Environmental Health Indicators Programme New Zealand, Massey University, Wellington

July 2017 **Volume 12**

In this issue:

Barry's Blurb

Welcome to the first issue of our newsletter for 2017.

As you will read, the EHI team continue to be engaged in many interesting projects and have released a number of important information products.

For example, we have released our new transport domain and indicators (see page 5), health profiles for the District Health Boards (see page 3) and a major update of CPHROnline (see page 5).

Team members have also attended the Esri (see page 6) and SUNZ conferences, presented a poster at the World Congress on Public Health in Melbourne (see page 8) and promoted our Hazardous Substances Surveillance System (see page 7) and its electronic notification tool at two recent medical conferences.

We are currently in the process of planning a series of roadshows for our government and health sector stakeholders and clients.

I recently attended a meeting in Nadi with representatives of Pacific Island Countries and Territories and received unanimous support for our offer of the EHI team to host a Pacific Environmental Health Indicators Programme.

Also, the Malaysian Ministry of Health has contracted us to run a one week course to train their staff in the development of an environmental health indicators programme.

As always, we welcome your comments and suggestions.

b.borman@massey.ac.nz

You can find us online here:

www.ehinz.ac.nz

cphronline.massey.ac.nz

EHINZ@EHI_NewZealand

Environmental Health Indicators - New Zealand

Highlights from the EHI factsheets

The following table focusses on the key highlights from our recently updated or newly developed EHI factsheets. All factsheets can be downloaded as a PDF from our website www.ehinz.ac.nz.

Please contact Carolin Haenfling (ehnz@massey.ac.nz) if you need more information.

Topic	Highlights
Main mode of transport to work	• In 2013, 82% of commuters used a motor vehicle (a car, truck or van) as their main mode of transport on Census day. • Less than 10% of commuters used active transport and around 6% used public transport.
Household travel time by mode of transport	• In 2011-2014, New Zealanders spent almost 80% of their travel time in a motor vehicle. • Around 15% of travel time was spent by walking or cycling and less than 5% was spent on public transport.
Active transport to and from school	• Between 1989/90 and 2010-2014, the percentage of children walking to school dropped from 42% to 29%. • In 2015/16, almost half of the children aged 5-14 years used active transport to and from school.
Unmet need for GP services due to lack of transport	• In 2015/16, around 3% of adults and children had a medical problem but did not visit a GP due to a lack of transport. • Higher rates of unmet need were observed in Māori and Pacific adults and children as well as people living in high deprivation areas.
Health burden due to road transport	• In 2012, 650 deaths were caused by road transport. • Around half of these deaths were due to traffic crashes, the other half were caused by air and noise pollution.
Oral health of children	• Oral health of 5-year old children and children in Year 8 keeps improving. • In 2015, 61% of children in Year 8 and 59% of 5-year old children were caries-free. • Children in fluoridated areas generally have better oral health.
Safe drinking-water	• Around 80% of New Zealanders received drinking-water that met all the requirements of the Drinking-Water Standards for New Zealand in 2015-2016. • People in the North Island were more likely to have access to safe drinking-water.
Access to fluoridated drinking-water	• In 2015-2016, three out of five New Zealanders had access to fluoridated drinking-water. • People in larger cities were more like to have access to fluoridated drinking-water.
Number of vehicles and average age of vehicles	• In 2015, there were almost 3.9 million vehicles in New Zealand, the highest number ever. • There were 767 light vehicles per 1000 people in New Zealand in 2015. • In 2015, the average age of the light private vehicle fleet was 14.3 years.
Energy consumption by fuel type and sector	• New Zealand consumed 572 Petajoules of energy in 2015, an increase of 0.7% from 2014. • Oil continues to be the predominant type of energy. • The industrial and the domestic transport sectors continued to be the main energy consumers in New Zealand.

How healthy is the population in your DHB?

We have released an interactive tool that enables you to visualize the health of the population in your District Health Board (DHB). You will see how your DHB compares to the national average, as well as track any changes since 2001.

You can download the interactive tool for each DHB as an Excel file on our website here.

Figure 1 - 4 display an example of Melanoma hospitalisations for 25+ years in the Capital and Coast DHB.

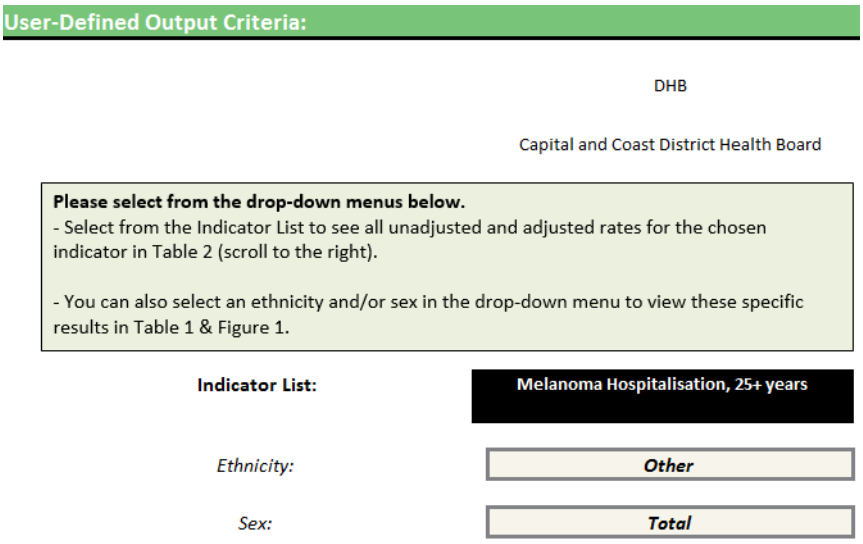
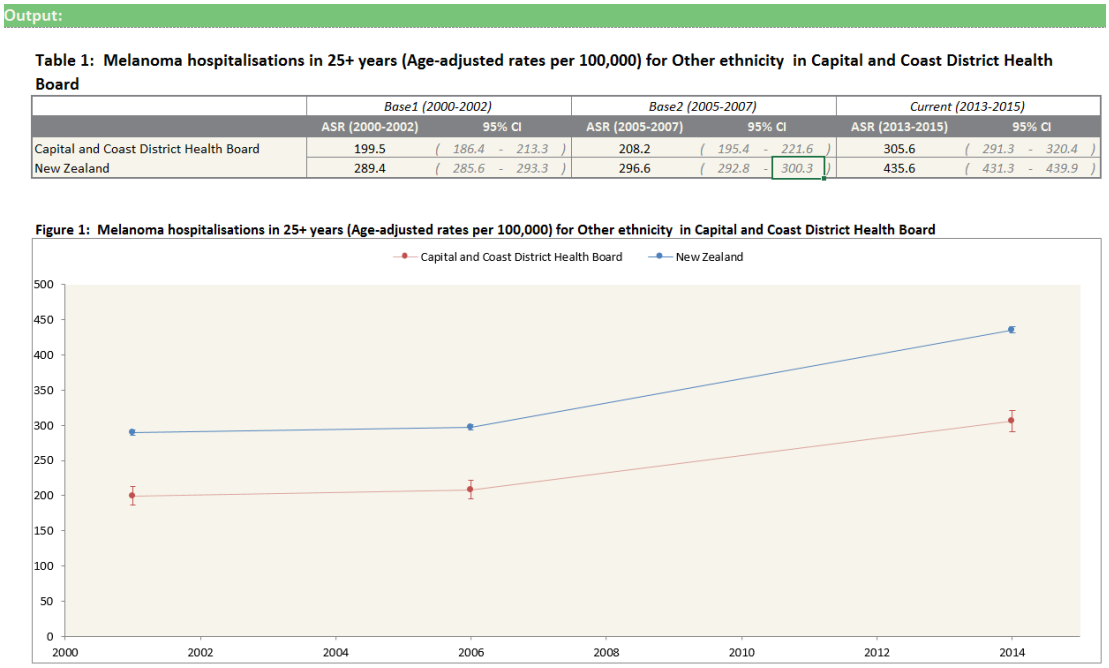


Figure 1 - User Input

You can select a health disease or condition. You can also choose to display the results by sex, prioritised ethnicity, or a combination of both.

Figure 2 - Sample Output

The selected health disease or condition for the DHB is compared to New Zealand, and over time. The results are presented as age-standardised rates per 100,000 people, with 95% confidence intervals. Unadjusted results are also presented in another table to show the actual health status of the population (not shown here).



How healthy is the population in your DHB?

Figure 3 - Sample Output By Sex

The results are also visualised for both males and females separately. Ethnic breakdowns are presented as well (not shown here).

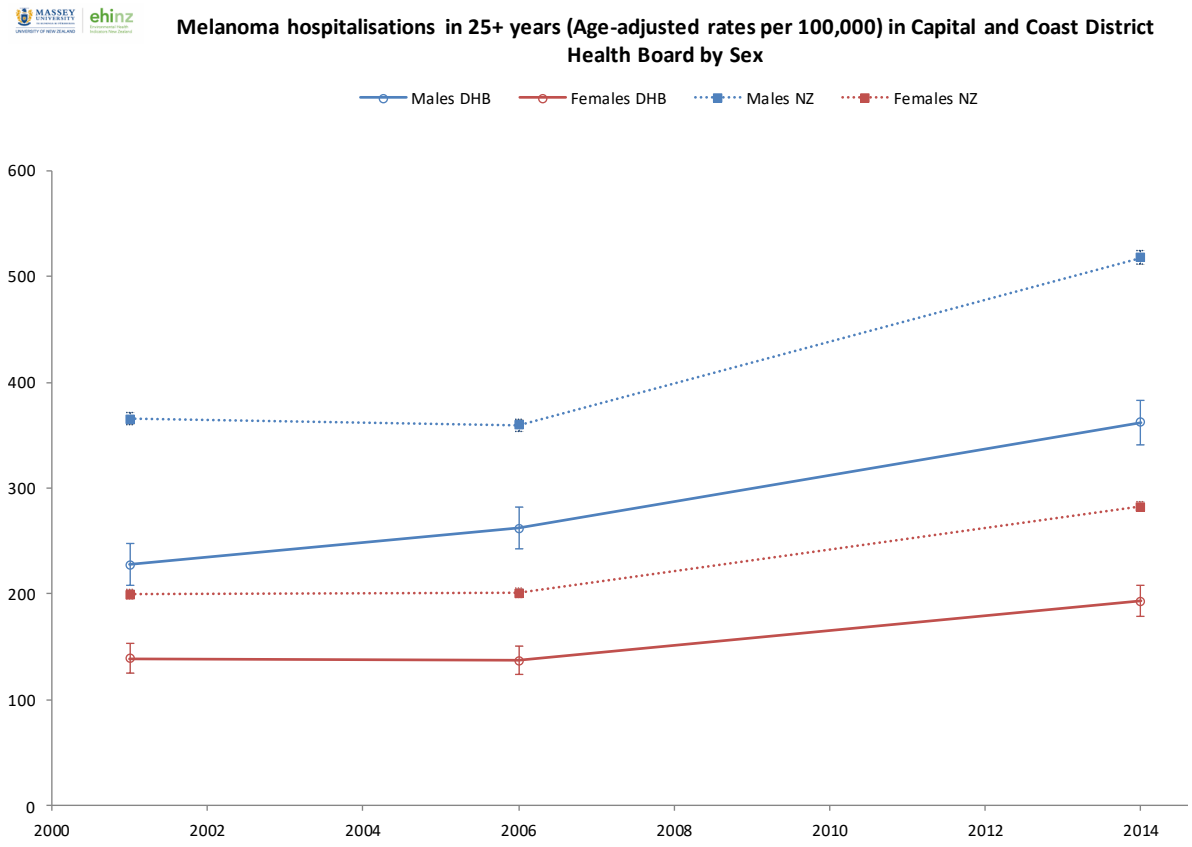


Figure 4 - Sample Summary

A summary for the selected health disease or condition is available for your DHB, as well as for New Zealand, which allows for comparison.

Melanoma summary - for Capital and Coast District Health Board:

- Males have a statistically significantly higher age-adjusted rate than females.
- Māori people have a statistically significantly lower age-adjusted rate than people of Other ethnicity.
- Males of Other ethnicity have a statistically significantly higher age-adjusted rate than females of Other ethnicity.

Temporal trend in Capital and Coast DHB:

- In 2013-2015, there was a statistically significantly higher age-adjusted rate compared to 2005-2007

Melanoma summary - for New Zealand:

- People of Other ethnicity have the highest age-adjusted rate. This is followed by Māori people, and then by Pacific people, with Asian people having the lowest age-adjusted rate.
- Males of Other ethnicity have the highest age-adjusted rate. This is followed by females of Other ethnicity, and Māori females.

For more information please contact Mathu Shanthakumar on m.shanthakumar@massey.ac.nz

New Transport domain and indicators

A new Transport domain has recently been added to the EHINZ website. This domain covers a range of ways in which transport affects human health in New Zealand.

You can find the following indicators:

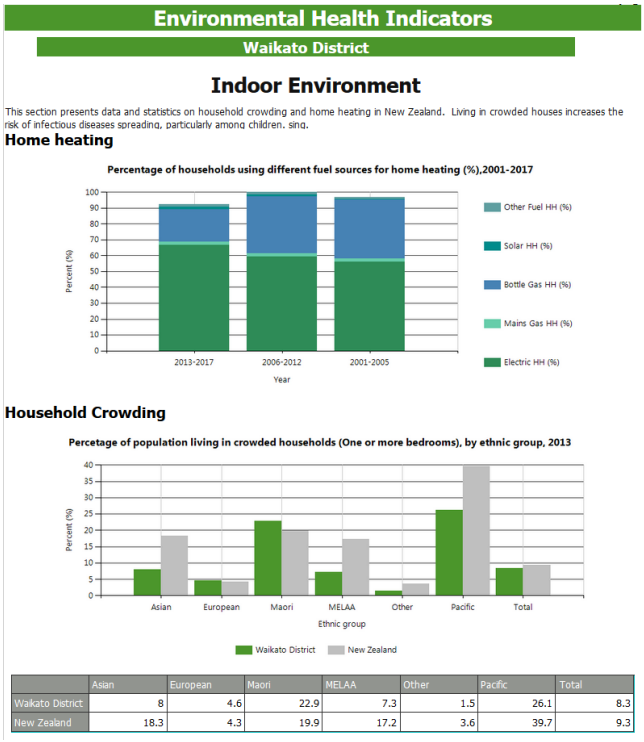
- Number of motor vehicles
- Main mode of transport to work on Census day
- Household travel time by mode of transport
- Active transport to and from school
- Unmet need for GP services due to a lack of transport
- Health burden of road transport
- Transport injury hospitalisations and deaths (upcoming)

Here are some of the key findings from this domain:

- New Zealand is heavily reliant on motor vehicles, with the highest car ownership rate per capita in the OECD.
- We estimated that road transport was responsible for 650 deaths in New Zealand in 2012. The main health burden from road transport in NZ comes through road traffic crashes (308 deaths), air pollution (283 deaths) and noise pollution (59 deaths).
- About 3% of New Zealanders didn't visit a GP when they needed to due to a lack of transport in the past 12 months, in 2015/16. This rate was much higher among Māori, Pacific peoples and people living in high deprivation areas (7–9% of people).
- Active transport (walking and cycling) and public transport are not particularly commonly used forms of transport in New Zealand, but have many health and environmental benefits over using motor vehicles.

For more information on the new Transport environmental health indicators, see: http://www.ehinz.ac.nz/indicators/transport.

Local area profiles on CPHROnline



	Asian	European	Maori	MELAA	Other	Pacific	Total
Waikato District	8	4.6	22.9	7.3	1.5	26.1	8.3
New Zealand	18.3	4.3	19.9	17.2	3.6	39.7	9.3

Check out the new 'dashboard style' profiles now available for all CPHROnline atlases. These profiles provide data on all indicators in an ebook format with a separate page for each domain and the option of downloading by PDF. The profiles offer data visualisation for indicators that is easy to interpret and use. Profiles are available for individual District Health Boards (DHB) and Territorial Authorities (TA) and each graph, chart and table has a New Zealand rate as a comparator.

Local area profiles are useful when you wish to compare exposures and health outcomes between groups within a DHB – for example Māori and non-Māori, or view the distribution of the population- for example by age. They also give a comparison over time where multiple years of data exist.

Please let us know if you have any feedback on our profiles or any of the other data visualisation tools on CPHROnline: (c.s.fyfe@massey.ac.nz)

cphr | Online

GIS user conference and new look maps

GIS User conference, Wellington

In March, Rosemary, Caroline and Carolin attended the Esri User Group Wellington Regional Conference, a conference for professionals working with Esri's (Environmental Systems Research Institute) geographic information system (GIS) software.

The conference highlighted the benefits and importance of spatial analysis in a variety of fields, i.e. environmental research, emergency management and disaster-relief strategies, hot-spot crime analysis and easy-to-read visualization of complex spatial data. A focus was put on recent developments and advances in the spatial software packages. There is a clear trend towards extending the capabilities of a traditional desktop software package towards an online and collaborative GIS (ArcGIS Online). This allows users to create and share maps and spatial analysis work across organisations for editing and publishing purposes.

New look maps on our website

The EHI team recently joined the ArcGIS Online world and we are in the process of updating the maps on our website www.ehinz.ac.nz. Here is a snapshot of how these new maps will look (Figure 1 - Figure 4):

Figure 1: New Zealand Socioeconomic Deprivation Index of 2013 (NZDep2013) by Area Units (AU), overview across New Zealand

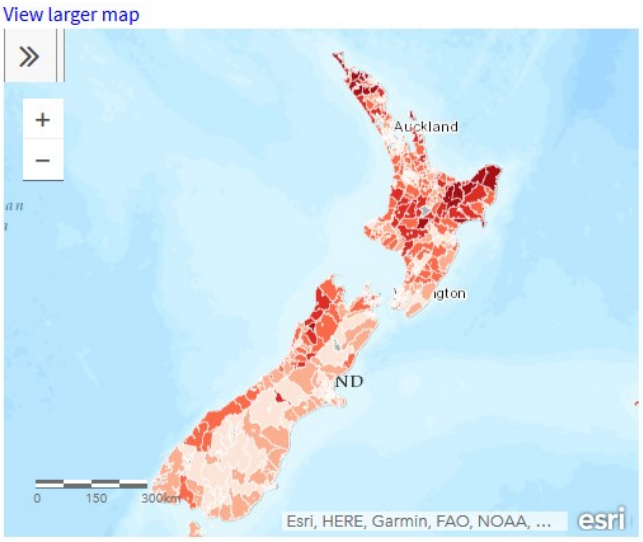


Figure 2: As previously, the web map allows the user to zoom in and out to look at areas of interest. The legend can be viewed by clicking on the arrow in the top left corner.

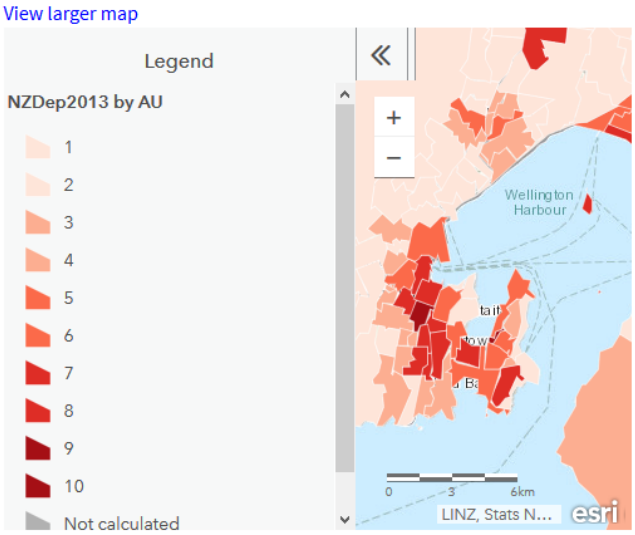


Figure 3: By clicking on an AU, a small window pop-ups, providing more information about the specific AU.

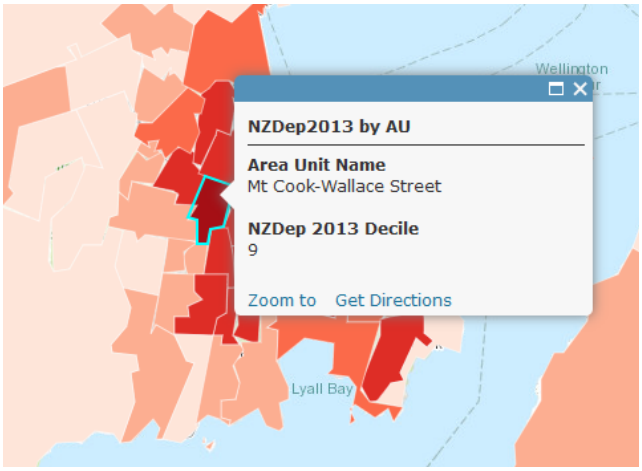
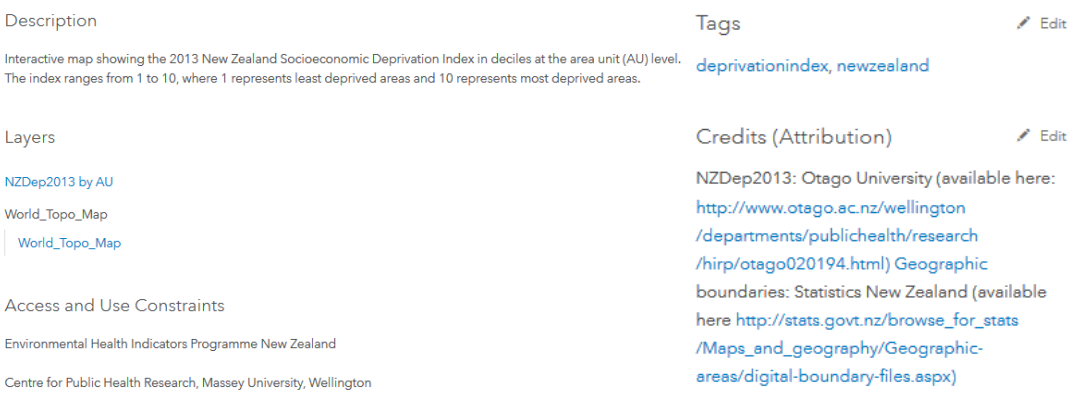


Figure 4: The maps are publically available on ArcGIS Online and allow for the addition of some metadata information.



HSDIRT Update

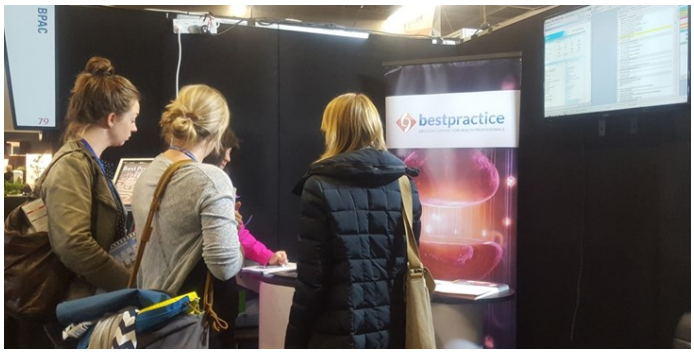
HSDIRT Update

In May, we provided each public health unit (PHU) with their own 2016 report on lead and hazardous substances notifications using data from the Hazardous Substances Disease and Injury Reporting Tool (HSDIRT). Raw data was also provided to each PHU. The national report for 2016 HSDIRT notifications will be released in the next few months, so keep an eye out for it.

For more information regarding HSDIRT and its reports, please contact Fei Xu (f.xu@massey.ac.nz).

Rotorua GP CME 2017

In early June, Fei joined the exhibition stand with BPAC (Best Practice Advocacy Centre New Zealand) in the Rotorua General Practice Conference & Medical Exhibition 2017. Nearly 1100 health professionals attended the conference. The HSDIRT module was exhibited and demonstrated to GPs where possible.



Master's Thesis: Built environment and health

Rosemary is an analyst, who focuses on data visualisation, working for the Environmental Health Indicators (EHI) team at the Centre for Public Health Research. She has a Bachelor of Science in Environmental Science and Geography with a minor in Public Policy and a Post-Graduate Diploma in Geographic Information Science at Victoria University of Wellington. She is currently pursuing a Master of Science in Public Health at Massey University.

Project Summary:

Given the contribution of mental illness to the disease burden in New Zealand, it is important to evaluate potentially amenable aspects of neighbourhood environments which might reduce this burden. As a result, my thesis seeks to establish a connection between the built environment and health, by exploring the relationship between neighbourhood walkability and psychological distress. This will be achieved by developing a walkability index, which will consist of six elements:

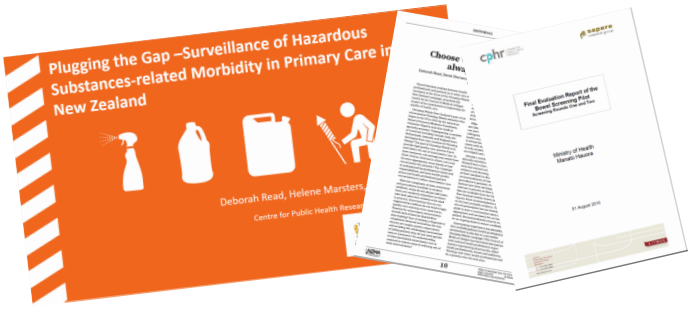
- Household density
- Intersection density
- Land use mix
- Proximity to green space
- Proximity to bus stops
- Number of car crashes

Publications

- Read D, Marsters H, Xu F, Borman B. (2017). Plugging the gap-Surveillance on hazardous substances-related morbidity in primary care in New Zealand. *15th World Congress on Public Health*, 3-7 April, Melbourne, Australia (electronic poster). — View the poster here.

- Smith L, Read D, Shanthakumar M, Borman B, Love T. (2017). Final Evaluation Report of the Bowel Screening Pilot: Screening Rounds One and Two. Wellington: Ministry of Health. — Read more here.

- Read D, Sherwood D, Ineson S. (2016). Choose wisely-is more always better? *New Zealand Medical Journal* 129 (1447): 10-12. — Read more here.



You can keep up-to-date with our publications by checking our website or following our Facebook and Twitter accounts.

Attended conferences

15th World Congress on Public Health	April, Melbourne	Presentation of electronic poster
Esri User Group Wellington Regional Conference	May, Wellington	Participation
36th SAS users of New Zealand Conference	May, Wellington	Participation
Health Protection Forum	May, Wellington	Presentation of EHI programme
Atlas of Variation: Maps to better care	May, Wellington	Participation
Building Resilience around Natural Disasters	May, Wellington	Participation
General Practice Conference & Medical Exhibition	June, Rotorua	Joined exhibition stand

Teaching and Training

The EHI team contributes to the School of Public Health's undergraduate and postgraduate teaching in:

- Epidemiology
- Biostatistics
- Environmental Health
- Health Analytics

The Centre for Public Health Research (CPHR) is also an accredited Public Health Registrar Training site.

Welcomes, Goodbyes and Congratulations

Kylie Mason

Kylie is a Principal Analyst at the EHI programme. We welcome her back from maternity leave.

Rashmi Salopal

Rashmi is a PhD student who has joined the team working on the EHI programme. We wish her and her family all the best for her recent move to Canada.

Sarah Jefferies

Sarah is a Public Health Registrar who worked with the EHI team on border health. We wish her all the best at her new job.

Deborah Read

Deborah is an Associate Professor at the Centre for Public Health Research, Massey University. We want to congratulate her for being appointed Deputy Chair of the Advertising Standards Complaints Board.

Caroline Fyfe

Congratulations on her promotion to Principal Analyst.

New EHI team photo

Many thanks to Rashmi for our new team photo!

From left to right: Yuliya Evdokimova (PhD candidate), Helene Marsters (Senior Analyst), Rashmi Salopal (PhD Candidate), Kylie Mason (Principal Analyst), Rosemary Mwipiko (Analyst), Deborah Read (Associate Professor), Barry Borman (Professor, Director), Mathu Shantakumar (Biostatistician), Fei Xu (Analyst), Kirstin Lindberg (Principal Analyst), Caroline Fyfe (Principal Analyst, PhD candidate), Carolin Haenfling (Analyst)

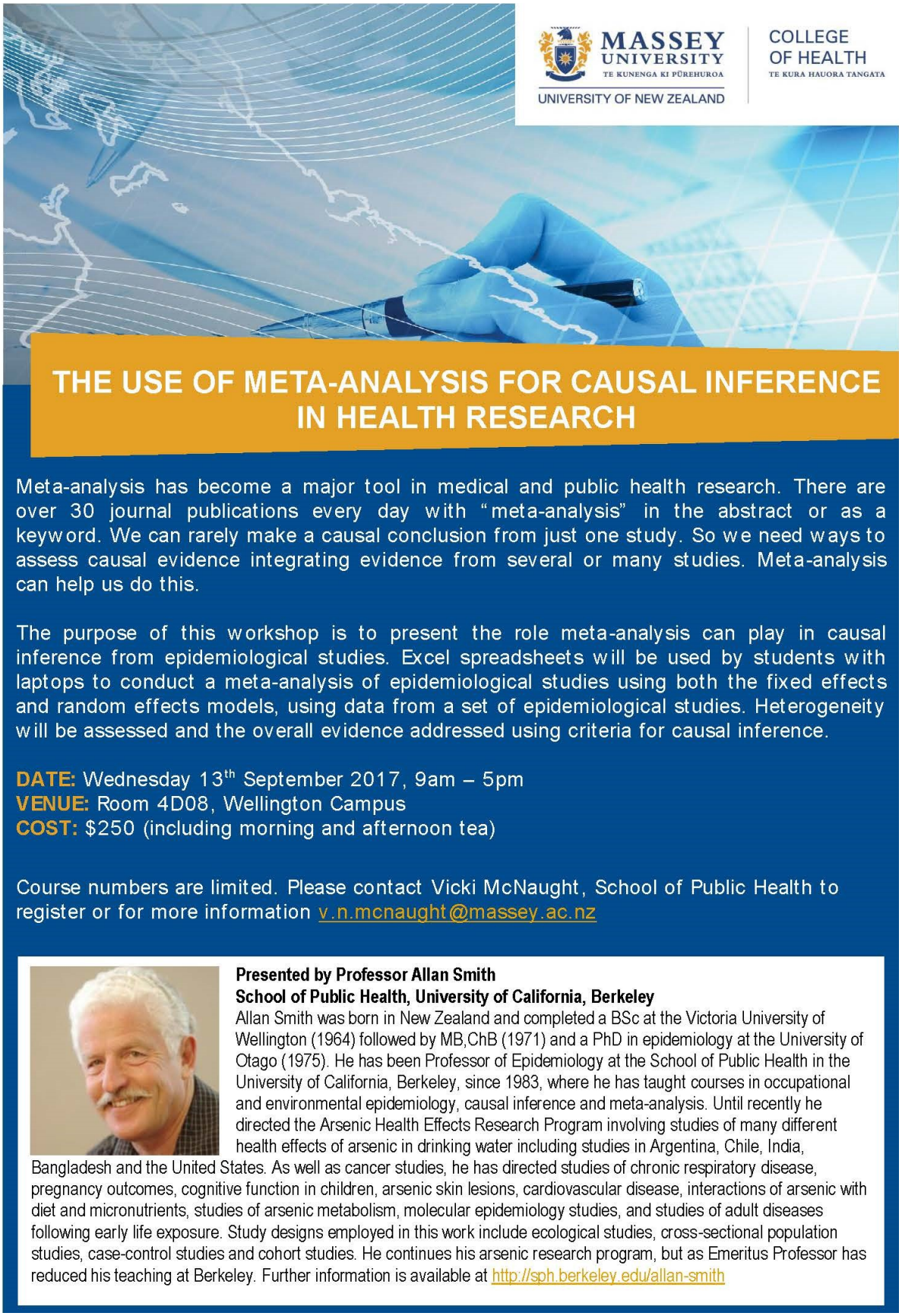
Upcoming short-course

The use of meta-analysis for causal inference in Epidemiology

Presented by Professor Allan Smith (School of Public Health, University of Berkeley)

Wednesday, 13th September 2017

Find more details in the flyer below and contact Vicki McNaught for registration details.



Imprint

Environmental Health Newsletter Issue 12

Contact: c.haenfling@massey.ac.nz or f.xu@massey.ac.nz

Our mailing address is:

Centre for Public Health Research, Block 3, Level D, Entrance B, Wallace Street, Mount Cook, Wellington 6021, New Zealand