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Foreword

Cancer remains the single biggest cause of premature death in our community, which makes cancer control an important priority for NSW. The Cancer Institute NSW was established in 2003 to lessen the impact of cancer on individuals and the NSW health system. Driven by the objectives of the NSW Cancer Plan 2011–15, the Institute continuously works to:

• reduce the incidence of cancer
• increase the survival rate of people with cancer
• improve the quality of life of people living with cancer
• provide a source of expertise on cancer control for the government, health service providers, medical researchers and the general community.

The Reporting for Better Cancer Outcomes (RBCO) Statewide report provides a snapshot of current performance and trends in cancer prevention, screening, treatment and clinical trials at a state level, and this year sees the inclusion of additional indicators, providing further insight into cancer care in NSW.

This report links together data that are already available to us. We are using the intelligence we have today to improve cancer outcomes for tomorrow.

The data show us that progress has been made. As health professionals and institutions have data made available to them, they are responding by improving the way they deliver care across NSW.

However, there is still work to be done as wide variations remain in key areas across the state. We need to work together to understand and identify solutions to decrease these variations and improve overall cancer outcomes.

The Institute will continue to strengthen its collaborations with LHDs, cancer organisations, the community, the NSW Health pillars and the Ministry of Health to identify opportunities and add value to each of our endeavours as we work to improve health outcomes across the state.

Professor David Currow
Chief Cancer Officer and CEO, Cancer Institute NSW
### Population & cancer statistics

**NSW population**

7.41 million

<table>
<thead>
<tr>
<th>LHD</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Coast</td>
<td>328,110</td>
</tr>
<tr>
<td>Far West</td>
<td>30,967</td>
</tr>
<tr>
<td>Hunter New England</td>
<td>895,127</td>
</tr>
<tr>
<td>Illawarra Shoalhaven</td>
<td>391,823</td>
</tr>
<tr>
<td>Mid North Coast</td>
<td>210,089</td>
</tr>
<tr>
<td>Murrumbidgee</td>
<td>289,161</td>
</tr>
<tr>
<td>Nepean Blue Mountains</td>
<td>355,865</td>
</tr>
<tr>
<td>Northern NSW</td>
<td>291,516</td>
</tr>
<tr>
<td>Northern Sydney</td>
<td>878,245</td>
</tr>
<tr>
<td>South Eastern Sydney</td>
<td>871,509</td>
</tr>
<tr>
<td>South Western Sydney</td>
<td>904,886</td>
</tr>
<tr>
<td>Southern NSW</td>
<td>200,066</td>
</tr>
<tr>
<td>Sydney</td>
<td>601,340</td>
</tr>
<tr>
<td>Western NSW</td>
<td>276,099</td>
</tr>
<tr>
<td>Western Sydney</td>
<td>885,595</td>
</tr>
</tbody>
</table>

**Total NSW cancer mortality**

<table>
<thead>
<tr>
<th>Year</th>
<th>Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>13,698</td>
</tr>
<tr>
<td>2016</td>
<td>15,502</td>
</tr>
<tr>
<td>2021</td>
<td>16,774</td>
</tr>
</tbody>
</table>

**Total NSW cancer incidence**

<table>
<thead>
<tr>
<th>Year</th>
<th>Incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>39,484</td>
</tr>
<tr>
<td>2016</td>
<td>46,492</td>
</tr>
<tr>
<td>2021</td>
<td>53,353</td>
</tr>
</tbody>
</table>

**References:**

1. 2013 population data sourced from Epidemiology and Surveillance Branch, NSW Ministry of Health (latest available data).
Regional variation in cancer incidence and mortality

This table shows the Local Health Districts that have significantly higher or lower cancer incidence and mortality rates when compared with NSW as a whole, for the reporting period 2006–2010 for incidence and 2004–2008 for mortality.

<table>
<thead>
<tr>
<th>Clinical Groups</th>
<th>Central Coast</th>
<th>Far West NSW</th>
<th>Hunter New England</th>
<th>Illawarra Shoalhaven</th>
<th>Mid North Coast</th>
<th>Murrumbidgee</th>
<th>Nepean Blue Mountains</th>
<th>Northern NSW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidence (I)/Mortality (M)</td>
<td>I  M</td>
<td>I  M</td>
<td>I  M</td>
<td>I  M</td>
<td>I  M</td>
<td>I  M</td>
<td>I  M</td>
<td>I  M</td>
</tr>
<tr>
<td>Bowel</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
</tr>
<tr>
<td>Breast*</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
</tr>
<tr>
<td>Cancer unknown primary</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
</tr>
<tr>
<td>Gynaecological*</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
</tr>
<tr>
<td>Head and Neck</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
</tr>
<tr>
<td>Lymphohaematopoietic**</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
</tr>
<tr>
<td>Neurological</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
</tr>
<tr>
<td>Skin</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
</tr>
<tr>
<td>Thyroid &amp; other endocrine</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
</tr>
<tr>
<td>Upper gastrointestinal</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
</tr>
<tr>
<td>Urogenital</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
</tr>
</tbody>
</table>

Legend:
- **High**
- **Low**
- **< 20 observations**
- **No significant difference**
The analyses for breast and gynaecological clinical groups were based on the female population only.

Lymphohaematopoietic clinical group now includes ‘Myelodysplasia and other lymphoid haematopoietic’. This group was shown separately in previous reports.

Notes:
2. The indirect method of age-standardisation of incidence and mortality rates was used to compare LHDs against NSW and to determine their significance.
3. The following clinical groups were excluded from the above analysis: eye; and bone and connective tissue. The data for these groups is small and unreliable for comparison at the LHD level.
4. Albury residents were included in Murrumbidgee LHD.
Cancer prevention

Tobacco control

Introduction

Smoking remains the leading cause of preventable death in NSW, accounting for 5,460 deaths and 46,335 hospitalisations each year.

Reporting the proportion of adults that smoke provides the NSW cancer control sector with the necessary evidence to continue supporting tobacco control efforts. Quitting smoking at any time results in substantial health gains, including improving the prognosis of cancer patients.

Brief simple advice about quitting smoking increases the likelihood that someone who smokes will successfully quit. A brief advice intervention can double the chances of successfully quitting.

The NSW Tobacco Strategy 2012–2017 includes a focus on reducing smoking rates in Aboriginal and culturally and linguistically diverse (CALD) communities where rates are well above the state average.

Aboriginal women, or women having an Aboriginal baby, can access culturally appropriate smoking cessation support through the statewide Quit for New Life Program.
Smoking prevalence in adults* in 2005 and 2014, by LHD (ranked)

* Persons aged 16 years and over.

Notes:
1. Differences between 2014 and 2005 adult smoking rates should not be interpreted as a change in trend. Data between years may be subject to random variation.
2. Data Source: NSW Population Health Survey (SAPHaRI), Centre for Epidemiology and Evidence, NSW Ministry of Health.
3. Actual estimates are shown in this graph.
Smoking prevalence in adults* trend, NSW, 2005—2014**

* Persons aged 16 years and over.

** Mobile phone numbers have been included in the survey sample since 2012. Any significant differences observed between 2011 and 2012 estimates should be reported with caution, as they may reflect both real and survey design changes.

Notes:
1. Data Source: NSW Population Health Survey (SAPHaRI), Centre for Epidemiology and Evidence, NSW Ministry of Health.
2. Actual estimates are shown in this graph.
Proportion of women who smoked during pregnancy in 2009 and 2013, by LHD (ranked)

Notes:
1. Differences between 2013 and 2009 adult smoking rates should not be interpreted as a change in trend. Data between years may be subject to random variation.
2. Data Source: NSW Population Health Survey (SAPHaRI), Centre for Epidemiology and Evidence, NSW Ministry of Health.
3. Actual estimates are shown in this graph.
4. If proportion=0, the result is not applicable as data is missing.
Proportion of women who smoked during pregnancy trends by population type, NSW, 2009—2013*

* Mobile phone numbers have been included in the survey sample since 2012. Any significant differences observed between 2011 and 2012 estimates should be reported with caution, as they may reflect both real and survey design changes.

Notes:
1. Data Source: NSW Population Health Survey (SAPHaRI), Centre for Epidemiology and Evidence, NSW Ministry of Health.
2. Actual estimates are shown in this graph.
Proportion of Aboriginal women who smoked during pregnancy in 2009 and 2013, by LHD (ranked)

Notes:
1. Differences between 2013 and 2009 adult smoking rates should not be interpreted as a change in trend. Data between years may be subject to random variation.
2. Data Source: NSW Population Health Survey (SAPHarI), Centre for Epidemiology and Evidence, NSW Ministry of Health.
3. Actual estimates are shown in this graph.
4. If proportion=0, the result is not applicable as data is missing.
Proportion of non-Aboriginal women who smoked during pregnancy in 2009 and 2013, by LHD (ranked)

Notes:
1. Differences between 2013 and 2009 adult smoking rates should not be interpreted as a change in trend. Data between years may be subject to random variation.
2. Data Source: NSW Population Health Survey (SAPHarI), Centre for Epidemiology and Evidence, NSW Ministry of Health.
3. Actual estimates are shown in this graph.
4. If proportion=0, the result is not applicable as data is missing.
Breast screening

Introduction

In NSW, breast cancer accounted for 28 per cent of all new cancer cases in women, and 15.7 per cent of all cancer mortality in women in 2010. This makes it the most common cancer in women, and the second biggest cause of cancer death in women across NSW.

Mammography screening is proven to reduce mortality and morbidity attributable to breast cancer, by detecting early-stage breast cancer.

BreastScreen NSW provides a two-yearly mammographic screening program to women in NSW, and specifically targets those in the 50–74 year age group. Women aged 40–49 and 75 years and over can also access the screening program.

The BreastScreen Australia National Accreditation Standards specifies a national biennial breast screening participation rate target of 70 per cent for women aged 50–69. This rate is yet to be achieved by any jurisdiction in Australia.

Reporting BreastScreen NSW participation rates facilitates effective management of the Program, including strategic planning and evaluation in order to improve early detection of breast cancer in women, and to increase treatment options and improve the survival rate for those diagnosed.

Participation rates are defined as the proportion of women who have attended within the recommended screening interval of two years. This indicates that approximately half of NSW women in the target age group are screened (50.9%). However, this figure does not reflect the level of interaction NSW women have had with the program. A new indicator has been included in this year’s report showing the proportion of women who have screened with BreastScreen NSW at some point in their life. This measure shows that the majority of women have screened with BreastScreen NSW, and indicates that the major challenge faced by the program is not in the recruitment of women per se, but in ensuring that women screen regularly and on time.

These data currently do not account for women who choose to have bilateral mammography privately when they have no symptoms, nor other investigations done at that time. Analysis commissioned by the Cancer Institute NSW suggests that up to 8 per cent of women aged 50-69 in NSW undertake regular mammographic screening outside the BreastScreen NSW program.

Notes:
- LGA boundaries are based on the 2013 edition of the Australian Statistical Geography Standard (ASGS) produced by the Australian Bureau of Statistics (ABS).
- Murrumbidgee specific note: figures for Murrumbidgee LHD include Albury LGA.
Notes:

1. Differences between 2013—2014 and 2010—2011 participation rates should not be interpreted as a change in trend. Data between years may be subject to random variation.
2. Data source: BreastScreen NSW (population data are sourced from Epidemiology and Surveillance Branch, NSW Ministry of Health).
3. The participation rates presented here are expected to differ from figures published by the Australian Institute of Health and Welfare (AIHW) for the same period, due to variations in the population projections used in the denominator.
4. The participation rates presented here are based on the number of women who live in NSW and are screened in NSW. Interstate clients have been excluded.

Notes:
1. Differences between 2013–2014 and 2010–2011 participation rates should not be interpreted as a change in trend. Data between years may be subject to random variation.
2. Data source: BreastScreen NSW (population data are sourced from Epidemiology and Surveillance Branch, NSW Ministry of Health).
3. The participation rates presented here are based on the number of women who live in NSW and are screened in NSW. Interstate clients have been excluded.
4. Culturally and linguistically diverse population calculation methodology has been revised for this year’s report. Participation rates for all years have been recalculated using the new methodology. Participation rates shown here cannot be directly compared to the 2014 RBCO report.
Biennial breast screening participation rate for NSW Aboriginal women aged 50–69 in 2010—2011 and 2013—2014, by LHD (ranked)

Notes:
1. Differences between 2013—2014 and 2010—2011 participation rates should not be interpreted as a change in trend. Data between years may be subject to random variation.
2. Data source: BreastScreen NSW (population data are sourced from Epidemiology and Surveillance Branch, NSW Ministry of Health).
3. The participation rates presented here are based on the number of women who live in NSW and are screened in NSW. Interstate clients have been excluded.
4. Aboriginal population calculation methodology has been revised for this year’s report. Participation rates for all years have been recalculated using the new methodology. Participation rates shown here cannot be directly compared to the 2014 RBCO report.
Biennial breast screening participation rate trends for NSW women aged 50–69 by population type, 2010–2014

<table>
<thead>
<tr>
<th>Local Health District</th>
<th>Population type: women</th>
<th>2010-2011</th>
<th>2011-2012</th>
<th>2012-2013</th>
<th>2013-2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rate</td>
<td>N</td>
<td>Rate</td>
<td>N</td>
<td>Rate</td>
</tr>
<tr>
<td>NSW</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>51.0</td>
<td>811,913</td>
<td>51.0</td>
<td>833,378</td>
<td>51.7</td>
</tr>
<tr>
<td>Aboriginal</td>
<td>30.7</td>
<td>11,839</td>
<td>32.5</td>
<td>12,158</td>
<td>34.5</td>
</tr>
<tr>
<td>Culturally and linguistically diverse</td>
<td>43.5</td>
<td>177,579</td>
<td>43.3</td>
<td>182,575</td>
<td>44.3</td>
</tr>
</tbody>
</table>

N= Number of women in population.

Notes:
1. Biennial data presented here is based on calendar years.
2. Data source: BreastScreen NSW (total population data are sourced from Epidemiology and Surveillance Branch, NSW Ministry of Health; Aboriginal and culturally and linguistically diverse population data is sourced from Australian Bureau of Statistics (ABS)).
3. The participation rates presented here are expected to differ from figures published by the Australian Institute of Health and Welfare (AIHW) for the same period, due to variations in the population projections used in the denominator.
4. The participation rates presented here are based on the number of women who live in NSW and are screened in NSW. Interstate clients have been excluded.
5. Aboriginal and culturally and linguistically diverse population calculation methodology has been revised for this year’s report. Participation rates for all years have been recalculated using the new methodology. Participation rates shown here cannot be directly compared to the 2014 RBCCD report.
Proportion of NSW women aged 50—69 never screened by BreastScreen NSW, as at 31 December 2014

Note:
1. Data source: BreastScreen NSW.
2. LHD 12 - There may be other factors influencing results; including women residing in this LHD screening out of state.
Cervical screening

Introduction

Cervical screening is proven to reduce the incidence, morbidity and mortality attributable to cervical cancer by detecting pre-cancerous changes that can be monitored and treated before cancer develops.

The NSW Cervical Screening Program (CSP) supports the National Cervical Screening Program in promoting two-yearly screening, using a Pap test, for women aged 18 to 69.

Reporting and monitoring cervical screening participation rates demonstrates the effectiveness of the NSW CSP in achieving its aims to continue to reduce the incidence, morbidity and mortality from cervical cancer. It also allows strategic planning in marketing and recruitment to promote the Program to ensure these aims are maximised.

There has been a meaningful reduction in high-grade changes in younger women following the introduction of immunisation for human papillomavirus (HPV).

The National Cervical Screening Program is currently under review. Proposed recommendations include a change to the type of test used, the screening interval and the target age group. Changes will be implemented from 1 May 2017. Therefore, it is important that women and providers continue to screen in accordance with current guidelines to ensure the Program aims continue to be achieved.

Notes:
- LGA boundaries are based on the 2013 edition of the Australian Statistical Geography Standard (ASGS) produced by the Australian Bureau of Statistics (ABS).
- Murrumbidgee specific note: figures for Murrumbidgee LHD include Albury LGA.

Notes:
1. Differences between 2013-2014 and 2010-2011 participation rates should not be interpreted as a change in trend. Data between years may be subject to random variation.
2. Data source: NSW Pap Test Register (population data are sourced from Epidemiology and Surveillance Branch, NSW Ministry of Health and adjusted for hysterectomies).
4. NSW includes de-identified tests. However, de-identified tests are excluded from finer geographical breakdowns as this information is not available.
Biennial cervical screening participation rate trends for NSW women by age group, 2010—2014

Notes:
1. Biennial data presented here is based on calendar years.
2. Data source: NSW Pap Test Register (population data are sourced from Epidemiology and Surveillance Branch, NSW Ministry of Health and adjusted for hysterectomies).
4. NSW includes de-identified tests. However, de-identified tests are excluded from finer geographical breakdowns as this information is not available.
Histologically-reported high-grade intraepithelial abnormalities detected in screened NSW women by age group, 2011—2014

Notes:
1. Data source: NSW Pap Test Register.
2. High-grade histology includes: CIN/Dysplasia not graded; high-grade intraepithelial abnormality +/- HPV; microinvasive cancer; and cervical cancer.
3. NSW includes de-identified tests. However, de-identified tests are excluded from finer geographical breakdowns as this information is not available.
Bowel screening

Introduction

Bowel cancer screening by faecal occult blood test (FOBT) is proven to reduce the incidence, morbidity and mortality attributable to bowel cancer by detecting pre-cancerous changes or early-stage disease that can be treated effectively.

The National Health and Medical Research Council recommend screening by FOBT every two years from the age of 50. In 2015, the National Bowel Cancer Screening Program (NBCSP) offered free FOBTs at 50, 55, 60, 65, 70 and 74 years of age. Biennial bowel screening for people aged 50–74 will be fully implemented by the NBCSP by 2020.

Monitoring and reporting bowel cancer screening participation rates demonstrates the effectiveness of the NBCSP in achieving its aims to reduce the incidence, morbidity and mortality from bowel cancer. It also allows for the effective development of strategic marketing and recruitment activities to promote the Program and ensure its aims are maximised.

Notes:

• LGA boundaries are based on the 2011 edition of the Australian Statistical Geography Standard (ASGS) produced by the Australian Bureau of Statistics (ABS).
• Murrumbidgee specific note: Figures for Murrumbidgee LHD include Albury LGA.

Disclaimer:
Formal publication and reporting of National Bowel Cancer Screening Program (NBSCP) data is undertaken by the Australian Institute of Health and Welfare on behalf of the Department of Health. NBSCP data included in this report provided by the Department of Health is not part of the formal publication and reporting process for NBCSP. Prior agreement in writing must be sought from the Department of Health if you wish to publish this data.
Annual bowel screening participation rate* in 2011 and 2014, by LHD (ranked)

* The participation rate is the proportion of the eligible population invited to the National Bowel Cancer Screening Program, who returned a completed faecal occult blood test (FOBT).

Note:
1. Differences between 2014 and 2011 participation rates should not be interpreted as a change in trend. Data between years may be subject to random variation.
Annual bowel screening participation rate* trend, NSW, 2011—2014

* The participation rate is the proportion of the eligible population invited to the National Bowel Cancer Screening Program, who returned a completed faecal occult blood test (FOBT).
Cancer treatment and service delivery

Surgical cancer treatment variation

Introduction

There is international evidence of volume–outcome relationships for many areas of health service delivery. In cancer, this includes surgery, radiotherapy and chemotherapy.

While NSW has made progress in the consolidation of various surgical procedures where such a relationship is known to exist, many services performing these procedures are still below the minimum recommended caseloads, leading to avoidable mortality.

The more complex the procedure, the greater the influence an effective team has in delivering optimal outcomes. For individual surgeons currently in lower-volume centres, practical examples of cross-credentialing are in place, ensuring that they can operate regularly with higher-volume teams.

We are continuing to work system-wide to facilitate and support consolidation of complex procedures, resulting in fewer people being treated in lower-volume centres across the state. The program of work includes clinician-led development of referral and treatment pathways.

In contrast to complex procedures, in NSW there are some higher-volume procedures such as colon cancer resection where there is little variation in key quality parameters. For these procedures, we have mapped the place of residence and the place of treatment for patients across the state. In many instances, while patients can receive world’s best care locally, they are bypassing these nearby centres. Strategic management of patient flow can optimise the caseloads of higher-volume procedures conducted locally, thus allowing patients to undergo surgery closer to home.

We are now exploring variation in service delivery in breast, ovarian and lung cancer. The breast cancer data have already been shared with LHDs over the last two years. We can substantially improve cancer survival by strategically planning care that is appropriate for individual cancers. NSW has the ability to improve cancer outcomes substantially by applying current knowledge.

Notes:

- Public Hospitals: exclude nursing homes, community, psychiatric, multi-purpose services, hospices, rehabilitation and ungrouped non-acute type hospitals.
- Data source: all surgical volume indicators are sourced from the Admitted Patient Data Collection within the Admitted Patient, Emergency Department Attendance and Deaths Register (APEDDR) from the Epidemiology and Surveillance Branch, NSW Ministry of Health.
- The Cancer Institute NSW reserves the right to monitor, evaluate and amend annual minimum suggested hospital caseloads as part of our ongoing analysis of system performance in cancer services in NSW.
Lung cancer resections in NSW public hospitals in 2011 and 2014

2014 86.9% of resections in hospitals >= 18
2011 84.3% of resections in hospitals >= 18

* Recommendation based on hospital level distribution of lung cancer resection in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
Lung cancer resections in NSW private hospitals in 2011 and 2014

2014 76.5% of resections in hospitals >= 18
2011 73.0% of resections in hospitals >= 18

* Recommendation based on hospital level distribution of lung cancer resection in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
2. Private hospital data in the APEDDR was incomplete in the last quarter of 2014 for a small number of hospitals.
Breast cancer resections in NSW public hospitals in 2011 and 2014

- 2014 91.9% of resections in hospitals >= 36
- 2011 89.5% of resections in hospitals >= 36

* Recommendation based on analysis of unplanned readmission in NSW data for breast cancer resection.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
Breast cancer resections in NSW private hospitals in 2011 and 2014

2014 93.6% of resections in hospitals >= 36
2011 91.2% of resections in hospitals >= 36

Recommendation based on analysis of unplanned readmission in NSW data for breast cancer resection.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
2. Private hospital data in the APEDDR was incomplete in the last quarter of 2014 for a small number of hospitals.
Mastectomy as a proportion of breast cancer resections in NSW public hospitals (ranked), 2011–2014*

* Women undergoing a first resection for primary invasive breast cancer. The total number of breast resections reported here is lower than the breast surgical volume report, because it is first resections only.
Sentinel lymph node biopsy (SLNB) and axillary node dissection (AND) as a proportion of breast cancer resections in NSW public hospitals, 2011–2014

* Women undergoing a first resection for primary invasive breast cancer. Axillary node dissections in the resection episode and subsequent episodes within three months of resection are included. The total number of breast resections reported here is lower than the breast surgical volume report, because it is first resections only.

Note:
1. LHD’s with small numbers of total breast resections have been removed, due to large variation in annual proportions.
Ovarian cancer resections in NSW public hospitals in 2011 and 2014

2014 84.0% of resections in hospitals >= 18
2011 93.9% of resections in hospitals >= 18

* Recommendation based on analysis of NSW data & hospital level distribution of complex ovarian cancer surgery in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
2. The minimum suggested caseload for complex ovarian surgery was previously reported as 12 and has been recently revised to 18.
Ovarian cancer resections in NSW private hospitals in 2011 and 2014

2014 **69.5%** of resections in hospitals >= 18
2011 **68.0%** of resections in hospitals >= 18

* Recommendation based on analysis of NSW data & hospital level distribution of complex ovarian cancer surgery in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
2. Private hospital data in the APEDDR was incomplete in the last quarter of 2014 for a small number of hospitals.
3. The minimum suggested caseload for complex ovarian surgery was previously reported as 12 and has been recently revised to 18.
Gastric cancer resections in NSW public hospitals in 2011 and 2014

2014 78.4% of resections in hospitals >= 6
2011 67.6% of resections in hospitals >= 6

* Recommendation based on international studies & hospital level distribution of gastrectomy in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
Gastric cancer resections in NSW private hospitals in 2011 and 2014

2014 32.5% of resections in hospitals >= 6
2011 57.1% of resections in hospitals >= 6

* Recommendation based on international studies & hospital level distribution of gastrectomy in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
2. Private hospital data in the APEDDR was incomplete in the last quarter of 2014 for a small number of hospitals.
Oesophageal cancer resections in NSW public hospitals in 2011 and 2014

2014 95.6% of resections in hospitals >= 6
2011 74.7% of resections in hospitals >= 6

* Recommendation based on international studies, analysis of NSW data & hospital level distribution of oesophagectomies in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
Oesophageal cancer resections in NSW private hospitals in 2011 and 2014

2014 75.6% of resections in hospitals >= 6
2011 75.6% of resections in hospitals >= 6

* Recommendation based on international studies, analysis of NSW data & hospital level distribution of oesophagectomies in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
2. Private hospital data in the APEDDR was incomplete in the last quarter of 2014 for a small number of hospitals.
Pancreatic cancer resections in NSW public hospitals in 2011 and 2014

- 2014: 84.7% of resections in hospitals >= 6
- 2011: 79.7% of resections in hospitals >= 6

* Recommendation based on international studies & hospital level distribution of pancreatetectomies in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
Pancreatic cancer resections in NSW private hospitals in 2011 and 2014

2014 83.3% of resections in hospitals >= 6
2011 71.9% of resections in hospitals >= 6

* Recommendation based on international studies & hospital level distribution of pancreatectomies in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
2. Private hospital data in the APEDDR was incomplete in the last quarter of 2014 for a small number of hospitals.
Liver cancer resections in NSW public hospitals in 2011 and 2014

2014 82.0% of resections in hospitals >= 12
2011 88.1% of resections in hospitals >= 12

* Recommendation based on hospital level distribution of liver cancer resection in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
Liver cancer resections in NSW private hospitals in 2011 and 2014

2014 81.1% of resections in hospitals >= 12
2011 87.7% of resections in hospitals >= 12

* Recommendation based on hospital level distribution of liver cancer resection in NSW.
Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
2. Private hospital data in the APEDDR was incomplete in the last quarter of 2014 for a small number of hospitals.
Colon cancer resections in NSW public hospitals in 2011 and 2014

2014 96.4% of resections in hospitals >= 12
2011 96.0% of resections in hospitals >= 12

* Recommendation based on hospital level distribution of colon cancer resection in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
Colon cancer resections in NSW private hospitals in 2011 and 2014

2014 91.3% of resections in hospitals >= 12
2011 94.4% of resections in hospitals >= 12

* Recommendation based on hospital level distribution of colon cancer resection in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
2. Private hospital data in the APEDDR was incomplete in the last quarter of 2014 for a small number of hospitals.
Rectal cancer resections in NSW public hospitals in 2011 and 2014

2014  83.4% of resections in hospitals >= 12
2011  86.2% of resections in hospitals >= 12

* Recommendation based on hospital level distribution of rectal cancer resection in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
Rectal cancer resections in NSW private hospitals in 2011 and 2014

- **2014**: 83.3% of resections in hospitals >= 12
- **2011**: 84.0% of resections in hospitals >= 12

*Recommendation based on hospital level distribution of rectal cancer resection in NSW.

**Note:**
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
2. Private hospital data in the APEDDR was incomplete in the last quarter of 2014 for a small number of hospitals.
Neurological cancer resections in NSW public hospitals in 2011 and 2014

2014 97.9% of resections in hospitals >= 12
2011 94.7% of resections in hospitals >= 12

* Recommendation based on hospital level distribution of neurological cancer resection in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
Neurological cancer resections in NSW private hospitals in 2011 and 2014

2014 93.5% of resections in hospitals >= 12
2011 89.3% of resections in hospitals >= 12

* Recommendation based on hospital level distribution of neurological cancer resection in NSW.

Note:
1. Differences between 2014 and 2011 resections should not be interpreted as a trend change. Data between years may be subject to random variation.
2. Private hospital data in the APEDDR was incomplete in the last quarter of 2014 for a small number of hospitals.
Research: Clinical trials

Introduction

Monitoring the clinical trial operational environment including the proportional participation of patients in cancer clinical trials relative to incidence enables us to:

- detect trends within an LHD/Clinical Trial Unit with regards to patient population participation by clinical group
- identify under-represented clinical groups
- identify barriers in the timely approval of clinical trials
- categorise the number of recruiting industry and high quality non-industry sponsored trials across the state.

Using this information, LHDs are encouraged to embrace cancer clinical trials as an important part of quality cancer care. By reporting across tumour and trial categories, it will enable LHDs to strategically assess the availability of trials for their patient population and better plan clinical trial workload.

Notes:

- All clinical trial activity data is based on data self reported by clinical trial units/LHDs in receipt of any proportion of CINSW cancer trial staff grant funding (may not be 100% LHD/unit level trial activity).
- Activity data reported includes interventional cancer clinical trials only. Trials that target non-cancer populations or non-malignant haematology are excluded. Prospective observational studies and sub-studies are also excluded.
- A trial is considered recruiting if it was open at any time within the report period.
- Unique recruiting trials are reported for an LHD unless otherwise stated – i.e. a trial that may be open at more than one unit within an LHD is counted once for reporting purposes at that level (the same applies at a NSW level if conducted at >1 LHD).
- Our activity data currently comes from Local Health Districts that are in receipt in any proportion of CINSW Clinical Trial Program funding. Far West LHD has never been in receipt of any Program funding and as far as we are aware they have no established Clinical Trial Unit.
- Data for previous years is revised upon receipt of subsequent activity reports. When key dates or trial details are updated this can result in revised figures for previous years.
Ratio of newly-enrolled participants to cancer incidence (per 100 cases), by LHD (ranked), 2014*

* The reporting period for clinical trial data is 2014, and 2010 for cancer incidence (latest available data).

Notes:
1. LHD data excludes two private institutions (external to LHD structure), St. Vincent’s Health Network and the Sydney Children’s Hospitals Network. However, these institutions are included in the NSW figure.
### Ratio of newly-enrolled participants to cancer incidence (per 100 cases), by clinical group (ranked), NSW, 2014

![Bar chart showing the ratio of newly-enrolled participants to cancer incidence for various clinical groups in NSW, 2014.](chart.png)

<table>
<thead>
<tr>
<th>Clinical group</th>
<th>No. of trials</th>
<th>No. of trials with nil enrolments</th>
<th>No. of trials with enrolments</th>
<th>% of trials with enrolments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowel</td>
<td>16</td>
<td>7</td>
<td>9</td>
<td>56.3</td>
</tr>
<tr>
<td>Breast</td>
<td>34</td>
<td>14</td>
<td>20</td>
<td>58.8</td>
</tr>
<tr>
<td>Cancer unknown primary</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Gynaecological</td>
<td>16</td>
<td>3</td>
<td>13</td>
<td>81.3</td>
</tr>
<tr>
<td>Head and neck</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>100.0</td>
</tr>
<tr>
<td>Lymphoepitheliocytic</td>
<td>63</td>
<td>17</td>
<td>46</td>
<td>73.0</td>
</tr>
<tr>
<td>Neurological</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>100.0</td>
</tr>
<tr>
<td>Respiratory</td>
<td>32</td>
<td>9</td>
<td>23</td>
<td>71.9</td>
</tr>
<tr>
<td>Skin</td>
<td>21</td>
<td>4</td>
<td>17</td>
<td>81.0</td>
</tr>
<tr>
<td>Upper gastrointestinal</td>
<td>18</td>
<td>5</td>
<td>13</td>
<td>72.2</td>
</tr>
<tr>
<td>Urogenital</td>
<td>26</td>
<td>5</td>
<td>21</td>
<td>80.8</td>
</tr>
<tr>
<td><strong>All cancers</strong></td>
<td><strong>294</strong></td>
<td><strong>89</strong></td>
<td><strong>205</strong></td>
<td><strong>69.7</strong></td>
</tr>
</tbody>
</table>

N= Number of cancer cases (incidence).
* The reporting period for clinical trial data is 2014, and 2010 for cancer incidence (latest available data).

Notes:
1. LHD data excludes two private institutions (external to LHD structure), St. Vincent’s Health Network and the Sydney Children’s Hospitals Network. However, these institutions are included in the NSW figure.
2. The top ten clinical groups (plus neurological) have been presented, based on ranking 2010 cancer incidence data. All non-reported clinical groups have also been included in “All cancers”.
3. Trials were counted as having nil recruitment if there were no new enrolments at any site within the NSW for the reporting period.
Number of recruiting cancer clinical trials by trial category, by LHD (ranked), 2014

Notes:
1. LHD data excludes two private institutions (external to LHD structure) and the Sydney Children’s Hospitals Network.
2. Portfolio trials are high quality, industry independent trials that are compliant with defined principles and criteria. Cancer Institute NSW-funded cancer trial staff grant resources can only be directed towards portfolio-compliant trials.
Median calendar days from Research Governance Office submission to authorisation of clinical trials, by LHD (ranked), in 2013 and 2014

* Median is based on less than 5 clinical trials receiving authorisation in 2014. Median estimates may be unreliable.

Note:
1. Differences between 2014 and 2013 median calendar days should not be interpreted as a change in trend. Data between years may be subject to random variation.
2. LHD09 and LHD12’s median is based on less than 5 clinical trials receiving authorisation in 2013. LHD15 had no trials authorised in 2013.