Obesity and systems-based approaches
Author: Dr Julia Peters, Clinical Director

How can New Zealand reverse the obesity epidemic that is afflicting much of the developed world? That was the focus of the inaugural Health Outcomes Grand Round, organised by Auckland Regional Public Health Service (ARPHS) and held at Auckland City Hospital, and Ko Awatea at Counties Manukau District Health Board, on 14 and 15 May.

Exciting developments in Victoria, Australia, suggest the way forward lies in systems-based approaches. That is, through community-based programmes that work in, and on, the systems to find the levers for change. We were pleased to have Professor Boyd Swinburn explain what this means, and how it works, in an excellent presentation.

Professor Swinburn is Professor of Population Nutrition and Global Health at the University of Auckland as well as Director of the World Health Organisation (WHO) Collaborating Centre for Obesity Prevention at Melbourne’s Deakin University.

Professor Swinburn explained that obesity, while being a global problem, is particularly high here. The 2010 Global Burden of Disease Study identifies poor diet (11.6%) and high BMI (8.9%) as higher risk factors in New Zealand than tobacco (8.6%). New Zealand ranks higher than any other European country for childhood obesity.

Figures from the New Zealand Health Survey also show that 18 percent of Maori children, and 46 percent of Maori adults, are classified as obese – twice as high as the rate for non-Maori.

How governments and societies respond to these trends help determine the extent of the obesity problem in each country. Three programmes from Victoria illustrate the success a full systems-based approach may have in reducing obesity levels across whole communities.

Romp and Chomp targeted 12,000 children in Geelong preschools. Through multiple agencies, policies and professional training, after three years there was a clear reduction in the percentage of overweight and obese young children.

Weight gain. More notable, however, was its impact on surrounding communities: research three years after the programme showed not only did Colac’s capacity remain high, but neighbouring parts of the region had started investing in their own obesity programmes and had developed their own capacity. “They were well networked, they knew what was happening, they reoriented their own systems, they mobilised their own resources, and picked themselves up,” said Professor Swinburn.

It’s Your Move, a secondary school based project, caused a 5.8 per cent drop in obesity prevalence over three years.

The principles driving these and other such programmes have been combined under Healthy Together Victoria. Its website reads: “together with three levels of government, peak organisations, schools, workplaces and communities, we are creating opportunities for eating healthier and being more active where we live, learn, work and play.”

Its success has spurred our government to establish the Healthy Families New Zealand programme. Similar in scope, it will create ten Healthy Families NZ communities, including three in the Auckland region, and empower organisations within these communities to work together to reverse New Zealand’s obesity epidemic.

Auckland, says Professor Swinburn, has a great opportunity to lead internationally with regard to obesity in indigenous and Pacific populations. While there is no “easy fix,” we have a chance to effect real change at the ground level through Healthy Families NZ and other initiatives.

To watch Professor Swinburn’s presentation go to vimeo.com/9779163. We are looking forward to our next Health Outcomes Grand Round this November.

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- Health Outcomes Grand Round
- Seasonal influenza
- Fluoride update
- Disease surveillance
- Refugee health: immunisation day
A major new study, carried out by the University of Otago and published in the American Journal of Public Health, has shown no significant link between exposure to fluoride and IQ. The Dunedin Multidisciplinary Study studied 1000 people living in areas with and without water fluoridation, measuring their IQ between 7 and 13, and again at 38. The study controlled for childhood factors such as birth weight, breastfeeding, socio-economic status and educational achievement. Fluoride toothpaste and tablets were also taken into account.

Another study, this time at the University of Canterbury, has found that Christchurch four year-olds have on average 95 per cent more decay on their baby teeth than Wellington children of the same age. Nine year-olds in Christchurch have, on average, 80 per cent more decay than the same age group in Wellington. A survey of more than 100 parents found a strong association between oral health literacy and attitudes towards water fluoridation.

After a bid by opponents to stall refluoridation failed in the High Court, Hamilton City Council has restarted fluoridating its water supplies and extended this out to Kauwhata, Meremere, and Springhill Prison. Rotorua is also planning to hold a public referendum this year on the issue after Toi Te Ora (Bay of Plenty’s public health unit) recommended the council introduce fluoride to all water supplies serving more than 1000 people. Finally, Kapiti Coast District Council has voted 8 to 2 in favour of continuing water fluoridation.

ARPHS continues to work with stakeholders to ensure accurate and evidence based information on this important public health issue is provided to the public. For further information please visit www.arphs.govt.nz/health-information/promoting-health-wellbeing/water-fluoridation and www.fluoridefacts.govt.nz.

Seasonal influenza update
Author: Dr Richard Hoskins, Medical Officer of Health

The various surveillance systems for seasonal influenza show comparatively low rates of influenza like illness (ILI) for the quarter. In the last surveillance week in June ILI rates, though increasing, were low compared to the previous 5 years and had not yet reached the threshold for seasonal influenza.

Auckland Regional Public Health Service (ARPHS) collects surveillance data from other sources, such as ESR, and publishes these at www.arphs.govt.nz/health-information/communicable-disease/influenza weekly (see below for an example). This webpage also contains more information on the influenza vaccine, which is now free for high risk groups until 31 August.

Promoting positive fluoride messages – update
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**Selected Auckland Region disease notifications for 2014 Apr-Jun compared to the average of the same period between 2011-2013**

<table>
<thead>
<tr>
<th>Disease</th>
<th>2014 Apr-Jun</th>
<th>Average 2011-2013</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campylobacteriosis</td>
<td>316</td>
<td>104</td>
<td>296%</td>
</tr>
<tr>
<td>Cryptosporidiosis</td>
<td>11</td>
<td>4</td>
<td>950%</td>
</tr>
<tr>
<td>Dengue fever</td>
<td>33</td>
<td>11</td>
<td>316%</td>
</tr>
<tr>
<td>Gastroenteritis - unknown cause</td>
<td>28</td>
<td>9</td>
<td>950%</td>
</tr>
<tr>
<td>Gastroenteritis / foodborne intoxication</td>
<td>9</td>
<td>2</td>
<td>-150%</td>
</tr>
<tr>
<td>Giardiasis</td>
<td>163</td>
<td>1</td>
<td>-100%</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>2</td>
<td>1</td>
<td>-50%</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>18</td>
<td>7</td>
<td>0%</td>
</tr>
<tr>
<td>Lead absorption</td>
<td>7</td>
<td>2</td>
<td>50%</td>
</tr>
<tr>
<td>Legionellosis</td>
<td>7</td>
<td>2</td>
<td>100%</td>
</tr>
<tr>
<td>Leptospirosis</td>
<td>7</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Listeriosis</td>
<td>17</td>
<td>1</td>
<td>950%</td>
</tr>
<tr>
<td>Measles</td>
<td>17</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Meningococcal disease</td>
<td>1</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Mumps</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Pertussis</td>
<td>27</td>
<td>104</td>
<td>-150%</td>
</tr>
<tr>
<td>Rheumatic fever - initial attack</td>
<td>0</td>
<td>1</td>
<td>-100%</td>
</tr>
<tr>
<td>Rubella</td>
<td>77</td>
<td>35</td>
<td>-50%</td>
</tr>
<tr>
<td>Salmonellosis</td>
<td>15</td>
<td>2</td>
<td>-50%</td>
</tr>
<tr>
<td>Shigellosis</td>
<td>35</td>
<td>2</td>
<td>-50%</td>
</tr>
<tr>
<td>Tuberculosis disease - new case</td>
<td>2</td>
<td>1</td>
<td>-50%</td>
</tr>
<tr>
<td>Typhoid fever</td>
<td>17</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>VTEC/STEC infection</td>
<td>2</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

*These are provisional data and include confirmed, probable and cases under investigation.*

**Listeria**

*Dr Richard Hoskins*

ARPHS is still investigating seven confirmed Listeria monocytogenes notifications in the April to June quarter (there have been three more subsequently). Currently only two cases are linked to a suspect food, however they have different types (O4 & O1/2). All cases are either O4 or O1/2 and most have occurred in immunocompromised people. The last five cases are all from South Auckland and 4/5 of them are type O4. The PFGE results show only two identical patterns, we continue to investigate the food history of these two cases.

**Dengue fever**

*Dr Simon Baker*

The notification rate for Dengue fever remains high for the last quarter. Dengue remains endemic in much of Central and South America and Asia, including India, Pakistan and Sri Lanka, and popular tourist destinations like Bali, Viet Nam, Thailand and Cambodia. Dengue is also creating outbreaks across the Pacific; Dengue outbreaks have been reported this year in Fiji, French Polynesia, Vanuatu, the Solomon Islands, Tonga, New Caledonia, Northern Queensland, Tuvalu and Nauru. In addition, the arboviral diseases Zika virus (French Polynesia, New Caledonia, Cook Islands) and Chikungunya (Tonga, Bali, Papua New Guinea and Micronesia) have caused outbreaks in the Pacific region this year. Prevention of mosquito bites is the best protection. For more information: [http://www.arphs.govt.nz/health-information/communicable-disease/dengue-fever-zika-chikungunya](http://www.arphs.govt.nz/health-information/communicable-disease/dengue-fever-zika-chikungunya)

**Measles**

*Dr Richard Hoskins*

A further 17 cases of measles were confirmed in this quarter, bringing the Auckland total for cases in 2014 to 112. All the April-June cases were either sporadic (not linked to other notified cases) or part of small household outbreaks associated with sporadic cases. Measles virus is really good at finding non-immune people in these households. The genotype was identical for all but one of these 17 cases; this genotype was originally identified in a case imported from the Philippines in late January 2014. It is likely, but unable to be proven, that all the cases of this genotype originate from that imported case. This is the same genotype responsible for the large school based outbreak currently occurring in Hamilton, though this has not been able to be confirmed by linking known case(s).

So far this year APRHS has investigated over 350 notifications and over 3200 contacts of confirmed cases. This has provided useful information for informing contact tracing priorities and informing future national measles control (immunisation catch up) possibilities. This information is on our measles webpage at [www.arphs.govt.nz/health-information/communicable-disease/measles](http://www.arphs.govt.nz/health-information/communicable-disease/measles). Clearly there is work to be done if we are not to continue seeing measles outbreaks in the under immunised age groups, particularly those in their teens and young adults.

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**Contact Auckland Regional Public Health Service:**

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Mangere Refugee Resettlement Centre: Immunisation Day

Author: Katrina Penney, Programme Supervisor—Refugee Health Screening Service

Immunisations are a pivotal part of the public health service, and are given by the Refugee Health Screening Service (RHSS) to all Quota Refugees arriving in New Zealand.

Immunisation helps provide protection against vaccine-preventable communicable diseases. There are many considerations required when preparing for an immunisation day at the Mangere Refugee Resettlement Centre. Below is our story of a typical refugee quota intake.

The new class
New Zealand Immigration accepted 145 Quota refugees in the third of six intakes in 2014. People speaking 17 different languages from 10 different nationalities have come from seven countries over a seven week period – and they’re all eligible for immunisations.

Proper planning
RHSS reviews the immunisation status of all quota refugees to assess (against the New Zealand Immunisation Schedule) their eligibility and catch up immunisations required.

We need to order enough vaccines to catch up 145 people’s immunisation status. This is approximately 400 vaccines per intake. RHSS uses approximately 15 people to vaccinate 100 people in one day! These include:

- 6 vaccinators
- 4 interpreters
- 1 registration/overseer
- 1 consentor
- 1 runner
- 1 cold chain monitor
- 1 recovery nurse

Some challenges

1. 17 languages on the one day would be a kaleidoscope of chaos.

Solution: the RHSS nurses immunised 45 refugees from the smaller language groups the previous week. For the remaining 100 people, there was only a need for three major language groups.

2. RHSS tests all refugees for tuberculosis on arrival. Adults are given a CXR and children younger than 15 years are given a Mantoux test. For efficacy the Mantoux test must be given at least 28 days after any live vaccine.

The International Organization for Migration is responsible for medical preparation until the refugees depart for New Zealand; this includes giving some groups the MMR vaccine prior to departure.

Of the group of 57 children requiring Mantoux tests, 23 received recent MMR vaccines just prior to coming here. The implication of this is that these children could not have their immunisations until after their Mantoux test was given, and the Mantoux test would have to wait until 28 days after the offshore MMR was given.

Solution: If someone cannot get their immunisation on the day, or if an immunisation requires a course (such as the MMR), then we record this in the medical notes and refer them to a GP for when they are settled into the community.

3. Two of the refugees are pregnant. Of these, one, an Afghani, is unsure of her gestation. Once the gestation is established, a decision can be made on which immunisations the woman is safe and eligible to receive.

Solution: RHSS will arrange for her to have a dating ultrasound scan (USS). The sonographer must be female otherwise the Afghan couple will decline the USS. This scan needs to be arranged before she is immunised. The pregnant women also require the flu vaccine, as pregnancy is one of the eligible criteria for this year’s Fluvax.

Take a breath
The logistical challenges involved cannot be done justice in an article of this size. Immunising our new New Zealanders is critical to ensuring they have the best possible start to their new lives.

The next immunisation day is in late July so there’s little time to prepare - but with six of these each year, we get plenty of practice at it. Thank you to everyone involved in making each immunisation day a success.

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