Environmental Health Indicators Programme New Zealand, Massey University, Wellington

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Barry's Blurb

Welcome to the first issue of our newsletter for 2018.

Since our last newsletter, we have updated a large number of factsheets and website pages covering a wide range of domains (see page 2/3). A new 'Child Health' domain has been added to the website (see page 7) and a new indicator "Meningococcal disease" has been included in the indoor environment domain (see page 5). The Population Vulnerability domain (see page 4) has been refocused to support our Natural Hazards Research Platform project on vulnerability to flooding in Porirua City (see page 4).

Recently, we established PAWS (people • animals • wellbeing • surveillance) a collaboration with our veterinary epidemiology colleagues in the College of Sciences EpiCentre (see page 5). The purposes of PAWS are: to monitor human and animal wellbeing, develop environmental indicators relating to vulnerable human and animal populations, and to provide evidence-based information to decision-makers.

There have been a number of updates to the content on Healthspace, our relaunched data visualization website. These include the addition of both crude and age-standardised rates and the availability of various subgroups for our indicators (see page 6).

Earlier this year we released the National Hazardous Substances and Lead Notifications Report for 2016 and the Annual Hazardous Substances Injury Report, using data from the Hazardous Substances Disease and Injury Reporting Tool (HSDIRT) (see page 6).

As always, we welcome your comments and suggestions.

b.borman@massey.ac.nz

You can find us online here:

www.ehinz.ac.nz

Healthspace

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
Active transport to and from school	• In 2016/17, 44.5% of children aged 5–14 years usually used active transport (such as walking or cycling) to and from school. These were similar levels to 2006/07 (46%).
Road traffic injury deaths	• In 2017, the road toll was 379 deaths. The road toll has increased substantially since 2013 (253 deaths). • In 2014, population groups with higher traffic injury mortality rates included males, people aged 15–24 years, people aged 75+ years, Māori, people living in more deprived areas, and people living outside of main urban areas.
Road traffic injury hospitalisations and **Road traffic injuries in children aged 0-14**	• The road traffic injury hospitalisation rate increased slightly from 2014 to 2016. • In 2016, the highest traffic injury hospitalisation rates were in Northland and Tairawhiti DHBs, standardising for age.
Unmet need for GP services due to lack of transport	• In 2016/17, about 148,000 New Zealanders (2.6% of children and 3.2% of adults) had missed out on a GP visit due to a lack of transport in the last 12 months. • The highest rates were in children aged 0–4 years, adults aged 25–34 years, Māori, Pacific, and people living in the most deprived areas.
Asthma prevalence **Asthma hospitalisations**	• In 2016/17, about 114,000 children aged 2–14 years (14.3%) took medication for asthma. This was a significant decrease in the prevalence from 2015/16 (16.6%). • Young children (aged 0-4 years), particularly young boys, had the highest asthma hospitalisation rate in 2016 (1,396 per 100,000).
Meningococcal disease notifications	• In 2016, there were 35 notifications of meningococcal disease in children aged 0–14 years. This was similar to 2015 (33 notifications). • The majority of these notifications were in children aged 0–4 years.
Household crowding (total population) and **household crowding (children)**	• About one in ten New Zealanders (10.1%) were living in crowded conditions in 2013. • Children, aged 0-14 years, were disproportionately more affected by household crowding in 2013 (15.9%). • In 2013, population groups with a larger percentage of people living in crowded households included Māori, Pacific, and those living in the North Island.
Second-hand smoke exposure (children) and **maternal smoking**	• In 2012/13, around 106,000 non-smokers were exposed to second-hand smoke in their home. • In 2012/13, 5% of children aged 0-14 years were exposed to second-hand smoke in their home. • In 2015, 12% of mothers were smoking at two weeks after birth.

Highlights from the EHI factsheets

Topic	Highlights
Lower respiratory tract infection hospitalisations	• In 2016, there were over 9000 hospitalisations for lower respiratory tract infections in children aged 0-4 years. • Rates were highest for children younger than 12 months. • In 2016, population groups with higher hospitalisation rates for lower respiratory tract infections included Pacific, and Māori children and those living in more deprived areas.
Sudden Unexpected Death in Infancy	• In 2014, 45 children younger than 12 months died from Sudden Unexpected Death in Infancy (SUDI) (0.8 deaths per 1,000 live births). • This is a substantial drop since 2000 (84 deaths, 1.5 deaths per 1,000 live births). • In 2010-2014, population groups with higher SUDI rates included Māori, and Pacific babies, and those living in more deprived areas.
Border Health in New Zealand	• 99 cases of Zika were imported into New Zealand in 2016 and there was only one locally acquired sexually transmitted case. • In 2016, New Zealand recorded its' highest total for all reported cases of mosquito-borne diseases since 2001. • From 2015-16, the Asian and Pacific regions were the most frequently visited regions among mosquito-borne disease cases.
High-risk pests caught at New Zealand's border	• On average, from 2008-17, there were ten border interceptions each year of exotic mosquitos. Most (>83%) interceptions occurred in Auckland. • Twenty types of high-risk mosquito species of public health concern were caught, 2008-17. • Most (64%) intercepted suspected mosquitoes originated from the Asia-Pacific region.
Exotic mosquito species established in New Zealand	• No new exotic mosquitoes were introduced to New Zealand between 2006 and 2017. • As of 2017, there are three long-established exotic mosquito-species in New Zealand. • In 2018, *Culex sitiens* was detected in Kaipara Harbour through the National Saltmarsh mosquito surveillance programme.
Oral health of children	• The percentage of children, who are caries-free is higher in areas with access to fluoridated drinking-water. • Oral health status differs by region and ethnicity. • In 2016, more 5-year-olds and children in Year 8 were caries-free compared to 2000.
Melanoma deaths and melanoma cancer registrations and non-melanoma skin cancer	• In 2014, 376 people died from melanoma, and 145 people died from non-melanoma skin cancer, in New Zealand. • New Zealand has one of the highest rates of melanoma incidence and mortality in the world.
Water-borne diseases related to drinking-water	• There were over 9,500 cases of campylobacteriosis, giardiasis and cryptosporidiosis notified in 2016. • Untreated water was a risk factor for 1,930 notifications of campylobacteriosis, giardiasis and cryptosporidiosis in 2016. • Campylobacteriosis cases have accounted for the majority of notified water-borne disease notifications since 2001.
Water-borne diseases related to recreational water	• There were over 9,500 cases of campylobacteriosis, giardiasis and cryptosporidiosis notified in 2016. • In 2016, 212 of these cases reported contact with recreational water (river, lake or sea) as a risk factor.

Introducing the Population Vulnerability domain

The Population and Demographics domain on the EHI website has been renamed and refocused to Population Vulnerability.

The Population Vulnerability domain seeks to identify and monitor populations that are disproportionately affected by an environmental issue or event, for example a natural hazard such as flooding or climate change.

Whilst vulnerability to experiencing an environmental event is determined by physical proximity to that hazard, the ability to prepare for, respond to and recover from such an event is also influenced by somebody's physiological, social and economic circumstances.

These vulnerabilities are often common to a range of events for example, being very young or very old, experiencing a high level of economic deprivation or having a chronic illness or disability.

The following information can be found in the Population Vulnerability domain:

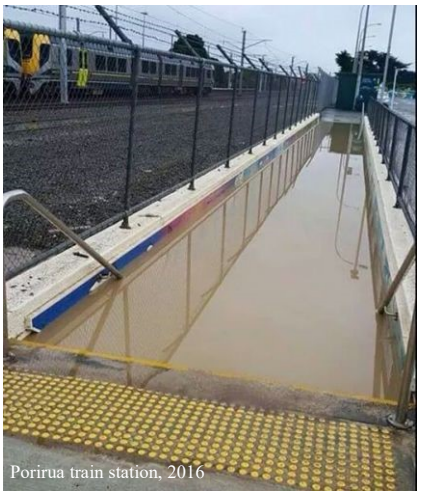
- What are vulnerable populations?
- Population distribution
- Age profile
- Ethnicity
- Socio-economic deprivation
- Urban-rural population distribution
- Disability and chronic health conditions
- Family types

The development of the Population Vulnerability domain will help to inform the Natural Hazards Research Platform work on vulnerability to flooding in Porirua City (see below).

Vulnerability to flooding in Porirua

NATURAL HAZARDS RESEARCH PLATFORM

As part of the Natural Hazards Research Platform grant (NHRP) the team are developing a set of indicators to identify socially vulnerable populations during flood events using Porirua City as a case study.


Porirua train station, 2016

The team recently met with local Ngāti Toa iwi at Takapūwāhia Marae to get a Māori perspective on the research. The hui was a great chance for Māori to share their experiences and knowledge of flooding in the region and shape the research.

It was valuable to hear so many stories about the history of flooding in the area, where they felt they were particularly vulnerable, but also their unique ways of responding to flooding.

PAWS

Our EHI team has collaborated with Massey's College of Sciences EpiCentre (veterinary epidemiology training and research centre) to create **PAWS**: **p**eople • **a**nimals • **w**ellbeing • **s**urveillance.

paws

people · animals · wellbeing · surveillance

The PAWS programme is aimed to help protect both animal and human health from natural hazards such as floods, earthquakes, droughts and rising sea-levels. As a first step, indicators of human and animal vulnerability to these natural hazards are being developed. Results will support public services and local communities by providing information needed to assess risks, prioritize the use of limited resources and locate vulnerable communities.

The development of the Population Vulnerability domain (page 4) and research around the Natural Hazards Research Platform project on vulnerability to flooding in Porirua City (page 4), will help inform the PAWS programme.

The EpiCentre are conducting two PAWS related projects. One is to establish a statistical model to predict farm animal demographics from existing data sources. The other project will develop linkages between the various human and animal health databases, and the Integrated Data Infrastructure (IDI).

The Directors of PAWS are Barry, Deborah and Naomi Cogger and Carolyn Gates from the EpiCentre.

For more information, see the PAWS webpage or email us at PAWS@massey.ac.nz.

New indicator: Meningococcal disease

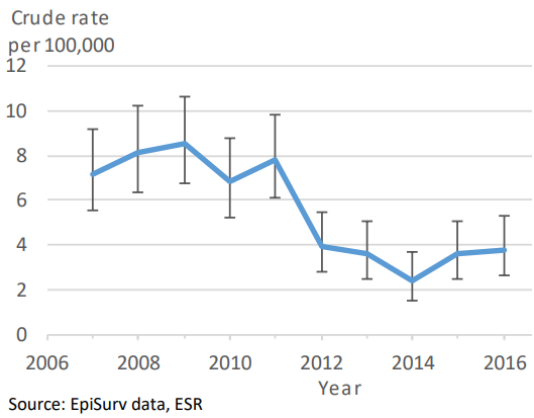
The new indicator "Meningococcal disease notifications in children aged 0-14 years" has been added to the Indoor Environment domain. You can read more on our website or download the factsheet.

Meningococcal disease is a serious bacterial infection, which can cause meningitis, blood poisoning, and even death. Household crowding and second-hand smoke exposure increase the risk of meningococcal disease, especially in children.

After a nationwide vaccination programme (for those aged 0-19 years), national rates decreased dramatically from 2004 onwards. Since 2014, the notification rate remained relatively stable (3.8 per 100,000 in 2016) (Figure 1).

The highest notification rates in 2016 were in children aged 0-4 years, Māori and Pacific children, and children living in more deprived areas.

Figure 1: Notification rate for meningococcal disease in children aged 0-14 years, 2001-2016 (crude rate per 100,000)



Source: EpiSurv data, ESR

HSDIRT Update

In May, we provided each public health unit (PHU) with their own 2017 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.

National Hazardous Substances and Lead Notifications: January - December 2016

In July, we released the 2017 national report on hazardous substances and lead notifications using data from HSDIRT. This is the fifth report of the series. Below are some key findings from the report, read the full report here:

- There were 214 notifications in 2016 (186 in 2015), including 106 lead absorption (121 in 2015), 104 hazardous substances (61 in 2015) and five agrichemical spray-drift notifications (four in 2015).
- The majority of lead notifications were males (93 notifications) and the most common age groups were 45-64 years (51 notifications) and 25-44 years (31 notifications).
- Of the 104 hazardous substances notifications in 2016, eight were for children under five years old.

Annual Hazardous Substances Injury Report 2017

Late last year, we released the annual hazardous substances injury report. Below are some key findings from the report, read the full report here:

- There were 41 hazardous substances-related deaths registered in 2014 compared to 44 deaths in 2013.
- Males had higher rates of mortality than females from hazardous substances.
- From 2006-2016, over half (4009 discharges) of all hazardous substances-related hospital discharges were from injuries that occurred in the home.

For more information regarding HSDIRT and its reports, please contact Rosemary Mwipiko (r.mwipiko@massey.ac.nz).

healthspace Update

Healthspace provides data and information, in the form of interactive maps, graphs, and tables for a wide range of health indicators. The website enables health data to be visualised at a range of geographical levels.

New on healthspace:

- Updated indicators from the New Zealand Health Survey – with time series trends now available
- Indicators are now displayed as subgroups: Māori, Pacific Peoples and All, male and female
- Both crude and age standardised rates available
- Updates to atlases include: Māori Health Statistics, Pacific Health Statistics, Risk Behaviour and Self-harm
- Updated indicators for Wholly Attributable Hospitalisations - with metadata

For more information, please contact Caroline Fyfe (c.s.fyfe@massey.ac.nz).

New domain to be released: Children's Environmental Health

Our team is currently working on the development of a new domain, the Children's Environmental Health domain. The new domain will focus primarily on children aged 0-14 years and provide information, data and statistics about how the environment affects children's health.

Children are particularly vulnerable to environmental hazards due to a variety of factors:

- exposure to (potentially) harm-causing agents or substances is greater for their size than in adults
- children absorb more of some substances from their gut and may be more susceptible to some exposures as their organs and bodily systems are still developing
- less able to avoid hazards
- behaviour (e.g. putting hands and objects in their mouth, play and exploratory activities) can influence exposure

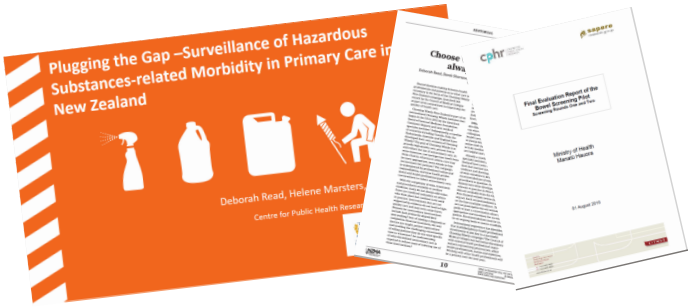
At the moment, our children's environmental health indicators relate to indoor environment and transport topics. More indicators are in development and will be added at a later stage.

Follow us on Facebook or Twitter for release information or keep an eye on the news on our website.

Publications

- Environmental Health Indicators Programme. (2017). *Annual Hazardous Substances Injury Report*. Wellington, Centre for Public Health Research, Massey University. Read PDF here.

- Environmental Health Indicators Programme. (2017). *National Hazardous Substances and Lead Notifications: Annual Report 2016*. Wellington: Centre for Public Health Research, Massey University. Read PDF here.



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

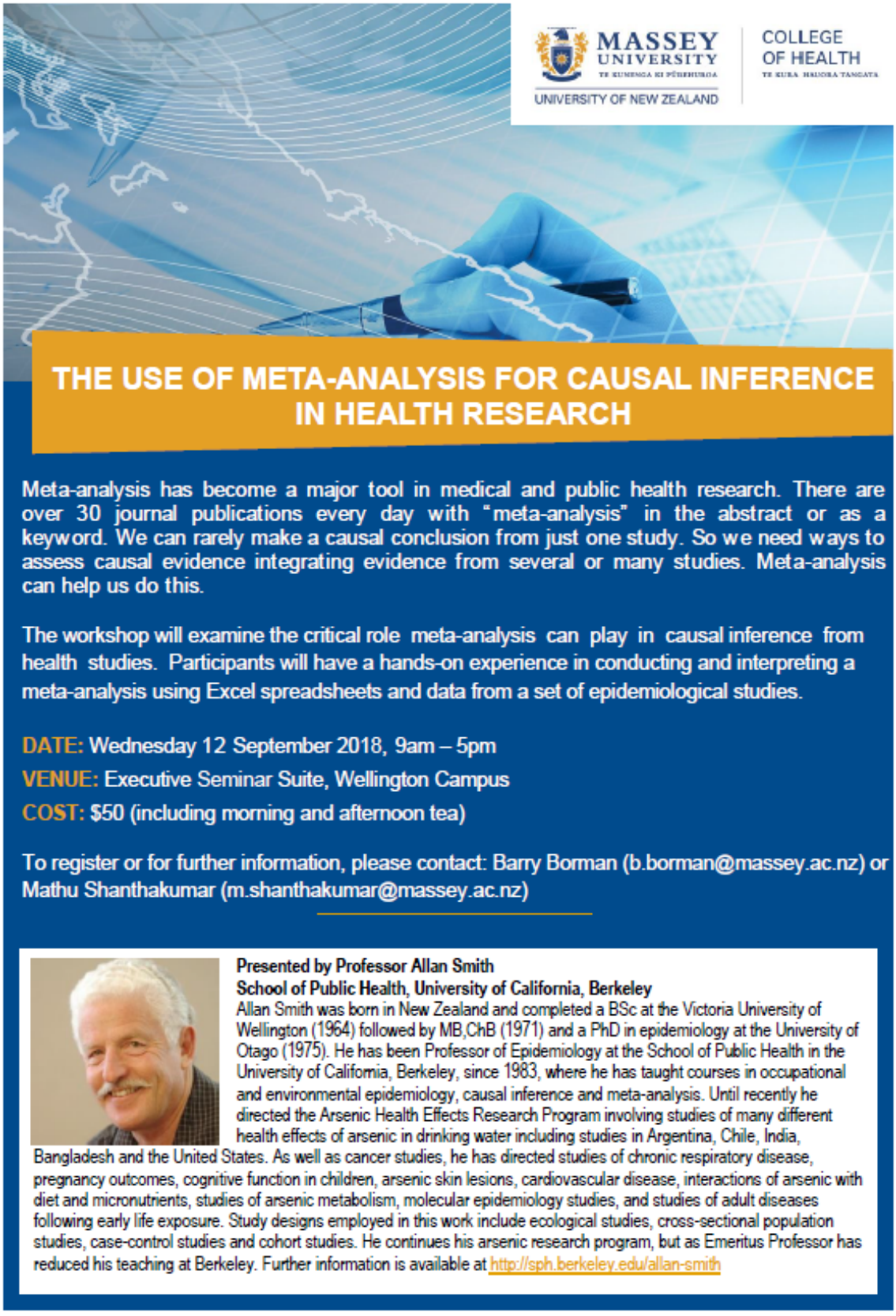
Attended conferences

Esri User Group Regional Conference	May, Palmerston North	Presentation and participation
38th SAS users of New Zealand Conference	June, Wellington	Participation
National Emergency Management Conference 2018	May, Wellington	Presentation on Porirua flooding case study

Upcoming short-course

The use of meta-analysis for causal inference in health research

Presented by Professor Allan Smith (School of Public Health, University of California, Berkeley)
Wednesday, 12th September 2018, Wellington Campus
Find more details in the flyer below and contact Barry Borman (b.borman@massey.ac.nz) or Mathu Shanthakumar (m.shanthakumar@massey.ac.nz) for registration details.



Welcomes and Congratulations

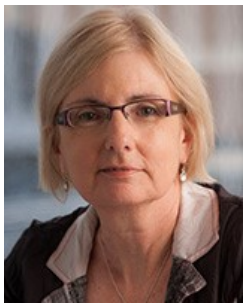
Agnieszka Kowalik-Tait

Agnieszka has joined the EHI team in mid 2018 to help look after the Healthspace website. She has a degree in biological sciences from Poland and work experience in Environmental Conservation. In 2016 she completed the 'Introduction to GIS and its Applications' course at Victoria University and has been developing her geospatial skills since.

Carolin Haenfling

Carolin is an Analyst at the EHI programme. We welcome her back from maternity leave.

Welcome back!



Deborah Read

Deborah has been reappointed for a further three years as Deputy Chair of the Advertising Standards Complaints Board.

Congratulations!

Imprint

Environmental Health Newsletter Issue 14

Contact: c.haenfling@massey.ac.nz or r.mwipikomassey.ac.nz

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MASSEY UNIVERSITY TE KUNENGA KI PŪREHUROA UNIVERSITY OF NEW ZEALAND | hsss Hazardous Substances Surveillance System

MASSEY UNIVERSITY TE KUNENGA KI PŪREHUROA UNIVERSITY OF NEW ZEALAND | health space

MASSEY UNIVERSITY TE KUNENGA KI PŪREHUROA UNIVERSITY OF NEW ZEALAND | ehinz Environmental Health Indicators New Zealand