ACT Government Health

ACT Population Health Bulletin

Volume 2 Issue 1 February 2013

Table of Contents

Message from the CHO	1
CHO Report 2012	2
ACT General Health Survey	4
ACT Cancer Registry	5
Small area data challenges	7
The ACT Physical Activity and Nutrition Survey (ACTPANS)	8
Building Research Capacity in the ACT through Data Linkage	9
National Partnership Agreement on Preventive Health performance benchmarks	10
Key maternal and perinatal indicators, ACT and Australia, 2010	12
Area Highlight	14
Notifiable Disease Report	15
Hot Topics	16

Upcoming Events

- Release of the *Health status of children in the ACT* report (March)
- Release of the *Health of older persons ACT 2012* (April)
- Release of the results of the *Australian Secondary Students Alcohol and Drug* (ASSAD) survey (May)

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Introduction

A message from the Chief Health Officer, Dr Paul Kelly

One of the key functions of the Population Health Division of ACT Health Directorate is to monitor the health of the population of the ACT. Whilst health services statistics are often in the news and are indeed important benchmarks by which the Health Directorate measures its performance, the health of the population is much broader than what happens in our public hospitals. It falls to the small and dedicated team within the Epidemiology Section of the Division to generate or collate, analyse and interpret health data from a variety of sources to guide policy decisions to improve the health of the population of the ACT. This Issue of the Bulletin highlights some components of that work.

The flagship publication of the Epidemiology Section is the biennial ACT Chief Health Officer's (CHO) Report. The Report is the culmination of about 18 months work to which a large number of staff across the ACT Health Directorate contribute, coordinated by the Epidemiology Section. The Report is highly influential in policy formulation and is regularly referred to by government and non-government organisations in the ACT. The highlights from the 2012 Report are presented here. In addition to the CHO Report, the Epidemiology Section produces a number of regular reports on specific topics in more detail and some of these are summarised in this Issue.

One of the key population health challenges in Australia, highlighted in the two most recent ACT CHO Reports, is obesity and its proximal determinants of poor nutrition and inadequate physical activity. Much of our health survey work and our analytical effort is dedicated to describing the problem and monitoring progress in key indicators at the population level. In addition to this work guiding policy and practice for population health benefit, there are economic imperatives related to reaching agreed national targets, and so this analytical work has added importance. Some of our interventions towards achieving healthy weight at the population level will be highlighted in coming Issues of the Bulletin.

The "problem" of small numbers of events in a generally healthy, relatively small jurisdiction like the ACT is in most respects a good problem to have. From the epidemiological perspective, this creates analysis and reporting challenges and these are discussed in this Issue. One of the solutions is data linkage and we are very fortunate to have a wonderful resource ready for use in the ACT. I encourage researchers, clinicians and others to contact us to access this so far underutilised resource.

Thanks to the contributors and to the guest editor Lindy Fritsche for their hard work on this Issue.

Dr Paul Kelly
Editor
February 2013

Articles

Acronyms

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
ACTGHS	Australian Capital Territory General Health Survey
AIHW	Australian Institute of Health and Welfare
BMI	Body Mass Index
CHO	Chief Health Officer
NPAPH	National Partnership Agreement on Preventive Health
WHO	World Health Organization

Recent publications by the Epidemiology Section

- ACT Chief Health Officer's Report 2012
- The Health of Aboriginal and Torres Strait Islander People in the ACT, 2006 - 2011
- Review of Colorectal Cancer in the ACT
- Cancer in the ACT Incidence and Mortality 2011
- 2010 ACT Inmate Health Survey: Summary results, July 2011
- Mental Health & Wellbeing in the ACT
- Health Status of young people in the ACT, April 2011
- Report on the 2009 Year 6 Physical Activity and Nutrition Survey (ACTPANS)
- Maternal and Perinatal Health in the ACT 1999 - 2008
- ACT Secondary Student Drug and Health Risk Behaviours
- Review of breast cancer in ACT women, October 2010
- Cancer in the ACT Incidence and Mortality 2009
- Health Snapshots by Sub Division, 2009

http://health.act.gov.au/publications-reports/.

Reporting and the 2012 Chief Health Officer's Report

Carol Kee, Epidemiology, Population Health Division

The major population health reporting mechanism of the Epidemiology Section is the biennial ACT Chief Health Officer's Report (CHO Report). The Report profiles key areas of public and community health interests including health trends and status, public health risks, notifiable conditions, morbidity and mortality.

The report is a legislated requirement under Section 10 of the Public Health Act 1997. The first report was published in 1999 encompassing the two year period 1997-98. The 2012 edition is summarised below and the full report can be found at http://www.health.act.gov.au/health-services/population-health/epidemiology-branch

The Chief Health Officer's Report 2012: Summary of results

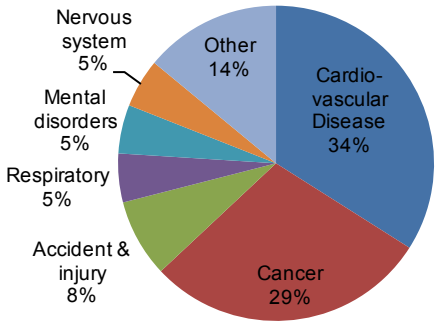
The ACT Health Directorate plans, manages and delivers public sector health services to both ACT residents and residents in the NSW surrounding region. The ACT had an estimated 358,570 population in 2010 and the Greater Southern Region of NSW had a population estimate of 245,000.

- In the hospital sector alone, patients from NSW accounted for 24% of separations, 30% of elective surgery procedures and 16% of births in ACT public hospitals in 2009-10.
- The ACT, following the national trend, is an ageing population. This will impact on health service demands and delivery options in the future.

Key Findings

- Life expectancy in the ACT is high and expected to increase over the next ten years. In 2009, life expectancy at birth for males was 80.5 years and 84.3 years for females.
- There were 1,648 deaths of ACT residents in 2009, with the median age at death being 79.9 years (see Figure 1).

Figure 1: Causes of mortality in the ACT, 2009



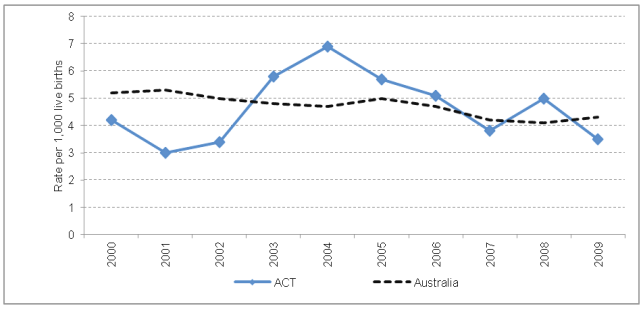
Source: ACT Chief Health Officer's Report 2012

Reporting and the 2012 Chief Health Officer's Report (*continued*)

Key findings *(continued)*

- The ACT infant mortality rate continues to decline largely due to advances in antenatal and neonatal care, and education and disease prevention activities. In 2009 the main cause of mortality was congenital abnormalities (see Figure 2);

Figure 2: Infant mortality rate ACT & Australia, 2000-09.



Sources: ABS 2010, data cubes table 2 death rates, summary, states and territories, 1995-2010, cat. No. 3302.0, ABS, Canberra
Note: 2009 ABS deaths data are preliminary and should be treated with caution.

- Potentially preventable hospitalisation rates, half of which were for chronic diseases, were lower than for Australia as a whole (see Table 1 below);
- Reasons for acute illness varied over age groups: persons 45 years and over were most likely to be hospitalised as a result of chronic obstructive pulmonary disease (COPD), osteoporosis, osteoarthritis, cardiovascular disease and cancer while those under 45 years were most likely to be hospitalised as a result of asthma (0-14 years), oral disease (15-24 years) and depression (25-44 years) (see Table 1).

Table 1: Potentially preventable hospitalisations for chronic conditions, aged standardised rates, ACT & Australia

	2009-10	
Select chronic conditions (a)	ACT (%)	Aust. (%)
Diabetes complications	4	7.1
Congestive cardiac failure	1.9	1.9
Chronic obstructive pulmonary disease	2	2.6
Asthma	1.1	1.8
Angina	0.9	1.4
Hypertension	0.2	0.3
Total chronic conditions	10.4	16.0
Total potentially preventable hospitalisations	20.7	30.4

Source: AIHW Australian Hospital Statistics 2006-10
(a) December 2006 age standardised rate per 1,000

Encouraging trends in the ACT

- Residents have access to good quality air, water and food;
- Many of the social factors (income, employment rates, education levels) influencing health continue to yield favourable results for the ACT compared with Australia in general (but the ACT still has pockets of severe social disadvantage);
- The age-standardised death rate has declined over time;
- There has been a decrease in the number of adult daily smokers in the ACT (11.7%) compared to the Australian average 15.9%, which is the lowest jurisdictional rate;
- There is an ongoing decline in asthma mortality;
- ACT child immunisation coverage rates remained above the national target of 90% and above national and NSW rates;
- The ACT had statistically significantly lower rates of low-weight babies than nationally;
- The ACT had a slightly higher rate of full-time equivalent nursing staff in public hospitals than the national average.

Key challenges and opportunities

- Expected increase in the number of people with age-related chronic conditions and a subsequent increase in demand for health services;
- Men less physically active than two years ago;
- Upward trend in overweight in young children;
- Males more likely to consume more than two alcoholic drinks on a day when they drink alcohol compared to females;
- Falls injury in 65-79 yr olds increasing;
- Serious injuries from road crashes increasing;
- Rates of alcohol-related injuries increasing;
- Projections indicate that by 2020, there will be a 50% increase in diabetes (Type 1 and 2) in the ACT from 2005 estimates;
- An increase in notifiable conditions reports notably Influenza, Pertussis and food borne disease;
- Campylobacter rates are considerably higher than national rates;
- An increase in tranquilliser use among adolescents;
- A downward trend in sun protective behaviour for both adults and children;
- A statistically significant increase in cancer incidence for melanoma of the skin and non-Hodgkin's lymphoma in males to the year 2008;
- An increase in the number of deaths due to dementia;
- The ACT, like other jurisdictions, has ongoing difficulties in attracting trained health staff.

Reporting and the 2012 Chief Health Officer's Report (*continued*)

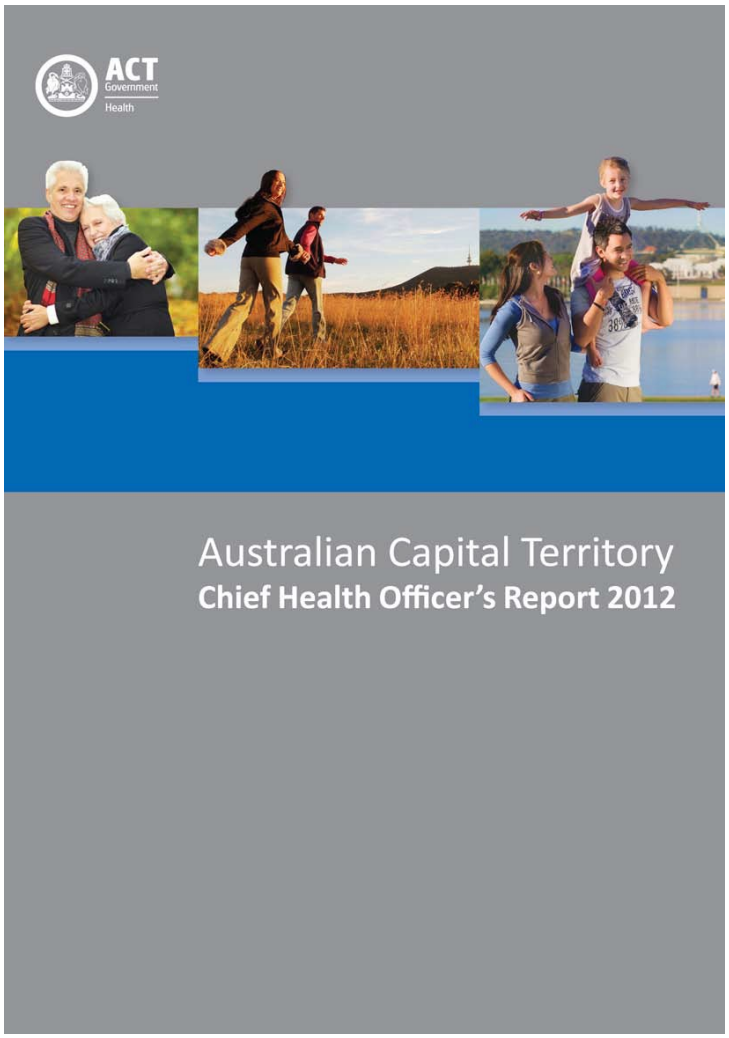
Key challenges and Opportunities *(continued)*

- The provision of residential aged care places, remained below the rest of Australia; and
- Significant growth in demand and activity, for inpatient and outpatient services.

Key challenges and opportunities: Aboriginal and Torres Strait Islander people

- Tobacco use consistently higher than for non-Aboriginal and Torres Strait Islander ACT residents;
- Teenage fertility rate four times higher than for non-Aboriginal and Torres Strait Islander women; and
- The average age at hospital separation (excluding renal dialysis) was 30 yrs, significantly lower than for non-Aboriginal and Torres Strait Islander residents (49 years).

The full CHO Report can be accessed on the web at: http://www.health.act.gov.au/health-services/population-health/epidemiology-branch



ACT General Health Survey

Lindy Fritsche and Carol Kee, Epidemiology, Population Health Division

The ACT General Health Survey (ACTGHS) is a computer assisted telephone interviewing (CATI) survey conducted each year with residents of the ACT.

The Epidemiology Section developed the ACTGHS program to address issues around small ACT sample sizes in national surveys, irregularity of national surveys and inability to always meet information needs in a timely manner. Due to its continuous nature (interviewing conducted March to December each year) , the survey allows for:

- flexibility in addressing emerging or immediate information needs (questions can be inserted into the questionnaire at short notice);
- over-sampling specific population sub-groups to ensure their health needs are identified quickly;
- an aggregation of yearly samples over time to allow for sufficient power to undertake analysis of low prevalence conditions. The larger the sample size, the greater the ability to monitor and detect changes in health status of sub-groups within the population; and
- ability to accurately compare the health status of ACT residents with other jurisdictions.

The survey, which commenced in 2007, is administered by NSW Ministry of Health on behalf of the ACT Health Directorate. The survey covers all Territorians living in private households and for the first time in 2012 mobile phones were incorporated into the survey sample. The typical target sample is 1300 people per year (1000 adults and 300 children). Respondents are randomly chosen within the household. If the chosen respondent is under 16 years of age a parent or main carer responds on their behalf.

The survey is one of the main instruments through which the ACT Health Directorate monitors population health and reports on performance indicators. Its objectives are to:

- monitor changes over time in self-reported health behaviours, health status, health service use, satisfaction with health services, and other factors that influence health;
- support the planning, implementation, and evaluation of health services;
- collect health information that is not available from other sources;
- respond quickly to emerging needs for health information;
- promote research; and
- provide a tool to measure the National Partnership Agreement on Preventive Health (NPAPH) performance indicators.

ACT General Health Survey (*continued*)

Results from the survey conducted from 2007 to 2010 have been used in recent publications such as the Chief Health Officer's Report 2012 and the Health status of children in the ACT (release is pending) and the Health of older persons ACT 2012 (release is pending).

The following tables (Table 2 to Table 4) are examples of analysis from the survey. Targets are derived from National Guidelines for example, fruit and vegetable consumption from the *Dietary Guidelines for Children and Adolescents in Australia* and physical activity from the *National Physical Activity Guidelines for Australians.*

Table 2: Fruit consumption, serves per day,

	2007-10
Serves of fruit	%
Less than 1	7.6
1 to 3	82.9
4	5.9
5	2.7
6 or more	0.9

children, 2-15 years, ACT, 2007-10
Source: ACTGHS data collection 2007-10
Notes: Percentages may not add to 100% due to rounding.

Table 3: Vegetable consumption, serves per day, chil-

	2007-10
Serves of vegetables	%
Less than 1	7.2
1	27.2
2 to 4	60.2
5	4.0
6 or more	1.4

dren, 2-15 years, ACT, 2007-10
Source: ACTGHS data collection 2007-10
Notes: Percentages may not add to 100% due to rounding.

Table 4: Adequate physical activity, adults 18 years

	2009-10
Adequate physical activity	%
Males	59.4
Females	54.5
Persons	56.9

and over, ACT, 2009-10
Source: ACTGHS data collection 2007-10

ACT Cancer Registry

Leah Newman, Epidemiology, Population Health Division

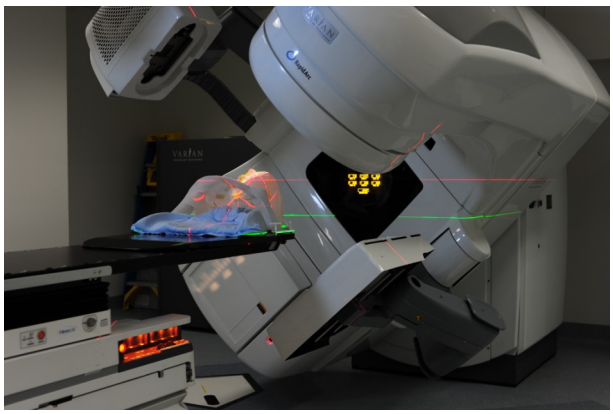
The ACT Cancer Registry is a population-based registry that collects data on all new cases of cancer occurring in ACT residents. The Registry also records information on cancer-related deaths.

Since 1994, all public and private pathology laboratories, hospitals, radiation oncology clinics and nursing homes in the ACT have been required by law to notify the Cancer Registry of cancer in people or human tissues.

Basic demographic details and codes for tumour site and histology are recorded. Additional information (e.g. tumour size and degree of spread) is collected for some cancer sites. All malignant neoplasms are registered, as well as in-situ carcinoma of the cervix, breast and melanoma of the skin.

The Epidemiology Section is delegated by the Chief Health Officer of the Population Health Division to be custodians of the Registry. The ACT Health Directorate contracts the Cancer Institute NSW to register ACT cancer cases and cancer-related deaths on its behalf. The Cancer Institute is required to comply with relevant ACT legislation, particularly in regards to privacy, and the ACT retains ownership of all records. Cancer patient's names or any other identifying information about them are not disclosed in cancer registry reports and statistics.

The terms for the disclosure of information on the cancer registry are described in the *Public Health Regulations 2000.* The Epidemiology Section also has a Data Release Policy that further describes the conditions in which cancer registry data may be released. Requests for ACT Cancer Registry data can be made at: CancerRegistry@act.gov.au.



New Linac Accelerator, Capital Region Cancer Service, ACT Health Directorate
Photo from ACT Health Directorate Communications and Marketing

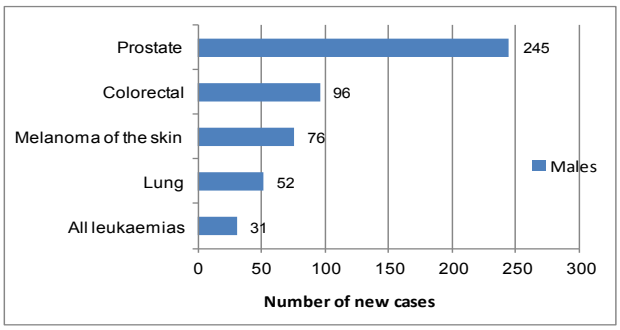
Cancer incidence and mortality in the ACT *(Continued)*

Cancer incidence and mortality in the ACT

The latest report *Cancer in the ACT, Incidence and Mortality 2011* describes cancer incidence and mortality for the period 2004–08. In 2008, there were 1,433 new cases of cancer diagnosed in ACT residents, and 451 deaths attributable to cancer. More than half (56%) of new cancer cases were diagnosed in males.

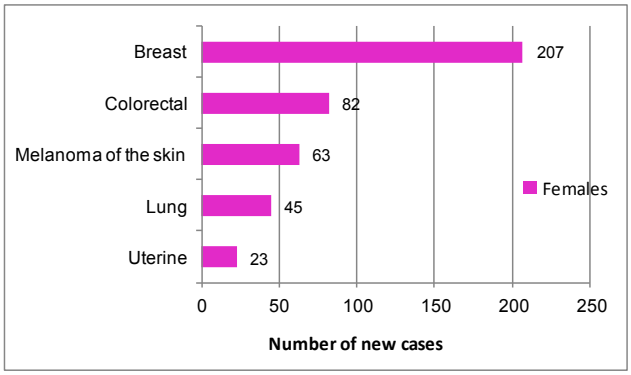
The most common cause of cancer-related deaths in ACT males in 2004-08 were lung cancer, colorectal cancer, prostate cancer, cancers of unknown primary site and melanoma of the skin (see Figure 3).

Figure 3: Common cancers diagnosed in males, average annual number, ACT 2004-08



For females, the most common causes of cancer-related deaths were breast cancer, lung cancer, colorectal cancer, cancer of unknown primary site, pancreatic cancer and ovarian cancer (See Figure 4).

Figure 4: Common cancers diagnosed in females, average annual number, ACT, 2004-08



The number of new cancers diagnosed in the ACT in future years is expected to increase with our ageing and growing population, as such cancer will remain a major health problem. The ACT Cancer Registry will continue to assist in monitoring trends, identifying sub-groups in the population at risk of certain cancers and providing data to help in cancer control and prevention activities.

Recent cancer statistics reports

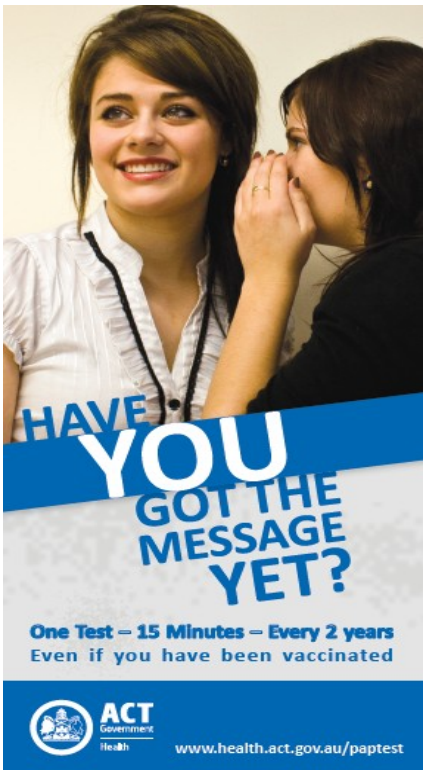
Cancer in the ACT, Incidence and Mortality (2011)
Review of colorectal cancer in the ACT (2012)
Review of breast cancer in ACT women (2011)
Cancer in the ACT: Survival Estimates (2009)

These reports are available from the ACT Government Health Directorate website at http://health.act.gov.au/publications-reports/.

In addition, national data are published by the Australian Institute of Health and Welfare: *Cancer in Australia: an overview 2010* available at: http://www.aihw.gov.au/publications/.

A Message from the ACT Cervical Screening Program

All women who have ever had sex need to have regular Pap tests, including those who no longer have sex and those who have been through menopause, regardless of whether or not they have been vaccinated against Human Papillomavirus.



Small area data challenges

Cathy Baker, Epidemiology, Population Health Division

With a population of approximately 360,000 people and representing only 1.6% of the Australian population, the ACT is a small jurisdiction in both absolute and relative terms. When it comes to population health statistics, size really does matter and small populations pose a number of challenges regarding how different health information is used and interpreted.

One of the challenges for a small jurisdiction is in relation to surveys and the employment of sampling methodology. With sampling methodology the sample size needed to attain an acceptable degree of accuracy is by no means proportional to the size of the population with larger populations having a clear advantage. For example, if we want to precisely estimate smoking rates in a sub-group of students such as those aged 15 to 17 years we would need to survey roughly 370 students as the ACT population for this age-group is around 10,000. However for a jurisdiction of 100,000 the sample need only be marginally larger at about 385. The larger jurisdiction clearly has an advantage over the smaller one as they only need to survey a much smaller number of people relative to their population. This advantage is often accompanied with resources that are proportional to the population size which in turn can be used for more fine level surveying such as looking at small areas and specific sub-populations.[1]

Another challenge that arises for small jurisdictional health information is a relatively rare health event. With such events a small change can lead to large fluctuations in rates over time and the risk of such changes being misinterpreted. For example, in the last few years the infant mortality rate in the ACT has ranged from 3.9 to 5.5 per 1,000 births, a 60% difference at two points in time. However the actual numbers, around 17 and 24 respectively, would qualify as a normal random variation when compared with historical data and not necessarily a sign that infant mortality is increasing.

A further difficulty small numbers present is the risk in breaching confidentiality by inadvertently reporting information that potentially could lead to the identification of that person concerning the event. For example, if we were to report a rare health event relating to a person of a specific nationality, along with their sex and the suburb they lived in the reader might be able to identify them and thus the individual's confidentiality would be breached.

There are however a number of approaches that can minimise these challenges, including aggregating data; suppressing small cell sizes; employing statistical tests such as confidence intervals; and synthetic modelling.

Aggregating data over 3 to 5 years and reporting a rolling average is a common method for alleviating large fluctuations and conserving confidentiality (e.g. reporting cancer incidence and mortality data). Another method is to aggregate population groups into larger groups, for example, age groups 0-4, 5-9, 10-14, instead of single years; or grouping rare events such as small intestinal cancer into less rare events such as bowel cancer.

Suppressing and thus not reporting small numbers is another approach used to deal with small numbers when aggregation is not appropriate. A common standard is to not report cell sizes under five within a given year for a given population.

Confidence intervals are regularly employed in the analysis of ACT population health information, including survey data which is subject to sampling error and also mortality and hospitalisations data which are subject to random variation as discussed earlier. Confidence intervals gives us a statistical range around a point estimate (ideally within 5% of the estimate) in which we can be assured (usually with about 95% certainty) that the true estimate resides.

Another approach employed to mitigate the challenge of small numbers is synthetic modelling.[2] This approach involves matching the socio-demographic characteristics of a small population (for example the Canberra suburb of Forrest) with another larger one with similar socio-demographic features such as areas within North Shore Sydney but with robust health information and then infer the same health profile for the smaller population.

Of course, mitigating the challenges of using small area data and avoiding the loss of important information is an ongoing challenge in itself. Therefore efforts are well placed for small jurisdictions such as the ACT to investigate new methods in collecting comprehensive health information and keeping abreast of emerging techniques in dealing with small area data.

References

1. Australian Bureau of Statistics, National Statistics Service, Statistical References: Basic Survey Design. http://www.nss.gov.au/nss/home.nsf/SurveyDesignDoc?OpenView&RestrictToCategory=Basic+Survey+Design accessed February 2013

2. National Centre for Social and Economic Modelling. Spatial Microsimulation: Preparation of Sample Survey and Census Data for SpatialMSM/08band SpatialMSM/09. University of Canberra. Available from: http://www.natsem.canberra.edu.au/storage/TP36_final_for%20pdf.pdf accessed February 2013

The ACT Physical Activity and Nutrition Survey (ACTPANS)

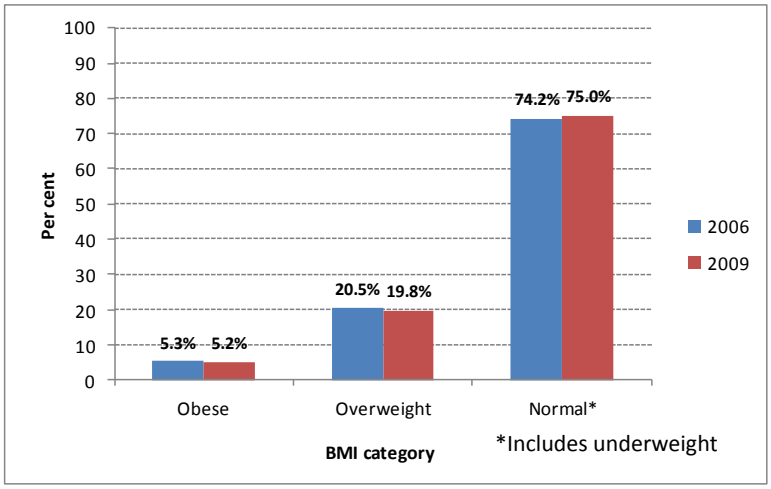
Leah Newman, Epidemiology, Population Health Division

Over the past three decades the proportion of children in Australia that are overweight and obese has risen considerably and has become a major public health problem. Childhood obesity may be associated with serious physical, psychological and social problems, and may increase the risk of premature illness, particularly Type 2 diabetes. In response to this issue, the ACT Government has made the prevention of childhood overweight and obesity a key health priority.

A lack of reliable and continuous data on the prevalence of overweight and obesity of upper primary school aged children in the ACT prompted the development of the territory-wide ACT year 6 Physical Activity and Nutrition Survey (ACTPANS). The survey is administered by the Epidemiology Section and provides a surveillance system for monitoring the prevalence of overweight and obesity, as well as the determinants of healthy weight, such as physical activity, nutrition, and attitudes to food and exercise, in this age group. The survey also provides current data and trends on a range of psychosocial indicators and health behaviours relative to children's weight status, as well as information on children's general health and well-being. The findings are used to inform and evaluate health promotions and prevention activities and policies in schools and communities.

The ACTPAN survey has been conducted every three years during term 2 of the school year (May-June) in 2006, 2009 and most recently in 2012. The latest survey was administered in 34 public and private schools throughout the ACT with 1,374 year 6 students taking part.

Figure 5: BMI status, per cent of year 6 primary school children, 2006 and 2009, ACT



Relevant ethical clearance and permissions were obtained before each survey commenced. To obtain a representative sample of students, a selection of Public, Catholic and Independent primary schools were randomly selected based on the number of year 6 students attending schools in each sector. All grade 6 students from the selected schools were invited to participate. For schools that agreed to participate, letters were sent to student's parents/guardians giving them the option to refuse consent. Children could also withdraw consent at any time. Students completed a self-report questionnaire that was administered by a trained survey administrator and had their height and weight measurements taken by a qualified nurse in a private area.

Students were assigned an identification number against their questionnaire responses and height and weight measures. Only aggregated data are reported and students and schools are not identified. Results from the 2012 ACTPAN survey are expected to be available by the end of 2013.

Figure 5 shows that there was no change in the proportion of children that were overweight or obese in 2009 compared to 2006.

Source: Population Health Division, Health Directorate

Published ACTPANS reports

Report on the 2009 ACT Year 6 Physical Activity and Nutrition Survey (ACTPANS)

Report on the 2006 ACT Year 6 Physical Activity and Nutrition Survey (ACTPANS)

These reports are available from the ACT Government Health Directorate website at:

http://health.act.gov.au/health-services/public-health/epidemiology-branch/epidemiology-publications-health-series

Articles

Building Research Capacity in the ACT through Data Linkage

Louise Freebairn, Epidemiology, Population Health Division

ACT Health Directorate, through the Epidemiology Section, has been working in partnership with NSW Health, NSW Cancer Institute and the Centre for Health Record Linkage (CHeReL) to build research capacity through data linkage.

Connecting the dots for health care

Throughout our lives, information about our health and the care we receive is recorded. Much of this information is securely stored at separate points in the health system, such as in databases at hospitals, health departments and other organisations that provide health care. The CHeReL enables this data to be sourced and joined together securely using record linkage, a process that brings together information from different databases about the same individual, family, place or event. This process creates a chronological sequence of health events or an individual 'health story' that can be combined into a much larger story about the health of people living in NSW and the ACT. This information can be used for research projects and to plan and improve health services across the population.

In bringing together these records, the CHeReL uses strict privacy preserving protocols which ensure the security of the data and confidentiality of the individuals to whom the records relate. See http://www.cherel.org.au/privacy-ethics.

Why is linking health data important?

Record linkage allows a more complete picture of the health of the population than was previously possible. The information can be used to study the safety, quality and costs of health care; the relationships between personal and lifestyle factors and health outcomes; and the societal and community influences on health by linking health data with information from other agencies such as education and community services.

Completed projects using linked data have been used to investigate health service use following surgical procedures, to investigate the impact of policy reforms such as the Australian Perinatal Mental Health Reforms, and to evaluate the effectiveness of interventions to prevent childhood obesity. See http://www.cherel.org.au/completed-projects for more information and for a list of publications using linked data.

The potential benefits of data linkage include:

- increased cost-efficiency of research compared with more traditional approaches to epidemiologic and health services research;
- adding value to existing information assets and generating a research return on the substantial existing investment in routine administrative and clinical data sets within health;
- allowing integration of data from the health sector with a wide range of data from other sectors (for example, education and community services) without the requirement for unique personal identifiers across these sectors; and
- conserving the privacy of individuals by reducing the need for release of names and other personal identifiers to research.[1]

References

1. *Data Linkage Australia. Scoping paper: a model for a data linkage facility in New South Wales. Sydney:* The Sax Institute, 2005.

For more information contact the Epidemiology Section or visit the CHeReL website at http://www.cherel.org.au/

Photo from ACT Health Directorate Communications and Marketing

Articles

National Partnership Agreement on Preventive Health performance benchmarks

Leah Newman and Lindy Fritsche , Epidemiology, Population Health Division

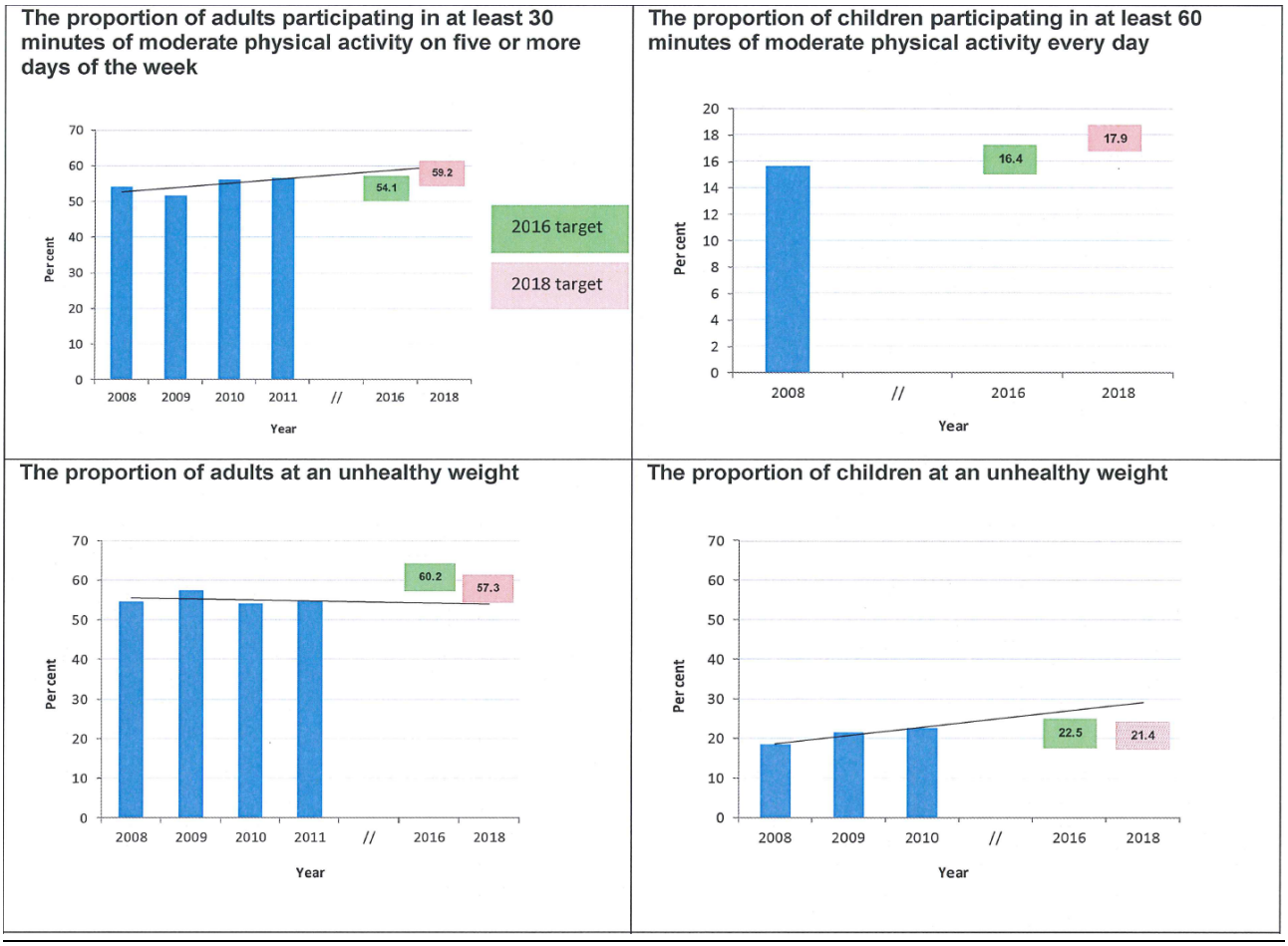
The National Partnership Agreement on Preventive Health (NPAPH) agreed by the Council of Australian Governments (COAG) on 29 November 2008 aims to address the rising prevalence of lifestyle related chronic disease through the implementation of a broad range of health promotion initiatives in settings such as communities, early childhood education and care environments, schools and workplaces.

The National Implementation Plan for the NPAPH was signed by the Australian Health Minister's Advisory Council (AHMAC) in September 2009. $489.1 million has been made available to states and territories in facilitation payments during the period 2010-11 to 2017-18. Up to $76.9 million in reward payments will be available to states and territories in 2016-17 and 2017-18. These payments are conditional on the attainment of seven performance benchmarks at two time points; June 2011 and December 2013 for smoking targets, and June 2016 and December 2017 for all other performance benchmark targets. Performance against December 2017 benchmarks will be extrapolated to June 2018 using available data. Baselines for these benchmarks are the latest available data at 30 June 2009, other than for adult daily smoking, which is 2007.

The following graphs (Figure 6) show results for the seven performance benchmarks. The blue bars show data for the baseline period as well as the most currently available data. Performance benchmark targets are shown for the years in 2016 (in green box) and 2018 (in pink box). A linear trend line has been fitted to the current survey results where there are sufficient data points available to project future trends. The projected trend lines provide an indication of how the ACT population is tracking in relation to the 2016 and 2018 targets for each indicator. Caution should be taken in interpreting the trend lines due to the limited time points that form a basis of these projections and also the inevitable variability between time-points due to small numbers.

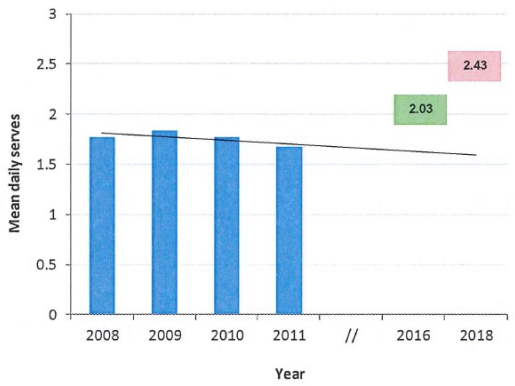
The ACT General Health Survey will be the primary vehicle for measurement of performance benchmarks targets in the future, except for the measurement of children's physical activity and adult daily smoking which will rely on national survey vehicles.

Figure 6: NPAPH Performance benchmarks, actual and projected, ACT, 2007-18

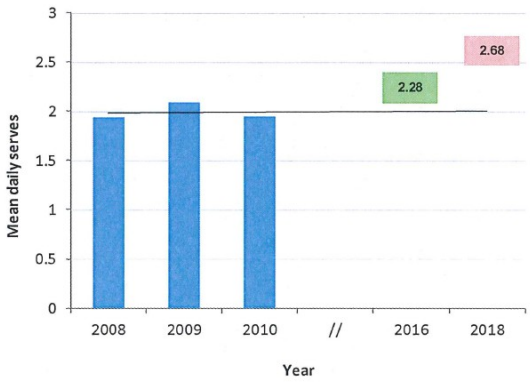


National Partnership Agreement on Preventive Health performance benchmarks *(continued)*

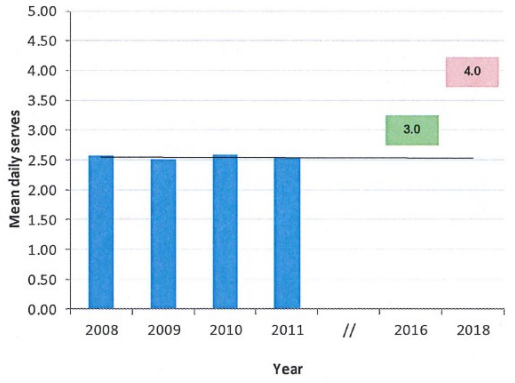
The mean number of daily serves of fruit by adults



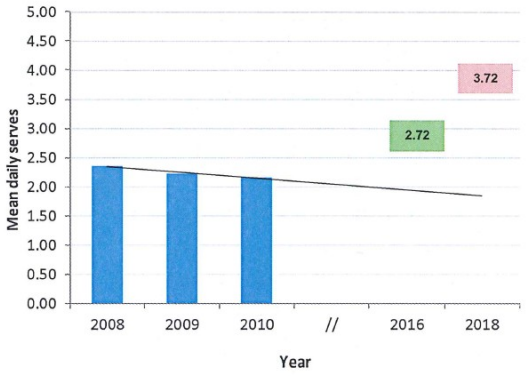
The mean number of daily serves of fruit by children



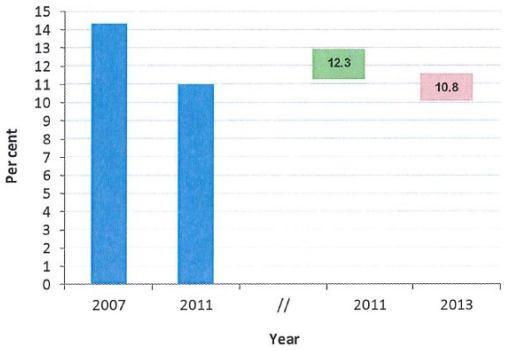
The mean number of daily serves of vegetables by adults



The mean number of daily serves of vegetables by children



Reduction in the proportion of adults smoking daily



Notes:

a) Adults are aged 18 years and over.

b) Children are aged 5-17 years, except for physical activity data which is for adolescents aged 12-17 years as there is currently no data available at younger ages.

c) Unhealthy weight is defined as overweight or obese as categorised by BMI cut offs.

d) Baseline is latest available data as at 30 June 2009, except for adult daily smoking which is 2007 and children's physical activity which is 2008.

e) Performance benchmark targets will be assessed for 2016 and 2018, except for adult daily smoking which will be assessed for 2011 and 2013.

Sources: ACT General Health Survey (2008 – 2011), 2008 ACT Secondary Student Alcohol and Drug Survey, 2007-08 and 2010 National Drug Strategy Household Survey.

Articles

Key maternal and perinatal indicators, ACT and Australia, 2010

Louise Freebairn, Epidemiology, Population Health Division

The Epidemiology Section is responsible for data management, analysis and reporting of the ACT Maternal Perinatal Data Collection (MPDC). The MPDC includes data on all births, both live births and fetal deaths, of at least 20 weeks gestation that occur in the ACT. Data are collected by midwives at each hospital, birth centres and in the community for births to both ACT and non-ACT residents. The Epidemiology Section routinely reports on the characteristics of women who gave birth and the babies born in the ACT in the Health Series publications available at http://health.act.gov.au/health-services/population-health/epidemiology-branch/maternal-perinatal-health-publications. Data is also provided to the Australian Institute of Health and Welfare for inclusion in national reporting and as a National Minimum Data Set. Australia's Mothers and Babies reports are available at http://www.aihw.gov.au/mothers-and-babies.

Key points for the ACT include (see Table 5):

- The baby boom in Australia has peaked with the crude birth rate in 2010 decreasing slightly to 63.6 per 1,000 women compared with 64.9 in 2007. The number of births in Australia increased by only 0.1% from 2009. In 2010, 5,826 women gave birth to 5,946 babies in the ACT;
- The ACT was significantly less likely than Australia to have teenagers who gave birth during 2010;
- The percentage of women who smoked tobacco during pregnancy was significantly lower in the ACT. However, the percentage of Aboriginal and Torres Strait Islander women who reported smoking during pregnancy was five times higher (50.6%) compared with the overall ACT percentage;
- The average Body Mass Index (BMI) for women who gave birth in the ACT (25.6) was similar to the Australian average (26.0). In 2010, 26.8% of women who gave birth in the ACT were overweight and 19.3% were obese. However, these results should be interpreted with caution for the ACT as BMI was not recorded for 58% of women;
- Women were significantly more likely to have a spontaneous onset of labour and an instrumental birth in the ACT;
- The percentage of ACT resident women having a caesarean section birth increased from 26.9% in 2009 to 30.1% in 2010. The 2010 ACT caesarean section rate is similar to the Australian rate;
- The ACT had significantly fewer low-birthweight babies than the Australian average;
- The percentage of low birthweight babies born to Aboriginal and Torres Strait Islander ACT residents was 13.6%, slightly higher than the Australian percentage;
- The perinatal death rate was 15.3 per 1,000 births for all babies born in the ACT. This higher mortality rate for all babies born in the ACT reflects the large number of high-risk pregnancies referred into the ACT from surrounding NSW. The ACT resident perinatal death rate was 12.9 per 1,000 births.

New Women and Children's Hospital, ACT Health Directorate
Photo from ACT Health Directorate Communications and Marketing

Key maternal and perinatal indicators, ACT and Australia, 2010 *(Continued)*

Table 5: Summary measures of maternal and perinatal health, ACT residents and Australia, 2010

	ACT	Aus-tralia
	2010	2010
Maternal age		
Percentage of mothers who were teenagers (less than 20 years)	1.9	3.9*
Percentage of first-time mothers aged 35 years and over	16.4	n.a.
Aboriginal status		
Percentage of women who identified as Aboriginal or Torres Strait Islander	1.2	3.9*
Smoking		
Percentage of women smoking during pregnancy	10.5	13.5*
Percentage of ATSI women smoking during pregnancy	58.3	n.a.
Mothers Body Mass Index (BMI)		
Average BMI for women who gave birth	25.6	26.0
Mothers country of birth		
Percentage of women born in Australia	73.7	71.4*
Hospital sector		
Percentage of women who gave birth in public hospitals	67.0	70.1*
Multiple pregnancy		
Percentage of women who had a multiple pregnancy	1.6	1.6
Onset of labour		
Percentage of women who had a spontaneous onset of labour	63.3	56.0*
Induction of labour		
Percentage of women who had an induced onset of labour	20.3	25.4*
Instrumental vaginal birth		
Percentage of women who had an instrumental (forceps or vacuum extraction) birth (a)	12.9	12.0
Caesarean section		
Percentage of women who had a caesarean section (a)	30.1	31.6
Maternal postnatal stay		
Median length of hospital stay (days) for women who were discharged home	4.0	3.0
Preterm birth		
Percentage of all births that were less than 37 weeks gestation	7.0	8.3*
Low birthweight		
Percentage of liveborn babies weighing less than 2,500 grams at birth	5.4	6.2*
Babies born to Aboriginal and Torres Strait Islander women - percentage of liveborn babies weighing less than 2,500 grams at birth	13.6	12.0
Apgar scores		
Percentage of liveborn babies with an Apgar score of less than 7 at 5 minutes	1.5	1.6
Perinatal death rate		
Perinatal deaths per 1,000 births	12.9	n.a.

Sources: ACT Maternal and Perinatal Data Collection, 2010
Australia's Mothers and Babies, 2010, AIHW

Notes: (a) For multiple births, the method of birth of the first born baby was used.
*Significantly different at p<0.05.
n.a - Not available.

Area Highlight

The Epidemiology Section

Functions

The Epidemiology Section of the Health Improvement Branch in the Population Health Division, provides the latest available and most accurate information on the health of the ACT population. It also:

- undertakes projects to examine emerging public health issues;
- provides advice and assistance relating to research and evaluation; and
- conducts research related to key public health issues.

To support these functions, the section undertakes various surveys and holds (or has access to) a wide range of population health survey data sets on which to base its analyses.

Staff

Staff in the section come from a wide variety of work experiences and academic backgrounds.
Expertise includes graduate and post graduate qualifications in epidemiology and population health, statistics, psychology, education, microbiology, database management and programming, data entry and clerical review. The team is supported by an office manager.

Work Program

The section work program includes:

- The production of the biennial Chief Health Officer's Report;
- The production of regular reports on cancer, maternal and perinatal health, general health status and health related behaviour in the ACT;
- The conduct and commissioning of surveys on the health of specific population groups, for example children, young people and older people;
- The management and analysis of a range of population health data sets; and
- The provision of advice and analytical services to organisations involved in public health promotion and program work, both internal and external to the health portfolio.

Surveys

Surveys currently administered by the section include :

- ACT component of the Australian Secondary Student Alcohol and Drug Survey (3 yearly);
- ACT General Health Survey (continuous); and
- ACT Physical Activity and Nutrition Survey (3 yearly).

Other data sets held or accessible include:

- National Drug Strategy Household Survey (AIHW);
- National Health Surveys (ABS);
- ABS other health and social surveys;
- Census of Population and Housing (ABS);
- Maternal perinatal data collection (MPDC);

Back Row: (L to R) Mel Thompson, Leah Newman, Lindy Fritsche, Carol Kee, Elizabeth Chalker, Tracey Docherty, Mirka Smith, Rosalind Sexton.
Front Row: (L to R) Wayne Anderson, Cathy Baker, Louise Freebairn.

If you wish to contact the Epidemiology section you can email us on healthinfo@act.gov.au

Notifiable Disease Report

Number of notifications^ of selected notifiable conditions received in the Australian Capital Territory between 1 January and 31 December 2012.

		Number of cases notified, 2012					Number of cases notified on average, 2007 - 2011	
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	YTD*	Quarter 4	Full year
Respiratory Diseases	Influenza	11	132	482	40	665	*22.2*	*452.8*
Sexually Transmitted Diseases	Chlamydia	352	319	307	304	1282	*249.2*	*1051.8*
	Gonorrhoea	13	22	31	26	92	*13.6*	*61.0*
	Syphilis < 2 years	5	2	3	4	14	*3.7*	*9.4*
Vaccine Preventable Diseases	Pertussis	90	91	83	168	432	*91.0*	*426.6*
Gastrointestinal diseases	Campylobacteriosis	158	107	109	101	475	*131.2*	*463.6*
	Cryptosporidiosis	9	6	2	2	19	*4.0*	*30.2*
	Giardiasis	33	23	23	22	101	*19.2*	*101.8*
	Salmonellosis	87	62	30	61	240	*54.4*	*168.0*
Arboviruses	Barmah Forest Virus	1	0	0	1	2	*1*	*4.4*
	Dengue Fever	5	5	6	7	23	*3.0*	*11.4*
	Ross River Virus	2	4	0	3	9	*3.0*	*13.6*

*YTD = Year to date total. For the relevant year, quarter 1 refers to 1 January to 31 March, quarter 2 refers to 1 April to 30 June, quarter 3 refers to 1 July to 30 September, quarter 4 refers to 1 October to 31 December.
^Notifications are reported according to the earliest date recorded which may be onset date, specimen collection date or date of notification.
N.B. Data reported are the number of notifications received by ACT Health. Data are provisional and subject to change.
The number of notifications received for all notifiable diseases for the ACT is available at: http://www9.health.gov.au/cda/source/cda-index.cfm.
HIV data are reported annually by the Kirby Institute: http://www.kirby.unsw.edu.au/surveillance/Annual-Surveillance-Reports

Notes on notifications

Increased numbers of notifications of gastrointestinal and arboviral diseases are often observed in the fourth quarter (summer). In the fourth quarter of 2012 in the ACT, there were increases in the number of notifications of Salmonellosis and Ross River Virus compared to the previous quarter. There was also an increase in the number of pertussis notifications received.

Salmonellosis

In the last quarter of 2012, there were 61 cases of Salmonellosis notified in the ACT, similar to the average number of cases notified in the same quarter in the previous five years. During this quarter, no foodborne disease outbreaks were identified; cases were sporadic in nature.

Arboviral infections

The number of mosquito-borne infections (Barmah Forest Virus and Ross River Virus) notified in the ACT in the fourth quarter of 2012 was greater than the third quarter. However, for both diseases, the total number of cases notified in 2012 was less than the average number notified in the previous 5 years. In contrast, there were nearly double the number of dengue fever notifications in 2012 compared to in 2011, seven of which occurred in the fourth quarter. All cases in 2012 had travelled overseas prior to/during their illness.

Pertussis

In the fourth quarter 2012, 168 notifications were received. This is nearly twice the average number of notifications received in the fourth quarter in the previous five years. There were a number of ACT schools identified as having outbreaks in the fourth quarter and unlike in previous years, the highest number of cases was in the 10 to 19 year olds. Typically, the highest number of cases is in young children and in the 30 – 39 year age group. In total in 2012, there were 432 pertussis notifications in the ACT, which is similar to the average number of cases notified annually in the previous five years and lower than the 2011 total number of notifications of 829.

In the fourth quarter 2012, there were no notifications of meningococcal disease, measles, hepatitis A or listeriosis in the ACT.

Hot Topics

Death Cap Mushrooms

With the onset of cooler weather, and with recent rains, the environmental conditions are conducive to the growth of mushrooms in the ACT region. It is timely therefore to remind everyone of the dangers which some varieties of mushroom pose to human health. For more information, please refer to http://www.health.act.gov.au/publications-reports/fact-sheets/

The 2013 Southern Hemisphere Influenza Vaccine

The Australian Influenza Vaccine Committee has determined the composition of the 2013 Influenza Vaccination, taking into consideration surveillance data regarding the epidemiology, the antigenic characteristics of circulating influenza isolates in Australia and the recommendations from the World Health Organization's technical consultation in September 2012.[1] The recommendations for the 2013 Seasonal Influenza vaccination are for a trivalent vaccine containing the following strains:

- A/California/7/2009 (H1N1)pdm09-like virus;
- A/Victoria/361/2011 (H3N2)-like virus; and
- B/Wisconsin/1/2010-like virus.

The 2013 vaccination contains two new strains that were not present in the 2012 vaccine. These new strains are the A/Victoria/361/2011 (H3N2)-like virus and the B/Wisconsin/1/2010-like virus.[2]

Current United States data show that the circulating 2013 seasonal influenza isolates have the following antigenic characterization: 100% of 2009 H1N1 virus isolates tested were characterized as A/California/7/2009-like, 99.7% of the H3N2 influenza viruses tested have been characterized as A/Victoria/361/2011 (H3N2)-like, and 70.8% of the influenza B viruses tested so far this season have been characterized as B/Wisconsin/1/2010-like. Overall 90.28% of total isolates antigenically characterized show susceptibility to the 2013 Seasonal Influenza vaccination.[3]

The vaccine is free to people 65 years of age and over, pregnant women, Aboriginal and Torres Straight Islander persons aged over 15 years, pregnant women, residents of long-term care facilities and any person over 6 months of age with a chronic condition that predisposes them to influenza. It is important to receive the Influenza vaccine, even if previously vaccinated as immunity decreases over time and vaccination is needed each year to ensure continued protection against Influenza; and because each year the vaccine may protect against new strains of Influenza.

1. AIVC recommendations for the composition of influenza vaccine for Australia in 2013. http://www.tga.gov.au/about/committees-aivc.htm accessed February 2013
2. WHO Questions and Answers: Recommended composition of influenza virus vaccines for use in the southern hemisphere 2013 influenza season. http://www.who.int/influenza/vaccines/virus/recommendations/201209_qanda_recommendation.pdf accessed February 2013
3. Fluview: A Weekly Influenza Surveillance Report prepared by the Influenza division. 2012-2013 Influenza Season Week 5 ending February 2, 2013 http://www.cdc.gov/flu/weekly/#S1 accessed February 2013