extended to the Otaki Ward.

HVDHB is the Ministry of Health contract holder for the core public health services. All service areas are sub-regional across the three DHBs, with exceptions noted in brackets.
3. COLLABORATIVE ACTIVITY IN PORIRUA

Included are some of the recent prevention and early intervention services that are in response to identified high health and wellbeing needs of communities in Porirua. All activities contribute to improving population health, and reducing inequities – in particular for Māori, Pacific peoples, children and people experiencing poverty and deprivation.

All services are provided in collaboration with others – for example community groups, health providers, social service agencies, schools.

3.1 Porirua healthy food and drink environments and type 2 diabetes

As previously reported, a collaborative approach continues with key stakeholders including, for example, Porirua community groups, Porirua City Council, Ora Toa PHO and Tū Ora Compass Health.

3.1.1 Meeting with Porirua East Councillors

Following a successful workshop presented to Porirua City Council on the increased prevalence of type 2 diabetes, a public health advisor and a community liaison from RPH met with Porirua East City Councillors, a member of Creeksiders Canons Creek Community group and a Tū Ora Compass Health health promoter. This was another opportunity to further consider community centred opportunities to combat type 2 diabetes. Community connectedness and community pride were a focus. In response, RPH will source information about the set-up of ‘pataka’ in South Auckland communities, which offer free food items for those in a neighbourhood who are struggling to feed their whānau. RPH will also provide evidence of community connectedness approaches from New Zealand and internationally. Tū Ora Compass Health will respond to a request for nutrition advice for Pacific communities.

3.1.2 Public health registrar project

The RPH public health registrar has commenced a project to support Porirua City Council action on the social and environmental determinants related to the reduction of type 2 diabetes. Currently this includes collaborating with Ora Toa PHO and Tū Ora Compass Health analysts to determine available data sources.

3.2 Porirua Social Supply Study (PSSS)

A RPH community liaison is working with Otago University, on a research project on the social supply of alcohol to youth. The purpose of this project, funded by Health Promotion Agency, is to understand how young people are exposed to and access alcohol within their communities. Community agreement was sought and gained before this study on young peoples’ attitudes towards drinking and the social supply of alcohol could be undertaken within the Porirua region. The team have recently completed survey/focus groups with 93 students and are now at the stage of analysing the data and transcripts. This is a three year project, which ends June 2019.

3.3 Synthetic Cannabinoids

As previously reported, RPH is working collaboratively with other Porirua agencies and community groups to respond to the increase of use as evidenced in the community, by Police and in CCDHB Emergency Department presentations. One area of action is to increase the community knowledge base by developing a resource (flash cards) that can be used as a ‘conversation starter’ resource, (for anyone working with users or whanau of users) to better inform them of the harms of synthetic cannabinoids.

Whilst community consultation continues in developing an appropriate resource, RPH were invited to be part of a presentation that Kapiti-Mana Police submitted as an entry in the Evidenced Based Problem Oriented Policing awards regarding the work that had been collectively done on synthetic cannabinoids.
3.4 Kōanga Clean up day

On 1 September Well Homes (RPH) coordinated a Kōanga clean-up day in Porirua. This was an opportunity for neighbourhood māhi, connectedness and fun. Local agencies supported the residents of Miranda and Niger Streets to get rid of unwanted items and rubbish. Staff from each service were available on the day to help with the clean-up and to chat about the support they offer in the area. Agencies involved included: Porirua City Council, Tū Ora Compass Health, Police, the Fire Service, Wesley Community Action, NZ Red Cross, the Salvation Army, Maraeroa Health Clinic, Porirua Union and Community Health Service, Housing NZ, Ingot Scrap Metals, and the Sustainability Trust.

12 skip bins (69 cubic metres) of rubbish were removed.

3.5 Tū Mai Hauora Project.

Visits continue for the Tū Mai Hauora Project. Hutt Mana Charitable Trust has donated $90,000 for housing improvements across the Porirua area. $60,000 of this will be used for healthy housing interventions (housing improvements beyond what can be offered through the Well Homes programme) and $30,000 for health interventions (e.g. clothing, dental treatments). Whānau have been identified by Porirua Union and Community Health Services, and a joint home visit by a RPH Well Homes public health nurse and a Well Homes assessor from Sustainability Trust to evaluate the home. Kaboossendia Media staff will visually record the property before and after the visit as well as document the whanau’s experiences living in a cold, damp and mouldy home. The evaluation component of the project is being worked through currently. To date nine whanau have engaged and been assessed, and a variety of housing supports given.

3.6 Salvation Army Women’s Wellbeing group, Waitangirua

Teams from RPH that have recently supported this group with education, information and advice include: the Health Protection team on Emergency Preparedness; the Well Homes team on healthy housing, the Nutrition team on cooking using the Fruit & Vege Co-Op bags, and the Community Liaison on synthetic Cannaboids. As a result, RPH has been invited to be more involved with the group.

3.7 Porirua Ear Van Service

Most children seen are self-referred from their whānau. The ear nurses provide assessment, intervention and direct referral to specialist services as required. The team now consists of two part time nursing staff. They continue to provide predominately booked Ear Van clinics and some drop-in clinics that are well attended. The Van rotates its clinics between Waitangirua and the Ora Toa practices at Takapuwahia and Cannons Creek. The RPH Kohanga Reo and Aoga Amata pre-school Ear Nurse visits to screen children’s ears result in referrals back to the Ear Van clinics for intervention and referrals to specialist services.

A total of 563 children were seen in the last quarter.

3.7.1 Children seen in the Porirua Ear Van by age 1 July – 30 September

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>437</td>
</tr>
<tr>
<td>5-12</td>
<td>104</td>
</tr>
<tr>
<td>13+</td>
<td>22</td>
</tr>
<tr>
<td>Number</td>
<td>563</td>
</tr>
</tbody>
</table>

3.7.2 Children seen in the Porirua Ear Van by ethnicity 1 July – 30 September

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Māori</td>
<td>135</td>
</tr>
<tr>
<td>Pacific</td>
<td>151</td>
</tr>
<tr>
<td>European</td>
<td>206</td>
</tr>
<tr>
<td>Other</td>
<td>71</td>
</tr>
<tr>
<td>Number</td>
<td>563</td>
</tr>
</tbody>
</table>
3.8 Porirua Work and Income Public Health Nurse

This Public Health Nurse (PHN) half time (0.5 FTE) position at Porirua Work and Income continues to provide a valuable service, linking Work and Income clients to health services and resources to improve their quality of life. Health information and health education is also provided to the clients. The PHN is a valued referral link for Case Managers, the Community Links in Court (CLiC) workers and community health workers, connecting their clients to information and support.

At the start of each year demand is high. This matches the financial stress of children returning to school and families stretched by Christmas.

**Number of client interactions January – June 2018**

![Graph of Work and Income Interactions Jan - Jun 2018]

**Number of client interactions July - September 2018**

![Graph of Work and Income Porirua Number of Client Interactions]

Following are examples of some of the services provided by Porirua Work and Income Public Health Nurse

3.8.1 Access to Health Services

The PHN has established positive working relationships with local GP Practices. This supports enrolment and engagement opportunities. The PHN continues to support clients with transport and advocacy at GP
visits, Work and Income appointments through the online Real-me service and hospital appointments when required.

With the Housing New Zealand dedicated Case Manager’s for Social and Emergency Housing, based at Porirua Community Link Centre – Work and Income, the prevalence of mental illness is more evident. The PHN is an important conduit for clients with mental illness. Many of these clients have poor engagement with Mental Health Services and do not take their medication regularly. Financial restraint is a factor in medication adherence. The Work and Income Case Managers’ recognise the value of the PHN’s input with these clients.

Clients needing acute mental health referrals to the Community Assessment Treatment Team (CATT) usually require PHN support with their initial assessment. The PHN also supports new clients needing to be seen due to mental illness.

3.8.2 Resources for Families

The high demand for household items and clothing is ongoing. The PHN has established links to meet these needs, focusing on community goodwill, providing resources at no cost to clients.

The PHN continues to use the St Vincent De Paul’s referral system. A letter from the client’s Case Manager allows clients to access free clothing and household items, St Vincent De Paul’s have assisted with closing the gap with provision of white ware and household items. This has included kitchen equipment, bedding, linen, queen/double beds, bunk beds, linen, towels, clothing and footwear for all aged children and their parents.

Other existing referral agencies to meet these needs includes the Porirua Budget Service and Salvation Army Budget Service. Continued food grants and emergency housing resources and services are accessed through the Porirua Salvation Army, Koraunui Marae, Elsdon and Wellington Mental Health Emergency Housing

The CCDHB Child Protection Coordinator has access to good quality linen and this is being re-homed in the community with the input of the RPH Public Health Nursing team. A local church also provides household linen for redistribution via the Public Health Nurses. This is particularly helpful for women and children moving out of the Women’s Refuge and re-establishing a home.

3.8.3 Well Homes Programme

The Work and Income based Public Health Nurse continues with the housing assessments. This intervention with clients ensures better, sooner, faster service for clients in need. This works especially well with poorly resourced palliative care patients at end of life. As part of the assessment process, the PHN also completes the initial Salvation Army budget information. This provides more rapid access to Salvation Army funding and reduces the number of people that the client needs to speak with.

Resources include insulation, curtains, carpet, beds/bedding, minor repairs and mould kits. The heating, curtains and additional bedding are of significant benefit to terminally ill clients.

3.8.4 Access to Income

The PHN helps clients with access to additional income entitlement, i.e. disability allowance. Clients receive PHN support to complete the appropriate paper work. This includes information about their monthly outgoing costs for electricity, telephone, home-help, transportation, parking, and health resources e.g., pads for incontinence. This additional money, up to $63.00, improves their quality of life and reduces stress.
3.8.5 School Health Team Child Health Follow-ups

The School Health Team PHNs access the Work and Income PHN to support families with access to income, specifically for unmet health needs. An example is money for prescription glasses when clients do not have access to the government ‘Enable’ glasses funding scheme.

4. ALCOHOL RELATED HARM REDUCTION

4.1 Kapiti liquor licence renewals

RPH has appealed, to the Alcohol Regulatory and Licensing Authority (ARLA), the Kapiti District Licensing Committee (KDLC) decision not to reduce the trading hours for New World Paraparaumu from 10.00 pm to 9:00 pm. Just after the KDLC decision, the High Court released the Liquor King Kent Terrace decision, thus enabling RPH to utilise this High Court decision in our appeal.

As previously reported regarding Liquor King Kent Terrace, the appeal by the Medical Officer of Health (MOoH) to the High Court resulted in the setting aside of the ALRA decision which kept the hours the same as the previous licence and reinstated the Wellington City District Licensing Committee decision to reduce the trading hours on Friday and Saturday evenings from 11pm to 9pm.

It is significant that High Court decision now sets in case law, the evaluative test that must be applied when assessing an application. Based on this decision it was decided that it was appropriate to appeal the Kapiti DLC decision.

Also of note following the High Court decision, Liquorland Victoria Street Wellington and Liquorland Paraparaumu have withdrawn their appeals to ARLA. However, they have now applied for the renewal of their licence with extended hours. RPH has opposed the renewal of these licenses and the increased hours with the aim to reduce the trading hours to 9:00 pm. Both these hearings are scheduled for November.

4.2 Reduction in trading hours of a Wellington city liquor store

The later an off-licence premises is open in the evening the greater the risk that alcohol purchases will result in excessive consumption and subsequent harm. This relationship and the high level of harm suffered by residents within the central city is the driving force behind RPH’s approach, that of reducing the hours of trading below the maximum default hours of 11.00 pm.

A recent decision from a Wellington District Licensing Committee reduced the hours for a liquor store to 6pm, the first such significant reduction in Wellington City. Capital Liquor at 107 Manners Street near the busy entertainment precinct opened till 10.30pm and was seeking to extend its hours to 11.00pm. Using our acquired role in the 2012 Sale and Supply of Alcohol Act reporting on liquor licence applications, the Medical Officer of Health opposed the renewal of this application and the increase in the hours to 11:00 pm. Police and the Licensing inspector lodged similar oppositions.

Our Medical Officer of Health and our Regulatory Officer presented a detailed case covering alcohol health information, demographics of the area, sales information and from monitoring the premises data on the stores evening, clientele and busy time periods. In the decision, the Committee draws from the Medical Officer of Health’s closing summary:

“The off-licence is located in easy walking distance of where large numbers of young people reside within the inner city suburbs. Several university halls of residence are nearby accommodating students. Large numbers of young people who are not students also reside in the area. Social housing clusters and boarding houses are nearby and within easy walking distance. Many young people who live nearby binge drink at university halls or residences, after hours parties and in public spaces. A proportion of people who binge drink are preloading on cheap alcohol purchased from off-licensed premises and will migrate to the...
entertainment precincts late at night to continue to binge drink. High levels of alcohol related ED attendances related harm is linked to excessive consumption of alcohol both in the entertainment precincts and inner city areas.”

The key point is the Committee determined to reduce the trading hours. The applicant has since appealed this decision. However, RPH is confident that the case put forward by the three reporting agencies will ensure the decision is retained.

5. PUBLIC HEALTH NURSES IN SCHOOLS IN THE CCDHB AREA

5.1 Public Health Nurse (PHN) personal health referrals

RPH services 101 primary and intermediate schools in CCDHB area, with a total population of 27,447 children. Public health nurses (PHNs) work predominantly in decile 1-6 schools with high needs children.

School Based PHNs Services Summary 1 July – 30 September 2018 (Quarter 1)

Significant items to note include that 191 new referrals were made to public health nurses in the last three months. Also of note are the 52 home visits which are required to ensure health care is delivered to children that have difficulty accessing care.

Our collaborative approach is evident, given 285 internal (within RPH) and external agency liaisons and 287 liaisons with schools.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Total</th>
<th>Sept 18</th>
<th>Aug 18</th>
<th>July 18</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Referrals In</td>
<td>191</td>
<td>67</td>
<td>67</td>
<td>57</td>
</tr>
<tr>
<td>New Referrals In - Conditions Treated</td>
<td>289</td>
<td>88</td>
<td>105</td>
<td>96</td>
</tr>
<tr>
<td>Nursing Consultation</td>
<td>155</td>
<td>70</td>
<td>44</td>
<td>41</td>
</tr>
<tr>
<td>Phone Triage/Assessment</td>
<td>129</td>
<td>41</td>
<td>45</td>
<td>43</td>
</tr>
<tr>
<td>Health Education</td>
<td>11</td>
<td>2</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Home Visit</td>
<td>52</td>
<td>18</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>Agency Liaison (external and internal)</td>
<td>285</td>
<td>73</td>
<td>109</td>
<td>103</td>
</tr>
<tr>
<td>School Liaison</td>
<td>287</td>
<td>105</td>
<td>90</td>
<td>92</td>
</tr>
<tr>
<td>Transport &amp; Advocacy</td>
<td>16</td>
<td>7</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Referral Out</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Referrals Closed</td>
<td>241</td>
<td>91</td>
<td>73</td>
<td>77</td>
</tr>
</tbody>
</table>

4.1.2 Open referrals by ethnicity for 1 July – 30 September 2018

Open referrals are referrals made to public health nurses that are active during the reporting period, in the CCDHB area. Of note is that of the 350 referrals that were open during this quarter, 43% were for Maori children, 35% were for Pacific children.

<table>
<thead>
<tr>
<th>DHB</th>
<th>Māori</th>
<th>Pacific</th>
<th>NZ European</th>
<th>Asian</th>
<th>Other</th>
<th>Not specified</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCDHB</td>
<td>150</td>
<td>123</td>
<td>46</td>
<td>6</td>
<td>25</td>
<td>0</td>
<td>350</td>
</tr>
</tbody>
</table>
4.1.3 Top ten identified personal health referral conditions for 1 July – 30 September 2018

It is of note that the key top ten referrals for CCDHB include a high number of social, behavioural and absenteeism concerns which require referrals to specialised services, external agencies and on-going support from the PHN.

While a public health nurse is able to resolve most referrals received within the scope of her role there is still the need to refer to specialist services. These services include hospital based services such as paediatricians, ear nose and throat specialists, and mental health services. Referrals are also made to Oranga Tamariki. The connection with CCDHB Child Protection services is also important for child safety.

<table>
<thead>
<tr>
<th>Ranking</th>
<th>CCDHB</th>
<th>No. of referrals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vision</td>
<td>77</td>
</tr>
<tr>
<td>2</td>
<td>Hearing concerns</td>
<td>49</td>
</tr>
<tr>
<td>3</td>
<td>Social concerns</td>
<td>46</td>
</tr>
<tr>
<td>4</td>
<td>Absenteeism</td>
<td>33</td>
</tr>
<tr>
<td>5</td>
<td>Developmental</td>
<td>30</td>
</tr>
<tr>
<td>6</td>
<td>Behavioural</td>
<td>24</td>
</tr>
<tr>
<td>7</td>
<td>Dental</td>
<td>22</td>
</tr>
<tr>
<td>8</td>
<td>Eczema</td>
<td>22</td>
</tr>
<tr>
<td>9</td>
<td>Asthma</td>
<td>21</td>
</tr>
<tr>
<td>10</td>
<td>Minor skin infections</td>
<td>19</td>
</tr>
</tbody>
</table>

6. INFLUENZA SURVEILLANCE AND SHIVERS II

The greater Wellington region experienced an increase in influenza like illness rates over the last two weeks of August and into early September. Influenza A (H1N1) appears to be the predominate flu strain for the 2018 winter season. Five schools and approximately 11 early childhood centres were supported by public health to manage influenza like illness outbreaks. A letter together with an influenza factsheet was sent to school and early childhood centre principals, across the region, to disseminate influenza information to the parents of their enrolled children; encouraging parents to keep unwell children away from school and childcare. The news media interviewed Dr Annette Nesdale and Dr Craig Thornley.

So far the majority of the flu viruses identified have been flu A H1N1. As the influenza season has arrived later than expected to the region the employment period for the research SHIVERS II nurses will be extended by two weeks to the end of October 2018.
RPH successfully organised and hosted this Conference on 30 – 31 August at Te Papa. The conference theme was “Winds of change: Tools for TB elimination” and encompassed clinical, public health, microbiological and scientific aspects of tuberculosis. It was opened by Louisa Wall, MP for Manurewa and inaugural member of the Parliamentary Asia Pacific TB Caucus and the key note speaker was Dr Timothy Walker from Oxford University. The conference attracted 178 delegates, including public health physicians, specialist clinicians, nurses and scientists and provided an opportunity to learn new areas of tuberculosis science and developed networks to better improve and co-ordinate tuberculosis treatment across Australasia.

The conference resolved that the organisers write to the Minister of Health and request the Ministry lead the development of a TB Elimination Strategy, in conjunction with technical experts.
RPH ANNUAL SNAPSHOT

RPH has produced a visual ‘snapshot’ from the 2017-18 year (see appendix 1). Information was extracted from the RPH annual report for the Ministry of Health (1 July 2017 – 30 June 2018), in conjunction with data from our information management systems. It has been developed for the ‘general public’ and it is intended that this annual snapshot be available on our website to increase general awareness of RPH functions.

It has been designed to show the range and number of activities carried out across four categories:

- Lifestyle
- Community
- Built environment
- Natural environment

It is intended that this information will be useful talking point and contribute to raising awareness and understanding of RPH public health functions and services.
RPH Service Areas

Services are sub-regional across the three DHBs, with exceptions noted.

<table>
<thead>
<tr>
<th>Core MoH contracted services</th>
<th>Non-core MoH contracted services</th>
<th>DHB funded services</th>
<th>Other contracted services</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Alcohol and Other Drugs</td>
<td>• Drinking-water Technical Advice Services for Networked Supplies</td>
<td>• Bacille Calmette-Guérin (BCG) Nursing (HVDHB, CCDHB)</td>
<td>• Public Health Medicine Registrar Training</td>
</tr>
<tr>
<td>• Communicable Diseases</td>
<td>• Community Action on Youth and Drugs CAYAD (Hutt Valley)</td>
<td>• Ear Nurse Specialist (CCDHB)</td>
<td>• Public Health Medicine Registrar Supervision (Central Region)</td>
</tr>
<tr>
<td>• Mental Health Promotion (suicide postvention)</td>
<td>• Public Health Clinical Network Secretariat (NZ)</td>
<td>• Healthy Homes: (a) Rheumatic Fever Prevention, Healthy Homes System (HVDHB, CCDHB)</td>
<td>• Public Health Medicine Specialist/Medical Officer of Health (MidCentral DHB)</td>
</tr>
<tr>
<td>• Nutrition and Physical Activity</td>
<td></td>
<td>(b) Healthy Homes Initiative Expansion (HVDHB, CCDHB)</td>
<td>• Public Health Nurse at Naenae Work &amp; Income</td>
</tr>
<tr>
<td>• Physical Environments and Border Health</td>
<td></td>
<td>(c) Public Health Nurse - Healthy Housing (HVDHB)</td>
<td>• SHIVERS II Research Project</td>
</tr>
<tr>
<td>• Public Health Infrastructure</td>
<td></td>
<td>• Immunisation: (a) Year 8 HPV school based vaccination</td>
<td></td>
</tr>
<tr>
<td>• Refugee and Asylum Seeker Health / Refugee Health INH</td>
<td></td>
<td>(b) Year 7 Boostrix school based vaccination</td>
<td></td>
</tr>
<tr>
<td>• Sexual Health Promotion</td>
<td></td>
<td>(b) Immunisation Outreach Co-ordination (HVDHB)</td>
<td></td>
</tr>
<tr>
<td>• Social Environments</td>
<td></td>
<td>(c) DHB National Immunisation Register Administration (HVDHB)</td>
<td></td>
</tr>
<tr>
<td>• Tobacco Control</td>
<td></td>
<td>• Public Health Nursing services in primary &amp; intermediate schools</td>
<td></td>
</tr>
<tr>
<td>• Public Health Advice (Central Region)</td>
<td></td>
<td>• Public Health Nurse at Porirua Work &amp; Income (CCDHB)</td>
<td></td>
</tr>
</tbody>
</table>

- Smokefree DHBs (HVDHB, WDHB)
- Vision & Hearing Technician services
**RECOMMENDATION**

It is recommended that the Committee:

a) **NOTES:** MHAID Service formally opened a new space for the MHAID Service Consumer Advisory Group, this is based at Kenepuru in the Te Manaaki building.

b) **NOTES:** The Ministry of Health has released the Suicide Facts: Data Tables for 1996 – 2015 with some significant findings, as listed in this report.

c) **NOTES:** The final Kahukura project for the Regional Rehabilitation and Extended Care Inpatient Service’s (RRS) current model of care (MoC) has been completed. A model of care clinical group is being established to lead the implementation of the operational recommendations.

**APPENDICES**

1. **BALANCED SCORECARD MHAIDS 3DHB AUGUST 2018**

**Mental Health, Addictions and Intellectual Disability Service (MHAIDS 3DHB)**

Mental Health, Addictions and Intellectual Disability Service (MHAIDS 3DHB) spans three DHBs - Wairarapa, Hutt Valley and Capital and Coast DHB’s and includes local, regional, and national services. The local MHAID services are provided from multiple sites within the 3DHB sub-region – greater Wellington, Porirua, Kapiti, Hutt Valley and Wairarapa. The regional services have staff throughout the central region and the national services staff throughout the country. The inpatient part of the regional and national services are at Kenepuru and Ratonga o Rua Porirua Hospitals.

1. **KEY PERFORMANCE INDICATORS**

**Balanced Scorecard August 2018**

The Balanced Score Card is a single portal for a range of MHAIDS performance indicators.

**The August 2018 Balanced Scorecard is attached as appendix one.**

With the implementation of QLIK sense, a new interactive data visualisation tool that is being implemented across Capital & Coast DHB, 3DHB MHAIDS aims to produce an interactive dashboard linking to a range of measures and detail from a range of datasets. The dashboard will focus on twelve core indicators that will be able to be filtered by a number of dimensions, and that will allow users to click into each of the indicators and be taken to further information and related measures. The 12 core indicators are:

- Access rates;
• Wait times < three weeks;
• Wait times three to eight weeks;
• Seen in the last 90 days;
• 28 day re-admission rates;
• Average Length of Stay;
• Occupancy rate;
• Seclusion hours;
• Pre-admission contact;
• Post-inpatient community contact;
• Did not Attend (DNA) rate;
• Staff turnover and Sick leave

Te Whare o Matairangi (TWOM) Occupancy
Average Length of Stay (ALOS), Discharges & 28 Day readmission rate for Te Whare o Matarangi

TWOM discharges, ALOS and re-admissions

Did Not Attend (DNA) rate

* Merged admissions / discharges: Where a person is administratively discharged from the mental unit and admitted medically for less than 2 days then readmitted to the mental health unit, the administrative discharge to period in non-mental health inpatient services is merged to create a continuous mental health inpatient episode of care.

Did Not Attend Rate

(DNA contacts divided by All Face to Face type Client contacts. This measure was developed as CCDHB and Wairarapa do not currently use the webPAS clinic appointments)
Waiting times, 3 weeks & 3 – 8 weeks

Waiting times for Adult Community & Addictions teams

Waiting Times - All

Ministry of Health waiting times (PPB) - Shorter waits for non-urgent mental health and addiction services. The MoH target for this measure is 80% of people referred for non-urgent mental health or addiction services are seen within three weeks and 95% are seen within 8 weeks. This is calculated from the date the referral is received to the date of the first face to face contact with the client. Please note the below data is using local data rather than the PRIMHD MoH data for this measure. Although this measure is for non-urgent referrals all referrals are included in the local and the MoH reports for this measure.

Waiting times for Child and Youth teams

Waiting Times – Child & Youth Teams

Ministry of Health waiting times (PPB) - Shorter waits for non-urgent mental health and addiction services. The MoH target for this measure is 80% of people referred for non-urgent mental health or addiction services are seen within three weeks and 95% are seen within 8 weeks. This is calculated from the date the referral is received to the date of the first face to face contact with the client. Please note the below data is using local data rather than the PRIMHD MoH data for this measure. Although this measure is for non-urgent referrals all C&Y team referrals are included in the local and the MoH reports for this measure.
### Waiting Times by Ethnicity – C&Y Teams

**Capital & Coast DHB**

- Maori: 400
- Pacific: 300
- Other: 200

**Hutt Valley DHB**

- Maori: 300
- Pacific: 200
- Other: 100

**Wairarapa DHB**

- Maori: 200
- Pacific: 100
- Other: 0

*Report Notes: Time delay required in order to allow clients to fall into the over 8 week group.*

### Seen in the last 90 days

**Percentage of Service Caseload seen in the last 90 days CCcDHBB**

<table>
<thead>
<tr>
<th>MHAIDS Service Sector</th>
<th>0-49 Days</th>
<th>50-90 Days</th>
<th>90-180 Days</th>
<th>180 Days+</th>
<th>0-2 Yrs</th>
<th>More than 2 Years</th>
<th>No Contact since Referral</th>
<th>Total</th>
<th>% Seen within 90 Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger Persons Community &amp; Addictions</td>
<td>496</td>
<td>137</td>
<td>77</td>
<td>48</td>
<td>50</td>
<td>6</td>
<td>0</td>
<td>7</td>
<td>841</td>
</tr>
<tr>
<td>Adult Community &amp; Addictions</td>
<td>1,311</td>
<td>349</td>
<td>168</td>
<td>94</td>
<td>155</td>
<td>47</td>
<td>69</td>
<td>123</td>
<td>2,236</td>
</tr>
<tr>
<td>Intensive Recovery</td>
<td>65</td>
<td>9</td>
<td>5</td>
<td>5</td>
<td>37</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td>120</td>
</tr>
<tr>
<td>Operations Centre</td>
<td>6</td>
<td>4</td>
<td>8</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>14</td>
<td>27</td>
</tr>
<tr>
<td>Forensic &amp; Rehabilitation</td>
<td>74</td>
<td>38</td>
<td>15</td>
<td>11</td>
<td>17</td>
<td>1</td>
<td>0</td>
<td>14</td>
<td>170</td>
</tr>
<tr>
<td>Intellectual Disability Service</td>
<td>13</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>27</td>
</tr>
<tr>
<td>Total</td>
<td>1,885</td>
<td>561</td>
<td>276</td>
<td>162</td>
<td>325</td>
<td>56</td>
<td>69</td>
<td>167</td>
<td>3,441</td>
</tr>
</tbody>
</table>

### Community Service Users Seen and Not Seen in the Last 90 Days

- Younger Persons Community & Addictions: 120
- Adult Community & Addictions: 1751
- Intensive Recovery: 7
- Operations Centre: 7
- Forensic & Rehabilitation: 14
- Intellectual Disability Service: 14

*Target: % seen within 90 days - No contact since referral - Seen >90 days - Seen <90 days*
Post inpatient Community Care

Te Whare o Matairangi (TWOM) Acute Inpatient Units

Post Inpatient Community Care

CCDHB - TWOM

CCDHB Post-Discharges for the past 12 months

<table>
<thead>
<tr>
<th>Month</th>
<th>Seen</th>
<th>Not Seen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 2017</td>
<td>33</td>
<td>10</td>
</tr>
<tr>
<td>Oct 2017</td>
<td>21</td>
<td>12</td>
</tr>
<tr>
<td>Nov 2017</td>
<td>95</td>
<td>11</td>
</tr>
<tr>
<td>Dec 2017</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>Jan 2018</td>
<td>29</td>
<td>6</td>
</tr>
<tr>
<td>Feb 2018</td>
<td>26</td>
<td>10</td>
</tr>
<tr>
<td>Mar 2018</td>
<td>39</td>
<td>15</td>
</tr>
<tr>
<td>Apr 2018</td>
<td>30</td>
<td>9</td>
</tr>
<tr>
<td>May 2018</td>
<td>29</td>
<td>7</td>
</tr>
<tr>
<td>Jun 2018</td>
<td>31</td>
<td>7</td>
</tr>
<tr>
<td>Jul 2018</td>
<td>30</td>
<td>8</td>
</tr>
<tr>
<td>Aug 2018</td>
<td>36</td>
<td>6</td>
</tr>
<tr>
<td>Sep 2018</td>
<td>30</td>
<td>10</td>
</tr>
</tbody>
</table>

National KPI Avg16/17: 95%
National KPI Target Range (90%-100%)

Seclusion hours

Seclusion

Total seclusion hours

Total seclusion events
Te Haika Data for September 2018

Te Haika is the telephone call centre which triages crisis and acute calls 24 hours per day / 7 hours per week. Clients phone in on a specific phone number – 0800745477. The call centre is staffed by registered health professionals who manage referrals to MHAID Services for Wairarapa, Hutt Valley and Capital & Coast. Prior to July 2015, this service only covered CCDHB. In July 2015, the service was expanded to Wairarapa and Hutt during normal work hours, and from July 1, 2016 the service has covered the region 24/7.

Te Haika data for September 2018
2. FINANCIALS MHAIDS 3DHB

MHAIDS 3DHB FINANCIAL OVERVIEW YTD September 2018

### Month ended 30 September 2018

<table>
<thead>
<tr>
<th></th>
<th>CCDHB</th>
<th>HVDHB</th>
<th>WDHB</th>
<th>3D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000. Revenue</td>
<td>9,851</td>
<td>6,760</td>
<td>2,108</td>
<td>2,087</td>
</tr>
<tr>
<td>2000. Personnel</td>
<td>7,590</td>
<td>7,306</td>
<td>1,280</td>
<td>1,263</td>
</tr>
<tr>
<td>3000. Outsourced</td>
<td>413</td>
<td>391</td>
<td>249</td>
<td>203</td>
</tr>
<tr>
<td>4000. Clinical Supplies</td>
<td>93</td>
<td>91</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>5000. Infrastructure &amp; Non-Clinical</td>
<td>260</td>
<td>251</td>
<td>93</td>
<td>77</td>
</tr>
<tr>
<td>8000. Recharging</td>
<td>0</td>
<td>0</td>
<td>429</td>
<td>434</td>
</tr>
<tr>
<td>Grand Total</td>
<td>1,495</td>
<td>1,629</td>
<td>(134)</td>
<td>44</td>
</tr>
</tbody>
</table>

### YTD ended 30 September 2018

<table>
<thead>
<tr>
<th></th>
<th>CCDHB</th>
<th>HVDHB</th>
<th>WDHB</th>
<th>3D</th>
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</thead>
<tbody>
<tr>
<td>1000. Revenue</td>
<td>29,757</td>
<td>29,008</td>
<td>6,333</td>
<td>6,292</td>
</tr>
<tr>
<td>2000. Personnel</td>
<td>22,030</td>
<td>21,974</td>
<td>4,078</td>
<td>4,104</td>
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<tr>
<td>3000. Outsourced</td>
<td>1,508</td>
<td>1,174</td>
<td>774</td>
<td>621</td>
</tr>
<tr>
<td>4000. Clinical Supplies</td>
<td>259</td>
<td>277</td>
<td>36</td>
<td>48</td>
</tr>
<tr>
<td>5000. Infrastructure &amp; Non-Clinical</td>
<td>1,129</td>
<td>752</td>
<td>252</td>
<td>225</td>
</tr>
<tr>
<td>8000. Recharging</td>
<td>0</td>
<td>0</td>
<td>1,330</td>
<td>1,319</td>
</tr>
<tr>
<td>Grand Total</td>
<td>4,832</td>
<td>4,831</td>
<td>1</td>
<td>(137)</td>
</tr>
</tbody>
</table>

Hutt Valley DHB

MHAIDS delivered unfavourable variance of ($122k) to budget September YTD.
Employee expense, $26k favourable offset by ($176k) unfavourable in outsourced personnel expenses.
Variances are Medical $58k favourable, nursing ($18k) unfavourable, Allied Health $81k favourable in permanent FTEs. Wairarapa utilisation of TWA beds continue to be accounted for revenue in the funder arm.

Wairarapa DHB

MHAIDS delivered a surplus of $70k which was a favourable variance of $93k to budget.
Employed and Outsourced personnel costs combined were $84k favourable for September YTD.

Capital and Coast DHB

Overall performance for the month of September 2018 was unfavourable by ($134k) and favourable $1k YTD.

Total revenue for September 2018 was favourable to budget by $181k and $749 YTD. This was contributed by increase in forensic rehab beds sales, revenue from forensic courts assessments and price variations from external contracts.

Personnel costs was unfavourable to budget by ($284k) and ($56k) YTD. Increase in overtime, Penal due to high occupancy in inpatient units offset by some savings from Allied health due to vacancies in psychologist and social workers and includes savings target of $422k.

Outsourced services unfavourable to budget ($22k) and ($334k) YTD. Increase in Locums, outsourced Allied Health personnel, NIDCA Specialist Assessment and forensic courts assessments. Some of the cost are offset by increase in revenue and savings in AH personnel as above.

Infrastructure cost unfavourable ($9k) and ($377k) YTD. Increase in IT systems for network infrastructure for newly relocated services, cost for unbudgeted security services at inpatient units and includes efficiency savings of ($64k) and ($193k) YTD.
3. SERVICE DEVELOPMENT

WEBSITE DATA FOR MHAIDS SERVICE 3DHB

In September 2018 the MHAIDS website (www.mhaids.health.nz) was visited 5,056 times by 3,901 people. This compared with 5,520 visits by 4,270 people in August.

The 5 most visited website pages in September were:

<table>
<thead>
<tr>
<th>Website page</th>
<th>Page views</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>1,561</td>
</tr>
<tr>
<td>Child and adolescent mental health services</td>
<td>1,145</td>
</tr>
<tr>
<td>Do you, or does someone you know, need help now? (Te Haika)</td>
<td>912</td>
</tr>
<tr>
<td>Community mental health teams (general adult)</td>
<td>745</td>
</tr>
<tr>
<td>How to contact our services</td>
<td>665</td>
</tr>
</tbody>
</table>

KAHUKURA PROJECT

The purpose of the Kahukura project was to review the Regional Rehabilitation and Extended Care Inpatient Service’s (RRS) current model of care (MoC) and to identify areas to improve services using co-design methodology. This was a recommendation from a review of the service.

The aim is for a person-centred approach to care that is focused on recovery, with clinical pathways that are clear to all; clients, staff, family and external stakeholders.

The project’s scope included engaging with staff and clients from the adult inpatient rehabilitation services, families of inpatients, the referring DHB’s service coordination teams, and community mental health providers.
Key recommendations found in the Kahukura project;

- The Regional Rehabilitation and Extended Care programme vision is updated and developed as the foundation of the proposed model of care. This vision should be developed with support and consultation with staff, clients and stakeholders.
- That the current funding model no longer meets the requirements for high and complex needs clients and needs reviewing as a separate process through Strategy, Innovation and Performance (CCDHB).
- It is recommended that an organisational change programme aligned to the refocused purpose, vision and values, is developed to support a shift in culture.

The strategic recommendations will now form part of the suite of mental health projects incorporated. The project is managed within the Even Better Health Care work programme. This work programme focuses on enhancing the ways that health providers work for their communities.

A model of care clinical group will be established to lead the implementation of the operational recommendations with a report back to the Te Korowai Whāriki governance group in May 2019.

INTELLECTUAL DISABILITIES INPATIENT SERVICE DELIVERY MODEL SERVICE REPORT

The purpose of this review was to review and make recommendations about the service delivery model for the Forensic Inpatient Intellectual Disability Service. Drs Francis Hughes and Julia Hennessey provided a comprehensive report with a number of findings and recommendations.

The key findings of the report are:

1. A need for a clearly articulated ID identity, distinct from mental health services.
2. More qualified staff in sufficient numbers to deliver the required services. It was highlighted the current nursing shortage is not unique to this service and that a number of issues, particularly workforce planning are also not unique to ID Services.
3. Need to strength a professional nursing practice model for forensic ID that could inform nursing practice, development and performance.

The report has been accepted by the Leadership Team. The Service intends to focus on:

- The resourcing of a comprehensive ID recruitment campaign here and overseas, along with developing a specific ID training programme in conjunction with Whitirea Polytech.
- Identifying and implementing workforce planning initiatives including pursuing options with Health Workforce NZ and Career force and other potential providers to establish forensic ID specific programmes for both nursing and MHSW.
- Implementing the Professional Practice model for nursing.
- Contributing to MHAIDS and CCDHB planning initiatives in respect to CCDM.

OPENING OF MHAIDS CONSUMER ADVISORY SERVICE SPACE

The consumer team celebrated the official opening of their new space at the Te Whare Manaaki building at Kenepuru earlier this month.

The occasion was marked with a mihi whakatau, karakia, speeches and a shared morning tea to celebrate a new beginning.

The opening marks an important milestone for the consumer advisory team which is expanding to provide systematic and strategic advice to improve the quality of care across MHAIDS services. The team...
welcomes three new staff members who join as Consumer Advisors, with a wealth of experience and expertise.

They have the lead responsibility for ensuring that a client perspective is factored into the planning and delivery of services, initiatives and projects across MHAIDS.

Photo from consumer opening, with some of the consumer advisory group and management from MHAIDS, SIPS.

**MOH RELEASE OF SUICIDE FACTS: DATA TABLES 1996 – 2015**

The Ministry of Health has released the Suicide Facts: Data Tables for 1996 – 2015. It is important to note the difference between rates and numbers shown in this document. Numbers refer to the actual number of people who have died by suicide. Rates account for differences in populations. A rate measures how often a suicide across relative to the number of people in the population.

These tables present data for suicide deaths in New Zealand for a 20 year period. The data shows breakdowns by common demographics such as locality, ethnicity, sex and age.

There were some significant findings in this data including:

- A decrease in the overall rate of suicide, from 14.2 per 100,000 in 1996 to 11.0 per 100,000 in 2015
- The youth (15-24 years) suicide rate was higher than other age groups, however has decreased over the 20 year period
- The rate for adults aged 25-44 years has decreased, with a slight increase for those aged 45-64 years. The lowest age rate were those 65+
- A significant decrease in the overall rate for males; during this time period female suicide rates did not change markedly. Male suicide rates are still at least 2.5 times the rate of females
- The majority of completed suicides for those aged between 15-44 years, were living in the most deprived areas—the rate of suicide for these people was twice as high as those living in the least deprived areas
- For Māori rates of suicide were higher than other ethnic groups (for 2011 – 2015) - 16.5 per 100,000 Māori

Suicide prevention and postvention remains a priority for Capital & Coast, Hutt Valley and Wairarapa DHBs.

We are progressing with the development of a targeted approach to suicide prevention and postvention across the three DHBs. Wairarapa, Hutt Valley and Capital and Coast District Health Boards (3DHB), have a draft suicide prevention and postvention (2018-2021) action plan in place for the three district health
board regions. There will be a focus on providing support to people experiencing distress, and looking at what we can implement by the beginning of 2019.


**Rate of suicide by DHB region (2011–2015)**

---

*Notes:* Rates for the total population are five-year rates, expressed per 100,000 population and age-standardised to the WHO World Standard Population. Error bars represent 95% confidence interval. Caution must be taken where rates have large error bars, as interpretation of these rates can be misleading. If a DHB region’s confidence interval does not overlap the national suicide rate, the DHB rate is either statistically higher or lower than the national rate.

*Source:* New Zealand Mortality Collection
4. STAFF ENGAGEMENT

MH AWARENESS WEEK OCTOBER 2018

Last week we celebrated Mental Health Awareness Week across the three DHBs, and we would like to thank everyone who got involved in activities and led excellent initiatives across our services. It was great to see staff and clients getting involved in activities and we would like to thank the teams who went the extra mile to organise events.

Some of the activities staff and clients got involved were;

- Staff massages at locations across Hutt, Porirua and Wellington
- Sausage sizzle and Car Boot sale in the Wairarapa
- Client concert and opening celebration (attended by Porirua Mayor Mike Tana) at Ratonga o Rua Porirua
- Running and walking groups
- Mindful money sessions
- Tree planting ceremonies (both Hutt and Porirua)
- Mindful movement classes
- Yoga and Pilates
- Team shared morning and afternoon tea

Alongside the organised calendar of activities, staff made the most of resources available throughout the week such as practical guides to resilience and wellbeing, TED talk sessions, team activities and challenges.

We see this as an important time for our mental health professionals to take stock of our own wellbeing, and take a moment for ourselves.

The themes of the week highlight the importance of creating a culture of support—we want all of our people to feel safe to ask for help and lead from the front.

This fits in well with the next part of our supporting safety culture programme, where we will be holding forums for MHAIDS staff across the three DHBs, to share and discuss results of the Safe and Supported Survey.
HEALTH SYSTEM COMMITTEE PUBLIC - 3.2 MHAIDS Bi-Monthly Performance Report

Mental Health, Addictions & Intellectual Disability Service 3DHB
Balanced Score Card - August 2018
(FY 2018/2019)

Patient Experience

<table>
<thead>
<tr>
<th>Local/Sub-Regional Services</th>
<th>Te Korowai-Whakari</th>
<th>MHAID 3DHB</th>
<th>Forensic &amp; Rehab</th>
<th>ID Services</th>
<th>Aug-18</th>
<th>Total YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRDHB</td>
<td>HVDHB</td>
<td>CCDHB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28 Day acute readmissions rate - adult acute units (%)</td>
<td>10%</td>
<td>NA</td>
<td>11%</td>
<td>8%</td>
<td>NA</td>
<td>10%</td>
</tr>
<tr>
<td>Long-term consumers with a current wellness plan (%)</td>
<td>95%</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
</tr>
<tr>
<td>Better help for inpatient smokers at quit (%)</td>
<td>95%</td>
<td>NA</td>
<td>83%</td>
<td>100%</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>RNAGS compliant inpatient discharges - matched pairs (%)</td>
<td>80-100%</td>
<td>64%</td>
<td>50%</td>
<td>0%</td>
<td>NA</td>
<td>54%</td>
</tr>
<tr>
<td>HONOS compliance - Community (%)</td>
<td>80-100%</td>
<td>57%</td>
<td>22%</td>
<td>34%</td>
<td>54%</td>
<td>54%</td>
</tr>
<tr>
<td>Seclusion hours - Pacific</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Seclusion hours - Māori</td>
<td>0</td>
<td>13</td>
<td>21</td>
<td>6</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Seclusion hours - Total</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

Health Workforce

<table>
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<tr>
<th>Local/Sub-Regional Services</th>
<th>Te Korowai-Whakari</th>
<th>MHAID 3DHB</th>
<th>Forensic &amp; Rehab</th>
<th>ID Services</th>
<th>Aug-18</th>
<th>Total YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRDHB</td>
<td>HVDHB</td>
<td>CCDHB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff turnover/heads-count-YTD average annualised%</td>
<td>8-10%</td>
<td>#Error</td>
<td>0%</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Sick leave (%)</td>
<td>2-4%</td>
<td>3.0%</td>
<td>3.0%</td>
<td>2.7%</td>
<td>3.8%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Staff with annual leave &gt; 200 hours (%)</td>
<td>14</td>
<td>44</td>
<td>167</td>
<td>97</td>
<td>55</td>
<td>377</td>
</tr>
<tr>
<td>Physical assaults on staff (%)</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Performance appraisals completed (%)</td>
<td>100%</td>
<td>20%</td>
<td>25%</td>
<td>49%</td>
<td>34%</td>
<td>31%</td>
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Financial

<table>
<thead>
<tr>
<th>Local/Sub-Regional Services</th>
<th>Te Korowai-Whakari</th>
<th>MHAID 3DHB</th>
<th>Forensic &amp; Rehab</th>
<th>ID Services</th>
<th>Aug-18</th>
<th>Total YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRDHB</td>
<td>HVDHB</td>
<td>CCDHB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating (actual) costs ($'000)</td>
<td>361</td>
<td>5,024</td>
<td>2,417</td>
<td>1,264</td>
<td>9,067</td>
<td>19,314</td>
</tr>
<tr>
<td>Personnel including outsourcing ($'000)</td>
<td>341</td>
<td>4,741</td>
<td>2,304</td>
<td>1,089</td>
<td>8,453</td>
<td>17,709</td>
</tr>
<tr>
<td>Overtime hours (%)</td>
<td>1.4%</td>
<td>2.8%</td>
<td>3.4%</td>
<td>3.1%</td>
<td>6.0%</td>
<td>3.4%</td>
</tr>
<tr>
<td>FTEs - actual</td>
<td>54</td>
<td>541</td>
<td>311</td>
<td>143</td>
<td>1,050</td>
<td>NA</td>
</tr>
<tr>
<td>FTEs - vacancies (%)</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>NA</td>
</tr>
</tbody>
</table>

Productivity

<table>
<thead>
<tr>
<th>Local/Sub-Regional Services</th>
<th>Te Korowai-Whakari</th>
<th>MHAID 3DHB</th>
<th>Forensic &amp; Rehab</th>
<th>ID Services</th>
<th>Aug-18</th>
<th>Total YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRDHB</td>
<td>HVDHB</td>
<td>CCDHB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access rate (%)</td>
<td>Acute Adult Inpatients ALOS (days)</td>
<td>75-100%</td>
<td>NA</td>
<td>#Error</td>
<td>14/22</td>
<td>14/22</td>
</tr>
<tr>
<td></td>
<td>NMD Adult Unit (days)</td>
<td>90-100%</td>
<td>80%</td>
<td>NA</td>
<td>90%</td>
<td>90%</td>
</tr>
<tr>
<td></td>
<td>NMD Adolescent Unit (days)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Psychiatric Unit (days)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Eating Disorders Inpatient Unit (days)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Adult Forensic Inpatient Unit (days)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Adult Intellectual Disability Unit (days)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Youth Intellectual Disability Unit (days)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Adult Unit Occupancy (%)</td>
<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Adult Unit Occupancy (%)</td>
<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Psychiatric Unit Occupancy (%)</td>
<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Eating Disorders Unit Occupancy (%)</td>
<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Regional Rehabilitation Units Occupancy (%)</td>
<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Adult Forensic Inpatient Unit Occupancy (%)</td>
<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Adult Intellectual Disability Unit Occupancy (%)</td>
<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Youth Intellectual Disability Unit Occupancy (%)</td>
<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Adult Unit Occupancy (%)</td>
<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td></td>
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<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Psychiatric Unit Occupancy (%)</td>
<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
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<tr>
<td></td>
<td>NMD Eating Disorders Unit Occupancy (%)</td>
<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NMD Regional Rehabilitation Units Occupancy (%)</td>
<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
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<td></td>
<td>NMD Adult Forensic Inpatient Unit Occupancy (%)</td>
<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
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</tr>
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<td></td>
<td>NMD Adult Intellectual Disability Unit Occupancy (%)</td>
<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
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<td></td>
<td>NMD Youth Intellectual Disability Unit Occupancy (%)</td>
<td>95%</td>
<td>90%</td>
<td>100%</td>
<td>95%</td>
<td></td>
</tr>
</tbody>
</table>

Good News

- Increased compare to previous month
1. INTRODUCTION

1.1 Purpose
The purpose of this paper is to inform the committee on the Maternity Quality & Safety Programme (MQSP) at Capital and Coast DHB (CCDHB). An overview of the current MQSP 2018-2019 work programme and key achievements in 2017 are included within the Women’s Health Service annual clinical report 2017 which is provided for noting.

It is also the purpose of this paper to inform members of future planning in maternity services within the Ministry of Health (MOH) and Women’s Health Service (WHS) at CCDHB.

2. BACKGROUND
The MQSP was introduced in all district health boards (DHBs) from 2012. As a national programme, centrally funded by the MOH, it establishes and builds upon both national and local maternity quality improvement activities. It aims to:

- improve local maternity quality and safety
- improve national service improvement tools and support
- establish national priority setting for maternity monitoring and quality and safety
- broaden the scope and visibility of maternity quality activities.

The programme seeks to ensure the highest possible safety and best possible outcomes for all new mothers and their babies. Improvements involve multi-disciplinary approaches to identify and implement potential improvements, across both hospital and community services.
Central is a strong focus on equity of outcomes and improvements that address needs of the most vulnerable women. In 2018 the MOH reinforced the importance that MQSP programmes at a local level analyse and respond to the needs of Māori and Pacific, and those living in high deprivation. Aligned with the New Zealand Health Strategy, improvements are also guided by the National Maternity Monitoring Group (NMMG), Health Quality & Safety Commission (HQSC) and the Perinatal Mortality and Morbidity Review Committee (PMMRC). The NMMG acts as a strategic advisor to the MOH on areas for improvement in the maternity sector.

The programme plays an important role in raising the profile of maternity quality and safety overall and has been embedded within CCDHB since 2012. The MQSP governance committee provides oversight and is firmly embedded in CCDHB quality and WHS clinical governance frameworks. The committee has member representation from consumers and lead maternity carer (LMC) midwives, service leads, clinical leads and representation from strategy, innovation and performance directorate. Both Māori and Pacific communities are represented, while representation from other stakeholders occurs on a project-by-project basis.

Maternity quality and safety continues to be a focus for the Minister, due to ongoing concerns such as continued disparity in outcomes dependent on region and workforce, ethnicity and age. In 2018 the ministry has been working with stakeholders and service leaders with participation from across the sector to develop a whole of systems approach to future planning for the sector. Funding of MQSP has been secured through MOH until 2020.

Collaboration and integration across primary, secondary and tertiary sectors at a local, regional and national level is an expectation in delivering this national programme. Driving positive and sustainable change in maternity services for improved outcomes for women and babies is essential to MQSP.

3. DISCUSSION

3.1 Publication of the Women’s Health Service Annual Clinical Report 2017

CCDHB have provided the Women’s Health Service Annual Clinical Report 2017 to the Ministry of Health for tabling. A launch at CCDHB will be held on 7 November 2018.

The 2017 annual report is a whole of WHS overview and will be accessible to the general public along with clinicians. As a requirement of the MQSP, the report provides analysis of services and outcomes for women who receive care at CCDHB. It also provides an overview of 2017 MQSP quality improvement initiatives and research and audits published within the year which informed practice.

3.2 Publication of the Maternity Quality & Safety Programme Plan 2018-2019

Our CCDHB 2018-2019 MQSP work programme was developed with stakeholder input. Key actions were identified and an implementation plan developed. The document has been submitted and approved by the MOH and will sit within the 2018 annual report.

The plan provides a platform to deliver maternity specific initiatives within a quality framework. Initiatives are developed through analysis of our community and information from our outcomes and key stakeholders such as NMMG, PPMRC and HQSC. As an extant document the plan will continue to be updated with completed and additional initiatives following national and local recommendations.
3.3 Ministry of Health - maternity services whole of system work

In 2018 the MOH has been working together with stakeholders nationally to focus on how to collectively improve maternal and infant health outcomes. A focused equity lens is being applied to ensure New Zealand continues to deliver high quality maternity care from midwives, doctors, DHBs and other health and social service providers.

Through a whole of systems approach, the Ministry are developing a new process and criteria for prioritising work with sector leaders in maternity. As a result of this work a new maternity work programme will be developed for implementation by DHB’s. Completion of this work is expected in December 2018, for review by DHBs and approval with the MOH expected in January 2019.

While we expect our CCDHB MQSP plan to align well with MOH expectations there may be some increased investment required to deliver initiatives within the Minister’s timing of actions.

3.4 Maternity services working to develop services future need of women and babies

3.1.1 Women with the highest need as a priority

WHS has a commitment to deliver services that enhance equity and focus on women and their babies who are Māori or Pacific and also pregnant teens. The MQSP will identify and work to implement improvement strategies that address need within these local populations. Initial discussion has taken place with Strategy, Innovation and Performance (SIP) on investment planning for projects which will improve health and outcomes of women with the highest need, provide services closer to home and ultimately reduce future burdens on health.

Wrap-around initiatives delivered close to home could include safe sleep education and safe sleep spaces for babies, increasing supports to enable exclusive use of breastmilk, engaging women in early access to maternity care, increasing smoking cessation, maternal mental health, re-location of high risk pregnancy community midwifery services at Kenepuru and the community. Investment strategies focused on mother and baby will have long term health, social and economic gains.

There is an opportunity to improve wellbeing and reduce long term health impacts for pregnant women with high medical needs such as those with diabetes and hypertension in pregnancy; and social needs such as domestic violence, cultural isolation.

3.1.2 Increasing population in the areas with the greatest need

Porirua has the highest population nationally of under 25 year olds and Māori and Pacific Island women are also over represented in this region. In addition, affordable housing developments north of Wellington are expected to bring more young families to the suburbs. The greatest proportion of women currently accessing our CCDHB community midwifery service reside in the Porirua area.

The long term development of service delivery closer to home, co-locating services with primary healthcare and other agencies are all areas in which strategies are being investigated to increase engagement in health services. This is part of the Porirua Integration approach.

3.1.3 Primary Birthing

The MQSP programme has also identified the need to future proof our services. Increasing medical complexity, greater age of birthing population and intervention within pregnancies has continued to increase pressure on services provided within the maternity facility at Wellington Regional Hospital.
Strategies identified to address demand include decreasing intervention rates, improving pathways and processes to increase normal birth rates and increase confidence in primary facilities at Paraparumu and Kenepuru. Strategies developed aim to provide care closer to home for women and their whanau, in facilities appropriate to maternity care requirements.

The WHS has been working with SIP in their project to develop a feasibility study on a primary birthing facility in central Wellington.

3.1.4 Workforce

Increasing pressures on the maternity services have been seen over the past year, with vacancies in the hospital workforce and a decrease in LMCs. DHBs and maternity leaders nationally have been addressing this with the MOH, and strategies are being developed as part of the maternity whole of system review to address workforce needs.

As LMCs take annual holidays in December and January additional pressures arise for CCDHB staff. Strategies have been established again this year (in the short term) to work with willing LMCs to provide care for women unable to access a midwife in pregnancy, for birth or in the postnatal period.

4. NEXT STEPS

Committee members are invited to join in the launch of the WHS annual clinical report 2017 and service vision presentation day: 7 November 2018, 10.00-12.00 in the Horne Lecture Theatre.

The MOH are due to release their 2018 maternity whole of system strategy in December 2018, which could potentially impact through some short term investment requirements for maternity services.

Long term investment planning is currently underway with SIP to develop work programmes focusing on improving equitable outcomes and increasing the capability of maternity services in the Porirua area - where the greatest needs are seen for women and babies in our region.
1. PURPOSE

The purpose of this paper is to update the Health System Committee (HSC) on key national processes, local highlights and the performance of investments in services provided for the CCDHB population under nationally negotiated agreements: primary health organisation services (PHOs), older person services (ARC), and community pharmacy services (ICPSA).

HEALTH SYSTEM COMMITTEE DISCUSSION

Date: 24 October 2018

From
Rachel Haggerty, Director Strategy, Innovation and Performance

Author
Jan Marment, Senior Systems Development Adviser
Lisa Smith, Systems Development Manager
Russell Cooke, Senior Systems Development Manager
Sandra Williams, General Manager Primary and Complex Care

Subject
Investment and Performance - Primary Health Organisations, Older Persons Services and Community Pharmacies

RECOMMENDATION

It is recommended that the Committee:

1. Notes that from 1 December this year the Budget 2018 initiatives to provide people with greater access to primary care which will include access to low-cost general practice visits to all community service card holders; and free general practice visits for children under the age of 14.

2. Notes that in 2018/19 CCDHB will invest $67 million in local providers under the nationally negotiated Aged Residential Care Agreements for services that include rest home, continuing care, dementia and psychogeriatric services;

3. Notes that in 2018/19 CCDHB will invest $86 million in local providers under the nationally negotiated Community Pharmacy Services Agreements for services that include dispensing and other services provided by community pharmacies and the costs of the pharmaceuticals dispensed;

4. Notes the dashboards continue to show similar trends in performance and equity gaps. Health Care Homes and the 1 December implementation of the lower cost general practices fees for community services care holders and thirteen year olds is expected to reduce barriers to access and improve health outcomes for our population.

5. Notes this reporting is part of our process of improving our understanding of how our investments in the national agreements for community pharmacy, primary health organisations and aged residential care, are working for our population including equity (or not) of access to health services, ensuring these services are high quality and safe, and understanding how they improve health outcomes in our community.

APPENDICES

- PRIMARY HEALTH ORGANISATION PERFORMANCE DASHBOARD
- HEALTH OF OLDER PEOPLE PERFORMANCE DASHBOARD

1. PURPOSE

The purpose of this paper is to update the Health System Committee (HSC) on key national processes, local highlights and the performance of investments in services provided for the CCDHB population under nationally negotiated agreements: primary health organisation services (PHOs), older person services (ARC), and community pharmacy services (ICPSA).
2. PRIMARY HEALTH ORGANISATIONS

The performance of primary health organisations is a critical element of ensuring performance of the health system.

We have three PHOs in CCDHB:

- Ora Toa PHO, our iwi-owned primary health care provider who deliver services predominantly in the Porirua basin. They have 18,270 people enrolled, including 6,200 Māori and 6,500 Pacific.

- Karori Medical Centre (KMC), part of Cosine Primary Health Network with Ropata Medical Centre in the Hutt Valley. 14,660 people are enrolled with Karori Medical Centre, 13% are Asian people.

- Tū Ora Compass Health, our largest PHO with practices located across Kāpiti, Porirua, and Wellington. Almost 90% of our population are enrolled with a Tū Ora Compass Health practice

The Healthcare Home implementation and investment by Government in reducing the cost of care are important initiatives to reduce the cost barrier and improve access to primary care.

2.1 Implementation of the new primary care initiatives from 1 December

The Budget 2018 initiatives provide people with greater access to primary care. It is optional for a practise to implement the changes. General practices will choose whether to be part of these initiatives. The changes are:

- access to low-cost general practice visits to all community service card holders; and

- extending free general practice visits to children under the age of 14.

We are working closely with our PHOs to encourage practices to opt in to the initiatives. We currently have 100% of practices offering zero fees for children under the age of 13 and expect that we will achieve similar coverage for these new initiatives. By mid-November we will have a view of our coverage within the CCDHB area.

Low-cost general practice visits for community services card holders

Sixty-two thousand people enrolled in a CCDHB general practice hold a community services card (CSC). From 1 December, general practices can receive additional funding to reduce the co-payment for a person with a CSC to no more than $18.50 for enrolled adults and $12.50 for youth aged 14-17 for a standard daytime general practice consultation. This applies to the practice the person is enrolled in, it does not cover after-hours or casual consultations. Dependents of people with a community services card will also be able to access low-cost general practice visits, including young people aged 14-17. For ACC-related general practice visits, practices will receive extra funding from ACC to encourage them to provide ACC-visits at the same low-cost.

Extending zero-fee general practice visits to children under 14 years of age

From 1 December 2018, 3,500 13-year olds in CCDHB will be eligible to access general practice visits without paying fees. This is an extension of the current zero-fee scheme which provides 47,500 children aged under 13 with zero-fee general practice visits and exemption from the standard prescription co-payment charge on subsidised prescription items. After-hours services and injury related visits are included in this service.

2.2 PHO Performance Dashboard

The dashboard and commentary (see Appendix 1) provides a snapshot of the performance of our investment in Primary Health Organisations (PHOs). We expect to spend $62m in 2018/19 for services delivered under the PHO services agreement. The dashboard focuses on services provided under the PHO agreement.
In May 2018 we reported on the first PHO dashboard and highlighted areas where we were looking to improve equity performance (immunisation, more heart and diabetes checks, breast and cervical screening coverage) and areas with poor system impacts (higher emergency department presentations, ambulatory sensitive hospitalisations and acute medical admissions).

Immunisation coverage has improved at 8 months

The PHO have worked closely with the NIR team to ensure that they receive early advice on the children who need to be immunised and this has contributed to improvements in quarter 1 2018/19 over the results in previous quarter for 8 months coverage. Immunisation coverage at 8 months improved with Māori at 89% at the end of quarter 1 compared with 85% at the end of quarter 4. Pacifica has also improved to 91% from 90% at the end of quarter 4. Immunisation coverage at 24 months was also achieved at the end of quarter 4 for Pacifica.

For Māori immunisation coverage at 24 months sits at 92.6%, this rate drops at 5 years to 88.1%. Lower immunisation coverage rates for Māori are also experienced in other regions and the Ministry has started researching barriers to immunisation for Māori children. We continue to share work closely with all three PHOs around their systems and processes to improve performance. Our focus on Porirua Integration and Māori enrolment in primary care will support improvements in this area.

More heart and Diabetes Checks

The number of checks are currently below the target of 90% for all populations. Under the new guidelines the age of risk assessment for many population groups has been lowered but the recall for low risk people has been dropped to recall at 10-year intervals rather than 5 years. For 2018/19 the MOH requires the DHB and the PHO to develop a plan to implement the new guidelines during 2018/19. More information will be provided as the plan develops.

Breast and Cervical Screening

Cervical Screening-the results for Māori and Pacifica continue to lower than for our other population although for Māori women the results have improved since quarter 4 2017/18 (from 60.9% to 61.5%) A number of initiatives have taken place since the last dashboard report including a free clinic at Kenepuru which saw 45 women attend, a community breakfast led by the Pacifica Church, increased follow up calls by General practices to recall overdue women, and reducing barriers for deaf and disabled community by circulating cervical screening messaging and promotional material.

Breast screening- the screening coverage remains slightly below target from our Māori and Pacifica women although Māori has improved slightly and is up from 67.4% in quarter 4 2017/18 to 68% in quarter 4 2018/19. We are continuing to work collaboratively with Breastscreening Aotearoa and other stakeholders to improve performance.

Emergency department presentations, acute medical admissions and ASH

We are not meeting our target for Māori and Pacifica. By the end of 2018/19 78% of our population will be enrolled with a Health Care Home (HCH) practice (78% Māori and 73% Pacifica).

Practices already in the programme have demonstrated the ability to improve the presentation rates of hospital admission and ED attendances and as more practices enter the programme we should see performance impacts on these rates.

The approach to implementing the Health Care Home model is flexible for practices, with the core elements needing to be incorporated but the method left up to the practice. This allows practices to focus on addressing the needs and outcomes for their population. For example at Porirua Union and Community
Health Service (PUCHS) the priority for their population is reducing Do Not Attend (DNA) rates. PUCHS population is 49% Pacifica, 24% Māori, and 9 in 10 live in deprivation quintile 5 meaning travel to the practice can be a challenge. By implementing calls to DNA patients during morning phone triage some patients are able to access care over the phone, removing the need to visit the practice.

The Porirua Locality investment will contribute to reductions in these indicators as will the roll out of the extension of the under 13 free general practice visits and the increased access to low costs general practice visits.

3. OLDER PERSONS SERVICES

3.1 Updates on older persons national service agreement (Aged Residential Care Agreement)

The Annual Review Process
The annual general review of Aged Residential Care Agreements for 2019/20 has started. This review occurs annually under the terms of the agreement with ARC service providers. DHBs develop their responses to the issues raised Feb to March 2019. Price discussions timing are dependent on when the funding envelope information is available to DHBs.

ARC funding model review
The final review report is due in December 2018. Any changes are unlikely to come into effect for 1 July 2019.

The areas of focus for the funding model review are:

- A more refined case mix approach
- Accommodation payment / financing arrangements
- Mechanisms to support appropriate access to ARC for rural populations
- Mechanisms for procurement and funding primary care, pharmacy and allied health for ARC residents
- Funding settings relating to short stay and long stay care.

Pay equity impacts
Pay equity funding for ARC for 2018-19 has been agreed at $131m nationally. As pay equity is included in service level prices paid to ARC through DHB contracts this funding was included in DHB funding envelopes for 2018/19 ($7.5m for CCDHB).

In determining the level of funding required for pay equity for 2018/19, two key areas for further enquiry arose. The first was the distribution of workers across the pay scale driven largely by the qualifications of workers as reported by the sector. Neither the MoH nor DHBs have data to validate the accuracy of that reporting. The second matter related to the hours that support workers contribute to the care needs of the residents. In making the offer, DHBs have agreed to increase service levels prices for pay equity with the conditions that:

- The MoH undertake audits of a random selection of 5% to 10% of providers to ensure the appropriate validation of qualifications is being undertaken; and
- A process for collecting actual information on qualification levels and hours for the aged residential care and support workforce will be undertaken over the next 6 months. This will be an input into the future funding model work.

---

1 Health Care Home Second Year: Achievements and Reflections
In addition to the increase in service level prices, a $3m Transitional Support Fund is available for 2018/19. This fund will assist ARC providers negatively impacted by the pay equity allocation methodology. The fund will be based on the same principles that applied in 2017/18 and will use the same allocation methodology / criteria.

3.2 Older person service highlights

**Healthy Ageing Strategy – Ageing Well Goals:** Working across sectors on the socioeconomic determinants of health, develop and support the growth of age-friendly communities.

AgeConnect Kāpiti (Age Concern Kāpiti) was confirmed as one of the nine local not for profit community organisations to receive funding for 3 years from the Kāpiti Coast District Council to combat loneliness and social isolation. To kick-start their work, a stakeholder’s workshop to discuss increasing social connections for older people took place in Kāpiti. As a result, a working group of stakeholders is being set up.

Age Concern presented to the workshop offering research and innovations regarding loneliness and social isolation. CCDHB contracts with Age Concern on behalf of the 20 DHBs also hold the contract for the national visiting service. This service matches volunteers with older people who are lonely or isolated. The feedback is very positive for both the older people receiving the service and those volunteers who provide visiting and friendship.

**Performance Dashboard**

The dashboard and commentary provides a snapshot of the performance of our investment in older person services (see Appendix 2). The dashboard includes a selection of performance measures for the more widely used services accessed by the older person within CCDHB. The dashboard continues to show trends in line with the previous dashboards.

Between 1 May and the 30 September 2018 there has been 14 ARC audits. There has been an increase in the number of four-year certifications from 16 to 17. These four-year certifications are an indicator that the ARC facilities are providing good quality services.

We have refined the dashboard to improve our reporting on ethnicity and included two new indicators:

- Māori and Pacifica people in aged residential care or receiving home and community support services as a percentage of their ethnic group;
- Ratio of older people receiving funded supports in residential care compared with those supported at home.

Analysis shows that although Māori and Pacifica are lower in number in our older people population than they should be, they access Home and Community Support services (HCSS) in line with their population size. Eight percent of people over the age of 65 access HCSS services with 7.7% of Māori and 7.2% of Pacifica over the age of 65 accessing HCSS. Given they access ARC services at lower rates than our Other population we would have been expected them to access higher levels of HCSS. With the expectation that we will see more Maori and Pacifica in our older population our Health Aging investment Planning will be considering how in the future our services can better meet the needs of Māori and Pacifica.

We have added a comparison of the people supported at home compared with those in ARC because this is a broad indication of the DHBs ability to enable people to age in place and stay at home longer. Most DHBs are around the 60 (home: 40 (ARC) ratio and we have selected this as a target. CCDHB is within the target with 60% supported with HCSS and 40% supported with ARC services.

4. **COMMUNITY PHARMACY SERVICES AGREEMENT AND PHARMACEUTICALS UPDATE**

The section of the paper provides an update to the Health System Committee on the new community pharmacy contract (ICPSA) and an update on expenditure and drug usage data.
4.1 Integrated Community Pharmacy Services Agreement (ICPSA)

The negotiation of the new ICPSA with the community pharmacies took longer than originally expected. Over 1000 submissions were received during the consultation process. The consultation feedback resulted in a revised ICPSA agreement along with an extension of the existing contract. The new contract started on 1 October 2018 rather than on 1 July 2018. All of the community pharmacies within the CCDHB area signed the contract prior to commencement date. The major structural changes to the old CPSA are changing the agreement to an evergreen agreement with an annual review process; a split between dispensing and professional advice (although no change to the current arrangement occurs in at least the first twelve months; and the inclusion of local commissioning.

The 2% uplift agreed in the settlement has been paid out as an Additional Professional Advisory Services (APAS) payment to recognising the importance of the professional advisory services that community pharmacists provide.

Local Commissioning

Nationally $4.1m was allocated on a PBFF basis for local commissioning to DHBs. CCDHB’s allocation was $233k. Some is committed as part of the national agreement to an extension of the long-term care (LTC) pharmacy services with $97k available for new initiatives. We will use improving equity as a key principle in investment decisions. Areas of investment identified for the 2018/19 year include free emergency contraceptive consultations in the Porirua locality, Gout monitoring service in areas with high Māori and Pacifica populations, and extending the CPAMs2 service to more pharmacies.

4.2 LTC costs and issues

The long-term condition (LTC) service is a community pharmacy service for those clients who meet the criteria of having a (a) diagnosed Long Term Condition, (b) poor medicine adherence and, (c) the capacity and willingness to receive additional support. The service provided includes medicines reconciliation, synchronisation of dispensing and reminder services.

A national cap on registrations for this service is part of the agreement. The cap for CCDHB is 6,604 people. In June 2018 the numbers within CCDHB had reached 6,823 and 103.3% of the cap. Most of the growth had come from three community pharmacies whose numbers of LTC registrations had grown significantly over the past 6 months. The July figures indicated that while the growth had slowed, the numbers had reached 6,841 (103.6% of cap). In August we stopped registrations for the service. Our September figures show we are at 102.9% of cap and enrolments remain closed. Once the registration numbers fall below 99% the Pharmacies will be notified they can start again.

4.3 CCDHB Pharmaceuticals and Pharmacies Network (CPPN)

A CCDHB Pharmaceuticals and Pharmacies Network has been set up under the Integrated Care Collaborative (ICC) to progress local commissioning and to provide advice and oversight of projects. The members are community and HHS prescribers along with pharmacists from the various pharmacy sectors within CCDHB. The group will provide clinical governance for pharmacy facilitators, recommend and monitor local community pharmacy initiatives, and initiate and monitor projects involving pharmaceutical use in the community. The first of these projects involves the use of fentanyl patches in the elderly population. Work is also underway on polypharmacy work for the prefrail and frail populations. Kāpiti and Wellington are the first areas we are focusing on. Clinical pharmacists will work with a number of the practices within the Kāpiti and Wellington areas to review those patients who are on many medications (polypharmacy) and to work with GPs where the number of, or combinations of, medications may increase the risk of the patient having a fall.

2 Service for Warfarin patients- have their blood testing done at their local pharmacy
4.4 Pharmaceutical spend on patients aged 65 or over

As part of the wider healthy ageing investment planning approach we have analysed the pharmaceutical use for the over 65 year old group. The spending is highest in the 65-69 age group as there a higher number of people in this group. Overall, the spending has grown by an average of 5.1% over the last two years.

4.5 Pharmaceutical spend for each 5 year age group over the past 3 years

<table>
<thead>
<tr>
<th>Age Range</th>
<th>2015-16</th>
<th>2016-17</th>
<th>% Change</th>
<th>2017-18</th>
<th>% Change</th>
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<td>65 to 69</td>
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<td>3.1%</td>
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<td>85 to 89</td>
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<td>$22,489,704</td>
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</table>

Standardising the data by head of population presents a different picture with peak spending per head occurring later in life (75 onwards) and the total spend only increasing an average of 1% per head per year. This development of clinical pharmacy support to prevent polypharmacy (Kāpiti Item 2.2) in older people is an important initiative to improve health outcomes and potentially reduce avoidable expenditure.

4.6 Pharmaceutical spend for 5 year age groups for previous 3 years divided by relevant population

<table>
<thead>
<tr>
<th>Age range</th>
<th>2015/16</th>
<th>2016/17</th>
<th>2017/18</th>
</tr>
</thead>
<tbody>
<tr>
<td>65 to 69</td>
<td>$432.79</td>
<td>$462.30</td>
<td>$482.34</td>
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<td>70 to 74</td>
<td>$519.65</td>
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<td>75 to 79</td>
<td>$621.35</td>
<td>$604.49</td>
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<td>80 to 84</td>
<td>$541.40</td>
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<td>90+</td>
<td>$626.02</td>
<td>$615.64</td>
<td>$571.14</td>
</tr>
<tr>
<td>Total</td>
<td>$523.36</td>
<td>$534.04</td>
<td>$534.32</td>
</tr>
</tbody>
</table>

5. CONCLUSION

This report brings together an analysis of $215m of investment in our community health system. The reporting improves our understanding of how this investment is working for our population including equity (or not) of access to health services. It helps to ensure these services are high quality and safe, and our understanding of how they improve health outcomes in our community.

The Health System Committee will receive regular dashboard reports that build the confidence of the Board and identify and monitor opportunities to improve the impact of our investment on our community’s health and wellbeing.
HEALTH SYSTEMS COMMITTEE DISCUSSION

Date: 24 OCTOBER 2018

Author
Tara D’Sousa, Team Leader Analytical and Policy, Regional Public Health

Endorsed by
Peter Gush, Service Manager, Regional Public Health

Subject
Healthy Housing Update

RECOMMENDATION

It is recommended that the Board:

a) Notes the information provided as an update from the housing discussion of HSC August 2018 meeting.

b) Considers the investment opportunity proposed for healthy housing assessment and advice services to be provided by Well Homes to those whānau with children experiencing Asthma and Acute upper respiratory tract infection.

c) Notes the interim report on Well Homes services provided for Pacific whānau 1 March – 31 August 2018 as interim data prior to definitive qualitative analysis that will emerge from the Well Homes programme evaluation being done in 2019.

APPENDICES

2. Risk Of Rehospitalisation And Death For Vulnerable New Zealand Children - Archives Of Disease In Childhood 2018

1. PURPOSE

The purpose of this paper is to inform and respond to relevant recommendations and actions relating to previous Housing and Health presentations. This paper responds to and follows up on earlier papers from Dr. Nevil Pierse and Regional Public Health presented to the HSC 29 August 2018 meeting.

2. BACKGROUND

2.1 Housing and Health (Assoc. Prof. Nevil Pierse); Regional Public Housing Approach (RPH)

In summary, the two papers presented to HSC 29 August 2018, provided data (Source: University of Otago) to give evidence of the correlation between housing conditions and whānau health. They also provided information about Well Homes housing assessment and advice services as well as a regional healthy housing response co-facilitated by the partners of Well Homes and Greater Wellington Regional Council.

2.1.1 Recommendations and Actions (Ref CCDHB Minutes of HSC 29 August 2018)

HSC recommends to the Board:

a) To maintain a close watch on the role of healthy housing in supporting health and wellbeing and in particular its impact on hospital admissions.

b) To support RPH’s approach to housing and its leadership within the regional healthy housing response group

c) To consider healthy housing investment opportunities as part of the 2019/20 budget setting process.
To take the issue of a collective DHB response to healthy housing as a key health determinant to the national Chairs and CEs meeting.

**Actions:**
1. Nevil to provide the report showing that intervention to the current 300,000 people made a difference to healthy housing.
2. Staff to provide regular data and reporting of impact from health housing action.
3. HSC to write to the Greater Wellington Regional Council to ask it to consider regulating heating methods within the region.
4. CCDHB to submit to the consultation on changes to the RTA and any upcoming consultations on new regulation to be introduced under the Healthy Homes Guarantees Act.

### 2.1.2 Regional Public Health Response

RPH appreciates the support of HSC for our healthy housing approach. Assoc. Prof. Nevil Pierse has provided the report Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme\(^1\) (Appendix 1). A summary is provided in 3.1.

RPH agrees that there are healthy housing investment opportunities and, in conjunction with He Kainga Oranga (University of Otago), provides a relevant data set extracted from the report Risk of rehospitalisation and death for vulnerable New Zealand children - Archives of Disease in Childhood 2018 for CCDHB HSC to consider\(^2\) (Appendix 2). This data is set out in 3.2.

RPH agrees to provide regular data and any reporting that will highlight outcomes and impacts from healthy housing. RPH takes the opportunity of this HSC October meeting to provide updated data to address queries from HSC members about Well Homes housing services delivered to Pacific whānau. This data and information is set out in 3.3.

### 3 DISCUSSION

#### 3.1 Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme

This reports on the first 100,000 homes of the Warm-up New Zealand study. 300,000 homes have been done overall, but the impact has only been researched for the first 100,000. Under the programme, subsidies are provided towards the costs of retrofitting insulation and/or installing clean heating for houses built before 2000.

The overall results suggest that the programme as a whole has had sizeable net benefits, with the study’s central estimate of programme benefits being almost five times resource costs attributable to the programme. The central estimate of gross benefits for the programme is $1.28 billion compared with resource costs of $0.33 billion, a net benefit of $0.95 billion.

The results are dominated by the health benefits, which represent approximately 99% of the total benefits.

#### 3.2 Housing Investment Opportunities

Below is the table of diseases which lists potentially avoidable hospitalisations diseases (PAH), those due to the home environment (PAHHE), diseases linked to crowding (Crowding Criteria) and those current eligible diseases that are funded for housing interventions by Ministry of Health (MoH).

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\(^1\) Arthur Grimes, Tim Denne, Philippa Howden-Chapman, Richard Arnold, Lucy Telfar-Barnard, Nicholas Preval and Chris Young. Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme

In this table, those referrals received by Well Home fall within the “Yes” diseases and corresponding ICD codes. The MoH funding does not cover those whānau with children experiencing, for example, Asthma and Acute upper respiratory tract infection excluding croup, ICD Codes J45, J46, J00-J03, J06 (see highlighted “No”). Well Homes has capacity to provide additional services for this cohort were they to be funded by CCDHB, for example, as a start. The approximate numbers in this cohort would be 200-300 children annually based on National Minimum Data Set (NMDS) data.

<table>
<thead>
<tr>
<th>Potentially avoidable hospitalisation (PAH)</th>
<th>PAHHE Criteria (housing &amp; physical environment)</th>
<th>Crowding Criteria</th>
<th>MoH Criteria</th>
<th>ICD codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute bronchiolitis</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>J21</td>
</tr>
<tr>
<td>Acute rheumatic fever</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>I00-I02</td>
</tr>
<tr>
<td>Bacterial meningitis</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>G00,G01</td>
</tr>
<tr>
<td>Bacterial/ Unspecified pneumonia</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>J13-J16, J18</td>
</tr>
<tr>
<td>Bronchiectasis</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>J47</td>
</tr>
<tr>
<td>GAS sepsis</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>A400</td>
</tr>
<tr>
<td>Meningococcal disease (includes meningococcal meningitis)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>A39</td>
</tr>
<tr>
<td>Viral / other / unspecified meningitis</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>A87,G02,G03</td>
</tr>
<tr>
<td>Viral pneumonia</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>J12, J100,J110</td>
</tr>
<tr>
<td>Urinary tract infection¹</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>N10, N12,N300,N390,N136,309</td>
</tr>
<tr>
<td>Acute upper respiratory tract infection excluding croup</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>J00-J03, J06</td>
</tr>
<tr>
<td>Asthma</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>J45, J46</td>
</tr>
<tr>
<td>Croup, acute laryngitis, tracheitis</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>J04 J050</td>
</tr>
<tr>
<td>Dermatitis/eczema</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>L20-L30</td>
</tr>
<tr>
<td>Febrile convulsions</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>R560</td>
</tr>
<tr>
<td>Gastroenteritis</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>A00-A09,R11, K529</td>
</tr>
<tr>
<td>Nutritional deficiency</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>E40-E64, D50-D53</td>
</tr>
<tr>
<td>Otitis media</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>H65-H67</td>
</tr>
<tr>
<td>Skin infection</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>L00-L05,L08,L980,J340,H010,H000</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>A15-A19</td>
</tr>
<tr>
<td>Vaccine preventable diseases (tetanus neonatorum, congenital rubella, tetanus, diphtheria, pertussis, polio, hepatitis B, measles, rubella, mumps)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>P350,A33,A34,A35,A36, A37,A80, B16,B180,B181,B05,B06,B26, M014</td>
</tr>
<tr>
<td>Viral infection of unspecified site</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>B34</td>
</tr>
<tr>
<td>Constipation</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>K590</td>
</tr>
<tr>
<td>Dental (dental caries, pulp, periodontal)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>K02,K04,K05</td>
</tr>
<tr>
<td>Gastro oesophageal reflux</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>K21</td>
</tr>
<tr>
<td>Osteomyelitis</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>M86</td>
</tr>
</tbody>
</table>
3.3 Well Homes housing services delivered to Pacific whānau

At the August 2018 HSC Meeting, pertinent questions were asked of RPH staff about the impact of the Well Homes programme for Pacific whānau. While this cannot be fully qualified till 2019 when the programme evaluation takes place by He Kainga Oranga, we are able to provide some interim data below from Well Homes for the period 1 March 2018 – 31 August 2018, to quantify the focus on Pacific whānau (as well as Māori). Also included is updated information about our partner Pacific providers and colleagues participating in governance of the combined Well Homes and Rheumatic Fever (RF) group, as well as in the regional healthy housing response group.

Pacific providers we work closely with:

- Hutt Valley Pacific Health Services
- Taeaomanino Trust
- Compass Porirua
- Naku Enei Tamariki
- Wesley Community Action Porirua
- Pacific Health Units (HVDHB and WPH)

Pacific representatives on the Well Homes Combined RF and WH Governance Group and Regional Healthy Housing Response Group:

- Anne Allen Moetaua, Health Development Manager, Central Pacific Collective
- Taima Fagaloa, Capital and Coast DHB
- Tofa Suafole Gush, Director Pacific Peoples Health, Wairarapa and Hutt Valley DHB
Well Homes follows up whānau whose homes have been assessed and received interventions such as insulation, heating, curtains, beds and bedding, repairs etc. After a minimum of six months, they receive and respond to a survey that looks like this:

Analyses and results from this survey for the period 1 Mar 2018 – 31 August 2018 will be able to be shared in the second quarter of 2019.

4 NEXT STEPS

RPH will prepare a letter for HSC to the Greater Wellington Regional Council to ask it to consider regulating heating methods within the region.

RPH is working with CCDHB to submit to the consultation on changes to the RTA and any upcoming consultations on new regulation to be introduced under the Healthy Homes Guarantees Act.

RPH will keep HSC informed about substantive developments in the housing space.
Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme

Arthur Grimes\(^{(1)}\), Tim Denne\(^{(2)}\), Philippa Howden-Chapman\(^{(3)}\), Richard Arnold\(^{(4)}\), Lucy Telfar-Barnard\(^{(3)}\), Nicholas Preval\(^{(3)}\) and Chris Young\(^{(1)}\)

\(^{(1)}\) Motu, Wellington; \(^{(2)}\) Covec; \(^{(3)}\) He Kainga Oranga/Housing and Health Research Programme, University of Otago, Wellington; \(^{(4)}\) Department of Mathematics, Victoria University of Wellington

Prepared for

Ministry of Economic Development
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1.2 The Programme

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2 Cost Analysis

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4 Net Benefits and Conclusions

4.1 Net Benefits

4.2 Potential Programme Refinements

Annex 1 Heating Profiles
Executive Summary

Background
This report summarises the results of an analysis of the costs and benefits of the Warm Up New Zealand: Heat Smart programme. Under the programme, subsidies are provided towards the costs of retrofitting insulation and/or installing clean heating for pre-2000 houses. The benefits that are included in this report are analysed in more detail in three separate papers produced as part of this study that assess the impacts on energy use, health outcomes and producer surpluses, with additional data on employment. The costs of the programme are also assessed in this report and include the costs of the additional insulation and clean heating plus the administrative costs falling on the government. Administrative costs for companies are assessed as part of the report on impacts on industry.

To analyse the effects we include the following key assumptions:
- some houses that receive subsidised treatments (insulation or clean heating) under the programme would have installed insulation or clean heating anyway. We use the results of regression analysis to estimate that 74% of the treatments are additional, within a range of 36% to 113%. The high figure is explainable by the programme resulting in publicity that encourages others to install insulation or clean heating outside the programme;
- a (real) discount rate of 4%, with sensitivity analysis using 2.5% and 8%. We discount the costs and benefits to the first year of the programme (2009/10); and
- benefits are analysed over 30 years for insulation and ten years for clean heat.

Costs
The costs considered are those of government administration, the deadweight costs of taxation and the resource costs of the insulation and clean heating.

- Administration costs include EECA staff, marketing, audits and other costs, eg, travel and legal advice. Some proportion of the labour costs would have a zero opportunity cost as, in the absence of the programme, they would have been expected to be unemployed;
- The deadweight costs of taxation are included to take account of the distortionary effects of tax that must be raised to pay for the subsidy (net of GST paid on installation and products). We use a value recommended by the

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4 Covec (op cit)
5 This analysis is described in Covec (op cit)
Treasury that public expenditures should be multiplied by a factor of 1.2 to take account of these deadweight costs;

- The cost of the installations is a resource cost and is equal to the opportunity cost of allocating resources to the production and installation of insulation and clean heating. In calculating opportunity costs we deduct producer surplus and costs of labour that would otherwise be unemployed from gross costs.

The costs are summarised in Table ES1.

Table ES1  Annual Costs of the Programme ($ million)

<table>
<thead>
<tr>
<th>Item</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>6.8 - 8.0</td>
<td>6.6 - 7.6</td>
<td>6.0 - 7.0</td>
<td>3.2 - 3.7</td>
</tr>
<tr>
<td>Deadweight costs of taxation</td>
<td>16.9</td>
<td>16.9</td>
<td>4.8</td>
<td>14.9</td>
</tr>
<tr>
<td>Costs of Insulation + installation</td>
<td>52.5</td>
<td>49.9</td>
<td>64.1</td>
<td>14.7</td>
</tr>
<tr>
<td>Costs of Clean heaters + installation</td>
<td>18.9</td>
<td>16.9</td>
<td>42.5</td>
<td>12.1</td>
</tr>
<tr>
<td>Total (1)</td>
<td>95.7</td>
<td>90.8</td>
<td>117.8</td>
<td>45.2</td>
</tr>
</tbody>
</table>

(1) Using the mid-point of the range of administration costs

**Benefits**

The benefits analysed in this study have been limited to those that can be assessed using measured changes in metered energy consumption and in independently measured health costs (prescriptions, hospitalisations and benefits of reduced mortality). In addition, we have adopted some values of additional health benefits from prior studies.

For both energy and health impacts, the effects were analysed by obtaining addresses of houses that have been treated under the programme. We used QVNZ data to identify houses with similar characteristics to these to set up intervention and control datasets. Data were then obtained from energy companies on changes in metered energy use for before and after treatment, and health data were obtained relating to hospitalisations (including mortality outcomes) and prescription charges for people at those addresses.

The energy savings were estimated by region and by month. We adopt the energy report’s primary estimate of energy savings, which was more conservative than some other estimates of savings in that report. These estimated savings were subsequently spread over time of day using EECA assumptions on heating energy use profiles. Time of day prices were then used to calculate the benefits. We used a wholesale electricity price to value the savings in kWh. Reductions in winter peak electricity demand were used to identify potential savings in generation and transmission capacity; this was combined with values of new capacity. Gas does not have time of day prices and we have used a simpler approach to measuring the value of savings in gas use, based on a commercial gas price that includes savings in wholesale gas costs and transmission.
costs. Because we have limited the assessment to metered energy use, reductions in other energy (natural gas use) is limited to the North Island.

The present value of estimated savings at a 4% discount rate is shown in Table ES2.

Table ES2  Net Present Value ($ million) of Electricity and Other Energy Savings

<table>
<thead>
<tr>
<th></th>
<th>Insulation</th>
<th>Clean heat</th>
<th>Total</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Energy</td>
<td>CO$_2$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>24.4</td>
<td>0.2</td>
<td>24.6</td>
<td></td>
</tr>
<tr>
<td>Other Energy</td>
<td>-1.3</td>
<td>-0.2</td>
<td>-1.5</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>23.1</td>
<td>-0.0</td>
<td>23.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Energy</td>
<td>CO$_2$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-7.0</td>
<td>-0.1</td>
<td>-7.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.9</td>
<td>0.1</td>
<td>0.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-6.1</td>
<td>0.0</td>
<td>-6.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Health benefits differ depending on the income level of houses, measured on the basis of whether they were Community Service Card (CSC) holders or not; CSCs are available to low and middle income earners. The present values of health benefits are estimated using both a conservative approach and a more focussed approach, where the latter resulted in a wider estimate of potential benefits. The results at a 4% discount rate are shown in Table ES3.

Table ES3  Present value of health benefits at different discount rates ($ million)

<table>
<thead>
<tr>
<th></th>
<th>Conservative</th>
<th>Focussed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC Insulation</td>
<td>802</td>
<td>892</td>
</tr>
<tr>
<td>Other insulation</td>
<td>460</td>
<td>550</td>
</tr>
<tr>
<td>Total insulation</td>
<td>1,263</td>
<td>1,443</td>
</tr>
<tr>
<td>CSC Clean heat</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other clean heat</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total clean heat</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>1,266</td>
<td>1,446</td>
</tr>
</tbody>
</table>

The net employment impacts of the programme, i.e. additional jobs that would not exist in the absence of the programme, are estimated to be approximately 71-424 full time equivalents (FTEs) in the first year and to peak at 94-560 FTEs in 2001/12.

Net Benefits

The total costs and benefits (using the conservative estimates for both health benefits and energy savings) are summarised in Table ES4 at different discount rates and with different assumed levels of additionality (central = 74%, low = 36%, high = 113%).

Table ES4  Present Value of Total Costs and Benefits ($ million)

<table>
<thead>
<tr>
<th>Additionality:</th>
<th>Discount rate:</th>
<th>Central 4%</th>
<th>Central 2.5%</th>
<th>Central 8%</th>
<th>Low 4%</th>
<th>High 4%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs</td>
<td></td>
<td>23</td>
<td>24</td>
<td>22</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>Admin costs</td>
<td></td>
<td>51</td>
<td>52</td>
<td>49</td>
<td>58</td>
<td>44</td>
</tr>
<tr>
<td>Deadweight costs of tax</td>
<td>173</td>
<td>176</td>
<td>165</td>
<td>83</td>
<td>263</td>
<td></td>
</tr>
<tr>
<td>Installations - insulation</td>
<td>85</td>
<td>87</td>
<td>81</td>
<td>41</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>Sub-total</td>
<td></td>
<td>332</td>
<td>339</td>
<td>317</td>
<td>205</td>
<td>460</td>
</tr>
<tr>
<td>Benefits</td>
<td></td>
<td>17</td>
<td>21</td>
<td>10</td>
<td>8</td>
<td>25</td>
</tr>
<tr>
<td>Energy</td>
<td></td>
<td>1,266</td>
<td>1,541</td>
<td>816</td>
<td>608</td>
<td>1,926</td>
</tr>
<tr>
<td>Health</td>
<td></td>
<td>1,283</td>
<td>1,562</td>
<td>827</td>
<td>616</td>
<td>1,951</td>
</tr>
<tr>
<td>Sub-total</td>
<td></td>
<td>951</td>
<td>1,224</td>
<td>510</td>
<td>411</td>
<td>1,492</td>
</tr>
</tbody>
</table>

>
The results suggest that there are positive net benefits of the programme at all discount rates examined, including with assumptions of low levels of additionality.

The results are dominated by the health benefits, which represent approximately 99% of the total benefits. There are additional benefits that we have not been able to include in our analysis, eg. comfort benefits associated with additional interior warmth, and savings in other fuels that we have not measured (changes in consumption of coal, wood and LPG). On the basis of the analysis in this study, we conclude that the dominant benefits (gross and net) of the programme are attributable to the insulation component of the scheme. We are unable to conclude whether there are net benefits or net costs associated with the inclusion of clean heating in the programme, but it is reasonable to conclude that the (positive or negative) net benefits of this component are small by comparison to those for insulation.

The largest component of costs is the costs of the installations themselves, ie. the direct costs of insulation materials, clean heaters, and the labour costs for installations.

The energy study found that energy benefits from insulation were greatest for houses in cooler regions. In addition, clean heating resulted in greater total metered energy savings for houses that had reticulated gas than for other houses. The health impacts study shows clear differences between the effects on low to middle income earners and other households, with significantly larger benefits for Community Service Card (CSC) holders.

The overall results suggest that the programme as a whole has had sizeable net benefits, with our central estimate of programme benefits being almost five times resource costs attributable to the programme. The central estimate of gross benefits for the programme is $1.28 billion compared with resource costs of $0.33 billion, a net benefit of $0.95 billion. Nevertheless, even greater benefits may be achievable through consideration of four targeting strategies:

1. Prioritise the insulation component of the programme relative to the clean heating component of the programme.
2. Target clean heating to houses that use reticulated gas rather than electricity for heating prior to treatment.
3. Target insulation to houses in cooler rather than warmer areas.
4. Target insulation to low and middle income earners and other at-risk groups in terms of illness.
1 Introduction

1.1 Background
This report summarises the results of an analysis of the costs and benefits of the Warm Up New Zealand: Heat Smart programme. Under the programme, subsidies are provided towards the costs of retrofitting insulation and/or installing clean heating for pre-2000 houses. The benefits of the programme are expected to comprise:

- improvements in comfort of houses because of increased temperatures and reduced damp and draught;
- improved health outcomes as a result of the changes in temperature and damp/draught;
- increased energy efficiency of houses (reduced energy requirement to meet temperature outcomes) that may result in some overall reduction in energy consumption;
- an increase in employment and production, at a time of depressed economic activity, as a result of increased activity in affected sectors.

The benefits are expected to be shared between households and the producers and installers of insulation. The different benefits have been analysed in three separate papers produced as part of this study. These analyse the impacts on:

- energy use;
- health outcomes; and
- producer surpluses, with additional data on employment.

The producer surplus and additional employment benefits are deducted from gross costs in order to calculate the actual resource costs (ie. opportunity costs) of the programme.

The costs of the programme are assessed in this report and include the resource costs of the additional insulation and clean heating plus the administrative costs falling on the government. Administrative costs for companies are assessed as part of the report on impacts on industry. The costs of the programme are then compared with the benefits to arrive at a calculation of net benefits attributable to the programme.

The different elements of the analysis are set out below.

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11 Covec (op cit)
1.2 The Programme

The Warm Up New Zealand: Heat Smart programme started in July 2009 and provides co-funding to encourage the retrofitting of insulation and clean heating to houses built prior to 2000. It replaced or enhanced a number of existing government retrofit programmes. The underlying objectives of the programme are:

- Helping New Zealanders to have warm, dry, more comfortable homes;
- Improving the health of New Zealanders;
- Saving energy;
- Improving New Zealand’s housing infrastructure through the uptake of cost effective energy efficiency measures; and
- Stimulating employment and developing capability in the insulation and construction industries.

The programme provides partial funding for the purchase and installation of eligible products by approved providers. Depending on their existing insulation and heating, and the characteristics of the house, applications to the Fund may be for funding for insulation and clean heat, insulation only, or clean heat only. The elements of the programme are set out in Table 1.

Table 1 Eligible Recipients of Programme Funding

<table>
<thead>
<tr>
<th>Recipients(1)</th>
<th>Insulation</th>
<th>Clean heating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homeowners who hold Community Services Cards</td>
<td>60% of the total cost, or more(2)</td>
<td>$1200 (incl GST)</td>
</tr>
<tr>
<td>Landlords with tenants who hold Community Services Cards</td>
<td>60% of the total cost</td>
<td>$500 (incl GST)</td>
</tr>
<tr>
<td>All other houses</td>
<td>33% of the total cost up to $1300 (incl GST)</td>
<td>$500 (incl GST)</td>
</tr>
</tbody>
</table>

(1) All houses must be built prior to 2000; (2) May be higher, if installation qualifies for a special project where third party funding from charities, lines companies or councils is provided.

Source: www.energywise.govt.nz/funding-available/insulation-and-clean-heating

The number of houses treated under the programme to date, and the number that are in current targets for future years, are set out in Table 2.

Table 2 Number of houses treated under the programme

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Actual Installations</th>
<th>Targeted Installations</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>09/10</td>
<td>10/11</td>
<td>11/12</td>
</tr>
<tr>
<td>Insulation retrofits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low income</td>
<td>29,249</td>
<td>23,184</td>
<td>18,000</td>
</tr>
<tr>
<td>Other</td>
<td>22,414</td>
<td>25,912</td>
<td>45,000</td>
</tr>
<tr>
<td>Total</td>
<td>51,663</td>
<td>49,096</td>
<td>63,000</td>
</tr>
<tr>
<td>Clean heat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low income</td>
<td>7,012</td>
<td>5,692</td>
<td>6,000</td>
</tr>
<tr>
<td>Other</td>
<td>5,646</td>
<td>5,635</td>
<td>22,500</td>
</tr>
<tr>
<td>Total</td>
<td>12,658</td>
<td>11,327</td>
<td>28,500</td>
</tr>
</tbody>
</table>

Source: EECA
1.3 Expected Effects – Lessons from Previous Research

Prior research has shown that the thermal quality of housing affects the health of the population and household energy use. Housing improvements, especially to those exposed to substandard housing, can help improve the health of occupants and potentially prevent ill health. Also, retrofitting houses with insulation and/or clean heating can lead to energy savings through houses becoming more energy efficient, although the savings are limited by the extent that households increase household temperatures (comfort levels) following these retrofits.

1.3.1 Health Effects

Inadequately warmed homes can have health consequences for occupants, particularly during winter periods. Colder houses place greater stress on older people, babies and the sick, and are more likely to be damp and provide a more favourable growing environment for mould that can cause respiratory symptoms. By improving housing quality, especially warmth, these consequences can be minimised and health improvements can be generated.

The potential for health improvements depends on the baseline housing conditions and how well targeted intervention is. There is clear evidence showing that housing interventions can improve house quality, and that these interventions to improve house quality can yield important savings in medical care and improvements in quality of life. Previous research by the University of Otago Housing and Health Research Programme (H&HRP) found a suggestive reduction in respiratory hospitalisations after insulation was retrofitted in dwellings (p=0.16 adjusted).

1.3.2 Energy Savings

Retrofitting insulation and installing efficient clean heating improves the energy efficiency of the dwelling, and can lead to energy savings. Research in

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20 Jacobs et al (op cit)
Christchurch demonstrated that houses can decrease electricity consumption by around 5% after having insulation retrofitted, and have also been shown to decrease average peak electricity consumption by 18% during winter months. Other New Zealand research has found that houses subject to intervention save on average $25.53 per year on total energy, but spend on average $10.51 more per year on electricity use. Magnitudes of electricity savings are also dependent on the type of heating source being replaced and what it is being replaced with.

Energy efficiency gains can be received by households wholly as energy savings, and therefore reduced household energy costs, or they can substitute part of the cost savings for improvements in comfort and warmth that help to improve health outcomes, a phenomenon commonly known as the ‘take-back’ or ‘rebound’ effect. Evidence exists that the majority of households ‘take-back’ energy efficiency improvements as increased comfort levels and that low indoor temperatures induce ‘take-back’ effects, but the magnitude of ‘take-back’ reduces as the baseline temperature increases.

1.3.3 Impacts on Producers and Installers

Little research exists specifically looking at the impacts of policies aimed at improving house quality on producers and installers of insulation and clean heating, or the impact on employment levels. Historical data from Statistics New Zealand suggest that imports of glass fibre insulation have noticeably increased in the last three years; however, employment of insulation installers varies depending on the season. Maré discusses impacts of active labour market policies, with respect to wage subsidies, and finds that

28 Chapman et al (op cit)
29 Orion Ltd (op cit)
30 Preval et al (op cit)
32 Berkhout et al (op cit)
policies aimed at improving employment levels have a net employment effect (total additional employment over what would have happened otherwise) of around 5-10% of gross employment outcomes (total employment as a result of policy). 36

1.4 Methodology
Taking account of the results of previous studies, the cost benefit analysis (CBA) incorporates the following costs and benefits:

Costs
- The administrative costs of the programme for the government;
- The costs of raising revenue for the subsidy – the deadweight costs of taxation;
- The costs of the insulation and clean heaters.

Benefits
- The reductions in energy costs;
- The savings in CO2 emission costs not included in the fuel price;
- Improvements in health outcomes;
- Producer surpluses for suppliers of insulation and clean heaters, ie. the difference between the price and the costs of supply.

The analysis applies to the insulation and clean heating that is estimated to have been installed as a result of the programme, recognising that some proportion of the total number of households that received a subsidy would have installed these products anyway.

The benefits are estimated over the expected duration of those benefits. For insulation this might be a long period, ie. the duration of the house. The duration of a clean heater is expected to be shorter. However, it is likely that, for some houses at least, some proportion of the benefit will not be additional as it is bringing the timing of the installation forward in time, rather being an absolute saving, ie. some of the houses that received insulation or heating under the programme would have purchased it in the absence of a subsidy at some point in the future; this also means some of the costs are also simply brought forward in time. The starting place is an assumption that insulation benefits will last for 30 years37 and clean heating for 10 years.

Costs and benefits that fall in different time periods are discounted and we discuss the discount rate used below.

1.4.1 Wider Economic Impacts
The terms of reference for the analysis include consideration of the wider economic impacts of the programme, particularly on employment. These issues were addressed in the separate report on producers and employment, and we extend the findings from

that report to the whole programme in this report. Employment benefits are not part of the cost benefit analysis (the analysis does not attribute additional benefits to employment per se). Rather, labour costs are included on the basis of their opportunity costs (the assumption that the costs of labour in insulation and clean heat provision reflect the value of the labour in some other alternative activity that is displaced). However, labour is measured as having a zero cost if it would otherwise have been unemployed. Thus, in this analysis, some proportion of the private costs of insulation is not counted as an opportunity cost.

1.5 Discount Rate

Discount rates are used in cost benefit analysis to take account of the opportunity costs relating to the timing of costs and benefits. There are two broad approaches:

- Discount rates based on the opportunity cost of consumption assume that policy changes the timing of consumption, eg. spending on insulation/clean heating displaces the consumption of other goods and services, and the benefits of reduced energy and medical costs allows additional consumption. Discount rates based on the opportunity cost of consumption reflect the preference of people to consume sooner rather than later, the expectation of rising incomes (and thus an expectation of a declining marginal utility of income) and some risk of disaster that will not enable future consumption.

- Discount rates based on the opportunity cost of investment assume that policy displaces investment that would have earned a return, eg. spending on insulation/clean heating reduces savings and the availability of capital. Discount rates based on the opportunity cost of investment measure expected market returns on marginal investments.

NZ Treasury recommends an approach that is based largely on an estimate of the opportunity cost of investment (or opportunity cost of capital), estimated as the pre-tax rate of return on investment by the private sector. However, many other countries use rates based on an opportunity cost of consumption (social rate of time preference). The approaches result in a wide range of values, from 2-3% in the US for environmental projects, 3.5% (but falling to 1% for costs and benefits in the distant future) in the UK and 10-15% in a number of developing countries.

The New Zealand Treasury recommends a rate of 8% (real) for energy policy and other policy issues where there is no specific rate. However, other analyses in New Zealand have produced much lower numbers including an estimate by MED of a social rate of time preference of 4.4% (real) undertaken in the context of choosing a discount rate for analysing the government’s energy strategy, and a rate of 2.7% to 4.2% (real).

40 Harrison op cit
recommended by Castalia for use in the Grid Investment Test to analyse the costs and benefits of upgrades to the electricity transmission system.\textsuperscript{42}

For analytical robustness and to cover this range, we have used real discount rates of 2.5%, 4% and 8%.

### 1.6 Additionality

As noted above, some of the activity subsidised under the programme would have occurred without it. Part of the analysis is thus the degree of additionality, i.e. the proportion of the total number of installations that are additional to that which would have occurred without the programme.

The costs and benefits of the programme include fixed and variable elements. The fixed elements are the costs of administering the programme, including the costs associated with raising the revenue for the subsidy. These apply regardless of the extent to which the programme encourages additional production and installation of insulation and clean heating.

In contrast, the benefits of the programme and the costs of additional supply of insulation/clean heating are proportional to the estimate of additionality. Where the subsidies have been applied to insulation and clean heating that would have been installed in the absence of the programme there are no benefits and no additional costs of production and installation.

Additionality has been estimated on the basis of econometric analysis of sales of insulation. Regression analysis was used to explain the quantity of insulation installed on the basis of building consent activity and the number of houses subsidised.\textsuperscript{43} In the central estimate, 74\% of the houses that were insulated under the programme would have not have installed insulation in the absence of the subsidy (Table 3). It was not possible to undertake a similar analysis for clean heating as no factors were identified to explain the number installed historically. In estimating the producer surplus associated with clean heating the same assumption was used as for insulation, i.e. that 74\% were additional.

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Quantity installed per house (m(^2))</th>
<th>Total quantity installed (million m(^2))</th>
<th>% of Subsidised</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsidised Sample</td>
<td>171.1</td>
<td>8.8</td>
<td>100</td>
</tr>
<tr>
<td>Low</td>
<td>61.1</td>
<td>3.2</td>
<td>35.7</td>
</tr>
<tr>
<td>Central</td>
<td>127.2</td>
<td>6.6</td>
<td>74.3</td>
</tr>
<tr>
<td>High</td>
<td>193.4</td>
<td>10.0</td>
<td>113.0</td>
</tr>
</tbody>
</table>


The analysis of additionality was based on few data points: data were available for seven years only and three in which a subsidy programme existed. Reflecting the small

\textsuperscript{42} Castalia (2006) Discount Rate for the Grid Investment Test. Report to Transpower

\textsuperscript{43} Covec (2011) Impacts of the NZ Insulation Fund on Industry and Employment. Report for the Ministry of Economic Development
number of data points, there was a significant uncertainty range: 36% to 113% at the 95% confidence level. This wide range of additionality estimates is used in sensitivity analysis.

However, this analysis represents only one aspect of additionality. One possibility is that the benefits that flow from the subsidised installations only bring these expenditures forward in time rather than representing fully additional expenditures. These effects could be picked up if a longer dataset was available. However, we have no data to test this hypothesis and instead we illustrate the effects of assuming a shorter duration of benefits using a sensitivity analysis.
2 Cost Analysis

2.1 Government Administration Costs
To administer the programme, EECA employs 22.5 full time equivalents (FTEs) and 2.1 FTEs of contracted labour. The costs associated with this are estimated at $2.5 million in the first year and to total $7.3 million over the 4 years of the programme. In the analysis of employment effects, it was noted that the introduction of the programme included a period of relatively high unemployment as a result of the global recession. Some proportion of the labour costs would have a zero opportunity cost as, in the absence of the programme, they would have been expected to be unemployed. The number of employees estimated to be additional, and therefore with a zero opportunity cost, ranges from 3 to 15; labour costs are adjusted to take account of the lower average opportunity costs. In addition there are costs associated with marketing, audits, travel, legal advice and so on (Table 4).

Table 4 Costs of government overheads ($ million)

<table>
<thead>
<tr>
<th>Item</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing</td>
<td>3.5</td>
<td>3.5</td>
<td>3.0</td>
<td>1.7</td>
</tr>
<tr>
<td>Audits</td>
<td>1.1</td>
<td>1.4</td>
<td>1.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Staff</td>
<td>1.0 - 2.2</td>
<td>0.7 - 1.7</td>
<td>0.7 - 1.7</td>
<td>0.4 - 0.9</td>
</tr>
<tr>
<td>other (travel, legal etc)</td>
<td>1.2</td>
<td>1.0</td>
<td>0.9</td>
<td>0.6</td>
</tr>
<tr>
<td>Total</td>
<td>6.8 - 8.0</td>
<td>6.6 - 7.6</td>
<td>6.0 - 7.0</td>
<td>3.2 - 3.7</td>
</tr>
</tbody>
</table>

Source: EECA; staff costs – see text

2.2 Deadweight costs of taxation
The deadweight cost of taxation is the result of the distortionary effects of tax. When taxes are raised via increasing the costs of consumption (GST) or reducing the rewards of work (income tax), behaviour is changed. People spend and work less than they would otherwise, and they spend and work differently. This distortion to consumption behaviour involves a cost that is additional to the amount of tax paid. As a result, the Treasury recommends that public expenditures should be multiplied by a factor of 1.2 to take account of these deadweight costs.

Although the government has not raised tax specifically to pay for the subsidy programme, the inter-temporal government budget constraint means that there has to be a long run relationship between government expenditure and the taxation requirement.

44 EECA, personal communication
46 Covec (op cit)
48 New Zealand Treasury (2005) Cost Benefit Analysis Primer. In comparing our results with CBAs of other projects, it is important to ensure that comparators have also included the deadweight costs of taxation into their analysis.
However, for analysis care must be taken to apply this multiplier equally to revenue raised and to additional tax paid, eg. the GST paid on goods and services consumed as a result of the subsidy reduces the need for government to raise revenue elsewhere. Thus our concern is just with the distortionary effect of the net tax burden.

The net tax burden can be estimated from the amount paid as grants, the costs of overheads, less the tax on additional expenditure. Expenditure is estimated from:

- the grants paid;
- an estimate of the proportion of costs on products and their installation that is covered by grants; and
- the percentage of installations that are additional.

EECA data on the initial set of grants suggests that grants are approximately 50% of total costs, reflecting the mix of general and low income households included in the programme. The estimated deadweight costs are shown in Table 5 for central (74%), low (36%) and high (113%) levels of additionality. The deadweight costs are lower where there is high additionality as it means that a greater portion of GST paid on expenditure is additional and thus the net tax requirement is lower.

Table 5 Estimates of deadweight costs of net taxation ($ million)

<table>
<thead>
<tr>
<th></th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grants</td>
<td>87.8</td>
<td>101.2</td>
<td>101.5</td>
<td>27.5</td>
</tr>
<tr>
<td>Overheads</td>
<td>7.4</td>
<td>7.1</td>
<td>6.5</td>
<td>3.4</td>
</tr>
<tr>
<td>Total</td>
<td>95.2</td>
<td>108.3</td>
<td>108.0</td>
<td>30.9</td>
</tr>
<tr>
<td>GST on expenditure (central additionality)</td>
<td>19.6</td>
<td>22.6</td>
<td>22.6</td>
<td>6.1</td>
</tr>
<tr>
<td>PAYE(2)</td>
<td>0.6</td>
<td>0.5</td>
<td>0.5</td>
<td>0.2</td>
</tr>
<tr>
<td>GST on overhead expenditure</td>
<td>0.7</td>
<td>0.8</td>
<td>0.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Total</td>
<td>20.9</td>
<td>23.8</td>
<td>23.8</td>
<td>6.7</td>
</tr>
<tr>
<td>Net Government Expenditure</td>
<td>74.3</td>
<td>84.5</td>
<td>84.3</td>
<td>24.2</td>
</tr>
<tr>
<td>Deadweight loss – central additionality</td>
<td>14.9</td>
<td>16.9</td>
<td>16.9</td>
<td>4.8</td>
</tr>
<tr>
<td>Deadweight loss – low additionality</td>
<td>16.9</td>
<td>19.3</td>
<td>19.2</td>
<td>5.5</td>
</tr>
<tr>
<td>Deadweight loss – high additionality</td>
<td>12.8</td>
<td>14.6</td>
<td>14.5</td>
<td>4.2</td>
</tr>
</tbody>
</table>

(1) GST = 15%; estimated on 74% of expenditure, calculated as grants x 2; (2) Calculated using an average tax rate of 24.1%, based on the average EECA staff cost ($2.5 million/24.6 FTEs)

Source: expenditure data from EECA adjusted to take account of reduced labour costs – midpoint of range in Table 4

2.3 Costs of Installations

The cost of the installations is a resource cost and is equal to the opportunity cost of allocating resources to the production and installation of insulation and clean heating. We calculate this as the costs of the products and their installation to households, less the estimated producer surplus that is discussed below. The producer surplus is the difference between the costs of supply of insulation/clean heating and the retail costs paid by households; it includes an assessment of the extent of the retail cost that represents a pure profit to the producers and installers, and the proportion of labour costs that are estimated to have a zero cost because of the level of unemployment in the economy.
The average costs of insulation across all houses in the initial data provided by EECA is $2,494.37/house and the average cost of clean heating is $2,977/house. This results in the estimates of total costs shown in Table 6. The resource costs are these costs less the producer surplus estimates that are discussed below (see Table 24) and less the costs of labour that would otherwise have been unemployed. Total resource costs (opportunity costs) once these deductions are made are summarised in Table 7, taking account of the assumption that only 74% of total costs are additional.

Table 6 Total costs of installations ($ million) including GST

<table>
<thead>
<tr>
<th>Product Installed</th>
<th>09/10</th>
<th>10/11</th>
<th>11/12</th>
<th>12/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation</td>
<td>128.9</td>
<td>122.5</td>
<td>157.1</td>
<td>36.2</td>
</tr>
<tr>
<td>Clean heat</td>
<td>37.7</td>
<td>33.7</td>
<td>84.8</td>
<td>24.3</td>
</tr>
<tr>
<td>Total</td>
<td>166.5</td>
<td>156.2</td>
<td>242.0</td>
<td>60.4</td>
</tr>
</tbody>
</table>

Table 7 Resource costs of installations ($ million)

<table>
<thead>
<tr>
<th>Product installed</th>
<th>09/10</th>
<th>10/11</th>
<th>11/12</th>
<th>12/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation</td>
<td>52.5</td>
<td>49.9</td>
<td>64.1</td>
<td>14.7</td>
</tr>
<tr>
<td>Clean heat</td>
<td>18.9</td>
<td>16.9</td>
<td>42.5</td>
<td>12.1</td>
</tr>
<tr>
<td>Total</td>
<td>71.4</td>
<td>66.8</td>
<td>106.5</td>
<td>26.9</td>
</tr>
</tbody>
</table>
3 Benefits

3.1 Benefits Included
Benefits included in the analysis are those relating to energy savings and improved health outcomes. There will be some additional benefits associated with consumer comfort, but these have not been measured. The analysis here measures the benefits that accrue to households that would not install insulation or clean heating in the absence of the programme but that do so as a result of the programme. The difference may be attributed to the net benefits to the household that arise from the subsidy (i.e. the household was not initially willing to install if they had to pay the full price, but are willing to do so at the subsidised price.) It may also, in part, be attributed to the educational/information benefits that arise as a result of the programme that makes people understand better the benefits of insulation and/or clean heating.

We leave the comfort benefits as a one-sided uncertainty in the analysis; the total benefits will therefore be higher than those measured.

3.2 Energy Savings

3.2.1 Volume Savings
The impacts on energy use of the additional insulation and clean heating have been estimated from an analysis of the differences between energy use in treated versus untreated houses. The addresses of the houses where the interventions occurred were obtained and, using QVNZ data, these were matched with houses with similar characteristics to identify a set of controls. Data were then obtained from energy companies on metered energy consumption (electricity and gas) before and after the date of treatment for treated houses and their controls. Regression analysis was used to identify the impact of the separate interventions and the way that this differed by location and by month. A regression model was developed that estimated the difference in monthly electricity and total metered energy consumption between houses with and without interventions as a function of the intervention type (insulation and/or clean heating). The approach and results are described in detail in the separate energy study.

The approach has limitations. Because we have used metered data only to estimate changes in energy use, we have no data on the impacts on other fuels, e.g. coal, wood or LPG. Sensitivity analysis reported in the energy study found no significant difference in metered energy savings according to whether a treated house already had a solid fuel or other non-metered energy heating source prior to intervention. Thus there was no evidence that additional fuel savings were made in houses with other forms of heating. Nevertheless, to the extent that additional non-metered energy savings are made in

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49 This was location (Census area unit, similar to a suburb), dwelling and house type, number of levels, age (decade of build), floor area and number of bedrooms, whether there is a garage under the main roof and its size (number of vehicles), house construction material (walls and roof), whether or not the house was modernised, and quality (building and roof condition) of the dwelling.

treated houses, these savings are left as a one-sided uncertainty in the analysis, akin to the treatment of additional comfort benefits. Both of these one-sided uncertainties mean that actual benefits may be greater than those incorporated explicitly here.

Estimates of the average change in energy use per house across New Zealand are shown in Figure 1. The analysis suggests that there is a reduction in energy consumption in winter but an increase in summer.

Figure 1 Change in Metered Energy Consumption following Treatment (New Zealand)

The effects vary significantly by region also; Figure 2 shows the effects of insulation on total metered energy use in four regions of New Zealand: Auckland, Wellington, Canterbury and Otago. The impact varies significantly. The period in which energy use increases extends from November to April in Auckland, but not at all in these summer months in Otago (although we note a trivial increase in July 2009).

Figure 2 Change in Metered Energy Consumption following Insulation Treatment by Region
The aggregate impact across a year is shown for each region in Table 8; this includes the impacts on electricity and all metered energy consumption as a result of treatment with insulation and clean heating. The South Island data are the results calculated from the regression analysis using data for houses with no reticulated gas. In practice there may be savings of other fuels (coal, wood, LPG), but we have no data on these changes, as noted above.

Table 8 Impact on Annual Energy Consumption of Treatment by Region (kWh/house)

<table>
<thead>
<tr>
<th>Region</th>
<th>Insulation</th>
<th>Clean heating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Electricity</td>
<td>Other</td>
</tr>
<tr>
<td>NZ</td>
<td>-70.2</td>
<td>18.7</td>
</tr>
<tr>
<td>Northland</td>
<td>-2.3</td>
<td>30.5</td>
</tr>
<tr>
<td>Auckland</td>
<td>-12.0</td>
<td>28.4</td>
</tr>
<tr>
<td>Waikato</td>
<td>-66.0</td>
<td>18.8</td>
</tr>
<tr>
<td>Bay of Plenty</td>
<td>-85.7</td>
<td>14.3</td>
</tr>
<tr>
<td>Gisborne</td>
<td>-42.7</td>
<td>23.2</td>
</tr>
<tr>
<td>Hawke's Bay</td>
<td>-83.9</td>
<td>16.1</td>
</tr>
<tr>
<td>Taranaki</td>
<td>-108.7</td>
<td>11.8</td>
</tr>
<tr>
<td>Manawatu-Wanganui</td>
<td>-87.0</td>
<td>15.4</td>
</tr>
<tr>
<td>Wellington</td>
<td>-77.2</td>
<td>17.9</td>
</tr>
<tr>
<td>Marlborough</td>
<td>-64.9</td>
<td>-64.9</td>
</tr>
<tr>
<td>Nelson</td>
<td>-58.1</td>
<td>-58.1</td>
</tr>
<tr>
<td>Tasman</td>
<td>-81.1</td>
<td>-81.1</td>
</tr>
<tr>
<td>West Coast</td>
<td>-120.4</td>
<td>-120.4</td>
</tr>
<tr>
<td>Canterbury</td>
<td>-99.1</td>
<td>-99.1</td>
</tr>
<tr>
<td>Otago</td>
<td>-111.0</td>
<td>-111.0</td>
</tr>
<tr>
<td>Southland</td>
<td>-92.8</td>
<td>-92.8</td>
</tr>
</tbody>
</table>

(1) measured over period from July 2009 to November 2010 – months with 2 records are averaged, eg (July 2009 + July 2010)/2 etc


The results suggest that:
- following insulation there is a net reduction in electricity consumption in all regions and a net increase in other metered energy use in areas with reticulated gas (North Island);
- following installation of clean heating, there is a net increase in electricity use in all regions and a reduction in other energy use in all regions (apart from a trivial increase in Auckland).

To estimate the value of these savings, the electricity savings need to be estimated by time of day because: (1) generation costs vary with total instantaneous consumption, and (2) capacity costs vary with peak demand.

Orion Energy analysed the difference in peak demand for electricity of 116 Christchurch households before and after the installation of insulation, compared with changes in electricity demand in a control group of houses. They estimated the average net effect of installing insulation was an 18% (0.39kW) reduction in peak winter demand; they also noted a 1-2°C increase in internal temperature. However, the Orion data do not

---

include estimates of the change in energy use outside of the winter peak; nor do they include estimates of the time of day of reductions.

EECA estimates the heating profiles for different locations and time periods using the results of modelling by BRANZ. Different profiles are produced for different regions of New Zealand; an example is given in Table 9, with the full set included in Annex 1. The definitions used are listed in Table 10.

Table 9 Heating Profiles for Auckland (% of heating energy used in different periods)

<table>
<thead>
<tr>
<th>Time period</th>
<th>Profile 1: 24hr (living), evening only (bedrooms+kitchen)</th>
<th>Profile 2: Evening only (living)</th>
<th>Profile 3: Evening only (living+bedrooms+kitchen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer day</td>
<td>1%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Summer night</td>
<td>4%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Summer peak</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Winter day</td>
<td>22%</td>
<td>77%</td>
<td>56%</td>
</tr>
<tr>
<td>Winter night</td>
<td>33%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Winter peak</td>
<td>18%</td>
<td>17%</td>
<td>33%</td>
</tr>
<tr>
<td>Shoulder day</td>
<td>5%</td>
<td>5%</td>
<td>8%</td>
</tr>
<tr>
<td>Shoulder night</td>
<td>14%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Shoulder peak</td>
<td>3%</td>
<td>0%</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: EECA

Table 10 Definitions used in heating profiles

<table>
<thead>
<tr>
<th>Season</th>
<th>Definition</th>
<th>Time of day</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter</td>
<td>May to September</td>
<td>Day</td>
<td>09:00 to 17:00 &amp; 20:00 to 23:00</td>
</tr>
<tr>
<td>Summer</td>
<td>December to February</td>
<td>Night</td>
<td>23:00 to 07:00</td>
</tr>
<tr>
<td>Shoulder</td>
<td>March-April &amp; October-November</td>
<td>Peak</td>
<td>07:00 to 09:00 &amp; 17:00 to 20:00</td>
</tr>
</tbody>
</table>

Source: EECA

To make use of these profiles we need an estimate of the proportion of households that are characterised by the different profiles. The only data we have identified are the modelling assumptions used by BRANZ in its Household Energy End-use Project (HEEP), and as recommended by EECA (Table 11). It shows the percentage of houses that heat specified rooms at a specified time, eg. 1.5% of houses only heat their living room on a weekday in the morning, but 45.5% heat the living room on a weekday in the evening only.

We use these to estimate the proportion of households under each profile from Table 9. The three profiles do not match the wide range of heating options, but we use the data to make the assumed spread shown in Table 12.
Table 11 Percentage of houses on different heating schedules

<table>
<thead>
<tr>
<th>Room:</th>
<th>Living</th>
<th>Bedroom</th>
<th>Utility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time period:</td>
<td>Weekday</td>
<td>Weekend</td>
<td>Weekday</td>
</tr>
<tr>
<td>Morning</td>
<td>1.5%</td>
<td>1.8%</td>
<td>3.2%</td>
</tr>
<tr>
<td>All day</td>
<td>0.7%</td>
<td>1.6%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Evening</td>
<td>45.5%</td>
<td>37.2%</td>
<td>21.8%</td>
</tr>
<tr>
<td>Night</td>
<td>1.7%</td>
<td>1.8%</td>
<td>6.7%</td>
</tr>
<tr>
<td>Morning/day</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Morning/evening</td>
<td>13.9%</td>
<td>11.3%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Morning/night</td>
<td>1.0%</td>
<td>1.0%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Morning/day/evening</td>
<td>9.3%</td>
<td>12.3%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Morning/evening/night</td>
<td>0.3%</td>
<td>0.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Daytime/evening</td>
<td>5.0%</td>
<td>10.3%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Evening/night</td>
<td>3.2%</td>
<td>2.8%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Daytime/evening/night</td>
<td>0.5%</td>
<td>0.8%</td>
<td>0.0%</td>
</tr>
<tr>
<td>24 hours</td>
<td>10.9%</td>
<td>10.8%</td>
<td>5.0%</td>
</tr>
<tr>
<td>No heating</td>
<td>6.5%</td>
<td>8.0%</td>
<td>50.2%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>


Table 12 Proportion of houses in different heating profiles

<table>
<thead>
<tr>
<th>Profile</th>
<th>Data used(1)</th>
<th>% of total</th>
<th>Adjusted %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 24hr (living), evening only (bedrooms + kitchen)</td>
<td>All day (living) + morning/evening/night (living) + 24 hours (living)</td>
<td>19%</td>
<td>36%</td>
</tr>
<tr>
<td>2 - Evening only (living)</td>
<td>Evening (living) + evening/night (living) – Evening (bedroom) – evening/night (bedroom)</td>
<td>22%</td>
<td>42%</td>
</tr>
<tr>
<td>3 - Evening only (living + bedrooms + kitchen)</td>
<td>Evening (utility) + evening/night (utility)</td>
<td>12%</td>
<td>22%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>52%</td>
<td>100%</td>
</tr>
</tbody>
</table>

(1) Weighted average of weekday and weekend used

These data enable us to combine the monthly changes in energy use in different regions to times of day. The household level energy savings are spread across the different regions on the basis of the initial data on the location of installations (Table 13). We assume that this distribution continues.

Table 13 Proportion of Installations in Each Region (July 2009 – May 2010)

<table>
<thead>
<tr>
<th>Region</th>
<th>Insulation</th>
<th>Clean Heating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northland</td>
<td>5%</td>
<td>3%</td>
</tr>
<tr>
<td>Auckland</td>
<td>21%</td>
<td>14%</td>
</tr>
<tr>
<td>Bay of Plenty</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>Waikato</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>East Coast</td>
<td>8%</td>
<td>7%</td>
</tr>
<tr>
<td>Manawatu-Wanganui</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Taranaki</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Wellington</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>North Island</td>
<td>70%</td>
<td>50%</td>
</tr>
<tr>
<td>Nelson Marlborough Tasman</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>Canterbury</td>
<td>18%</td>
<td>37%</td>
</tr>
<tr>
<td>West Coast</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Otago</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Southland</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>South Island</td>
<td>30%</td>
<td>50%</td>
</tr>
</tbody>
</table>
Combining the household level energy savings (Table 8) with the heating profiles (Table 9 and Annex 1), the proportion of houses in each profile (Table 12) and the distribution of interventions (Table 13), the weighted average energy savings from the insulation and clean heat programmes are summarised in Table 14.

<table>
<thead>
<tr>
<th>Energy Source</th>
<th>Summer Day</th>
<th>Summer Night</th>
<th>Summer Peak</th>
<th>Winter Day</th>
<th>Winter Night</th>
<th>Winter Peak</th>
<th>Shoulder Day</th>
<th>Shoulder Night</th>
<th>Shoulder Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electricity from Insulation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Island</td>
<td>-4.13</td>
<td>-22.22</td>
<td>-1.64</td>
<td>44.76</td>
<td>9.99</td>
<td>21.76</td>
<td>5.51</td>
<td>3.50</td>
<td>2.17</td>
</tr>
<tr>
<td>South Island</td>
<td>-1.17</td>
<td>-3.03</td>
<td>-0.40</td>
<td>40.90</td>
<td>9.29</td>
<td>30.40</td>
<td>20.32</td>
<td>9.76</td>
<td>8.83</td>
</tr>
<tr>
<td><strong>Other Energy from Insulation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td>-1.42</td>
<td>-6.79</td>
<td>-0.56</td>
<td>-0.12</td>
<td>-0.19</td>
<td>-3.32</td>
<td>-2.51</td>
<td>-1.14</td>
<td></td>
</tr>
<tr>
<td>North Island</td>
<td>-2.03</td>
<td>-9.74</td>
<td>-0.80</td>
<td>-0.75</td>
<td>-0.17</td>
<td>-0.28</td>
<td>-4.76</td>
<td>-3.60</td>
<td>-1.64</td>
</tr>
<tr>
<td>South Island</td>
<td>-1.74</td>
<td>-3.03</td>
<td>-0.40</td>
<td>40.90</td>
<td>9.29</td>
<td>30.40</td>
<td>20.32</td>
<td>9.76</td>
<td>8.83</td>
</tr>
<tr>
<td><strong>Electricity from Clean Heat Installations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Island</td>
<td>-8.53</td>
<td>-16.15</td>
<td>-3.36</td>
<td>-55.58</td>
<td>-12.65</td>
<td>-41.24</td>
<td>-25.25</td>
<td>-12.15</td>
<td>-11.02</td>
</tr>
<tr>
<td><strong>Other Energy from Clean Heat Installations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td>-2.44</td>
<td>-10.90</td>
<td>-0.95</td>
<td>29.22</td>
<td>6.52</td>
<td>14.61</td>
<td>0.98</td>
<td>0.44</td>
<td>0.46</td>
</tr>
<tr>
<td>North Island</td>
<td>-4.58</td>
<td>-21.38</td>
<td>-1.79</td>
<td>57.28</td>
<td>12.78</td>
<td>28.09</td>
<td>1.51</td>
<td>0.46</td>
<td>0.81</td>
</tr>
<tr>
<td>South Island</td>
<td></td>
<td>-2.44</td>
<td>0.00</td>
<td>29.22</td>
<td>6.52</td>
<td>14.61</td>
<td>0.98</td>
<td>0.44</td>
<td>0.46</td>
</tr>
</tbody>
</table>

(1) Negative numbers are increases in energy use.

We also consider changes in peak use separately so that we can estimate the impacts on the long run requirement for electricity capacity (generation and transmission). We estimate the peak use by taking the total savings for the winter peak periods and assuming it is uniform over winter peak hours (Table 15).

<table>
<thead>
<tr>
<th>Energy Source</th>
<th>Insulation</th>
<th>Heat Pump</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Zealand</td>
<td>0.020</td>
<td>-0.027</td>
</tr>
<tr>
<td>North Island</td>
<td>0.018</td>
<td>-0.021</td>
</tr>
<tr>
<td>South Island</td>
<td>0.025</td>
<td>-0.034</td>
</tr>
</tbody>
</table>

(1) Negative numbers are increases in energy use.

To take account of transmission losses, we use the following factors to scale up the savings:

- to value the savings in electricity we increase metered electricity savings by 6.39%. This represents the average (2006-2010) difference between the total electricity entering the system and the total (observed) electricity demand.\(^{52}\)
  - Total electricity entering the system is used because this is the point at which prices are measured also.

\(^{52}\) MED (2011) Energy Data File. Table G.1
to value savings in CO₂ emissions, we increase electricity savings by 12.01%. This represents the average (2006-2010) difference between the total (gross) electricity generation and the total (observed) electricity demand.\textsuperscript{55}

These adjustments are made below when we calculate savings in costs.

3.2.2 Valuing Energy Savings

Changes in energy use have different benefits in the long and short run. In the short run there is a saving from reduced fuel consumption either used directly (e.g., as gas for heating) or indirectly in electricity generation. In the long run there are savings from the reduced capacity requirement for energy supply. To estimate the benefits we use different approaches for electricity and gas.

For electricity we use the same broad approach as adopted by KEMA in estimating avoided costs of electricity efficiency measures;\textsuperscript{54} this is to estimate the fuel savings separately from the capacity savings. The fuel savings are based on estimates of reduction in kWh of electricity consumption; we spread estimates of monthly savings over different hours of the day to estimate the savings in generation costs using time-of-day wholesale prices. The capacity savings, for generation and transmission, are based on reductions in peak demand, using the change in winter peak and a capacity cost based on the costs of new generation and transmission.

For gas we take a simpler approach, using a delivered price of gas as the basis for our estimate of the savings in costs of supply. This is because gas supply does not have the same variability in supply costs over time as does electricity.

Electricity

To estimate the impacts on electricity costs we use the following assumptions:

- Marginal generation costs are estimated using time of day pricing at the Haywards node, calculated as a percentage of the annual average price. This is then combined with MED’s projections of future (annual average) electricity prices to estimate future time of day prices;\textsuperscript{55}
- Generation capacity costs are based on the capital costs of a gas peaker, the same assumption as used by KEMA. We use a value of $1,000/kW derived from estimates by PB Consulting;\textsuperscript{56}
- Transmission capacity costs use the same assumption as used by KEMA, i.e. $300/kW.

There are differences in the costs of electricity supply over time that reflect the source of generation. These result in differences in price by time of day. Average time of day prices (for 2006-10) for electricity in different seasons are given in Figure 3. These half

\textsuperscript{55} MED (2011) Energy Data File. Table G.1
\textsuperscript{55} MED Energy Outlook – wholesale electricity price projections with no carbon cost
hourly prices are used to estimate relative prices in Table 16, ie. a summer night price is 61% of the annual average, but a winter peak price is 143% of the annual average.

Figure 3 Time of day electricity prices at Haywards node (average 2006-10)

Source: Half-hour Data from Electricity Authority Centralised Dataset

Table 16 Relative prices (% of annual average) in different time periods

<table>
<thead>
<tr>
<th></th>
<th>Summer</th>
<th>Winter</th>
<th>Shoulder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day</td>
<td>92%</td>
<td>111%</td>
<td>106%</td>
</tr>
<tr>
<td>Night</td>
<td>61%</td>
<td>84%</td>
<td>74%</td>
</tr>
<tr>
<td>Peak</td>
<td>85%</td>
<td>143%</td>
<td>115%</td>
</tr>
</tbody>
</table>

Electricity prices are estimated using MED projections of prices with no carbon cost; carbon costs are estimated using a constant value of $25/t of CO₂ and a marginal emissions factor based on an estimate of the proportion of time that different plants are on the margin for electricity generation for a heating demand profile (Table 17).

Table 17 Derivation of electricity emission factor

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Emissions factor (kg/GJ)</th>
<th>Heat rate (GJ/GWh)</th>
<th>Emissions (t CO₂/MWh)</th>
<th>% of time on margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geothermal</td>
<td>0</td>
<td>0</td>
<td>0.1</td>
<td>3%</td>
</tr>
<tr>
<td>Wind + Hydro</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3%</td>
</tr>
<tr>
<td>Huntly coal</td>
<td>91.2</td>
<td>10,500</td>
<td>0.96</td>
<td>70%</td>
</tr>
<tr>
<td>Gas - CCGT</td>
<td>57.8</td>
<td>7,050</td>
<td>0.41</td>
<td>7%</td>
</tr>
<tr>
<td>Gas peaker</td>
<td>57.8</td>
<td>10,000</td>
<td>0.58</td>
<td>18%</td>
</tr>
<tr>
<td>Weighted average</td>
<td></td>
<td></td>
<td>0.81</td>
<td></td>
</tr>
</tbody>
</table>


MED Energy Outlook 2010
Gas

To value savings in gas use we use an estimate of the retail charge for gas to commercial customers, currently estimated as 5.7c/kWh.58 We use the commercial charge rather than the residential charge recognising that the gas supply network has more surplus capacity than does electricity, as noted by Concept Consulting, suggesting that small marginal changes in demand may not result in measurable changes in distribution costs. We note that in the short run benefits may be closer to the wholesale price of gas of (2.7c/kWh). However, reductions may have long run benefits in terms of reduced transmission costs and we use a commercial price to take account of some of these benefits.

As for electricity, future price estimates are based on MED’s price projections. We use a historical average ratio between commercial and wholesale prices (2.67:1) to scale up MED wholesale price projections.59

For CO₂ emissions from gas use we use a weighted average of New Zealand gas production in 2010 at 53.16kg CO₂/GJ.60

3.2.3 Present Value of Energy Savings

We assume that the benefits from insulation are achieved over 30 years and the benefits of a heat pump are achieved over 10 years. We discount the energy and carbon savings to present value terms using a discount rate of 4%; we also show the results at alternative discount rates.

Taking account of the additionality of interventions, we use a central estimate of 74% of the changes in energy use being a result of the programme. The results are presented in Table 18. To calculate these benefits, the savings in electricity related costs per household from Table 14 are combined with:

- Estimates of number of houses treated in each year (Table 2);
- The transmission losses to scale up the savings;61
- The relative electricity prices in the different time periods in Table 16;
- Projections of future electricity prices from MED’s Energy Outlook;
- The assumed additionality of 74.3% (Table 3);
- The assumed marginal electricity emission factor of 0.81t CO₂/MWh (Table 17) and a constant real price of $25/tonne.

Consistent with the energy study, “other energy” is restricted to reticulated gas. We use an emission factor of 53.16kgCO₂/GJ.

---

58 MED (2010) Energy Data File. $33.46/GJ including GST
59 MED Energy Outlook 2010
61 6.39% for losses between electricity entering the system and final consumption, and 12.01% for losses between generation and consumption
We test the impacts of the duration of benefits in sensitivity analysis in Table 19. This is to examine the implications if the programme merely brought installations forward in time; we assume a duration of benefits of 10 years for insulation and 5 years for clean heating. At a 4% discount rate this reduces the benefit by 57%.

Table 19 Sensitivity Analysis: NPV ($ million) of Energy Savings (Limited Duration)\(^{(1)}\)

<table>
<thead>
<tr>
<th></th>
<th>Insulation Energy</th>
<th>CO₂</th>
<th>Total</th>
<th>Clean heat Energy</th>
<th>CO₂</th>
<th>Total</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>@ 4%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>11.6</td>
<td>0.1</td>
<td>11.7</td>
<td>-4.2</td>
<td>0.0</td>
<td>-4.2</td>
<td>7.5</td>
</tr>
<tr>
<td>Other Energy</td>
<td>-0.6</td>
<td>0.1</td>
<td>-0.7</td>
<td>0.5</td>
<td>0.0</td>
<td>0.5</td>
<td>-0.1</td>
</tr>
<tr>
<td>Total</td>
<td>11.0</td>
<td>0.0</td>
<td>11.0</td>
<td>-3.7</td>
<td>0.0</td>
<td>-3.7</td>
<td>7.4</td>
</tr>
<tr>
<td>@ 2.5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>12.5</td>
<td>0.1</td>
<td>12.6</td>
<td>-4.4</td>
<td>0.0</td>
<td>-4.4</td>
<td>8.2</td>
</tr>
<tr>
<td>Other Energy</td>
<td>-0.6</td>
<td>0.1</td>
<td>-0.7</td>
<td>0.5</td>
<td>0.0</td>
<td>0.5</td>
<td>-0.2</td>
</tr>
<tr>
<td>Total</td>
<td>11.9</td>
<td>0.0</td>
<td>11.9</td>
<td>-3.9</td>
<td>0.0</td>
<td>-3.9</td>
<td>8.0</td>
</tr>
<tr>
<td>@ 8%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>9.7</td>
<td>0.1</td>
<td>9.8</td>
<td>-3.7</td>
<td>0.0</td>
<td>-3.7</td>
<td>6.1</td>
</tr>
<tr>
<td>Other Energy</td>
<td>-0.5</td>
<td>0.1</td>
<td>-0.5</td>
<td>0.5</td>
<td>0.0</td>
<td>0.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>9.3</td>
<td>0.0</td>
<td>9.3</td>
<td>-3.2</td>
<td>0.0</td>
<td>-3.2</td>
<td>6.1</td>
</tr>
</tbody>
</table>

\(^{(1)}\) Insulation benefits assumed to last 10 years; clean heating for 5 years

### 3.3 Health Savings

The health savings are estimated in a similar way to the energy savings, and the approach and detailed results are set out in the separate paper.\(^{62}\) Addresses of houses that had received treatment were matched with similar houses to provide a control group of addresses. Data were then obtained on hospitalisation and pharmaceutical costs of the treatment and control groups; benefits were estimated using the difference between treated and untreated houses. Additional benefits were estimated from previous studies under the Heating, Housing and Health Study; these included reduced medical visits, reduced days off school or work and associated reductions in caregiver

---

costs. The total benefits per household are summarised in Table 20. The authors note that they prefer the conservative estimates of benefits that include the total benefits calculated in the study plus the benefits imputed from previous studies; they include a more focussed assessment of benefits that includes only respiratory and circulatory benefits which produces a higher monthly saving.

Table 20 Summary of annual health related benefits (savings) per household treated ($/house)

<table>
<thead>
<tr>
<th></th>
<th>Insulation</th>
<th>Clean heating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CSC(1)</td>
<td>Holders</td>
</tr>
<tr>
<td>Hospitalisation and</td>
<td>75.48</td>
<td>109.8</td>
</tr>
<tr>
<td>pharmaceutical use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>related benefits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benefits imputed from</td>
<td>95.49</td>
<td>95.49</td>
</tr>
<tr>
<td>previous studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value of reduced</td>
<td>465.36</td>
<td>649.11</td>
</tr>
<tr>
<td>mortality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total health benefits</td>
<td>636.33</td>
<td>854.4</td>
</tr>
</tbody>
</table>

(1) CSC = Community Service Card, available to those on a low to middle income


Table 21 shows the present value of the health benefits spread over the duration of those benefits (30 years for insulation and 10 years for clean heat). These are spread over the assumed number of houses treated under the programme (Table 2), adjusted to take account of the assumed additionality of 74% of total installations (Table 3). The health benefits are dominated by the insulation benefits ($1,263 million of a total of $1,266 million).

Table 21 Present value of health benefits at different discount rates ($ million)

<table>
<thead>
<tr>
<th>Discount rate:</th>
<th>Conservative</th>
<th>Focussed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.0%</td>
<td>2.5%</td>
</tr>
<tr>
<td>CSC Insulation</td>
<td>802</td>
<td>974</td>
</tr>
<tr>
<td>Other insulation</td>
<td>460</td>
<td>564</td>
</tr>
<tr>
<td>Total insulation</td>
<td>1,263</td>
<td>1,537</td>
</tr>
<tr>
<td>CSC Clean heat</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other clean heat</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Total clean heat</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>1,266</td>
<td>1,541</td>
</tr>
</tbody>
</table>

As with the energy benefits, we examine the implications of reducing the duration of benefits in Table 22. The shorter duration of benefits (10 years for insulation, rather than 30 and 5 years for clean heating, rather than 10) reduces the total benefits under the conservative scenario (and a 4% discount rate) by approximately 50%.
### Table 22  Sensitivity analysis: present value of health benefits at different discount rates ($ million) (Limited Duration)(1)

<table>
<thead>
<tr>
<th>Discount rate:</th>
<th>Conservative</th>
<th></th>
<th>Focussed</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.0%</td>
<td>2.5%</td>
<td>8.0%</td>
<td>4.0%</td>
<td>2.5%</td>
</tr>
<tr>
<td>CSC Insulation</td>
<td>399</td>
<td>433</td>
<td>328</td>
<td>444</td>
<td>482</td>
</tr>
<tr>
<td>Other insulation</td>
<td>229</td>
<td>251</td>
<td>184</td>
<td>274</td>
<td>300</td>
</tr>
<tr>
<td>Total insulation</td>
<td>629</td>
<td>684</td>
<td>512</td>
<td>719</td>
<td>781</td>
</tr>
<tr>
<td>CSC Clean heat</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other clean heat</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total clean heat</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>631</td>
<td>686</td>
<td>514</td>
<td>721</td>
<td>784</td>
</tr>
</tbody>
</table>

(1) Insulation benefits assumed to last 10 years; clean heating for 5 years

### 3.4  Producer Surplus

Producer surplus is defined as the total sales revenue attributable to the programme, minus all opportunity costs of production.

Producer surplus benefits were calculated from an estimate of the difference between costs of supply of insulation and clean heating and the costs to households; the methodology and results are reported separately.\(^6^3\) This calculation includes the surplus to producers, any tax paid that is included in the costs to households plus a proportion of the labour costs that we estimate would otherwise be unemployed (in the short run) and therefore has a zero opportunity cost. We deduct producer surplus from gross costs of the programme to arrive at opportunity costs, being the appropriate definition of resource costs attributable to the programme. (To avoid double counting, producer surplus is therefore not included as a separate benefit.)

The main inputs to the analysis are summarised in Table 23; this takes the results from the separate paper and reports them as a surplus per house treated (insulated or clean heating installed).

### Table 23 Elements of Producer Surplus

<table>
<thead>
<tr>
<th>Element of Surplus</th>
<th>Insulation ($/m(^2))</th>
<th>$/house</th>
<th>Clean heating ($/unit)</th>
<th>$/house</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>0.54 - 1.19</td>
<td>92 - 203</td>
<td>538</td>
<td>538</td>
</tr>
<tr>
<td>Installation</td>
<td>4.74 - 6.70</td>
<td>811 - 1,146</td>
<td>433</td>
<td>433</td>
</tr>
<tr>
<td>Total</td>
<td>5.27 - 7.89</td>
<td>902 - 1,349</td>
<td>970</td>
<td>970</td>
</tr>
</tbody>
</table>

Source: Covec (op cit); insulation surplus per house estimated from 171.1m\(^2\) insulation/house

The resulting total producer surplus, taking account of the additionality factor of 74% and the number of houses treated (Table 2), is shown in Table 24. It uses average values for insulation and splits the surplus into those that are from benefits accruing to producers and those relating to zero labour costs (these are 20% of the total surplus for insulation and 12% for clean heating). The present value over the four years over the programme is given at different discount rates in Table 25.

---

Table 24 Elements of Producer Surplus by Year ($ million)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>09/10</th>
<th>10/11</th>
<th>11/12</th>
<th>12/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surplus to Producers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulation</td>
<td>34.8</td>
<td>33.0</td>
<td>42.4</td>
<td>9.8</td>
</tr>
<tr>
<td>Clean heating</td>
<td>8.0</td>
<td>7.2</td>
<td>18.0</td>
<td>5.2</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>42.8</td>
<td>40.2</td>
<td>60.4</td>
<td>14.9</td>
</tr>
<tr>
<td>Zero Labour Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulation</td>
<td>8.4</td>
<td>8.0</td>
<td>10.3</td>
<td>2.4</td>
</tr>
<tr>
<td>Clean heating</td>
<td>1.1</td>
<td>1.0</td>
<td>2.5</td>
<td>0.7</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>9.6</td>
<td>9.0</td>
<td>12.8</td>
<td>3.1</td>
</tr>
<tr>
<td>Total</td>
<td>52.3</td>
<td>49.2</td>
<td>73.3</td>
<td>18.0</td>
</tr>
</tbody>
</table>

Table 25 Present value of total producer surplus at different discount rates ($ million)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>4%</th>
<th>2.5%</th>
<th>8%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation</td>
<td>142.2</td>
<td>144.7</td>
<td>136.0</td>
</tr>
<tr>
<td>Clean heating</td>
<td>41.2</td>
<td>42.1</td>
<td>39.0</td>
</tr>
<tr>
<td>Total</td>
<td>183.4</td>
<td>186.8</td>
<td>175.0</td>
</tr>
</tbody>
</table>

3.5 Scale of Activity and Employment Effects

The total level of activity under the programme is summarised in Table 2 in terms of the number of houses treated; in Table 26 we summarise the level of total expenditure under the programme. A total of $318 million in grants is expected to result in $625 million of expenditure on insulation and clean heating over the four years of the programme.

Table 26 Estimated level of grants and total expenditure ($ million)

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Actual Installations</th>
<th>Targeted Installations</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>09/10</td>
<td>10/11</td>
<td>11/12</td>
</tr>
<tr>
<td>Grants</td>
<td>88</td>
<td>101</td>
<td>102</td>
</tr>
<tr>
<td>Insulation expenditure</td>
<td>129</td>
<td>122</td>
<td>157</td>
</tr>
<tr>
<td>Clean heat expenditure</td>
<td>38</td>
<td>34</td>
<td>85</td>
</tr>
<tr>
<td>Total</td>
<td>167</td>
<td>156</td>
<td>242</td>
</tr>
</tbody>
</table>

The employment effects were calculated in the study of impacts on producers. In Table 27 we estimate the gross employment effects associated with the programme; this is the total number of people required to produce and install the insulation and clean heating subsidised under the programme. It includes the direct employment plus indirect employment that results from the requirement for additional workers by firms supplying the producers, importers, retailers and installers of clean heating, plus the induced employment effects associated with the increased expenditure of these workers.

However, this does not take account of the additionality of employment. In Table 28 we set out the estimated additional employment as a result of the programme, per 10,000 houses under the three additionality scenarios. The range of values reflects the uncertainty over the extent to which the jobs created are additional, as opposed to the additionality of the insulation/clean heating that is reflected in the low, central and high

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64 Covec (op cit)
columns—see Table 3 for definitions. Using these figures, the estimates of total additional employment over the four years of the programme are given in Table 29.

Table 27 Estimated Gross Employment Effects of the Programme

<table>
<thead>
<tr>
<th></th>
<th>09/10</th>
<th>10/11</th>
<th>11/12</th>
<th>12/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation - direct</td>
<td>484</td>
<td>460</td>
<td>590</td>
<td>136</td>
</tr>
<tr>
<td>Insulation - indirect</td>
<td>286</td>
<td>271</td>
<td>348</td>
<td>80</td>
</tr>
<tr>
<td>Insulation - total</td>
<td>769</td>
<td>731</td>
<td>938</td>
<td>216</td>
</tr>
<tr>
<td>Clean heat - direct</td>
<td>34</td>
<td>30</td>
<td>76</td>
<td>22</td>
</tr>
<tr>
<td>Clean heat - indirect</td>
<td>32</td>
<td>28</td>
<td>71</td>
<td>20</td>
</tr>
<tr>
<td>Clean heat - total</td>
<td>65</td>
<td>58</td>
<td>147</td>
<td>42</td>
</tr>
<tr>
<td>Government - direct</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Government - indirect</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Government - total</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>Total - direct</td>
<td>542</td>
<td>515</td>
<td>691</td>
<td>182</td>
</tr>
<tr>
<td>Total - indirect</td>
<td>347</td>
<td>329</td>
<td>449</td>
<td>130</td>
</tr>
<tr>
<td>Total</td>
<td>889</td>
<td>844</td>
<td>1,140</td>
<td>313</td>
</tr>
</tbody>
</table>

Table 28 Additional employment per 10,000 houses

<table>
<thead>
<tr>
<th>Additionality:</th>
<th>Low</th>
<th>Central</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>EECA(1)</td>
<td>Direct 3 - 15</td>
<td>3 - 15</td>
<td>3 - 15</td>
</tr>
<tr>
<td></td>
<td>Total 6 - 33</td>
<td>6 - 33</td>
<td>6 - 33</td>
</tr>
<tr>
<td>Insulation</td>
<td>Direct 3 - 20</td>
<td>7 - 42</td>
<td>11 - 64</td>
</tr>
<tr>
<td></td>
<td>Total 5 - 32</td>
<td>11 - 66</td>
<td>17 - 101</td>
</tr>
<tr>
<td>Clean heat</td>
<td>Direct 0.3 - 2</td>
<td>3 - 20</td>
<td>5 - 30</td>
</tr>
<tr>
<td></td>
<td>Total 0.6 - 4</td>
<td>6 - 38</td>
<td>10 - 58</td>
</tr>
<tr>
<td>Total</td>
<td>Direct 6 - 37</td>
<td>13 - 77</td>
<td>18 - 109</td>
</tr>
<tr>
<td></td>
<td>Total 12 - 69</td>
<td>23 - 138</td>
<td>32 - 192</td>
</tr>
</tbody>
</table>

(1) EECA employment numbers assumed to be independent of number of houses

Table 29 Additional employment under the programme with low, central and high additionality

<table>
<thead>
<tr>
<th>Source</th>
<th>Additionality</th>
<th>09/10</th>
<th>10/11</th>
<th>11/12</th>
<th>12/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>EECA</td>
<td>All</td>
<td>6 - 33</td>
<td>6 - 33</td>
<td>6 - 33</td>
<td>6 - 33</td>
</tr>
<tr>
<td>Insulation</td>
<td>Low</td>
<td>28 - 165</td>
<td>26 - 157</td>
<td>34 - 201</td>
<td>8 - 46</td>
</tr>
<tr>
<td></td>
<td>Central</td>
<td>58 - 343</td>
<td>55 - 326</td>
<td>70 - 418</td>
<td>16 - 96</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>88 - 522</td>
<td>83 - 496</td>
<td>107 - 636</td>
<td>25 - 146</td>
</tr>
<tr>
<td>Clean heat</td>
<td>Low</td>
<td>1 - 5</td>
<td>1 - 4</td>
<td>2 - 11</td>
<td>1 - 3</td>
</tr>
<tr>
<td></td>
<td>Central</td>
<td>8 - 48</td>
<td>7 - 43</td>
<td>18 - 109</td>
<td>5 - 31</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>12 - 74</td>
<td>11 - 66</td>
<td>28 - 166</td>
<td>8 - 47</td>
</tr>
<tr>
<td>Total</td>
<td>Low</td>
<td>34 - 203</td>
<td>33 - 194</td>
<td>41 - 245</td>
<td>14 - 82</td>
</tr>
<tr>
<td></td>
<td>Central</td>
<td>71 - 424</td>
<td>68 - 402</td>
<td>94 - 560</td>
<td>27 - 160</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>106 - 628</td>
<td>100 - 595</td>
<td>140 - 835</td>
<td>38 - 227</td>
</tr>
</tbody>
</table>

The monetary value of the additional direct employment is estimated by multiplying the direct additional employment by estimated wage rates, as discussed in the separate report. The resulting values are an estimate of the financial costs of labour for which there is a zero social opportunity cost. These values are included in the Producer Surplus calculation above, and summarised in Table 24.
4 Net Benefits and Conclusions

4.1 Net Benefits

4.1.1 Total Net Benefits
The total resource costs and benefits are summarised in Table 30. The benefits for health and energy are, in each case, conservative estimates obtained from the two related studies.

Table 30 Present Value of Total Costs and Benefits ($ million)

<table>
<thead>
<tr>
<th>Additionality:</th>
<th>Discount rate:</th>
<th>4%</th>
<th>Central 2.5%</th>
<th>8%</th>
<th>Low 4%</th>
<th>High 4%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admin costs</td>
<td></td>
<td>23</td>
<td>24</td>
<td>22</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>Deadweight costs of tax</td>
<td></td>
<td>51</td>
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Given our baseline assumptions for the horizon of benefits from each of insulation and clean heating, the results suggest that there are positive net benefits of the programme at all discount rates examined, even with assumptions of low levels of additionality, or with a high discount rate.

Thus even our conservative estimates of benefits indicate that the programme, overall, has had considerable net benefits. While care must be exercised in formulating benefit-cost ratios (owing to alternative ways of attributing certain categories either as benefits or as offsets to costs), the ratio of benefits to costs in Table 30 ranges between 2.6 and 4.6, with a central (4% discount rate) benefit-cost ratio of 3.9. These results indicate that, overall, the Warm Up New Zealand: HeatSmart programme has been well justified in terms of positive net benefits.

4.1.2 Distribution of Benefits
The results are dominated by the health benefits; they represent approximately 99% of the total benefits. The benefits from reduced mortality are the most significant health benefits, comprising approximately 74% of the total health benefits ($1,130 million for the central, 4% scenario). However, the programme would still have positive net benefits even in the absence of mortality benefits.

The benefits are also dominated by insulation (Table 31); the measured results suggest approximately zero (or even slight net costs) associated with clean heat. This may be because, unlike retrofitted insulation which does not involve on-going household expenditure, installation of clean heat heaters will only affect health outcomes if the public health system were to be aware of the installation and able to make use of the information.
household is able and willing to afford the metered energy costs. However, there are significant missing benefits that we are unable to quantify, including those of household comfort and possible reductions in non-metered energy use.

Table 31 Benefits by Category ($ million) (Central additionality; 4% discount rate)

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4.1.3 Cost Components
The largest component of costs is the costs of the installations themselves, i.e. the insulation, clean heaters and the labour costs for installations. The deadweight cost of taxation is a significant component, and one that is frequently ignored in cost-benefit analyses. Here it is estimated at approximately 15% of the total costs.

4.2 Potential Programme Refinements
The energy study found that energy benefits from insulation were greatest for houses in cooler regions. This result most likely reflects the fact that energy use for heating purposes prior to treatment is greater for houses in cooler areas than for those in warmer regions. There is therefore greater scope for energy savings following treatment for houses in cooler areas.

Table 8 shows the differences between regions in the impacts of insulation and clean heating on metered energy use. The results for Northland and Auckland suggest small reductions in electricity consumption but an overall increase in total metered energy use; elsewhere there are overall reductions in total metered energy use.

Clean heating results in increases in energy use in all regions. The energy study showed, however, that there were positive energy savings for treated houses that already had reticulated gas, in contrast to the result for other houses. Thus energy savings from installation of clean heating may be increased if clean heating is targeted at houses that initially use reticulated gas rather than electricity for heating.

The health impacts study shows clear differences between the effects on low to middle income earners and other households, with significantly larger benefits for Community Service Card (CSC) holders (Table 20). This result is consistent with prior research (see section 1.3.1) that the sick and other at-risk groups are most adversely affected by cold house temperatures. These groups therefore have the most to gain from installation of retrofitted insulation.

The overall results suggest that the programme as a whole has had sizeable net benefits, with our central estimate of programme benefits being 4.8 times resource costs.

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attributable to the programme. Nevertheless, even greater benefits may be achievable through consideration of four targeting strategies:

1. Prioritise the insulation component of the programme relative to the clean heating component of the programme.

2. Target clean heating to houses that use reticulated gas rather than electricity for heating prior to treatment.

3. Target insulation to houses in cooler rather than warmer areas.

4. Target insulation to low and middle income earners and other at-risk groups in terms of illness.
## Annex 1 Heating Profiles

Profiles: % of heating energy consumed in different time periods.

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(1) See Table 9 for definitions

Source: EECA
Risk of rehospitalisation and death for vulnerable New Zealand children

Jane Oliver,¹ Tim Foster,¹ Amanda Kvalsvig,¹ Deborah A Williamson,² Michael G Baker,¹ Nevil Pierse¹

ABSTRACT

Objectives There is considerable need to improve the effectiveness of healthcare to reduce morbidity and mortality. Child hospitalisations are influenced by determinants of health, including the home environment. Our aims were: (1) To investigate whether children hospitalised with potentially avoidable conditions thought to be associated with the home have an increased risk of rehospitalisation and death, (2) To investigate whether children hospitalised with particular subgroups of potentially avoidable conditions have an increased risk of rehospitalisation and death, (3) To assess the usefulness of these subgroups for identifying at-risk children.

Design We used four existing groups of potentially avoidable conditions developed based on expert opinion: 1. the potentially avoidable hospitalisations (PAH) group, associated with social/environmental conditions, 2. the potentially avoidable hospitalisations attributable (at least in part) to the home environment (PAHHE) group, 3. the crowding group, and 4. the Ministry of Health (MoH) group. We analysed national New Zealand hospital discharge data (2000–2014). Rehospitalisation and death were described using Kaplan-Meier curves. Group effectiveness for identifying at-risk children was assessed using Cox proportional hazard models with children hospitalised for non-PAH conditions as comparison.

Results In total, 1425085 hospital admissions occurred, for 683115 unique children. Rehospitalisation was relatively common (71.0%). Death was rare (0.6%). All groups performed moderately well identifying at-risk children. Children with PAH have increased risk of rehospitalisation (adjusted HR (aHR):2.30–3.60) and death (aHR:3.07–10.44). PAH group had highest sensitivity (75.1%). The MoH group has the highest positive predictive value (rehospitalisation: 86.2%, death: 2.5%).

Conclusions Children in the MoH group are very likely to benefit from housing interventions. Rehospitalisation and early mortality are useful assessment measures. Rehospitalisation exerts a considerable burden, and child deaths are catastrophic.

INTRODUCTION

There is a considerable global need to improve the effectiveness of healthcare delivery and reduce childhood morbidity and mortality.¹ ² New Zealand (NZ) has well-described child poverty, and child hospitalisations have inequitable socioeconomic and ethnic distributions.³ ⁴ The underlying determinants of health (such as housing quality, nutrition, household crowding and access to effective healthcare) play a major part in influencing child health outcomes.⁵ ⁶ Failure to address the underlying causes of ill health results in children continuing to experience poor outcomes, with substantial costs to the individuals affected, their families, communities and the government sector.⁷ ⁸ ⁹ ¹⁰

The hospital setting has long been used as a screening point to identify children who may be at risk of future harm. For example, emergency departments use screening tools that highlight specific patterns and types of injury presentation to prompt hospital staff to consider a non-accidental injury referral.¹¹ ¹² ¹³

Hospital-based screening has the potential to reduce health inequities by identifying families who are in need of support.¹⁴ Admission to hospital with a preventable disease or injury provides an obvious intervention point, as children are likely to return to the same high-risk environment when they are discharged. For example, NZ children admitted to hospital with respiratory infections have a high prevalence of exposure to adverse housing conditions, which are likely to increase their risk of future ill health.¹⁵ ¹⁶ ¹⁷

Health researchers and policymakers in NZ have previously identified groups of conditions that can be used as indicators of avoidable hospitalisation. Four such groups are examined in this study. The
potentially avoidable hospitalisations (PAH) group is designed to identify all potentially avoidable paediatric admissions, with the intention of quantifying the total burden of disease that could be prevented by policy measures addressing the underlying determinants of health.21 The second group is designed to identify the subgroup of potentially avoidable hospitalisations attributable (at least in part) to the home environment (PAHHE).1 The third group is designed to identify potentially avoidable hospitalisations due to household crowding (crowding).22 The final group, currently in use by the NZ Ministry of Health (MoH), includes children with a set of infectious PAH conditions thought to be associated with increased risk of acute rheumatic fever (ARF).23 Details on how these groupings were determined may be seen in the Supplementary appendix. These groups are unique from others identified in the literature as all have been specifically designed for use in a NZ child population (most others concern adult populations, such as that developed by Jackson and Tobias).24 Furthermore, these groups are designed to capture the effect of socioeconomic and environmental determinants of child health on hospital admissions.1

The aims of this study were as follows:
1. To investigate whether children hospitalised with potentially avoidable conditions thought to be associated with the home environment have an increased risk of rehospitalisation and death.
2. To investigate whether children hospitalised with particular subgroups of potentially avoidable conditions have a relatively greater increased risk of rehospitalisation and death.
3. To assess the usefulness of potentially avoidable condition subgroups for identifying at-risk children.

METHODS

Data and ethics

Full ethics approval was obtained from the University of Otago Ethics Committee (No. HD15/046).

We obtained national hospitalisation and mortality data for the 15-year period 2000–2014 from the NZ National Minimum Dataset (NMDS). The NMDS is a national collection of public and private hospital discharge information.25 The encrypted National Health Index (NHI) number was used to identify and link individual patients’ hospitalisations over time. No entries lacked encrypted NHI numbers; consequently, all patients’ first hospitalisations could be distinguished from later ones.

All computations were performed using the R language and environment for statistical computing (version 3.2.2).26 All survival analyses were performed using the ‘survival’ R library (Therneau TM: Survival: A package for Survival Analysis in S, version 2.38, 2015). Bootstrap procedures were performed using the authors’ own code.

Condition groupings

The PAH group was developed by a panel of child health experts to monitor PAH in NZ.

The PAH group includes a subset of conditions (the PAHHE group) which might be avoided by ‘Central and local government policies which ensured that families with children had access to high quality housing and a safe physical environment’.21

The crowding group is a set of selected PAH conditions associated with household crowding. Diseases selected for inclusion were based on a systematic literature review that identified groups of infectious diseases associated with exposure to household crowding, mainly respiratory and enteric infections.22

The crowding group was further refined, based on previously published literature.27 Asthma is included on the basis that many episodes are triggered by respiratory infections.28

MoH group, which targets selected infectious PAH conditions thought to be associated with ARF and streptococcal infections, based on expert opinion.23 It is the narrowest of the four groups.

Conditions in each of the PAHHE, crowding and MoH subgroups were selected for further investigation (table 1) using hospital discharge data. Only children hospitalised with the conditions listed while aged 1 to 15 years old were eligible for inclusion. Children aged <1 year old were excluded from the analysis due to the unique disease susceptibility patterns that affect this age group.29 The total number of child hospitalisations for each group and condition from 2000 to 2014 was noted. Hospitalisations occurring within 30 days of last discharge were considered to be a single event (ie, not counted as rehospitalisations).

Statistical methods

We calculated whether children ever hospitalised with diseases in the PAH, PAHHE, crowding and MoH groups were more likely to be rehospitalised for any cause or die in the study period. As a comparison group, we used all hospitalised children who had never been admitted with a PAH condition.

We used Kaplan-Meier curves to describe the percentage of children who were rehospitalised or died within 5502 days (15 years) post hospitalisation (ie, died before 1 January 2015). Observations were right censored at the end of the study period. HRs were produced using the Cox proportional hazards model to describe the multivariable risk. Where there were multiple readmissions for one individual, the 95% CI and variances were calculated with a cluster resampling procedure (the cluster bootstrap); otherwise, standard variance estimates were used (ie, for death). HRs were adjusted for age, sex, ethnicity and deprivation to reduce confounding. Unadjusted and adjusted HRs (HR and aHR) were estimated using the Cox proportional hazards model to describe the univariable and multivariable risk. We tested the proportional hazards assumption using Grambsch and Therneau’s global goodness-of-fit test, which tests the assumption that the regression coefficient β does not change over time. Survival by single year of age was also calculated.

The New Zealand Index of Deprivation classification system is an index of deprivation that measures the level of socioeconomic deprivation for people in each small area.34 Deciles 1–2 represent people living in the least deprived areas and deciles 9–10 represent people living in the most deprived areas.

Screening effectiveness and efficiency

We used a standard screening approach to assess the effectiveness of the four disease groups. The sensitivity, specificity and positive predictive value (PPV) for detecting patients, who subsequently developed the condition of interest (rehospitalisation, death), were calculated using the Kaplan-Meier estimates at 5502 days. The number of children needed to screen (NNS) in order to prevent one rehospitalisation or death (assuming a perfect
### Table 1  Conditions included in the PAH, PAHHE, crowding and MoH groups and association with social/environmental variables

<table>
<thead>
<tr>
<th>Condition</th>
<th>ICD codes</th>
<th>Associated social/environmental variables</th>
<th>PAH group</th>
<th>PAHHE group</th>
<th>Crowding group</th>
<th>MoH group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute bronchiolitis</td>
<td>J21</td>
<td>Social policy, Housing/physical environment, Ethnic disparities</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Acute rheumatic fever</td>
<td>I00–I02</td>
<td>Social policy, Housing/physical environment, Access to primary care, Ethnic disparities</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Bacterial meningitis</td>
<td>G00, G01</td>
<td>Housing/physical environment, Ethnic disparities</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Bacterial/unspecified pneumonia</td>
<td>J13–J16, J18</td>
<td>Social policy, Housing/physical environment, Access to primary care, Ethnic disparities</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Bronchiectasis</td>
<td>J47</td>
<td>Social policy, Housing/physical environment, Access to primary care, Ethnic disparities</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sepsis due to group A streptococcus</td>
<td>A400</td>
<td>Housing/physical environment</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Meningococcal disease (includes meningococcal meningitis)</td>
<td>A39</td>
<td>Social policy, Housing/physical environment, Ethnic disparities</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Viral/other/unspecified meningitis</td>
<td>A87, G02, G03</td>
<td>Social policy, Ethnic disparities</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Viral pneumonia</td>
<td>J12, J100, J110</td>
<td>Social policy, Housing/physical environment</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Acute nephritic syndrome</td>
<td>N00, N05</td>
<td>Housing/physical environment</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Acute upper respiratory tract infection excluding croup</td>
<td>J00–J03, J06</td>
<td>Housing/physical environment, Access to primary care</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Asthma</td>
<td>J45, J46</td>
<td>Social policy, Housing/physical environment, Access to primary care, Ethnic disparities</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Croup, acute laryngitis, tracheitis</td>
<td>J04–J050</td>
<td>Access to primary care</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Dermatitis/eczema</td>
<td>L20–L30</td>
<td>Social policy, Access to primary care, Ethnic disparities</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Febrile convulsions</td>
<td>R560</td>
<td>Access to primary care, Ethnic disparities</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Gastroenteritis</td>
<td>A00–A09, R11, K529</td>
<td>Access to primary care, Health promotion</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nutritional deficiency</td>
<td>E40–E64, D50–D53</td>
<td>Social policy, Access to primary care, Health promotion</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Otitis media</td>
<td>H65–H67</td>
<td>Social policy, Housing/physical environment, Access to primary care, Ethnic disparities</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Skin infection</td>
<td>L00–L09, L08, L900, J340, H000</td>
<td>Social policy, Housing/physical environment, Access to primary care, Health promotion, Ethnic disparities</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>A15–A19</td>
<td>Social policy, Housing/physical environment, Ethnic disparities</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Vaccine preventable diseases (tetanus neonatorum, congenital rubella, tetanus, diphtheria, pertussis, polio, hepatitis B, measles, rubella, mumps)</td>
<td>P350, A33, A34, A35, A36, A37, A80, B16, B180, B181, B05, B06, B26, M014</td>
<td>Social policy, Access to primary care, Health promotion</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Viral infection of unspecified site</td>
<td>B34</td>
<td>Housing/physical environment, Access to primary care</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Continued
intervention could be implemented every time) was calculated as a means of estimating efficiency, as total number of children in the group of interest divided by the number rehospitalised/dying over the study period. The cluster bootstrap technique was used to calculate the standard error (SE) and 95% confidence intervals (CI) to indicate the variability of this test. As the NNS is mathematically equivalent to 1/PPV, the SE of the NNS was calculated from the SE of the PPV using the delta method.

RESULTS
Total hospitalisations and deaths
Over the period 2000–2014, a total of 1425085 hospitalisations occurred for a total of 683115 children in the 1–15 year old age group. Of these, 619667 hospitalisations occurred for 390220 children in the PAH group and 1469 deaths. In the PAHHE group, 275818 children experienced 413316 admissions and 1180 deaths. Slightly fewer admissions, 365249 occurred for 243791 children in the crowding group, with 1140 deaths. The smallest group, the MoH group, included 67918 children, with 88712 admissions and 805 deaths.

Rehospitalisations
Overall, 71% of all hospitalised children were readmitted. Children hospitalised, but never for a PAH condition, demonstrated a much lower risk of being readmitted (compared with children admitted for PAH conditions), with 56.3% rehospitalised. Children hospitalised with diseases in the MoH group had the highest risk of rehospitalisation, with 86.2% rehospitalised at 5502 days following the initial admission. Similarly, there were elevated risks of rehospitalisation in children hospitalised with diseases in the PAHHE group (80.3% rehospitalised) and the crowding group (80.3% rehospitalised). Table 2 describes the risk of rehospitalisation for any cause following hospitalisation in each of the four groups using children who were hospitalised with a non-PAH condition as the comparison group.

Figure 1 describes the Kaplan-Meier curve for rehospitalisation, following initial hospitalisation for a condition in each group.

Mortality
Overall, 0.6% of all hospitalised children died during the study period. Children hospitalised, but never admitted for a PAH condition, demonstrated the highest survival rate, with 99.7% surviving. Children hospitalised with conditions in the MoH group demonstrated the poorest survival. At 5502 days post hospitalisation, 97.6% (95% CI: 97.2% to 98.0%) of children hospitalised in the MoH group remained alive (HR: 10.4), as did 99.1% (95% CI: 99.0% to 99.2%) of children hospitalised in the crowding group (HR: 4.00) and 99.2% (95% CI: 99.1% to 99.3%) hospitalised in the PAHHE group (HR: 3.31). By comparison, 99.3% (95% CI: 99.2% to 99.3%) of children hospitalised for a PAH condition survived (HR: 3.07, Figure 2, table 3).

The proportional hazards assumption was tested and did not hold by group. We therefore fitted spline smoothed curves to the standardised Schoenfeld residuals for covariates in each model using the Therneau and Grambsch’s Z test for global goodness of fit, available in the R survival library (p for all models<0.001). Visual inspection showed the assumption was largely true for age at diagnosis, ethnicity, deprivation and sex. For the main exposure, however (hospitalisation for housing-related disease), the assumption did not hold, with β declining over time. Grambsch and Therneau suggest that smoothed Schoenfeld residuals provide a good estimate of the true form of β(t) when there is a large sample size. This effectively extended the Cox model, allowing β to change with time, without specifying the form of

<table>
<thead>
<tr>
<th>Condition</th>
<th>ICD codes</th>
<th>Associated social/environmental variables</th>
<th>PAH group</th>
<th>PAHHE group</th>
<th>Crowding group</th>
<th>MoH group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constipation</td>
<td>K590</td>
<td>Access to primary care</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Dental (dental caries, pulp, periodontal)</td>
<td>K02, K04, K05</td>
<td>Social policy</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Gastro-oesophageal reflux</td>
<td>K21</td>
<td>Access to primary care</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Osteomyelitis</td>
<td>M86</td>
<td>Access to primary care</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Rheumatic heart disease</td>
<td>I05–I099</td>
<td>Access to primary care</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

1As identified by Anderson et al. (2012) unless otherwise cited.

ICD, International Classification of Diseases; MoH, Ministry of Health; PAH, potentially avoidable hospitalisation; PAHHE, potentially avoidable hospitalisations attributable (at least in part) to the home environment.

Table 2

<table>
<thead>
<tr>
<th>Hospital admission group</th>
<th>Rehospitalisation risk</th>
<th>Unadjusted HR (95% CI)</th>
<th>Adjusted* HR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-PAH</td>
<td>56.3%</td>
<td>1.00 (reference)</td>
<td>1.00 (reference)</td>
</tr>
<tr>
<td>PAH</td>
<td>78.0%</td>
<td>2.19 (2.17 to 2.21)</td>
<td>2.31 (2.29 to 3.34)</td>
</tr>
<tr>
<td>PAHHE</td>
<td>80.3%</td>
<td>2.41 (2.40 to 2.43)</td>
<td>2.48 (2.48 to 2.52)</td>
</tr>
<tr>
<td>Crowding</td>
<td>80.3%</td>
<td>2.47 (2.45 to 2.49)</td>
<td>2.58 (2.56 to 2.61)</td>
</tr>
<tr>
<td>MoH</td>
<td>86.2%</td>
<td>3.35 (3.31 to 3.39)</td>
<td>3.60 (3.55 to 3.66)</td>
</tr>
</tbody>
</table>

* Adjusted for age, sex, ethnicity and deprivation.

MoH, Ministry of Health; PAH, potentially avoidable hospitalisation; PAHHE, potentially avoidable hospitalisations attributable (at least in part) to the home environment.
this relationship, with the naïve hazard ratios essentially representing ‘average’ effect (Supplementary appendix figure 1).

Increasing deprivation and Maori or Pacific ethnicity were associated with increased risk of readmission and mortality across
all groups. Age showed a non-linear relationship with readmission and death risk, with a minimum risk reached at age 5–6 years before risk increased again. Most of the difference between the unadjusted and adjusted models is due to the inclusion of age. For readmissions only, an interaction between ethnicity and deprivation was significant in that Maori or Pacific ethnicity decreased the effect of deprivation, and this was included in the relevant models. All of these variables had much less effect than those for housing related admissions.

Effectiveness analysis
The following table summarises the performance of four groups using a range of screening performance measures (table 4).

For the rehospitalisation outcome, which is relatively common, three of the groups (PAH, PAHHE, crowding) were all able to detect more than half of the children who were subsequently readmitted (sensitivity 55.0%–75.1%). The MoH criteria identified a much lower proportion (sensitivity of 20.2%), but the likelihood of children hospitalised in this group being readmitted was higher (PPV of 86.2%). The NNS to hypothetically prevent one rehospitalisation was 1.2 for all three subgroups and 1.3 for the PAH group overall. Given the large sample sizes, all CIs were smaller than rounding errors, ie. <±0.5%.

When investigating mortality, the hospitalisation groups had sensitivities varying from 48% to 76%. The MoH group demonstrated the highest PPV, but this was still very low at 2.5% (as would be expected for a rare outcome). The NNS to hypothetically prevent one child’s death was 40.2 for the MoH group, 111.7 for the Crowding group, 121.6 for the PAHHE group and for the PAH group overall was 131.9. The statistics were all normally distributed as demonstrated by plotting normal QQ plots of the bootstrap residuals.

<table>
<thead>
<tr>
<th>Hospital admission group</th>
<th>Survival (%)</th>
<th>Unadjusted HR (95% CI)</th>
<th>Adjusted HR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-PAH</td>
<td>99.7</td>
<td>1.00 (reference)</td>
<td>1.00 (reference)</td>
</tr>
<tr>
<td>PAH</td>
<td>99.3</td>
<td>2.23 (2.01 to 2.47)</td>
<td>3.07 (2.74 to 3.43)</td>
</tr>
<tr>
<td>PAHHE</td>
<td>99.2</td>
<td>2.45 (2.20 to 2.72)</td>
<td>3.31 (2.94 to 3.71)</td>
</tr>
<tr>
<td>Crowding</td>
<td>99.1</td>
<td>2.66 (2.39 to 2.96)</td>
<td>4.00 (3.55 to 4.50)</td>
</tr>
<tr>
<td>MoH</td>
<td>97.6</td>
<td>7.03 (6.27 to 7.87)</td>
<td>10.64 (9.18 to 11.86)</td>
</tr>
</tbody>
</table>

*Adjusted for age, sex, ethnicity and deprivation.

MoH, Ministry of Health; PAH, potentially avoidable hospitalisation; PAHHE, potentially avoidable hospitalisations attributable (at least in part) to the home environment.

DISCUSSION

Main findings
Children hospitalised for conditions that are considered potentially avoidable are more likely to be readmitted to hospital and die compared with children admitted for other conditions. After children are hospitalised with one of the PAH conditions, they are likely to return to situations where factors promoting illness are still present. These factors include housing conditions, such as crowding and cold, damp, mouldy indoor environments. It is also possible that there is less provision of effective treatment and social support for children with conditions included in the PAH group than provided to children with other conditions. We successfully explored four disease groups which identified potentially avoidable conditions, a number of which were influenced by the home, crowding and the physical environment.

This study showed that the screening performances of these different disease groups varied markedly. The PAHHE and crowding groups identified the largest proportion of children who subsequently had adverse outcomes, but the trade-off was a lower PPV. The MoH group on the other hand identified fewer poor health outcomes but had significantly higher PPV and consequently could be seen as more efficient for screening purposes, particularly if resources for follow-up are limited. As a result, it also provided the lowest NNS to prevent a hypothetical death (NNS: 41.7 children).

The MoH group identifies children at relatively high risk of future morbidity and early death. These children are very likely to benefit from housing interventions to reduce future morbidity and mortality, as all of the conditions included in the MoH group are also considered to be associated with crowding and/or the home environment. While acute nephritic syndrome is included in the MoH group but not in PAHHE or crowding,

Table 4  Screening effectiveness and efficiency analysis

<table>
<thead>
<tr>
<th>Rehospitalisation</th>
<th>Sensitivity (%)</th>
<th>Specificity (%)</th>
<th>PPV (%)</th>
<th>NNS (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-PAH</td>
<td>24.9</td>
<td>52.2</td>
<td>56.3</td>
<td>1.8 (1.8 to 1.8)</td>
</tr>
<tr>
<td>PAH</td>
<td>75.1</td>
<td>47.8</td>
<td>78.0</td>
<td>1.3 (1.3 to 1.3)</td>
</tr>
<tr>
<td>PAHHE</td>
<td>60.0</td>
<td>64.0</td>
<td>80.3</td>
<td>1.2 (1.2 to 1.2)</td>
</tr>
<tr>
<td>Crowding</td>
<td>55.0</td>
<td>67.0</td>
<td>80.3</td>
<td>1.2 (1.2 to 1.2)</td>
</tr>
<tr>
<td>MoH</td>
<td>20.2</td>
<td>92.0</td>
<td>86.2</td>
<td>1.2 (1.2 to 1.2)</td>
</tr>
<tr>
<td>Death</td>
<td>24.3</td>
<td>57.0</td>
<td>0.3</td>
<td>372.1 (346.8 to 399.4)</td>
</tr>
<tr>
<td>PAH</td>
<td>75.7</td>
<td>42.9</td>
<td>0.7</td>
<td>131.9 (125.1 to 139.7)</td>
</tr>
<tr>
<td>PAHHE</td>
<td>67.1</td>
<td>59.7</td>
<td>0.9</td>
<td>121.6 (114.7 to 128.5)</td>
</tr>
<tr>
<td>Crowding</td>
<td>65.0</td>
<td>64.4</td>
<td>1.0</td>
<td>111.7 (105.2 to 118.2)</td>
</tr>
<tr>
<td>MoH</td>
<td>47.9</td>
<td>90.2</td>
<td>2.5</td>
<td>40.2 (33.9 to 46.5)</td>
</tr>
</tbody>
</table>

MoH, Ministry of Health; NNS, needed to screen; PAH, potentially avoidable hospitalisation; PAHHE, potentially avoidable hospitalisations attributable (at least in part) to the home environment; PPV, positive predictive value.
it has recently been shown to be associated with low socio-economic status.32-33

Interventions that alleviate the effects of poor housing and socioeconomic deprivation are likely to have far-reaching effects, impacting positively on child health and benefiting society as a whole.34 35 Such interventions are likely to be multisectorial. Rehospitalisation is a useful outcome to assess the success of such interventions. As child mortality is rare, it may not be so useful as an outcome measure when evaluating successes of intervention programmes; however, it is a catastrophic event and warrants effective prevention.

Strengths and limitations
A major strength of this study is the ability to investigate rehospitalisation in a complete national population. The NZ hospitalisation dataset includes a unique person identifier (the NHI) which can be used to track individuals over time.

One limitation concerns the association of diseases included in the PAHHE and other groups with poor quality housing.1 While the PAHHE group was developed by child health experts, the extent to which housing influences the rates of these diseases has not been accurately quantified. Furthermore, as our comparison group is children who have been hospitalised (although not for PAH conditions), our analyses may underestimate the true risk of rehospitalisation and mortality because the comparison group has already experienced worse health outcomes than the never-hospitalised child population. The effectiveness of each group to predict rehospitalisation and death in this age group may thus be different to that reported.

Implications
There are two major implications from this work. The first concerns screening. Children hospitalised for conditions considered potentially avoidable have a markedly higher risk of rehospitalisation and death than children hospitalised for other conditions. Screening can provide health service operators (eg, district health boards) with an opportunity to identify children at increased risk of future admissions, and take action to improve their home circumstances.12 13 18 19

These findings also support the need for a multisectoral approach to reducing child health inequities. Housing is an important and clearly modifiable worldwide determinant of child health. The ability of the NZ government sector to effectively deliver housing interventions on a large scale has been clearly demonstrated. The Healthy Housing Programme in Auckland reduced rates of paediatric infectious disease hospitalisations by one-third,40 and the Warm Up New Zealand: Heat Smart programme, which provided free insulation to over 300,000 homes, produced an estimated net benefit of nearly NZ $1 billion.41 If a perfect intervention which entirely removed the excess rehospitalisation risk did exist, and it had been applied to all children hospitalised with PAH conditions (ie, 43.5% of all hospitalised children) over the study period, then a total of 103,090 admissions and 347 deaths would not have occurred. The effects of childhood poverty emerge through poorer social, educational and health outcomes.1 Such effects can last a lifetime, as seen by the increased risk of cardiovascular disease in adulthood.1 Childhood poverty results an increased burden on the healthcare system, as well as on other government and community agencies.1 17 We recommend future research and policy focuses on developing effective housing-related interventions with the aim of reducing the burden of ARF and rheumatic heart disease, and alleviating poverty, improving health equity and enabling social justice throughout society. Such work is likely to be important in all countries where there is significant child poverty.

Hospitalisations for conditions in the MoH group were strongly associated with rehospitalisation and death, and this striking finding warrants further investigation to identify morbidity and mortality risks specific to these conditions. There is potential to target effective housing interventions towards children hospitalised with conditions in the MoH group in order to help prevent future morbidity and mortality.

Conclusion
Future child hospitalisations and deaths may be avoided through appropriate interventions. Large-scale housing interventions may reduce the burden of preventable diseases considerably, if judiciously targeted at vulnerable populations. Scoping for such a programme should begin with an emphasis on incorporating well-integrated referral pathways, and delivering timely intervention to people in need. Useful outcome measures should be pre-identified in order to periodically assess the programme’s success. Rates identified in this study may be useful as baseline statistics.

Contributors J O carried out the analyses, drafted the initial manuscript and carried out revisions, and approved the final manuscript as submitted. TF assisted with carrying out the analyses, reviewed and revised the manuscript, and approved the final manuscript as submitted. AK critically reviewed the manuscript, provided feedback and approved the final manuscript as submitted. DAW critically reviewed the manuscript, provided feedback and approved the final manuscript as submitted. MGB assisted in the study design and guided the write up, critically reviewed and revised the manuscript, and approved the final manuscript as submitted. NP conceptualised and designed the study, provided guidance on the statistical analyses, critically reviewed and revised the manuscript, and approved the final manuscript as submitted. All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

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Ethics approval University of Otago Ethics Committee.

Provenance and peer review Not commissioned; externally peer reviewed.

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1. INTRODUCTION

This paper updates the Health System Committee (HSC) on the submissions prepared by Regional Public Health (RPH) on its behalf for current consultations on the Healthy Homes Standards and Reform of the Residential Tenancies Act (1986) as discussed at the August HSC meeting.

2. BACKGROUND

The new Ministry of Housing and Urban Development (HUD)\(^1\) has recently consulted on proposals for Healthy Homes Standards under the new Healthy Homes Guarantees Act (2017) and the reform of the Residential Tenancies Act 1986.

2.1 Healthy Homes Standards

The Healthy Homes Standards aim to improve the quality of rental homes to enable renters in New Zealand to live in warm, dry homes. Consultation is underway on the proposed standards for heating, insulation, ventilation, moisture ingress and drainage, and draught stopping. Submissions closed for this consultation on Monday 22 October 2018.

2.2 Reforming the Residential Tenancies Act (RTA)

New Zealand’s rental market is expanding. The law that oversees the rental market is over 30 years old. While there have been many small changes to the RTA over recent years, it has been some time since questions were

\(^1\) Consultation was initiated by MBIE but with the establishment of HUD on 1 October the consultation was transferred to the new Ministry.
asked about whether this legislation remains fit for purpose and meets people’s needs. Submissions closed for this consultation on Sunday 21 October 2018.

3. DRAFTING THE SUBMISSIONS

Both consultation documents are substantial; responses to them have required lengthy consideration. The approach that RPH took includes:

a) Liaising with Auckland Regional Public Health Service (ARPHS), to ensure our respective public health messages were consistent.

b) Reviewed relevant literature on the RTA amendment bill (2016) and Healthy Homes Guarantees Bill (02), including previous submissions by other Public Health Units, He Kainga Oranga/healthy housing research programme, the College of Public Health Physicians, Salvation Army.

c) Held meetings with key stakeholders to discuss key issues and areas of agreement

d) Engaged with the policy team at MBIE to discuss the consultation documents.


MBIE reinforced that they are seeking wide feedback and were encouraging submissions to give specific examples which could be illustrated through case studies.

Landlords, property investors and property managers were heavily represented at the workshop. This highlighted the necessity of a strong public health submission emphasising the impact of poor housing on tenants’ health and amplifying the voice of Māori, Pacific and children in insecure housing.

The attached submissions (see Appendices) reflect the analysis undertaken by RPH. Due to the consultation timing these were circulated to the HSC Chair ahead of this meeting for endorsement.

This is the first stage in the process for reforming the RTA. Submissions will now be analysed and inform the development of a revised Bill. Once this is drafted there will be further consultation opportunities to feed back on.
19 October 2018

Residential Tenancies Act Reform
Housing and Urban Branch
Building Resource Markets
Ministry of Business Innovation and Employment
PO Box 1473
Wellington 6140

**Attention:** Reform of the Residential Tenancies Act (1986)

Tēnā koe

I am writing as Chair of Capital and Coast District Health Board’s (CCDHB’s) Health System Committee to endorse the submission prepared by Regional Public Health (RPH) responding to the consultation on proposed changes to the *Residential Tenancies Act* (RTA) 1986.

The Health System Committee (HSC) is a statutory committee under the *New Zealand Public Health and Disability Act 2000* comprising both CCDHB’s Community and Public Health Advisory Committee (CPHAC) and Hospital Advisory Committee (HAC). Our HSC helps ensure we apply a whole of system lens to our decision making to achieve the best health outcomes for our communities. The HSC supports CCDHB to make good choices for our investment in services with the biggest positive impacts and a strong focus on achieving equity of both access and outcome.

CCDHB plans, funds and provides health services to the 300,000 people living in the Wellington City, Porirua and parts of the Kāpiti Coast region. These services span prevention through to highly specialised hospital care and include:

- Population health services – including through RPH
- Primary care, community laboratory, pharmacy and community radiology
- Aged residential care and home support
- NGO and community provision of personal and mental health services
- Medical and surgical services through our Hospital Services (HHS)
- Mental Health, Addiction and Intellectual Disability Services (MAHIDS)

Access to quality housing is a well-established determinant of health and wellbeing. With the growing proportion of people living in rental accommodation, ensuring there are adequate protections around termination of tenancy giving greater security to tenants is an important step for creating stability, resilience and a sense of community. Placing safeguards around how rent is set is also necessary.

Internationally there is growing evidence and interest in place-based approaches to health and social systems to support wellbeing, build resilience and reduce demand for acute care.
CCDHB is adopting a localities approach that is designed to strengthen our work with communities and whānau so that people are supported to manage their own health and receive care early when it is needed. It is therefore essential that people living in rental accommodation within our communities feel a part of that community and are empowered to engage with us.

The HSC has identified housing as a key issue for CCDHB’s communities who experience poorer health outcomes – notably māori, pacific peoples and people with mental health issues. We are deeply concerned about the effects of poor housing quality, security and high rental costs on the ability for our communities to improve their health and wellbeing and for achieving equity of health outcomes. Therefore, we are highly supportive of the proposed changes to the RTA as a part of the solution.

Ngā mihi

Capital & Coast District Health Board

Dame Fran Wilde (Chair)
Health System Committee
Re: Consultation on the Reform of the Residential Tenancies Act 1986

Tēna koe

Thank you for the opportunity to make a submission on the Residential Tenancies Act reform discussion document.

Regional Public Health (RPH) delivers population and personal health services in the greater Wellington region. Our geographical area of service delivery spans Hutt Valley, Capital & Coast and Wairarapa DHBs. We deliver a range of population and personal health services, aiming to improve the health of communities throughout the greater Wellington region.

In particular we focus on achieving equitable health outcomes for high needs groups such as Māori, Pacific peoples, child and youth, low income families and other vulnerable groups.

We deliver a healthy housing programme (Well Homes) as part of the Ministry of Health’s Rheumatic Fever Prevention Programme. The housing programme aims to reduce crowding and assist occupants with making their homes warmer (access to insulation grants and curtains) and drier (education around ventilation and how to reduce and treat mould). The Well Homes programme works with landlords and tenants.

The contact point for this submission is:

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04 570 9126

Ngā mihi

Dr Craig Thornley                     Peter Gush
Medical Officer of Health             Service Manager
Regional Public Health                Regional Public Health
INTRODUCTION

Regional Public Health (RPH) welcomes the opportunity to make a submission on the Reform of the Residential Tenancies Act 1986 (RTA). We welcome a reform of the RTA that is inter-dependent with the need for rigorous housing quality standards to be introduced through the Healthy Homes Guarantees Act (2017). We specifically support the objectives of the RTA reform that focus on:

- improving the security and stability of tenure for tenants
- ensuring the law promotes good relationships between tenants and landlords
- modernising tenancy laws so tenants feel more at home
- improving the quality standards of boarding houses and the accountability of boarding house landlords.

Housing is a key determinant of health. The Royal Australasian College of Physicians state:

Housing is more than a place to shelter – the literal roof over one’s head. It is a key physical and social environment that contributes to the health and wellbeing of the individual and the whānau/family.

Greater numbers of New Zealanders are living in rental accommodation than ever before.\(^1\) Rental accommodation is consistently in worse condition than that of owner-occupied houses.\(^2\) There is a large body of evidence in New Zealand that documents the relationship between poor housing conditions and ill-health and disease, such as respiratory conditions including rheumatic fever, especially in children. Tenant households are carrying a burden of disease not experienced to the same degree by those who own their own home. As the Child Poverty Action Group states:

For families who are renting, there are three main problems:
- house rents are high and increasing,
- the quality of the rental properties appears to be substandard and deteriorating,
- the rental market provides few rights and protections for renters.

Families in their own homes, with or without a mortgage, are likely to be in better health than those who rent their house, either from private or public landlords.\(^3\)

A significant step in addressing the severe rates of housing related ill-health, disease and death in Aotearoa, and remedying the alarming rates of housing deprivation, will be to improve the situation


for tenants. This requires reforming the RTA, implementing rigorous healthy homes standards and strengthening the Tenancy Tribunal.

IMPROVING SECURITY AND STABILITY OF TENURE

Security of tenure and housing quality

In order to be well, people need stable, secure, warm dry housing.

The current regulatory environment of residential tenancy does little to incentivise landlords to improve the quality of rental properties. Many tenants do not report maintenance or quality issues for fear their tenancy may not be renewed, their rent might be raised, or they may be given a 90 day notice.4

Improving security and stability of tenure must go hand in hand with regulations that improve the structural condition of rental properties. Unless tenants feel secure at home and are empowered and protected under the RTA to speak up when their landlord is not meeting their obligations, the necessary accountability mechanisms to ensure housing standards are met do not exist. Therefore the healthy housing standards would fall short of their intention to prevent avoidable housing related illness.

Housing law researcher David Cowan has argued that housing condition protections are “rendered practically useless by the temporary nature ... of private renting”.5 The temporary nature of private renting that exists in New Zealand through our very minimal provisions for security of tenure, is a critical component of the creation of home and remains an outstanding issue that should urgently be addressed.

We support removing ‘no cause’ terminations from periodic agreements

In the current tight rental market, families are desperate to find accommodation and as such, when and if they do find a place to live, they often feel they must do everything possible to ensure they can stay where they are.

In order to improve stability and security of tenure, tenants need to have full protection to exercise their rights, free from the fear that at any time they could be given notice with no reason given.

Ninety-day no-cause terminations undermine other protections provided to tenants under the RTA. While retaliatory action by landlords is prohibited under the RTA, enforcing these rights “requires empowered tenants who are prepared and able to challenge a termination notice from the landlord

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in the Tenancy Tribunal. As noted ... around 90% of cases taken to the Tribunal are taken by landlords and the majority of these are not even contested by tenants”.

As part of the RPH led Well Homes programme, home assessors who visit cold, damp, unsafe rental homes will, where appropriate, provide a letter to the landlord or contact the landlord directly to outline the structural maintenance, heating, and other quality issues that need to be remedied. Staff from Well Homes report that tenants often do not wish to have their housing concerns raised with the landlord for fear their tenancy may be terminated, or not renewed. Staff report that tenants are often concerned that that if they advocate for their rights, they will be seen as “problem tenants” and be given notice.

Ending tenancies when tenants do not meet their obligations

We agree with MBIE’s statement:

32. Currently landlords could be using the 90 day ‘no cause’ termination to move out tenants who are not meeting their obligations. However, we believe even in these cases, tenants deserve to know the reasons, and what evidence the landlord is basing their decision on.

Given the significant public health implications of tenancies being terminated (and families being put into a precarious housing situation) we consider the threshold for termination of tenancy should be high. This would include high evidence thresholds and tenants being given every possible opportunity to remedy situations where they are not meeting their obligations. This is particularly because there are already existing civil and criminal processes for dealing with anti-social behaviour and other social issues.

We are particularly concerned that those who are struggling with poor mental health or addiction issues are given appropriate opportunity and support before their behaviour could jeopardize their housing security.

Other grounds for termination and extending notice periods

We support all measures that ensure tenants who are meeting their obligations can stay in their rental home for as long as possible. Extending the notice period from 42 to 90 days in situations where a landlord is able to terminate a tenancy would allow families more time to find alternative accommodation.

It is beyond the scope of our role to consider the market implications of the other grounds for termination that are proposed. However, an emphasis should be put on protecting housing security for tenants when determining whether additional grounds are required.

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Types of tenancy agreements

From a public health perspective, if all other things are equal (e.g. a tenant is housed in a warm dry home) providing tenants longer tenure is beneficial. Transience or residential mobility is associated with negative health outcomes. Outcomes identified in association with residential mobility include: higher levels of behavioural and emotional problems; increased teenage pregnancy rates; accelerated initiation of illicit drug use; adolescent depression; reduced continuity of healthcare⁷.

Fewer New Zealanders own their own home – more people are renting. In order to ensure the types of tenancy agreements on offer are fit for purpose and reflect the modern renting environment, emphasis needs to be placed on ensuring tenants can stay in their rental homes for longer. Given that ‘Option three: Allow only open-ended tenancies’ provides the most security and certainty for tenants, we suggest the government undertake further exploration of removing fixed-term tenancies from the market.

We agree that if fixed-term tenancies remain, and the proposed changes are made to periodic tenancy agreements, landlords may tend to prefer fixed-term agreements over periodic agreements. As such, attention needs to be given to fixed-term agreements to ensure they provide security of tenure. Given that ‘Option one: Providing tenants with a right to extend their fixed-term agreement’, may result in an unintentional incentive for landlords to adopt a more litigious approach, we would support ‘Option two: Specify a minimum length for fixed term agreements’.

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ENSURING THE LAW PROMOTES GOOD RELATIONSHIPS BETWEEN TENANTS AND LANDLORDS

Landlord and tenant responsibilities

More needs to be done to educate both landlords and tenants. Through our experience delivering the Well Homes programme, we are aware that many tenants and landlords are not fully cognisant of their rights and obligations under the RTA.

In order to ensure tenants live in warm, dry and safe housing, landlords need to fulfil their obligations to provide a home that is in a reasonable state of repair and meets the (yet to be determined) healthy homes standards. Many residential properties are currently in a poor state of repair.

Although many rental properties are in poor condition, the vast majority of claims brought before the Tenancy Tribunal are on behalf of landlords. Tenants need easier access to tenancy advocacy and support services to make sure landlords meet their obligations. Additionally, by improving security of tenure tenants will feel more able to raise concerns when landlords do not meet their obligations.

How can landlords and tenants work together to keep a property warm and dry?

We strongly support the introduction of new minimum standards for heating, insulation, ventilation, moisture ingress, draught-stopping and drainage in rental properties through the Healthy Homes Guarantee Act 2017.

We acknowledge the role tenant and landlord behaviour plays in maintaining a warm, dry home. In response we recommend that in line with good regulatory practice, emphasis be focussed on providing education for tenants and landlords that explicitly focusses on the importance of warm dry homes for health and wellbeing (as well as protecting landlord assets). Education could specifically include information to landlords and tenants about the benefits of providing and using heating and ventilation appliances and how to heat the home most efficiently.
MODERNISING TENANCY LAWS SO TENANTS FEEL MORE AT HOME

Modifications to rental properties

We support any legislation that makes it easier for tenants to make reasonable modifications to their rental home. We specifically support any mechanisms that make it easier for tenants to make modifications, not already covered under the Healthy Homes Standards, that increase the level of safety (especially for children) and reduce injury hazards in the home.

In 2010 more than 261,000 New Zealanders were injured as a result of everyday slips, trips and falls in their homes. Collectively, the social cost of these injuries and deaths have been estimated to be around $13 billion annually (at 2008 costs), 3½ times more than are associated with road injuries, making the average social costs per home injury approximately $26,000.33.

One way to improve the burden of these injuries and their associated costs is to reduce injury hazards in the home.8

Some examples of these sorts of modifications that reduce injury hazards and increase safety:

- earthquake proofing by affixing appliances to the wall
- affixing safety gates to protect children especially around stairs
- affixing child safety latches to cupboards

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SETTING AND INCREASING RENT

Ultimately increasing housing supply is needed to address housing affordability issues.

Tenant households tend to pay a higher proportion of their household income on housing than owner-occupiers do. The 2018 Housing Stocktake reports “between late 2012 and late 2017 average rents for three-bedroom houses rose 25% while wages rose only about 14%”. Many low-income families reduce expenditure on other necessities such as food and heating in order to make rent payments.

We support the government’s move to put further limits on rent increases.

We support any legislative changes that provide greater certainty for renters, especially those who pay a higher proportion of their disposable income on housing. Increasing certainty about the amount of rent required to secure a property, and the amount and frequency of rent increases would allow tenants to make more informed budgeting decisions and ensure tenants had more money leftover (after rent) to pay for other necessities such as heating, nutritious food and healthcare.

Rental bidding

We do not support the practice of rental bidding as it particularly disadvantages people with low purchase power in securing rental accommodation.

It is well evidenced that those living on low incomes are more likely to have poor health outcomes. In a market where rental bidding is the norm, those on low incomes have the least ability to compete, which means they are the least likely group to secure housing.

Preventing rental bidding will improve access to housing for this group and support better health outcomes for those already most at risk.

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BOARDING HOUSES

Public health evidence suggests that tenants living in boarding houses are particularly vulnerable. International studies and a small number of New Zealand studies have shown that boarders staying in the poorest condition boarding houses experience high levels of poverty, poor health and disability and are vulnerable to eviction.\textsuperscript{11}

In order to address the health and housing situation for tenants currently in boarding situations, greater supply of supportive and therapeutic living environments is urgently required.

We applaud the government’s intention to “ensure everyone living in a boarding house is housed in a physically warm, dry, and safe structure and is subject to fair treatment.”

We support government initiatives to provide additional monitoring of boarding houses in order to more effectively ensure boarding houses are compliant with building health and safety standards and provide safe, secure, warm, dry accommodation.

We support the introduction of stronger enforcement powers to improve the quality of boarding houses.

We support the establishment of a Warrant of Fitness for boarding houses and their operators. However, we also recognise the unintended effect of compliance costs being passed on to tenants in the form of increased rents and reduction in the number of boarding houses. These factors could increase the level of vulnerability of boarding house tenants. This may result in boarding house tenants forced into rough sleeping or other severe forms of homelessness. Therefore, we recommend the government undertakes further research into the impacts of these trade-offs.

When determining which course of action to take, we urge the government to place the health and wellbeing of young people, those living with disabilities, people experiencing high levels of poverty, and poor mental and/or physical health at the centre of all decisions.

ENFORCING TENANCY LAWS

Currently, tenants are not sufficiently empowered to bring bad behaviour of landlords to the Tenancy Tribunal and landlords are not sufficiently deterred from operating in a way that does not meet their obligations. This is evidenced by the fact that “… 90% of the applications to the Tribunal are from landlords, effectively making it a landlords’ tribunal”.12

In order to address current power imbalances in the residential tenancy system and ensure tenants are protected, more needs to be done to ensure that landlords who consistently do not meet their obligations and as a result put the health and wellbeing of tenants at risk are appropriately investigated and penalised.

We believe there needs to be an appropriate regulatory compliance regime. This should focus on education for both landlords and tenants about their rights and obligations including the consequences of non-compliance. Any compliance regime should also include an escalating series of responses to ensure landlords are compliant and are given appropriate disincentives to repeated breaches.

We support all initiatives that enable MBIE to more effectively enforce compliance in complex multi-tenanted situations such as boarding houses, and situations where very poorly maintained or uninhabitable properties suggest the landlord or property owner has no interest in the responsibilities that come with owning a property to let.

We support the provision for MBIE to have power to enter the common spaces of boarding houses in order to more effectively monitor boarding house situations, determine situations of non-compliance and take action to protect tenants. However, privacy for boarding tenants must also be prioritised.

We strongly support providing MBIE with the ability to audit a landlord or property manager. This would provide greater protection for tenants, promote compliance and uncover systemic issues.

We support giving MBIE the ability to take a single case in respect to multiple breaches of the RTA. Landlords or property managers who repeatedly do not meet their obligations must face appropriate penalties that incentivise good practice and compliance and effectively discourage lack of responsibility.

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HEALTH SYSTEM COMMITTEE PUBLIC - 4.1 CCDHB / RPH Housing Submission on Legislation

19 October 2018

Ministry of Housing and Urban Development
C/O Ministry of Business Innovation and Employment
15 Stout Street PO Box 1473
Wellington 6140

Attention: Healthy Homes Standards Submissions

Tēnā koe

I am writing as Chair of Capital and Coast District Health Board’s (CCDHB’s) Health System Committee to endorse the submission prepared by Regional Public Health (RPH) responding to the consultation on proposed Healthy Homes Standards under the Healthy Homes Guarantee Act (2017).

The Health System Committee (HSC) is a statutory committee under the New Zealand Public Health and Disability Act 2000 comprising both CCDHB’s Community and Public Health Advisory Committee (CPHAC) and Hospital Advisory Committee (HAC). Our HSC helps ensure we apply a whole of system lens to our decision making to achieve the best health outcomes for our communities. The HSC supports CCDHB to make good choices for our investment in services with the biggest positive impacts and a strong focus on achieving equity of both access and outcome.

CCDHB plans, funds and provides health services to the 300,000 people living in the Wellington City, Porirua and parts of the Kapiti Coast region. These services span prevention through to highly specialised hospital care and include:

- Population health services – including through RPH
- Primary care, community laboratory, pharmacy and community radiology
- Aged residential care and home support
- NGO and community provision of personal and mental health services
- Medical and surgical services through our Hospital Services (HHS)
- Mental Health, Addiction and Intellectual Disability Services (MHAIDS)

While in general the CCDHB population experiences good health compared with other parts of New Zealand, we do have pockets of high health need. Some local communities are significantly affected by poverty and the related effects of poor housing quality, lack of access to secure housing and overcrowding. We know these social determinants have a significant impact on health and wellbeing and contribute to inequitable health outcomes. Disproportionately it is Māori and Pacific peoples and people living in highly deprived communities within Porirua who experience the greatest negative health and social effects from poverty and poor housing. We observe this through more hospital admissions for conditions associated with poor housing conditions (eg, respiratory illness). The case studies outlined in
the submission emphasise the very real impact that poor housing conditions have on whānau in our communities.

The Health System Committee as stewards of our local health and disability system is deeply concerned about the effects of poor housing quality on the ability for our communities to improve their health and wellbeing and for achieving equity of health outcomes. Therefore, we are highly supportive of any steps taken to improve the state of our housing stock. Implementing Healthy Homes Standards that protect the rights of families and whānau to live in warm dry homes is key to achieving this improvement. We support the proposals within the discussion document that provide the greatest assurance that this will occur.

Ngā mihi

Capital & Coast District Health Board

Dame Fran Wilde (Chair)
Health System Committee
Ministry of Housing and Urban Development  
PO Box 82  
Wellington 6140

Re: Consultation on Healthy Homes Standards

Tena koe

Thank you for the opportunity to make a submission on the Healthy Homes Guarantees Bill.

Regional Public Health (RPH) delivers population and personal health services in the greater Wellington region. Our geographical area of service delivery spans Hutt Valley, Capital & Coast and Wairarapa DHBs. We deliver a range of population and personal health services, aiming to improve the health of communities throughout the greater Wellington region.

In particular we focus on achieving equitable health outcomes for high needs groups such as Māori, Pacific peoples, child and youth, low income families.

We deliver a healthy housing programme (Well Homes) as part of the Ministry of Health’s Rheumatic Fever Prevention Programme. The housing programme aims to reduce crowding and assist occupants with making their homes warmer (access to insulation grants and curtains) and drier (education around ventilation and how to reduce and treat mould).

As part of our work with Well Homes, our nurses and providers see many homes in disrepair. We are often seeking levers to influence landlords to improve the standard of their homes. RPH supported the call for tighter regulations around minimum standards for homes.

We would be available to speak to this submission if the opportunity is available.

The contact point for this submission is:

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Ngā mihi

Dr Craig Thornley  
Medical Officer of Health

Peter Gush  
Service Manager

Regional Public Health  
Regional Public Health
Section 1: Heating

1.1 Where in the home should landlords be required to provide heating?
Do you support option one or two for the location of heating devices that landlords must provide in rental homes? Please explain your reason.

We support option 2 – landlords should be required to provide heating in the living room and bedrooms.

We support this option for the reasons and evidence set out in the Ministry of Housing and Urban Development Healthy Homes Standards discussion document (p.13, 14) and listed below:

Advantages of option two include:
- tenants are likely to suffer fewer health conditions associated with living in cold and damp homes resulting in reduced healthcare costs. Other potential benefits include fewer absences at work and school and crowding for long periods in a single heated space is avoided.
- it is more likely to meet the objective of a warm, dry home than option one
- tenants with access to heating in bedrooms would especially benefit, particularly children and elderly and those with disabilities or illnesses that spend a large amount of time in the bedroom

1.3 What achievable indoor temperature should heating devices be sized for?
Do you support option one or two above on whether landlords should provide heating devices that are capable of reaching 18°C or 20°C in room(s) covered by the heating standard? Please explain.

We support option 2 – heater that landlords provide must be capable of achieving an indoor temperature of at least 20°C in rooms applicable to the heating standard.

We support this option for the reasons and evidence set out in the Ministry of Housing and Urban Development Healthy Homes Standards discussion document (p.16) and listed below:

Advantages of option two include:
- the objective of warm and dry rental homes in New Zealand is more likely to be met compared to option one as room(s) applicable to the heating standard will have the ability to achieve an indoor temperature of at least 20°C.
- all tenants, but particularly at-risk tenants such as the elderly, children and the ill, will benefit from having rental homes that have the ability to achieve an indoor temperature of at least 20°C in rooms covered by the heating standard compared to option one.

1.4 Should landlords only be required to provide heating devices where portable electric heaters are insufficient to achieve the required indoor temperature?
Do you support option one or two for heating devices to be provided by a landlord in a rental home?
We support option 2 – Landlords provide fixed and portable heating devices

We support this option for the reasons and evidence set out in the Ministry of Housing and Urban Development Healthy Homes Standards discussion document (p.18) and listed below:

Advantages of this option include:

- this option is more likely to meet the objective of a warm, dry home in cases where tenants are unable to afford their own portable plug-in heater
- all tenants, including those who cannot afford to buy a portable electric heater, can still heat a room/home to the appropriate indoor temperature so would be more likely to enjoy some health benefits and reduced mortality risk from warmer homes.

1.5 Should we accept some heating devices, and not others?

Do you agree that a class of acceptable heating devices is created for those devices that are efficient, healthy and affordable for the heating standard? Please explain.

We agree that a class of acceptable heating devices is created and that these devices should be efficient, safe, healthy and affordable.

Do you agree that the heating devices listed above (unflued heaters, open fires etc) should be not acceptable for the heating standard? Please explain.

We agree that unflued gas heaters, open fires and electric heaters (except heat pumps) greater than 2.4 kilowatts) are not acceptable for the heating standard.

We agree these devices are not acceptable for the reasons and evidence set out in the Ministry of Housing and Urban Development Healthy Homes Standards discussion document (p.19) and listed below:

- **unflued heaters (including unflued gas and kerosene heaters):** unflued gas heaters release moisture and toxic gases and are one of the most expensive heating options. If these devices were not acceptable then it may lead to tenants experiencing fewer illnesses associated with exposure to mould and pollutants
- **open fires:** open fires generally operate at approximately between 5 per cent and 15 per cent efficiency with the majority of the heat they produce escaping through the chimney. This makes them ineffective and expensive to run. They also significantly contribute to indoor and outdoor air pollution
- **all electric heaters (except for heat pumps) with a heating capacity of greater than 2.4 kilowatts:** electric heaters greater than 2.4 kilowatts would not be acceptable because they are expensive to run and reduce the likelihood of tenants using them. This would include electric night-store heaters which do not provide consistent heating capacity at all times and which provide tenants with limited control over when they heat the room
- **using multiple portable electric heaters in one room**: multiple portable plug-in heaters in one room with a combined capacity greater than 2.4 kilowatts would not be acceptable because they could overload electrical wiring and cause fire hazards and because multiple electric resistive heaters are expensive to run and reduce the likelihood of tenants using them.

The advantages of not accepting certain heating devices include:
- landlords do not incur capital costs on heating devices that are inefficient, unaffordable or unhealthy
- tenants enjoy a reduction in energy costs on their primary heating if replaced by more affordable to operate devices
- government and public benefit if less energy efficient heating is replaced by more efficient heating leading to a reduction in carbon emissions. Government and public also benefit from less demand on publicly funded services in health and other social support.

What other types of heating, if any, do you think should be acceptable or not acceptable in the heating standard? Why?

No comment
Section 2: Insulation

2.1 What minimum level of insulation should be required in rental homes?

Which of the options (one, two or three) for the minimum level of insulation required do you support? Please explain.

We support option three – an even higher minimum level of ceiling and underfloor insulation, where the minimum level for both existing and new insulation is akin to the 2008 building code.

We support this option for the reasons and evidence set out in the Ministry of Housing and Urban Development Healthy Homes Standards discussion document (p.27) and listed below:

Advantages of option three include:

- a higher number of additional rental homes (80,000 – 190,000) will benefit from an insulated rental home compared to options one and two depending on how “reasonable condition” is assessed (see section 2.2) to meet the objective for warm rental homes

- tenants in homes where insulation has been ‘topped up’ under this option have the potential to experience reduced costs from improved health (e.g. fewer deaths) and reduced costs from lower energy bills. A recent 2018 analysis shows specific benefit from health savings from insulation ‘top ups’. Tenants may use less energy if the home is more adequately insulated resulting in lower energy bills

- landlords and government have a single standard that is clear and applies to all rental homes (including new build homes), that may reduce the likelihood of disputes and enforcement costs

- government / taxpayers benefit from homes being able to be heated more efficiently due to improved insulation leading to a reduction in carbon emissions and government / taxpayers benefit from less demand on publicly funded services in health and other social support. However, the Cost Benefit Analysis (CBA) found that the energy saving is slightly less in topping up some insulation currently at the 2001 benchmark levels.

Additionally, with greater insulation comes greater energy efficiency and lower energy bills. Keeping energy bills affordable is essential for many of the families we see through our healthy housing initiative (Well Homes).

Do you agree that the exceptions set out in the 2016 regulations should continue under the proposed insulation standard (e.g. when it is not reasonably practicable to install insulation)? Please explain.

We agree with the exceptions set out in the 2016 regulations. In addition where insulation cannot be installed because of the building’s structure, the landlord should be required to install high efficiency heating in order to achieve similar indoor temperatures without substantial energy cost to the tenant.
Do you think any other requirements for insulation should be included in the standard and, if so, what?

Insulation should be installed and certified by a trained installer, to ensure fire and electrical safety requirements are met.

Would any of the above options inhibit future innovation and/or flexibility? If so, how?

No comment.

2.2 How should the degradation of insulation under “reasonable condition” be assessed?
Do you support option one or two to assess a “reasonable condition” for insulation? Please explain.

We support option two – insulation can settle or degrade by up to and around 10% before it is in an unreasonable condition.

We support this option for the reasons and evidence set out in the Ministry of Housing and Urban Development Healthy Homes Standards discussion document (p.30) and listed below:

Advantages of option two over and above option one include:

- this option is likely to better help meet the objective to make rental homes warm and dry than option one, by ensuring existing ceiling and underfloor insulation, as installed, is reasonably effective and that ceiling insulation has not compressed or settled significantly
- more tenants will benefit from insulation ‘top-ups’, and are therefore likely to experience health and heating cost saving benefits. More tenants may use less energy
- government may benefit from a reduction in energy use in its aim to reduce carbon emissions compared to option one.

Advantages of option one include:

- this option is likely to help meet the objective to make rental homes warm and dry by ensuring existing ceiling and underfloor insulation, as installed, is reasonably effective, however, less so than under option two
- landlords and government have a clear guidance on the definition of the insulation condition that is easy to visually assess in rental homes. Tenants will also be able to check if the insulation in their rental homes complies and, if required, can raise any issues with their landlord or the Tenancy Tribunal
- a higher allowance for ceiling insulation settlement or compression means fewer landlords will be required to top-up insulation so landlords will incur less costs.
Do you think any other criteria for interpreting “reasonable condition” of insulation should be included and, if so, what?

No comment.

2.3 How can landlords show compliance with the insulation standard?

Do you agree landlords should show compliance with the insulation standard by retaining particular records? If so, which records should be retained? Please explain.

We agree landlord should show compliance with the insulation standard by retaining particular records.

We agree with the options set out in the Ministry of Housing and Urban Development Healthy Homes Standards discussion document (p.31) and listed below:

Options for potential records include:
- the R-value when the insulation was installed
- a record of Building Code compliance and the level of insulation
- a suitably qualified and experienced assessor has certified compliance with the insulation standard.

In addition we suggest further investigation into requiring landlords to register the location of their rental property with the local council, as is the case in Scotland¹. The local council seems like a natural repository for building related compliance and enforcement. Having council as a repository of information could also produce more robust set of data for individual dwellings.

¹ Mygov.scot - https://www.mygov.scot/renting-your-property-out/
Section 3: Ventilation

3.1 What level of ventilation is required in rental homes?

Do you support option one, two or three to provide adequate ventilation in rental homes? Please explain.

We support option 3 – openable windows as for option 2 and appropriately sized and installed extractor fan(s) in rooms with a shower, bath or indoor cooktop.

We support this option for the reasons and evidence set out in the Ministry of Housing and Urban Development Healthy Homes Standards discussion document (p.35, 36) and listed below:

Advantages of this option include:
- this option is more likely to achieve the objective of a warm and dry home because it addresses the need for ventilation in rooms with indoor cooktops, compared to option one and two
- mechanical ventilation in rooms with a bath, shower or indoor cooktop, if used, is likely to reduce indoor moisture vapour, damp and mould to create a drier home than options one and two
- tenants who are able to use mechanical ventilation will have a drier, less mouldy rental home and

We also support the following statement in the Ministry of Housing and Urban Development Healthy Homes Standards discussion document (p.36)

“There is a large body of evidence linking poor health outcomes, particularly respiratory diseases, to the presence of harmful moulds and mildews (a result of excess dampness and inadequate ventilation)”.

What other forms of ventilation should be considered acceptable, or not included in the standard as acceptable? Please explain.

No comment.

Do you agree that exemptions should be available for certain rental homes from requiring openable windows?

No comment.

Would any of the above proposed options for ventilation prevent future innovation and / or flexibility? If yes, how?

No comment.

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Section 4: Moisture ingress and drainage

4.1 How should landlords protect rental homes against moisture entering the home and inadequate drainage?

Do you support option one or two above to address the problems identified with moisture ingress and inadequate drainage in New Zealand rental homes? Why/Why not?

We support option two — landlords must ensure efficient drainage and guttering, downpipes and drains at their rental home and ensure the subfloor has a ground moisture barrier, unless there is already adequate subfloor ventilation.

We support option two for the reasons and evidence set out in the Ministry of Housing and Urban Development Healthy Homes Standards document (p.41) and listed below:

Advantages of this option include:
- the objective to have drier New Zealand rental homes is more likely to be met than the status quo, homes will be less mouldy with less moisture damage. BRANZ research has found ground moisture barriers to be the most effective option at addressing subfloor moisture (more effective than subfloor vents)
- landlords may incur lower maintenance costs because of a drier subfloor space with reduced decay of the floor structure and underfloor insulation
- tenants are likely to benefit from a drier, less damp and mouldy home. A drier, less mouldy home could lead to fewer illnesses and hospitalisations for tenants (including wheeze for children) and less damage to their property
- tenants may experience energy savings if a rental home has reduced moisture levels making it easier to heat.

We also support the evidence produced in the Ministry of Housing and Urban Development Healthy Homes Standards discussion document highlighting the association between indoor dampness-related factors and respiratory health effects including developing or exacerbating asthma, wheeze and respiratory infections (p.38).

Do you think other requirements for moisture ingress and drainage should be included in the standard? If so, what?

No comment.

Do you agree with the proposed exemptions? Do you think there are other homes that should also be exempt?
We agree with the exemptions set out in the Ministry of Housing and Urban Development Healthy Homes Standards document (p40) and listed below:

A landlord would not need to provide a ground moisture barrier under option two if:

- the rental home has adequate (open and unblocked) subfloor ventilation openings of sufficient size and distribution around the subfloor perimeter to meet the requirements of the relevant New Zealand building standard (currently NZS 3604:2011)
- the rental home is a pole house with an open air space between the floor and the ground under the home; or
- a landlord obtains a certificate from a qualified building surveyor to show that their rental home complies with the standard.

We support the Ministry of Housing and Urban Development’s intent to provide landlords and tenants with clear guidance on what, if any, work would be required to meet the standard and how to assess if their rental homes meets any exemption.

Would any of the above options inhibit future innovation and/or flexibility? How do you suggest this could be overcome?

No comment.
Section 5: Draught stopping

5.1 What is the appropriate level of draught stopping to create warm and dry rental homes?

Do you support option one or two above to stop draughts and create warm and dry rental homes? Why?

We support option two – landlords must block any unused fireplace and chimneys and stop unnecessary gaps or holes that cause noticeable draughts and a colder home, and are 3mm or greater in and around windows and doors, walls, ceilings, floors and access hatches.

We support option two for the reasons and evidence set out in the Ministry of Housing and Urban Development Healthy Homes Standards document (p.44, 45) and listed below:

Advantages of option two include:

- the objective to achieve warmer, drier rental homes is more likely to be addressed through this option, particularly in comparison to the status quo, because common sources of draughts in rental homes would need to be sealed

- tenants will live in rental homes that are less draughty than the status quo, and tenants are likely to find it easier to heat with lower energy bills and tenants may enjoy better health and other positive social outcomes

- landlords and government will have a flexible and simple standard for draught stopping to comply with. Landlords have flexibility to choose the appropriate measure for their home to stop draughts depending on its age and type

- homes that use less heating can lead to lower atmospheric carbon emissions.

Do you think other requirements for draught stopping should be included in the standard? If so, what?

We support draught stopping being included in the standards.

The Ministry of Housing and Urban Development Healthy Homes Standards discussion document points to research from the Department of Public Health at the University of Otago, Wellington. This research “on new builds indicates even minor improvements in draught stopping can improve the warmth of homes. The University of Otago’s research shows minor draught stop interventions, such as additional sealing strips and fitting draught excluders to exterior doors, can increase the indoor temperature by 1-1.50 C." (p.43)

We also support the statement in the Ministry of Housing and Urban Development Healthy Homes Standards discussion document:
“Draughts also make it harder and more expensive for tenants to heat their homes. Homes that are draughty can limit the benefits of improved insulation, heating, and ventilation” (p.43).

Would any of the above options inhibit future innovation and/or flexibility? If so, how?

No comment.

Should the regulations specify any exceptions to this standard? If so, what?

No comment.
Section 6: Date to comply with the standards
Do you support option one, two or three above for the date that landlords need to comply with the standards for their rental homes? Why/why not?

Each option presents its own unique set of challenges making it difficult to choose one option over another. We support options that would see:

- Tenants wellbeing at the centre of the decision made around dates to comply
- Some tenants benefitting from improvement as early as possible
- Industry is likely to need sufficient time to build capacity to meet demand as there will be a surge in demand close to a single deadline (as demonstrated with the RTA regulations 2016).
- High quality and safe installations completed by qualified installers.

For option one, do you think 1 July 2021 is the appropriate commencement date? Why/why not? Do you agree landlords should be given a grace period of 90 days between the start of a tenancy and when they need to comply?

See above comment.

For option two, do you think 1 July 2022 is an appropriate date to allow landlords, industry and government with sufficient time to comply with the standards? If not, which date do you think would be appropriate, and why?

See above comment.

For option three, which approach do you think is an appropriate way to stagger implementation (by standard or location)? Do you have an alternative approach to staggering implementation that you think we should consider?

See above comment.

Is there a feasible compliance date option that has not been considered? Please explain

See above comment.

General question for your feedback
Do you agree with the assumptions and analysis in the document for the indicative costs and benefits, and our analysis of the advantages and disadvantages?

We strongly agree and support the assumptions and analysis of the advantages and disadvantages listed in the Ministry of Housing and Urban Development Healthy Homes Standards discussion document.
Section 7: Implementation

7.1 Enforcing the standards

What records should a landlord retain to show compliance with each healthy home standard (e.g. R-value certification for the insulation standard)?

No comment.

What could be included on the tenancy agreement to show the landlord has complied with each healthy home standard (e.g. a description of the mechanical ventilation supplied in the kitchen and bathroom for the ventilation standard)?

No comment.

7.2 Online tool to assist landlords comply with the standards

What are the most important considerations in developing a tool to help tenants understand and landlords to comply with the heating standard?

No comment.
Appendix one – Well Homes Case Studies

These case studies from our Healthy Housing Initiative Well Homes highlight some of the issues we encounter regarding housing quality.

Case Study One

We received a referral from a Plunket nurse for a seventeen year old girl (Miss A) and her six month old baby. On visiting we found baby and mum living in a garage with their cat and dog. The property was mouldy and damp; there was no insulation, and there was evidence of water damage inside the garage from an unresolved leak. Although it was summer when we visited, Miss A needed to operate her heater 24 hours a day to keep warm. There were no smoke alarms or curtains and the baby had been hospitalised four times since birth. There were also pest issues (cockroaches, flies and spiders) and only a single power point which had multiple appliances running off it (see Fig. 1).

Work and Income had paid the bond and were paying $190 a week to the private landlord for this dwelling; there were separate tenants in the front home, on the same property as this garage. The council had given consent for the garage to be used as a “poodle parlor” and were unaware it was being tenanted.

This young mum had a history of CYF care herself, a CYF notification had been made for this baby due to his father being an alleged drug dealer and concerns about family violence. At the time of visiting, mum was fairly unsupported by her own family (she had been raised by her grandmother, who was now elderly) and she was no longer in a relationship with the child’s father, however had attended parenting courses and received support from Vibe, a community organisation working with youth.

We involved the council and worked with the tenant and Community Law to take the case to the Tenancy Tribunal. As a result, the year lease was terminated and the tenant was compensated for numerous breaches. We assisted the tenant to apply for an urgent transfer into social housing and she was rehomed in a Housing New Zealand property within a matter of months. We completed a healthy homes visit at her new property and provided her with healthy housing education and support, mould cleaning pack, heater and window tape. Since this rehousing in 2015 the referred child has had no further admissions to hospital. Mum told us she was really grateful for our service and felt able to approach us for support.

Figure 1: Pictures of wet carpet with mould growing from a leak; mushroom growing in bedroom of baby & Mum; unfinished wardrobe in the bedroom with mould
Case Study Two

A referral was received from a Public Health Nurse after a primary school had reported some concerns around a family who had just moved into the area. The children were attending school without lunch, and one of the children in the family had turned up to school with a burn mark on her clothing. When questioned, the mother had informed the school that she had to dry the clothing in the oven.

The family of five were living in a three bedroom private rental property. The home had no smoke alarms, no heat source, inadequate curtaining and the family had no fridge/freezer, washing machine and very little clothing, bedding and furniture. Despite only inhabiting the home for a matter of weeks there was evidence of condensation, mould and the family ran a dehumidifier throughout the day to try to alleviate the dampness.

Dad had recently been made redundant so the family were waiting for the stand down period to end in order to get the benefit to start. As per all housing visits we provided education to the family around cleaning visible mould, ventilating the property and the importance of heating. We asked for their permission to involve some social services to assist with the level of poverty. An advocacy letter was written for the private landlord requesting he make some repairs and consider installing a heat source. These repairs were completed; however he did not install a heat source. The family was referred to the fire service for free smoke alarms, an insulation provider, curtains through the community curtain bank and through the Porirua Social Sector Trial we were able to provide the family with both a heater and some other interventions (eco light bulb, draught stopper tape, door snake and window kit).

We wrote to Work and Income requesting they support the family to obtain a washing machine and fridge/freezer for safe food storage. The mother reported that one of the school age children had incontinence issues and that they were struggling to manage this. We referred the child to the community paediatric continence nurse who further assessed the family, discussed management options and assisted with providing continence products.

As the family were new to the area they did not have a local doctor, we linked them with a local medical practice where they enrolled. Our visit was documented on the medical records of the whānau. We also kept the Public Health Nurse in the school informed so she could report back to the school and involve the school social worker to ensure the family continued to be supported.

On our final contact with the family they reported that two smoke alarms were installed, they used the draught stopper tape to reduce the draughts, and they had obtained a fridge/freezer and washing machine through assistance from WINZ. Their landlord had installed safety latches on the windows; the family had put up fencing to ensure their children were safe in the yard. The home was insulated using the EECA scheme, they hung the curtains from the curtain bank and the family trialled using the heater we provided them with, but found they were unable to afford the cost of power to heat the home on a regular basis, so used the heater on particularly cold nights when absolutely necessary.