

# EVALUATION OF PAP TESTS COLLECTED BY NURSES IN VICTORIA DURING 2011

Victorian Cervical Cytology Registry



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## 1. Number of Pap tests collected by nurses

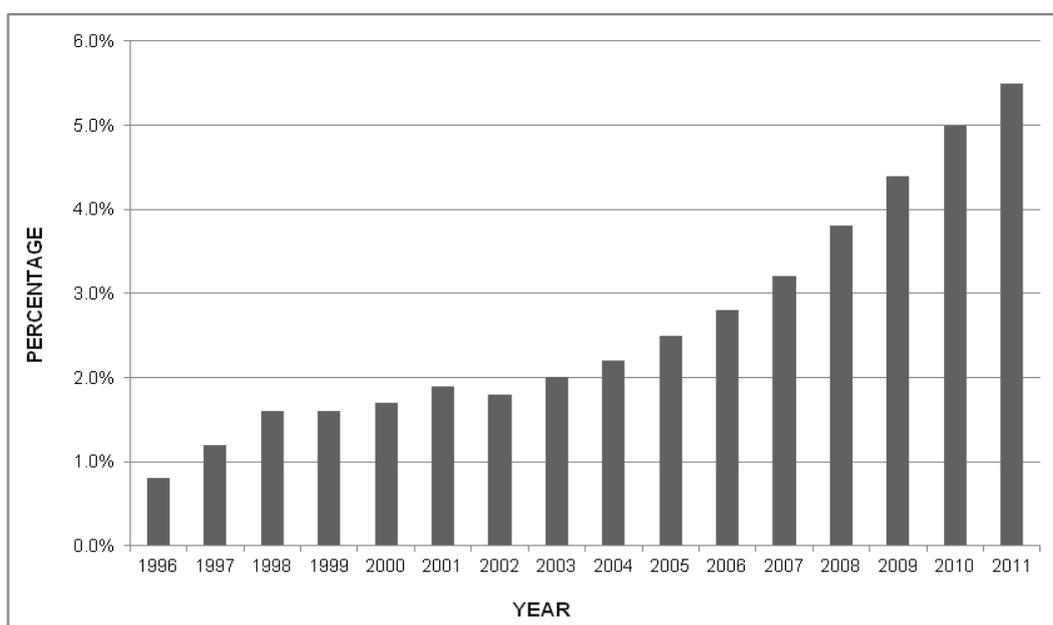
As reported to the Victorian Cervical Cytology Registry (VCCR) a total of 31,613 Pap tests were collected by nurses during 2011 (with 31,258 being from women with a cervix). This is out of a total of 572,108 Victorian Pap tests for 2011 (with 562,799 being from women with a cervix). The Registry is only able to include data on Pap tests where nurses are credentialed and funded by the Department of Health to be eligible for their own 'practice number' at the Victorian Cytology Service.

The number of tests collected by nurses represents 5.5% of all Victorian Pap tests collected during 2011. As shown in Table 1.1 and Figure 1.1, the number and proportion of tests continues to increase and is greater than six times the number recorded in 1996.

**Table 1.1 Number of Pap tests collected by nurses in Victoria**

Year	Number of Pap tests collected by nurses	% of all Victorian Pap tests
2011	31,613	5.5%
2010	28,546	5.0%
2009	25,594	4.4%
2008	21,668	3.8%
2007	18,651	3.2%
2006	16,035	2.8%
2005	14,375	2.5%
2004	13,100	2.2%
2003	11,494	2.0%
2002	10,635	1.8%
2001	11,017	1.9%
2000	9,628	1.7%
1999	9,922	1.6%
1998	9,858	1.6%
1997	7,155	1.2%
1996	5,170	0.8%

**Figure 1.1 Proportion of Pap tests collected by nurses in Victoria, 1996 - 2011**



## 2. Post-hysterectomy tests

Three hundred and fifty-five Pap tests collected by nurses during 2011 were taken from women whose records indicate they have had a hysterectomy. This represents 1.1 % of tests collected by nurses during 2011. Amongst other Victorian provider types, 1.7% of Pap tests performed during 2011 were from women who have had a hysterectomy.

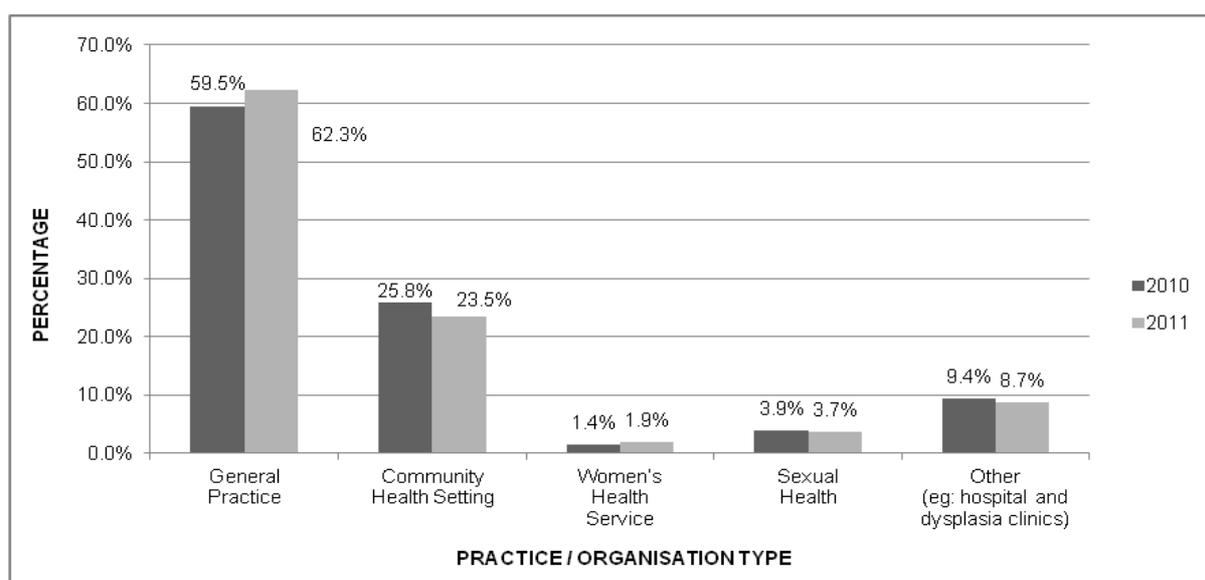
## 3. Type of practice/organisation for nurses

Of the Pap tests collected by nurses during 2011, the majority were conducted in General Practice or in a Community Health setting. The combined proportion of Pap tests collected in General Practice or a Community Health Setting increased from 85.3% in 2010 to 85.8% in 2011.

**Table 3.1 Number of Pap tests collected by nurses during 2011 by practice/organisation**

Practice/Organisation type	No. of practices / organisations	No. of nurses at each practice / organisation <sup>1</sup>	No. of smears by nurses during 2011	% of smears by practice / organisation
General Practice	180	183	19,689	62.3%
Community Health Setting	86	111	7,416	23.5 %
Women's Health Service	5	7	600	1.9%
Sexual Health <sup>2</sup>	6	43	1,159	3.7%
Other (eg: hospitals and dysplasia clinics)	26	39	2,749	8.7%
<b>Total</b>	<b>303</b>	<b>383</b>	<b>31,613</b>	<b>100%</b>

**Figure 3.1 Comparison of the proportion of Pap tests collected by nurses during 2010 and 2011, by practice/organisation**



<sup>1</sup> For nurses who worked at more than one type of practice/organisation, their most common type was used.

<sup>2</sup> Sexual Health includes Melbourne Sexual Health Centre, Family Planning Victoria and the Action Centre.

#### 4. Practice and woman location at time of Pap test

During 2011, the Registry recorded 383 credentialed nurses as having collected Pap tests. It is important to note that this figure excludes credentialed nurses who did not perform a Pap test in 2011 (Jan-Dec) that was reported to the registry.

The geographical location of nurses (by practice) and the women whose Pap tests were collected by a nurse during 2011 are classified below using the Australian Standard Geographical Classification (ASGC) Remoteness Areas.

The ASGC Remoteness Areas classification was developed by the Australian Bureau of Statistics, and classifies Australia into large regions which share common characteristics of remoteness into broad geographical regions.

The ASGC Remoteness Areas classification divides Australia into five areas:

- Major Cities of Australia: includes most capital cities, as well as major urban areas such as Newcastle, Geelong and the Gold Coast.
- Inner Regional Australia: includes towns such as Hobart, Launceston, Mackay and Tamworth.
- Outer Regional Australia: includes towns and cities such as Darwin, Whyalla, Cairns and Gunnedah.
- Remote Australia: includes Alice Springs, Mount Isa and Esperance.
- Very Remote Australia: represents much of central and western Australia and includes towns such as Tennant Creek, Longreach and Coober Pedy<sup>3</sup>.

Using the ASGC classification, Table 4.1 shows that the majority of nurses who collected Pap tests during 2011 were based in a major city or inner regional area, as were the women tested.

**Table 4.1 Nurse practice and woman location at time of Pap test by Australian Standard Geographical Classification Remoteness Area<sup>4</sup>**

ASGC Remoteness Area	Number of nurses located in the area <sup>5</sup>	%	Number of women at time of Pap test in the area <sup>6</sup>	%
Major Cities of Australia	171	45.7%	12,486	40.0%
Inner Regional Australia	145	38.8%	13,377	42.8%
Outer Regional Australia	57	15.2%	5,247	16.8%
Remote Australia	1	0.3%	125	0.4%
Very Remote Australia <sup>7</sup>	0	0.0%	0	0.0%

<sup>3</sup> ABS Glossary of Statistical Geography Terminology 2011. <http://www.abs.gov.au/ausstats/abs@.nsf/mf/1217.0.55.001> (accessed March 9 2012)

<sup>4</sup> Postal Area to ASGC RA conversion file courtesy of the Australian Institute of Health and Welfare, February 2011.

<sup>5</sup> The postal area for nine nurses could not be mapped.

<sup>6</sup> The postal area for 378 Pap tests could not be mapped.

<sup>7</sup> Very Remote Australia areas are not represented within Victoria.

**5. Age distribution of women screened**

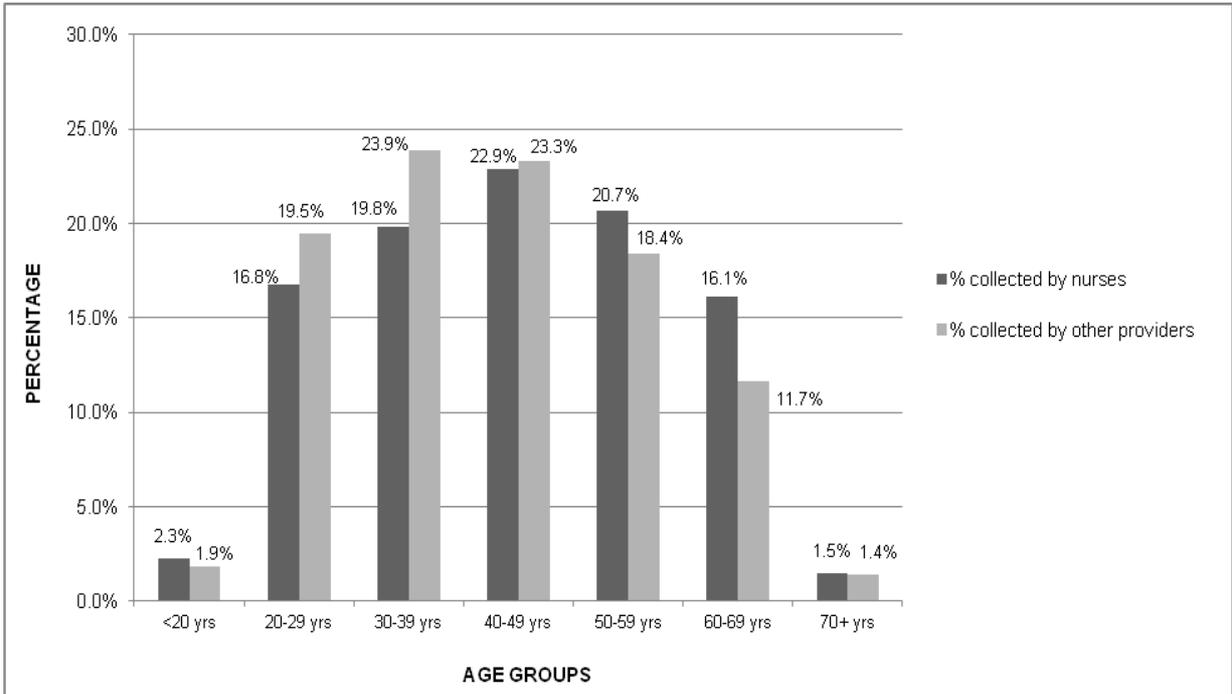
The age distribution of women whose Pap tests were collected by nurses and other provider types is shown in the table below. A comparison of 2010 (not shown) and 2011 data shows the percentage of Pap test collection across all of the age groups to be very similar.

Consistent with the findings of the previous year, the aggregated percentage of Pap tests collected by nurses for women over the age of 50 years was greater than for tests collected by other provider types (38.3% compared with 31.5%).

**Table 5.1 Age distribution of women screened in 2011**

Age group	% of Pap tests collected by nurses	% of Pap tests collected by other provider types
<20 yrs	2.3%	1.9%
20-29 yrs	16.8%	19.5%
30-39 yrs	19.8%	23.9%
40-49 yrs	22.9%	23.3%
50-59 yrs	20.7%	18.4%
60-69 yrs	16.1%	11.7%
70+ yrs	1.5%	1.4%
<b>Total</b>	<b>100%</b>	<b>100%</b>

**Figure 5.1 Age distribution of women screened in 2011**



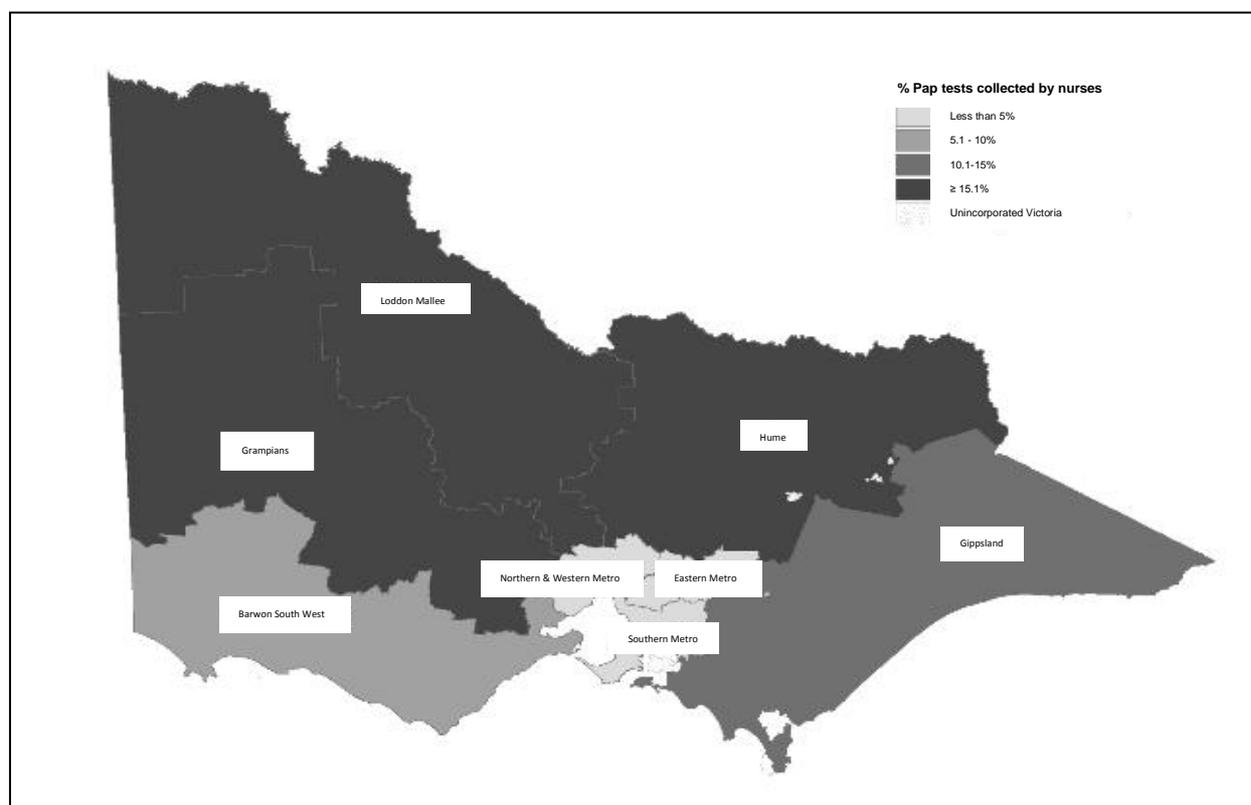
## 6. Proportion of Pap tests collected by nurses by DH region<sup>8</sup>

Most Victorian postcodes are assigned to a region of the Victorian Department of Health (DH) (previously the Department of Human Services). Victoria is divided into eight regions, five in rural Victoria and three covering metropolitan Melbourne. The table below shows that nurses collected a higher proportion of Pap tests in rural regions than in metropolitan regions. The proportion of Pap tests collected by nurses also increased across most DH regions between 2010 and 2011; and similar to 2010 the largest increases are seen in the Hume (3.5% increase) and Grampians regions (2.2% increase).

**Table 6.1 Pap tests for women with a cervix collected by nurses by DH region**

Region name	No. of Pap tests collected by nurses in 2011 <sup>9</sup>	No. of nurses in each region in 2011 <sup>10</sup>	% of Pap tests collected by nurses in 2011	% of Pap tests collected by nurses in 2010
Barwon South West	3,519	51	9.8%	8.7%
Eastern Metropolitan	1,951	22	2.0%	1.5%
Gippsland	2,726	30	11.7%	11.5%
Grampians	3,371	29	20.3%	18.1%
Hume	3,840	45	15.8%	12.3%
Loddon Mallee	6,068	64	19.8%	19.2%
Northern & Western Metropolitan	6,622	107	4.0%	4.0%
Southern Metropolitan	3,125	30	2.3%	1.8%

**Figure 6.1 Proportion of Pap tests collected by nurses during 2011 by DH region**



<sup>8</sup> Department of Health, 2011. Concordance created by modelling GIS and Planning Products Unit using Australia Post postcode file, Australian Bureau of Statistics digital geographic boundaries and Department of Health regions.

<sup>9</sup> Excludes 355 post-hysterectomy Pap tests and 36 women where postcode was missing or not able to be matched.

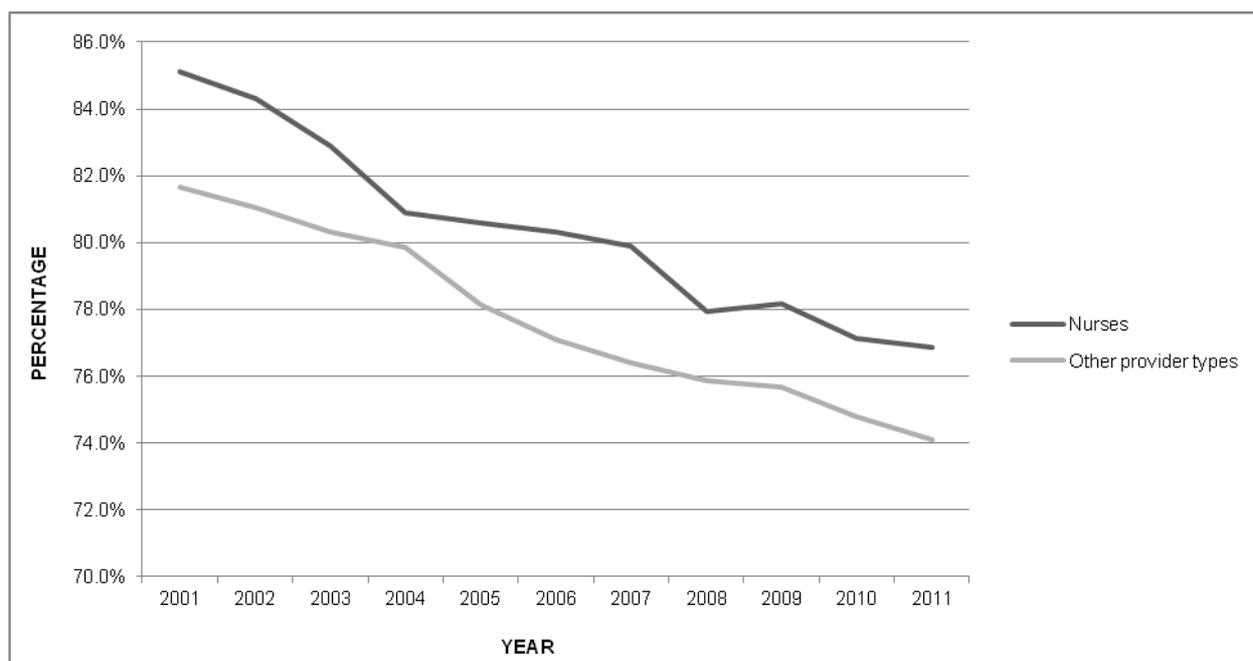
<sup>10</sup> Excludes five nurses whose postcode could not be matched.

## 7. Endocervical status

The presence of endocervical cells within a Pap test specimen is considered to be a reflection of smear quality. Of the technically satisfactory Pap tests collected from women with a cervix by nurses in 2011, 76.9% were reported as including an endocervical component. The proportion of Pap tests with an endocervical component for other provider types during the same time period is 74.1%.

Figure 7.1 illustrates that the decline in the proportion of Pap tests with an endocervical component has continued over the last decade across all provider types.

**Figure 7.1 Proportion of Victorian Pap tests collected by nurses and other provider types with an endocervical component**



## 8. Profile of Pap test reports for women with a cervix

Table 8.1 shows the Pap test report categories for tests collected by nurses and other provider types during 2011 for women with a cervix<sup>11</sup>. Compared with Victorian Pap tests collected by other provider types, nurses had a higher proportion of tests with low-grade or negative results and lower proportions for high grade and unsatisfactory tests.

**Table 8.1 Profile of Pap test reports collected during 2011 for women with a cervix**

Report category	Number (%) of Pap tests collected by nurses	% of Pap tests collected by other provider types <sup>12</sup>
High grade abnormality	179 (0.6%)	0.8%
Low grade abnormality	1,637 (5.2%)	5.1%
Inconclusive	275 (0.9%)	0.8%
Negative	28, 646 (91.6%)	90.9%
Unsatisfactory	521 (1.7%)	2.3%
<b>Total</b>	<b>31,258 (100%)</b>	<b>100%</b>

<sup>11</sup> Based only on the squamous cell code within the VCCR Cytology Coding Schedule.

<sup>12</sup> This excludes Pap tests collected by nurses.

## 9. Time since previous screening for women with a cervix

The following table shows the length of time since any previous Pap test, as known to the Registry, for tests collected by nurses during 2011. Compared with Pap tests collected by other Victorian provider types; similar to the findings of 2010, a higher proportion of Pap tests were collected by nurses where the time interval since the last test was greater than two years.

**Table 9.1 Time since previous Pap test for women with a cervix**

Time since previous test	Number (%) of Pap tests collected by nurses in 2011	% of Victorian Pap tests collected in 2011 by other provider types <sup>13</sup>
No previous test	3,370 (10.8%)	11.0%
4 yrs +	3,185 (10.2%)	7.7%
3.5 to <4 yrs	819 (2.6%)	2.3%
3.0 to <3.5 yrs	1,526 (4.9%)	4.2%
2.5 to <3 yrs	2,822 (9.0%)	8.0%
2.0 to <2.5 yrs	12,298 (39.3%)	35.7%
1.5 to <2 yrs	3,121 (10.0%)	11.0%
1.0 to <1.5 yrs	2,324 (7.4%)	9.9%
0.5 to <1 yr	1,174 (3.8%)	5.7%
<0.5 yrs	619 (2.0%)	4.5%
Total	31,258 (100%)	100%

## 10. Collection of Aboriginal and Torres Strait Islander Status, Country of Birth and Language Spoken at Home

### *Closing the data gaps*

A key objective of the Victorian Government's Cancer Action Plan is to improve the participation of Aboriginal and Torres Strait Islander (A&TSI) women in cervical screening. Following a successful pilot in 2008, the Victorian Cytology Service (VCS) has continued to work with the nurses who collect Pap tests and utilise the VCS laboratory, to record A&TSI status on the VCS Pathology Request Forms. The standard nationally approved format is used on the forms as follows:

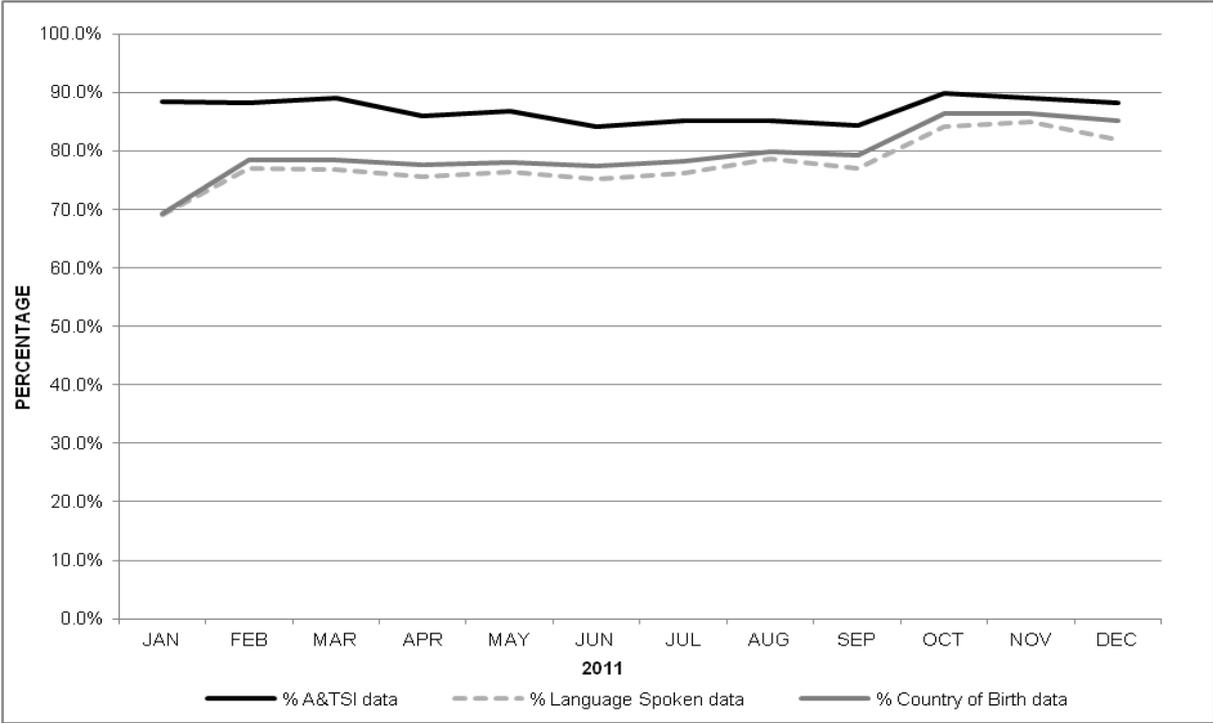
- Aboriginal
- Torres Strait Islander
- Aboriginal and Torres Strait Islander
- Not Aboriginal or Torres Strait Islander

The overall percentage of Pap tests collected by nurses for which A&TSI status was reported in 2011 was 87.0% (range 84.2% – 89.8%), a much higher figure than that of 67.4% (range 55.5% - 79.6%) in 2010.

In 2011, the data collection was expanded to include Country of Birth and Language Spoken at Home. It is intended that the collection of this additional information will assist with understanding and addressing the screening needs of women from culturally diverse backgrounds.

<sup>13</sup> This excludes Pap tests collected by nurses.

**Figure 10.1 Percentage of Pap tests collected by nurses for which A&TSI Status, Language Spoken at Home and Country of Birth was recorded in 2011**



In 2011, the overall percentage of Pap tests recorded by nurses for which Language Spoken at Home was collected was 78.0%; the range varied from 69.1% to 84.9%. The most common Non-English languages were as follows: Greek, Chinese (not elsewhere classified), Italian, Arabic, Vietnamese, Spanish, Mandarin and Khmer. These languages all exceeded greater than one hundred reports to VCS.

The overall percentage of Pap tests recorded by nurses for which Country of Birth was recorded was 79.8%; the range varied from 69.3% to 86.4%. The most common countries of birth outside of Australia were as follows: England, New Zealand, China (excludes SARS and Taiwan), United Kingdom (includes Channel Islands and Isle of Man), Philippines, Italy, Burma, Greece, Vietnam and India. These countries all exceeded greater than one hundred and fifty reports to VCS.

VCCR continues to work closely with VCS to capture all of these data items on the Registry database. The continued increase in the recording of A&TSI status and the high percentage of Language Spoken at Home and Country of Birth data collection in 2011 is a reflection of the strong commitment of nurses involved in cervical screening and of all other key stakeholders.

## 11. Conclusion

During 2011 the number of tests collected by nurses increased to 31,613 which represents 5.5 % of all Pap tests performed that year, continuing the trend observed in recent years with an increasing proportion of Pap tests collected by nurses in Victoria.

General Practice and Community Health Settings continue to remain the main practice/organisation types where nurses collect Pap tests.

The majority of nurses who collected Pap tests and Victorian women who had Pap tests collected by nurses during 2011 were located in major cities or inner regional remoteness areas.

Consistent with the findings of the previous year; in 2011 nurses continued to collect a higher proportion of tests from women over the age of 50 years than other provider types. Within DH regions, nurses also continued to collect a higher proportion of Pap tests in rural regions than in metropolitan regions. Although a downward trend has continued to be observed over the last decade, the proportion of tests with an endocervical component still continues to be higher for nurses than other provider types.

The data in this report highlights the increasingly important role that nurses have in the success of the Victorian Cervical Screening Program, particularly in relation to the rising number of pap tests performed by them in recent years and the high quality of their tests. It is a trend that the Screening Program would like to see continue.

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