

# EVALUATION OF PAP TESTS COLLECTED BY NURSES IN VICTORIA DURING 2012

Victorian Cervical Cytology Registry



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Victorian Cervical  
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## **Forward**

### **Victorian Nurse Cervical Screening Providers - Credentialling Program 2012**

The Victorian Credentialling Program monitors cervical screening nurse providers through ongoing quality assurance, professional accountability and responsibility for clinical practice.

The three-year recredentialling process ensures Victorian women continue to receive a high quality of service in cervical screening, and that nurses are equipped with up-to-date knowledge on screening practices and technologies.

There are currently 494 credentialled nurses in Victoria. In 2012, 90.0% of Pap tests taken by Victorian credentialled nurses were reported through VCS Pathology. The remaining 10.0% of Pap tests taken by nurses were reported through private pathology services under a doctor's name.

Since 2000, the Victorian Cervical Cytology Registry (VCCR) has prepared annual evaluation reports on cervical screening practices undertaken by nurses.

For the first time, the 2012 report also includes limited data outlining the practices of nurses using private pathology services and where the tests are reported to the VCCR under a doctor's name.

The Victorian Credentialling Program commenced after a successful pilot from 1996-1999, and is funded by the Victorian Department of Health and the Cervical Cancer Prevention Program.

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## 1. Number of Pap tests collected by nurses

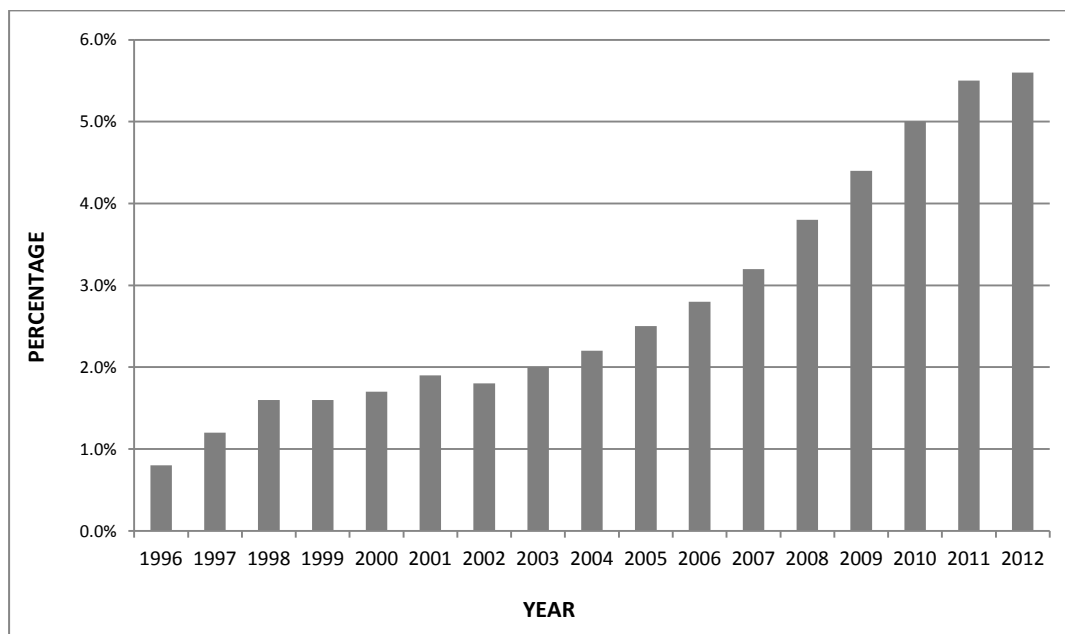
As reported to the Victorian Cervical Cytology Registry (VCCR) a total of 33,875 Pap tests were collected by nurses during 2012 (with 33,530 being from women with a cervix). This is out of a total of 602,357 Victorian Pap tests for 2012 (with 593,120 being from women with a cervix). In this report the Registry has included data on Pap tests where nurses are credentialed and funded by the Department of Health to be eligible for their own 'practice number' at VCS Pathology.

The number of tests collected by nurses represents 5.6% of all Victorian Pap tests collected during 2012. 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 |
|------|---|------------------------------|
| 2012 | 33,875                                  | 5.6%                         |
| 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 – 2012**



## 2. Post-hysterectomy tests

Three hundred and forty-five Pap tests collected by nurses during 2012 were taken from women whose records indicate they have had a hysterectomy. This represents 1.0% of tests collected by nurses during 2012. Amongst other Victorian provider types, 1.6% of Pap tests performed during 2012 were from women who have had a hysterectomy.

## 3. Type of practice/organisation for nurses

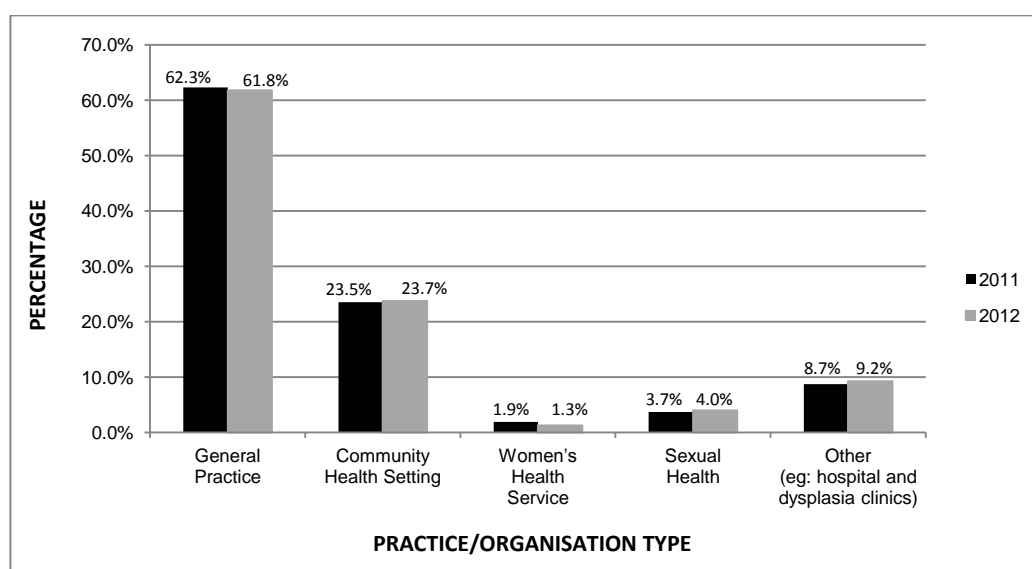
Of the Pap tests collected by nurses during 2012, the majority were conducted in General Practice or in a Community Health setting. The combined proportion of Pap tests collected in General Practice or a Community Health setting decreased from 85.8% in 2011 to 85.5% in 2012.

**Table 3.1 Number of Pap tests collected by nurses during 2012 by practice/organisation**

| Practice/Organisation type                  | No. of practices / organisations | No. of nurses at each practice / organisation <sup>1</sup> | No. of Pap tests by nurses during 2012 | % of Pap tests by practice / organisation |
|---|----------------------------------|--|--|---|
| General Practice                            | 188                              | 205  | 20,925                                 | 61.8%                                     |
| Community Health setting                    | 98                               | 123  | 8,040                                  | 23.7 %                                    |
| Women's Health Service                      | 4                                | 4  | 434                                    | 1.3%                                      |
| Sexual Health <sup>2</sup>                  | 5                                | 48   | 1,343                                  | 4.0%                                      |
| Other (eg: hospitals and dysplasia clinics) | 23                               | 36   | 3,133                                  | 9.2%                                      |
| <b>Total</b>                                | <b>318</b>                       | <b>416</b>   | <b>33,875</b>                          | <b>100%</b>                               |

During 2012, nurses whose Pap tests were reported through private pathology services under a doctor's name, undertook 2,873 Pap tests from women with a cervix. The 48 nurses in this category practiced in a variety of organisations or practices including general practice (58.0%), private hospitals (33.0%), research (4.0%) and the Department of Defence (2.0%).

**Figure 3.1 Comparison of the proportion of Pap tests collected by nurses during 2011 and 2012, 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, Box Hill and the Action Centre.

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

During 2012, the Registry recorded 416 credentialed nurses as having collected Pap tests which were reported by VCS Pathology. It is important to note that this figure excludes 30 credentialed nurses whose Pap tests are reported to VCS Pathology but did not perform a Pap test in 2012 (Jan-Dec) and the 48 credentialed nurses whose Pap tests are reported through private pathology services under a doctor's name.

The geographical location of nurses (by practice) and the women whose Pap tests were collected by a nurse during 2012 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 Melbourne, Geelong, Newcastle and the Gold Coast.
- Inner Regional Australia: includes towns such as Ballarat, Bendigo, Albury-Wodonga, Hamilton, Hobart, Launceston, Mackay and Tamworth.
- Outer Regional Australia: includes towns and cities such as Bairnsdale, Horsham, Darwin, Whyalla, Cairns and Gunnedah.
- Remote Australia: includes Mallacoota, 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 2012 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          | 181   | 45.4% | 12,718   | 38.0% |
| Inner Regional Australia           | 154   | 38.6% | 14,904   | 44.6% |
| Outer Regional Australia           | 64  | 16.0% | 5,709  | 17.1% |
| Remote Australia                   | 0   | 0.0%  | 101  | 0.3%  |
| 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>

<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 17 nurses could not be mapped.

<sup>6</sup> The postal area for 443 Pap tests could not be mapped.

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



**5. Age distribution of women screened**

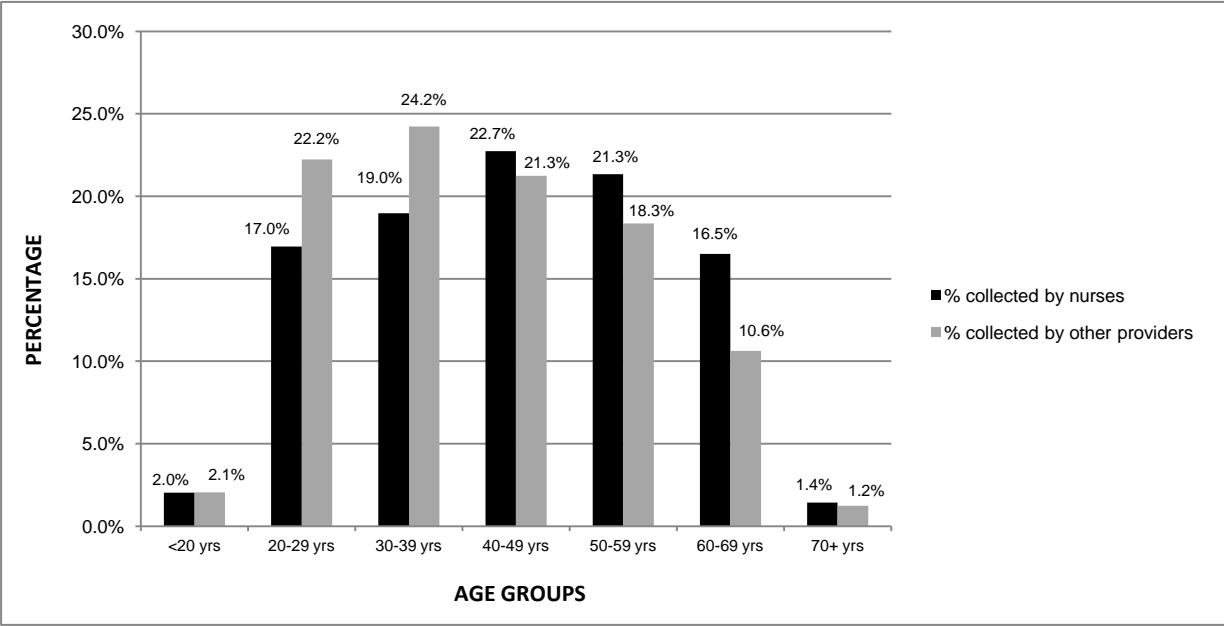
The age distribution of women whose Pap tests were collected by nurses and other provider types is shown in the table below. A comparison of 2011 (not shown) and 2012 data shows the percentage of Pap test collection across all of the age groups to be very similar.

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 (39.2% compared with 30.1%).

**Table 5.1 Age distribution of women screened in 2012**

| Age group | % of Pap tests collected by nurses | % of Pap tests collected by other provider types |
|-----------|------------------------------------|--|
| <20 yrs   | 2.0%                               | 2.1%   |
| 20-29 yrs | 17.0%                              | 22.2%  |
| 30-39 yrs | 19.0%                              | 24.2%  |
| 40-49 yrs | 22.7%                              | 21.3%  |
| 50-59 yrs | 21.3%                              | 18.3%  |
| 60-69 yrs | 16.5%                              | 10.6%  |
| 70+ yrs   | 1.4%                               | 1.2%   |
| Total     | 100%                               | 100%   |

**Figure 5.1 Age distribution of women screened in 2012**



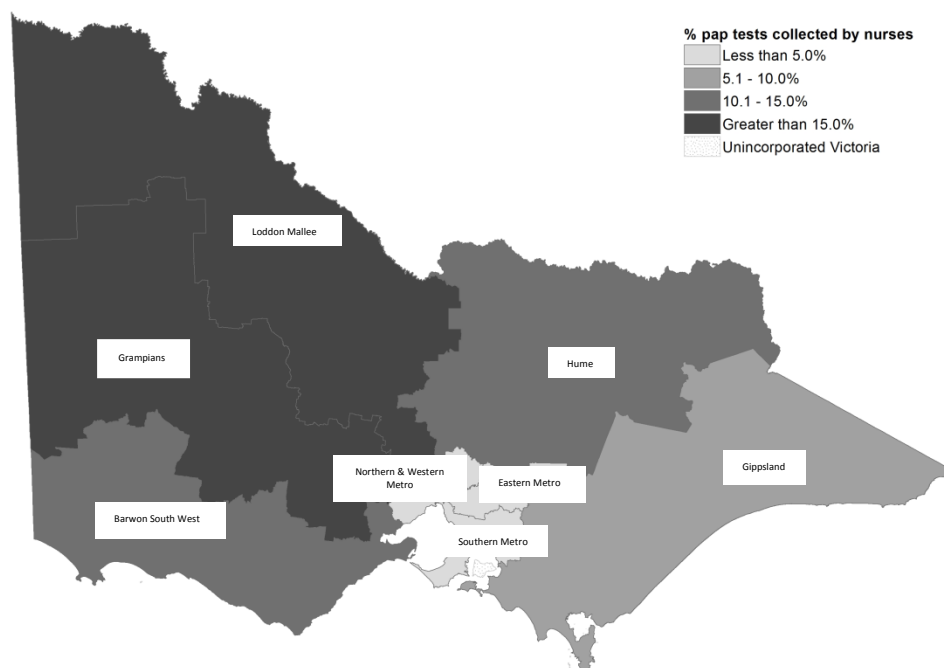
## 6. Proportion of Pap tests collected by nurses by Department of Health region<sup>8</sup>

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 increased across Barwon South West, Eastern Metropolitan, Loddon Mallee and the Northern & Western Metropolitan regions between 2011 and 2012. The largest increases are seen in the Loddon Mallee (3.4% increase) and Barwon South West regions (0.9% 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 2012 <sup>9</sup> | No. of nurses in each region in 2012 <sup>10</sup> | % of Pap tests collected by nurses in 2012 | % of Pap tests collected by nurses in 2011 |
|---------------------------------|---|--|--|--|
| Barwon South West               | 3,915   | 55   | 10.7%                                      | 9.8%                                       |
| Eastern Metropolitan            | 2,324   | 32   | 2.1%                                       | 2.0%                                       |
| Gippsland                       | 2,365   | 31   | 9.9%                                       | 11.7%                                      |
| Grampians                       | 4,046   | 29   | 19.7%                                      | 20.3%                                      |
| Hume                            | 3,878   | 54   | 14.8%                                      | 15.8%                                      |
| Loddon Mallee                   | 7,046   | 70   | 23.2%                                      | 19.8%                                      |
| Northern & Western Metropolitan | 7,168   | 101  | 4.1%                                       | 4.0%                                       |
| Southern Metropolitan           | 2,738   | 37   | 2.0%                                       | 2.3%                                       |

**Figure 6.1 Proportion of Pap tests collected by nurses during 2012 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 345 post-hysterectomy Pap tests and 50 women where postcode was missing or not able to be matched.

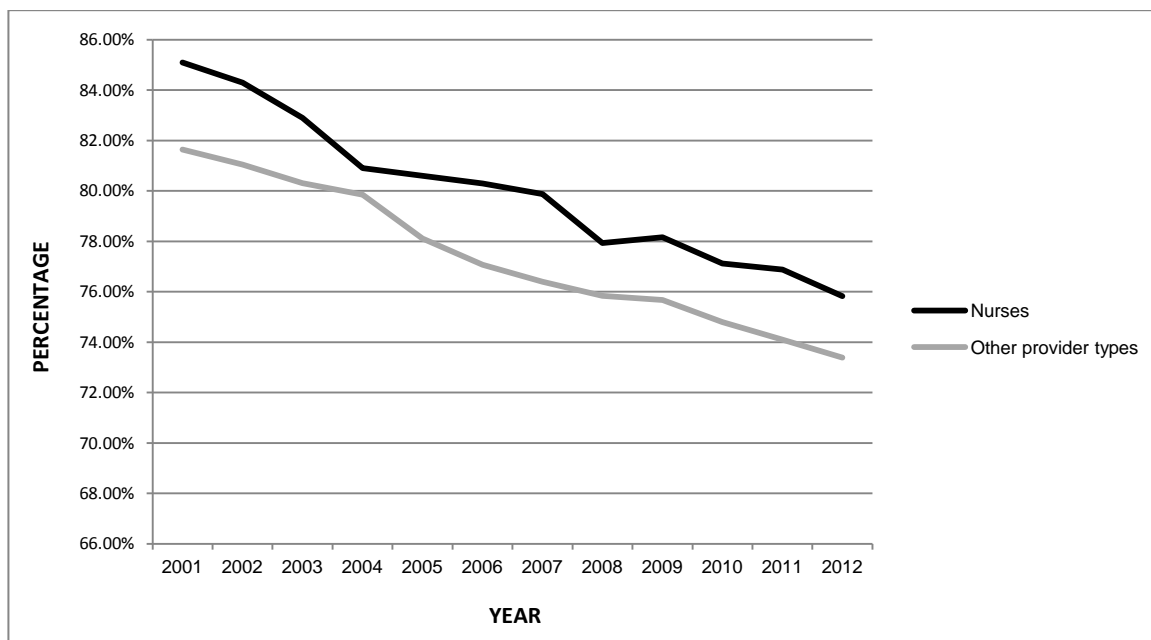
<sup>10</sup> Excludes seven nurses whose postcode could not be matched.

## 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 2012, 75.8% 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 73.4%.

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 2012 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 2012 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 | 211 (0.6%)                                  | 0.8%   |
| Low grade abnormality  | 1,820 (5.4%)                                | 5.1%   |
| Inconclusive           | 275 (0.8%)                                  | 0.8%   |
| Negative               | 30,665 (91.5%)                              | 90.8%  |
| Unsatisfactory         | 559 (1.7%)                                  | 2.5%   |
| Total                  | 33,530 (100%)                               | 100%   |

<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 2012. Compared with Pap tests collected by other Victorian provider types; similar to the findings of 2011, 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 2012 | % of Victorian Pap tests collected in 2012 by other provider types <sup>13</sup> |
|--------------------------|---|--|
| No previous test         | 3,670 (10.9%)                                       | 11.3%  |
| 4 yrs +                  | 3,510 (10.5%)                                       | 8.1%   |
| 3.5 to <4 yrs            | 780 (2.3%)  | 2.1%   |
| 3.0 to <3.5 yrs          | 2,122 (6.3%)  | 5.1%   |
| 2.5 to <3 yrs            | 3,154 (9.4%)  | 8.4%   |
| 2.0 to <2.5 yrs          | 12,502 (37.3%)                                      | 34.7%  |
| 1.5 to <2 yrs            | 3,444 (10.3%)                                       | 10.6%  |
| 1.0 to <1.5 yrs          | 2,455 (7.3%)  | 9.5%   |
| 0.5 to <1 yr             | 1,240 (3.7%)  | 5.6%   |
| <0.5 yrs                 | 653 (1.9%)  | 4.6%   |
| Total                    | 33,530 (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, VCS Pathology has continued to work with the nurses who collect Pap tests and utilise their service, 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

**Table 10.1 Percentage of A&TSI Status data collected**

| ATSI Status                               | No.                  | %       |
|---|----------------------|---------|
| Aboriginal                                | 562                  | 1.60%   |
| Torres Strait Islander                    | 14                   | 0.04%   |
| Aboriginal and Torres Strait Islander     | 44                   | 0.13%   |
| Not Aboriginal and Torres Strait Islander | 32,501               | 92.58%  |
| Not Collected                             | 1,979                | 5.64%   |
| Declined to Answer                        | 4                    | 0.01%   |
| Total                                     | 35,104 <sup>14</sup> | 100.00% |

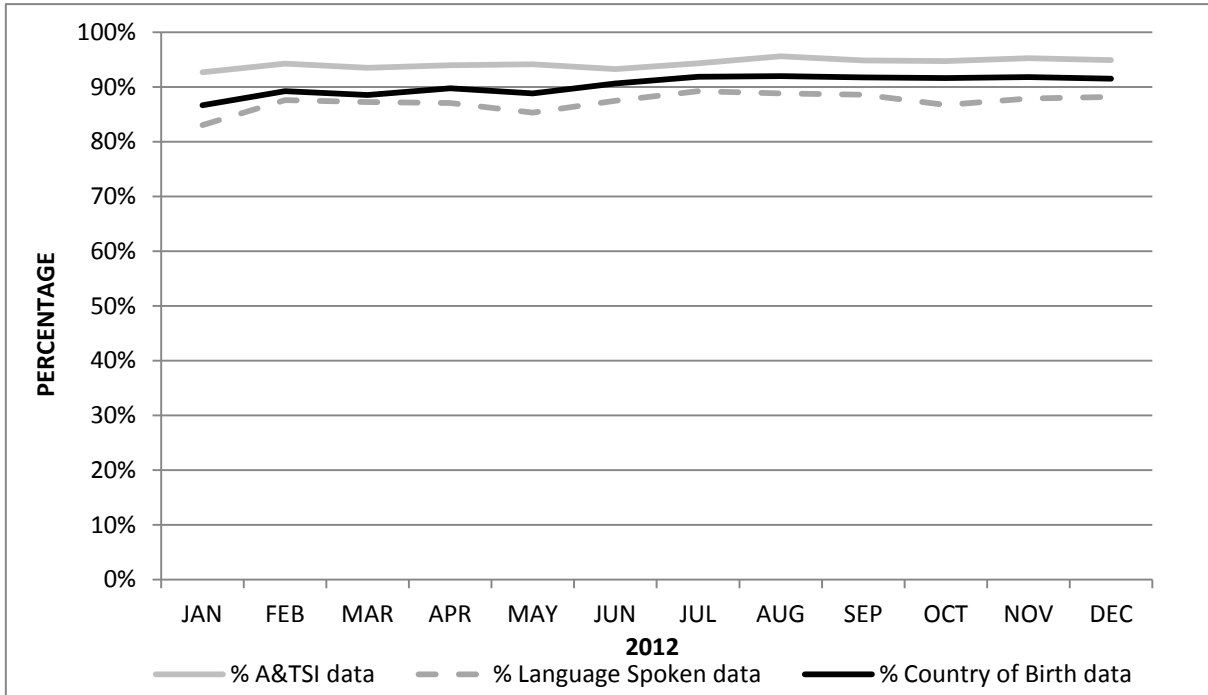
<sup>13</sup> This excludes Pap tests collected by nurses.

<sup>14</sup> 33,875 Pap tests reported to the VCCR in 2012 plus 1,229 Pap tests taken in border areas and reported to interstate Pap Test Registries.

The overall percentage of Pap tests collected by nurses for which A&TSI status was reported in 2012 was 94.4%, an increase of more than 7.0% from that of 87.0% in 2011.

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.

**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 2012**



In 2012, the overall percentage of Pap tests recorded by nurses for which Language Spoken at Home was collected was 87.3%. This is an increase of 9.3% compared with the 78.0% recorded in 2011. The most common Non-English languages were as follows: Italian, Greek, Chinese (not elsewhere classified), Mandarin, Arabic, Vietnamese, Spanish, Cantonese, Maltese and Turkish.

The overall percentage of Pap tests recorded by nurses for which Country of Birth was recorded was 90.5%. This is an increase of 10.7% compared with the 79.8% recorded in 2011. 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), Burma (Myanmar), Philippines, Italy, Greece, Vietnam and India.

VCCR continues to work closely with VCS Pathology to capture all of these data items on its 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 2012 is a reflection of the strong commitment of nurses involved in cervical screening and of all other key stakeholders.

## 11. Conclusion

There are currently 494 credentialed nurses in Victoria. In 2012, 90.0% of Pap tests taken by Victorian credentialed nurses were reported through VCS Pathology. The remaining 10.0% of Pap tests taken by nurses were reported through private pathology services under a doctor's name.

During 2012 the number of tests collected by these credentialed nurses and reported to the Registry increased to 33,875, which represents 5.6% of all Pap tests performed that year, continuing the trend observed in recent years with an increasing proportion of Pap tests being collected by nurses in Victoria.

General Practice and Community Health settings continue to represent 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 2012 were located in major cities or inner regional areas of Victoria.

In 2012 nurses continued to collect a higher proportion of tests from women over the age of 50 years than other provider types, consistent with the findings of the previous year. 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 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.

## 12. References

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