

EVALUATION OF PAP TESTS COLLECTED BY NURSES IN VICTORIA DURING 2013

Victorian Cervical Cytology Registry



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Forward

Victorian Nurse Cervical Screening Providers - Credentialling Program 2013

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.

In 2013, the program had 512 registered nurses, 437 of which were actively participating in the screening program.

The quality of nurses' practice has been reported by the Victorian Cervical Cytology Registry (VCCR) annually since 2000. Victoria is the only Australian state or territory that has nurse collected Pap test data reported by their Pap test registry.

The VCCR Nurses Evaluation Report 2013 is the first edition where data from all Victorian nurses providing cervical screening has been reported, regardless of pathology provider used.

The outcome of this report demonstrates the close working relationship between VCCR and PapScreen Victoria (PSV) and their shared commitment to showcasing cervical screening undertaken by Victorian nurse cervical screening providers.

We would like to acknowledge the work of VCCR, VCS Pathology and PapScreen Victoria staff who have enabled the successful reporting of cervical screening provided by nurses working in Victoria.

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1. Number of Pap tests collected by nurses

As reported to the Victorian Cervical Cytology Registry (VCCR) a total of 38,012 Pap tests were collected by 437 nurses during 2013 (with 37,645 being from women with a cervix). This is out of a total of 600,759 Victorian Pap tests for 2013 (with 591,495 being from women with a cervix).

In this report the Registry has included data on Pap tests where nurses are credentialled and funded by the Department of Health to be eligible for their own 'practice number' at VCS Pathology. Also included in this report are Pap tests from nurses using private pathology services. These nurses provide Pap test data to PapScreen Victoria, which is then provided to VCCR for analysis for this report.

Of the 38,012 Pap tests reported by nurses, 33,454 tests (from 401 nurses) are recorded on the VCCR. Of these, 88% of Pap tests taken by Victorian credentialled nurses were reported to VCS Pathology. Another 4,558 tests (from 36 nurses) represents 12% taken by nurses through private pathology services under a doctor's name.

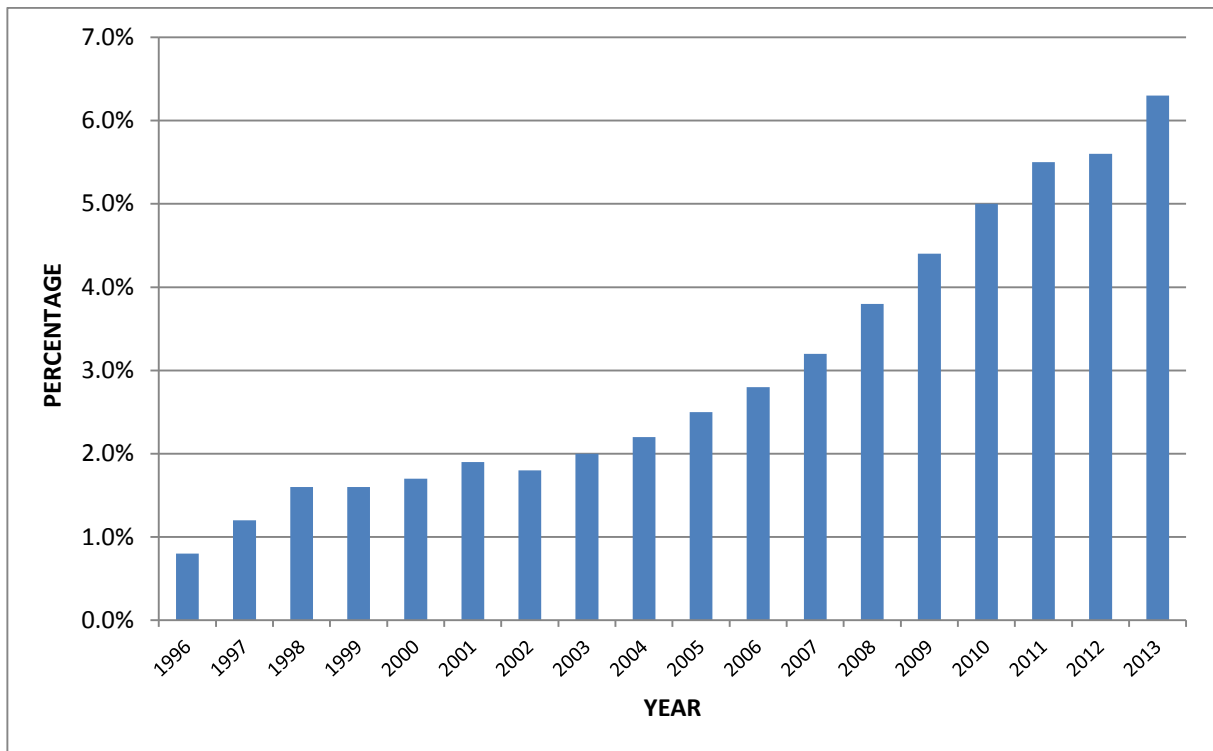
The 38,012 tests collected by nurses represents 6.3% of all Victorian Pap tests collected during 2013. As shown in Table 1.1 and Figure 1.1, the number and proportion of tests collected by nurses continues to increase and is close to eight times the number recorded in 1996.

Table 1.1 Number of Pap tests collected by nurses in Victoria¹

Year	Number of Pap tests collected by nurses	% of all Victorian Pap tests
2013	38,012	6.3%
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%

¹ Data from 1996-2012 excludes tests taken by nurses through private pathology under a doctor's name.

Figure 1.1 Proportion of Pap tests collected by nurses in Victoria, 1996 – 2013



2. Post-hysterectomy tests

Three hundred and sixty seven Pap tests collected by nurses during 2013 were taken from women whose records indicate they have had a hysterectomy. This represents 1.0% of tests collected by nurses during 2013. Amongst other Victorian provider types, 0.8% of Pap tests performed during 2013 were from women who have had a hysterectomy.

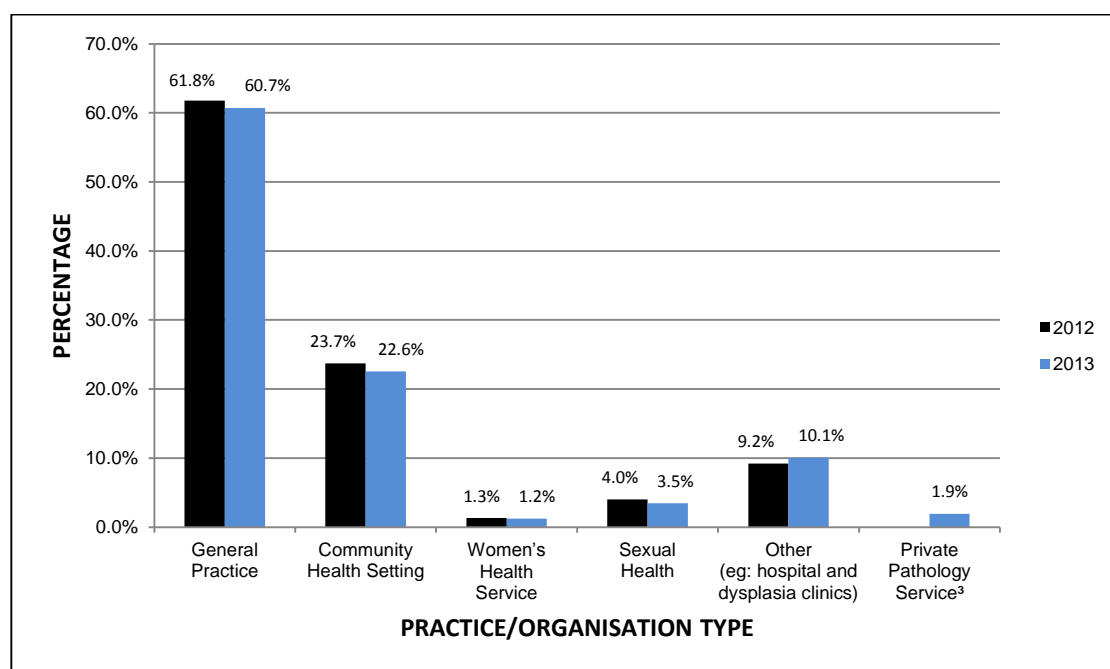
3. Type of practice/organisation for nurses

Of the Pap tests collected by nurses during 2013, 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 85.5% in 2012 to 83.3% in 2013. The increase in Other Practice Types (e.g. hospitals and dysplasia clinics) and Private Pathology Services indicates the addition of information from nurses who do not use VCS Pathology.

Table 3.1 Number of Pap tests collected by nurses during 2013 by practice/organisation

Practice/Organisation type	No. of practices / organisations	No. of nurses at each practice / organisation ²	No. of Pap tests by nurses during 2013	% of Pap tests by practice / organisation
General Practice	207	232	23,081	60.7%
Community Health setting	94	114	8,575	22.6 %
Women's Health Service	3	2	475	1.2%
Sexual Health ³	6	44	1,321	3.5%
Other (e.g. hospitals and dysplasia clinics)	26	44	3,824	10.1%
Private Pathology Service	1	1	736	1.9%
Total	337	437	38,012	100%

Figure 3.1 Comparison of the proportion of Pap tests collected by nurses during 2012 and 2013, by practice/organisation



² For nurses who worked at more than one type of practice/organisation, their most common type was used.

³ Sexual Health includes Melbourne Sexual Health Centre, Family Planning Victoria, Box Hill and the Action Centre.

³ No data available for 2012.

4. Practice and woman location at time of Pap test

During 2013, 437 nurses performed Pap tests in Victoria. The Registry recorded 401 credentialed nurses which were reported by VCS Pathology and the data of 36 additional nurses were provided by PapScreen Victoria whose Pap tests were 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 2013 are classified below using the Australian Statistical Geography Standard (ASGS) Remoteness Areas.

The ASGS 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 ASGS 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.⁴

Using the ASGS classification, Table 4.1 shows that the majority of nurses who collected Pap tests during 2013 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 Statistical Geography Standard Remoteness Areas⁵

ASGC Remoteness Area	Number of nurses located in the area ⁶	%	Number of Pap tests in the area ⁷	%
Major Cities of Australia	178	44.4%	13,253	39.7%
Inner Regional Australia	161	40.1%	14,324	42.9%
Outer Regional Australia	62	15.5%	5,691	17.1%
Remote Australia	0	0.0%	107	0.3%
Very Remote Australia ⁸	0	0.0%	0	0.0%

⁴ ABS Glossary of Statistical Geography Terminology 2013. <http://www.abs.gov.au/ausstats/abs@.nsf/mf/1217.0.55.001>

⁵ Postal Area to ASGS RA conversion file courtesy of the Australian Institute of Health and Welfare, May 2014. Data is based on 2011 Remoteness Areas on 2011 census data.

⁶ Data from nurses using private pathology services are not included in these statistics as postcode is not collected.

⁷ The postal area for 10 Pap tests could not be mapped and 69 Pap tests where the VCCR did not have a postcode for.

⁸ Very Remote Australia areas are not represented within Victoria.

5. Age distribution of women screened

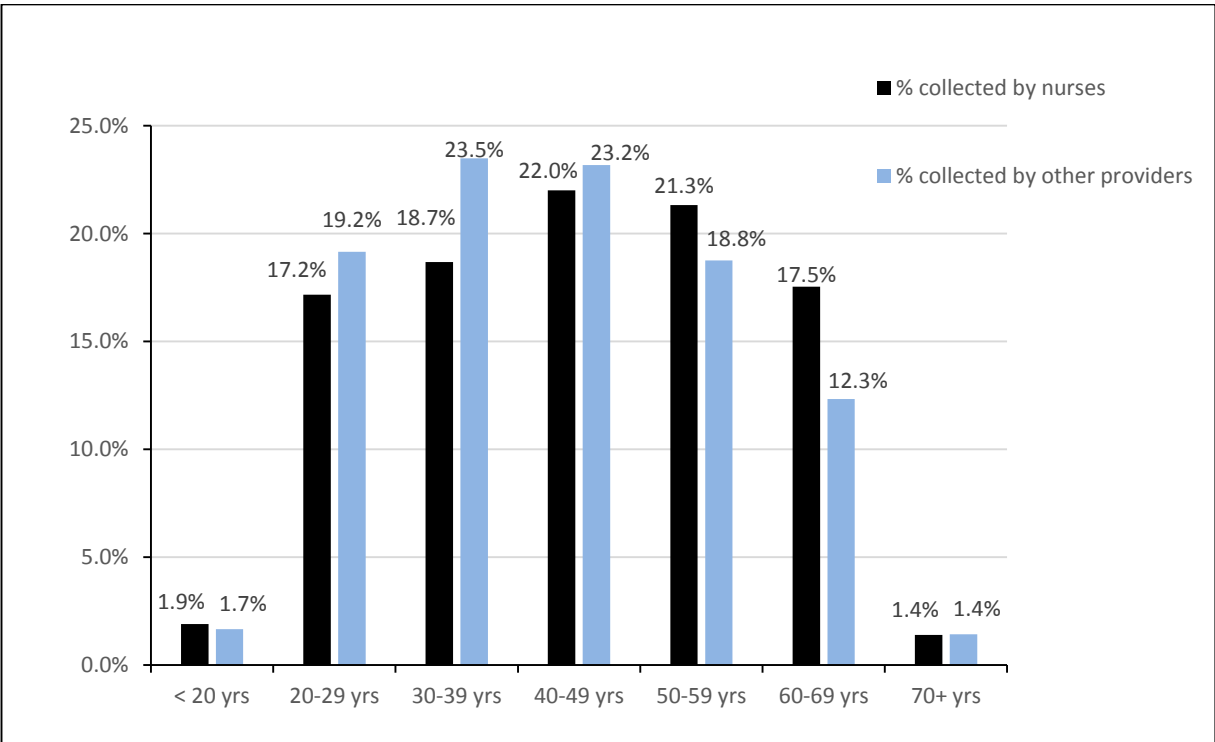
The age distribution of women whose Pap tests were collected by nurses and other provider types is shown in the table below. A comparison of 2012 and 2013 data shows the percentage of Pap test collection across all of the age groups to be very similar.

Consistent with the findings for 2012, the aggregated percentage of Pap tests collected by nurses during 2013 for women aged 50 years or older was greater than for tests collected by other provider types (40.2% compared with 32.5%).

Table 5.1 Age distribution of women screened in 2012 and 2013

Age group	Pap Tests Collected by:			
	Nurses		Other Providers types	
	2012	2013	2012	2013
<20 yrs	2.0%	1.9%	2.1%	1.7%
20-29 yrs	17.0%	17.2%	22.2%	19.2%
30-39 yrs	19.0%	18.7%	24.2%	23.5%
40-49 yrs	22.7%	22.0%	21.3%	23.2%
50-59 yrs	21.3%	21.3%	18.3%	18.8%
60-69 yrs	16.5%	17.5%	10.6%	12.3%
70+ yrs	1.4%	1.4%	1.2%	1.4%
Total	100%	100%	100%	100%

Figure 5.1 Age distribution of women screened in 2013



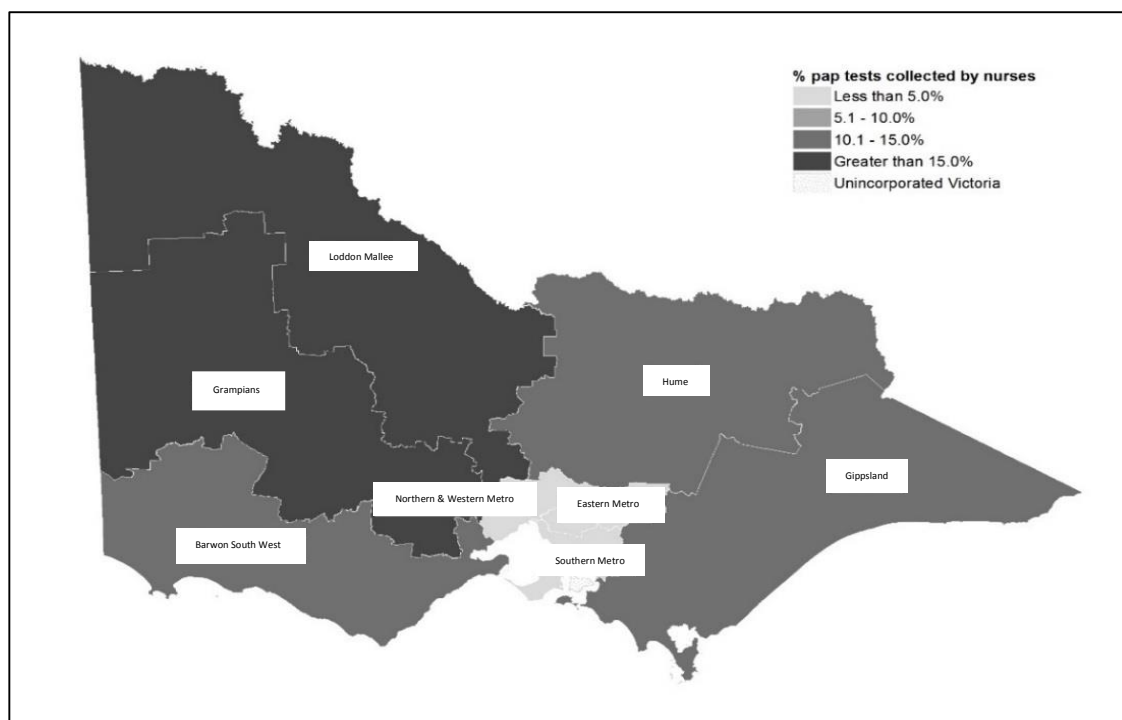
6. Proportion of Pap tests collected by nurses by Department of Health region⁹

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, Gippsland and the Southern Metropolitan regions between 2012 and 2013. The largest changes between 2012 and 2013 were for Barwon South West region (0.7% increase) and Loddon Mallee region (1.0% decrease).

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 2013 ¹⁰	No. of nurses in each region in 2013 ¹¹	% of Pap tests collected by nurses in 2013	% of Pap tests collected by nurses in 2012
Barwon South West	4,069	50	11.4%	10.7%
Eastern Metropolitan	2,318	31	2.2%	2.1%
Gippsland	2,517	30	10.5%	9.9%
Grampians	3,835	26	19.1%	19.7%
Hume	3,559	52	14.3%	14.8%
Loddon Mallee	6,620	69	22.2%	23.2%
Northern & Western Metropolitan	6,899	99	3.9%	4.1%
Southern Metropolitan	3,237	35	2.3%	2.0%

Figure 6.1 Proportion of Pap tests collected by nurses during 2013 by DH region



⁹ 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. Note that this section does not include private pathology nurses as postcode data is not collected.

¹⁰ Excludes 326 post-hysterectomy Pap tests, 6 interstate postcodes, 68 women where postcode was missing or not able to be matched and 4,558 Pap tests submitted to PapScreen Victoria where postcode data is not collected. The 4,558 Pap tests from nurses using private pathology services are not included in these statistics as postcode is not collected.

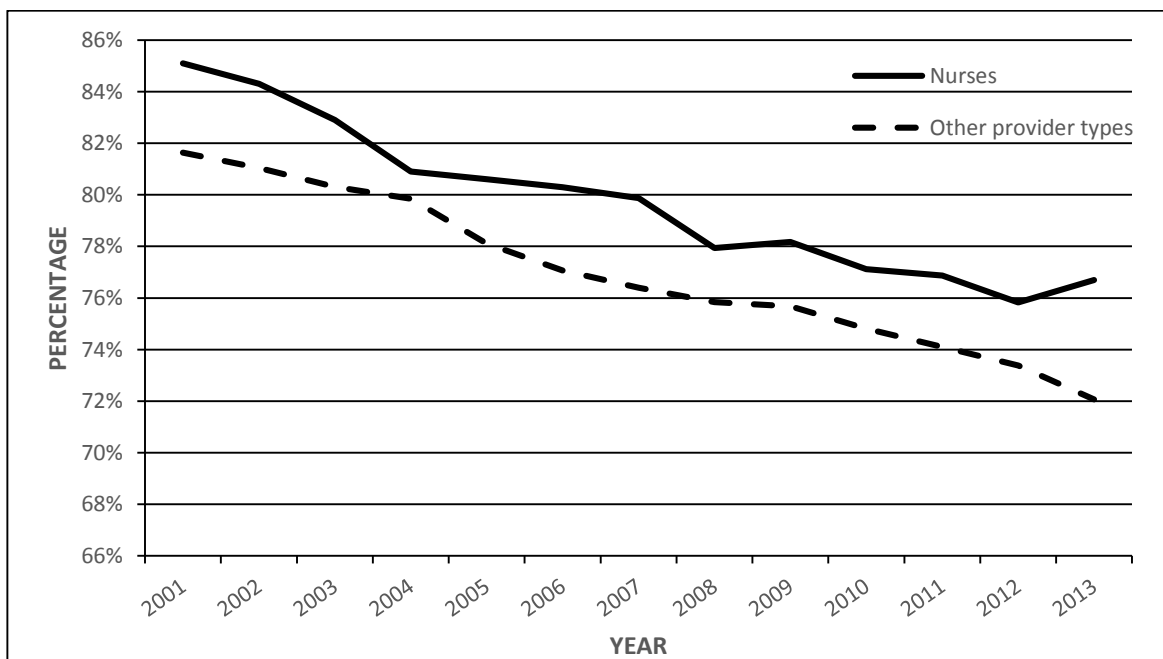
¹¹ Excludes eight nurses whose postcode could not be matched, 36 nurses who do not collect postcode data when submitted to PapScreen Victoria and one nurse who performed only one Pap test on a woman who did not have a cervix.

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 2013, 76.7% 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 72.1%.

The graph below shows an increase in the proportion of pap tests collected by nurses having an endocervical component from 2012 to 2013. However an increase for other provider types is not observed. Previous to 2013, a general 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 2013 for women with a cervix.¹² Compared with Victorian Pap tests collected by other provider types, nurses had a higher proportion of tests with negative results and lower proportions for high grade, low grade and unsatisfactory tests. The proportion of inconclusive Pap tests was consistent with other provider types.

Table 8.1 Profile of Pap test reports collected during 2013 for women with a cervix

Report category	Number (%) of Pap tests collected by nurses	% of Pap tests collected by other provider types ¹³
High grade abnormality	210 (0.6%)	0.8%
Low grade abnormality	2,019 (5.4%)	5.5%
Inconclusive	286 (0.8%)	0.8%
Negative	34,523 (91.7%)	90.1%
Unsatisfactory	607 (1.6%)	2.8%
Total	37,645 (100%)	100%

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 2013. Compared with Pap tests collected by other Victorian provider types and similar to the findings of 2012, a higher proportion of Pap tests were collected by nurses where the time interval since the last test was greater than 21 months.

Table 9.1 Time since previous Pap test during 2013 for women with a cervix

Time since previous test ¹⁴	Number (%) of Pap tests collected by nurses	% of Pap tests collected by other provider types ¹⁵
No previous test	3,845 (10.2%)	11.5%
<21 months	6,055 (16.1%)	23.1%
21-27 months	12,564 (33.4%)	28.6%
Greater than 27 months	8,529 (22.7%)	21.6%
Greater than 36 months	2,925 (7.8%)	6.9%
Greater than 48 months	3,609 (9.6%)	8.3%
Unknown	118 ¹⁶ (0.3%)	-
Total	37,645 (100%)	100%

¹² Based only on the squamous cell code within the VCCR Cytology Coding Schedule.

¹³ This excludes Pap tests collected by nurses.

¹⁴ Time since previous test has been categorised in a new format for this report.

¹⁵ This excludes Pap tests collected by nurses.

¹⁶ 118 represents the data from PapScreen Victoria where Time since previous Pap test for women with a cervix was not completed.

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 women in cervical screening. Following a successful pilot in 2008, the nurses who work with VCS Pathology continue to record Aboriginal and Torres Strait Islander 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 Pap tests collected by nurses in 2013 by Aboriginal and Torres Strait Islander Status

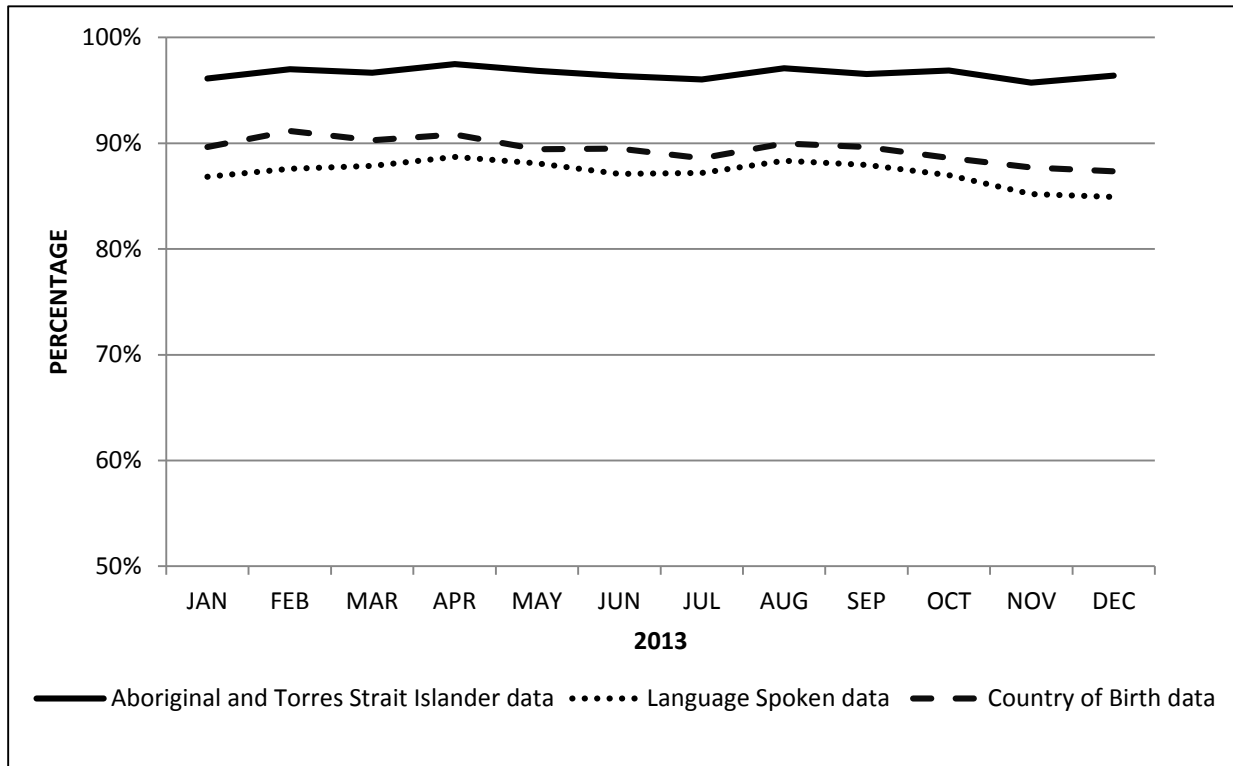
Aboriginal and Torres Strait Islander Status	No.	%
Aboriginal	473	1.2%
Torres Strait Islander	19	0.1%
Aboriginal and Torres Strait Islander	56	0.2%
Not Aboriginal and Torres Strait Islander	36,175	95.2%
Not Collected	1,289	3.4%
Total	38,012 ¹⁷	100.0%

The overall percentage of Pap tests collected by nurses for which an Aboriginal and Torres Strait Islander status was reported in 2013 was 96.6%, an increase of 2.2% from 94.4% in 2012.

¹⁷ Total Pap tests include VCCR Pap tests and nurses who use private pathology services.

In 2011, the data collection was expanded to also 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 Aboriginal and Torres Strait Islander Status, Language Spoken at Home and Country of Birth were recorded for each month of 2013

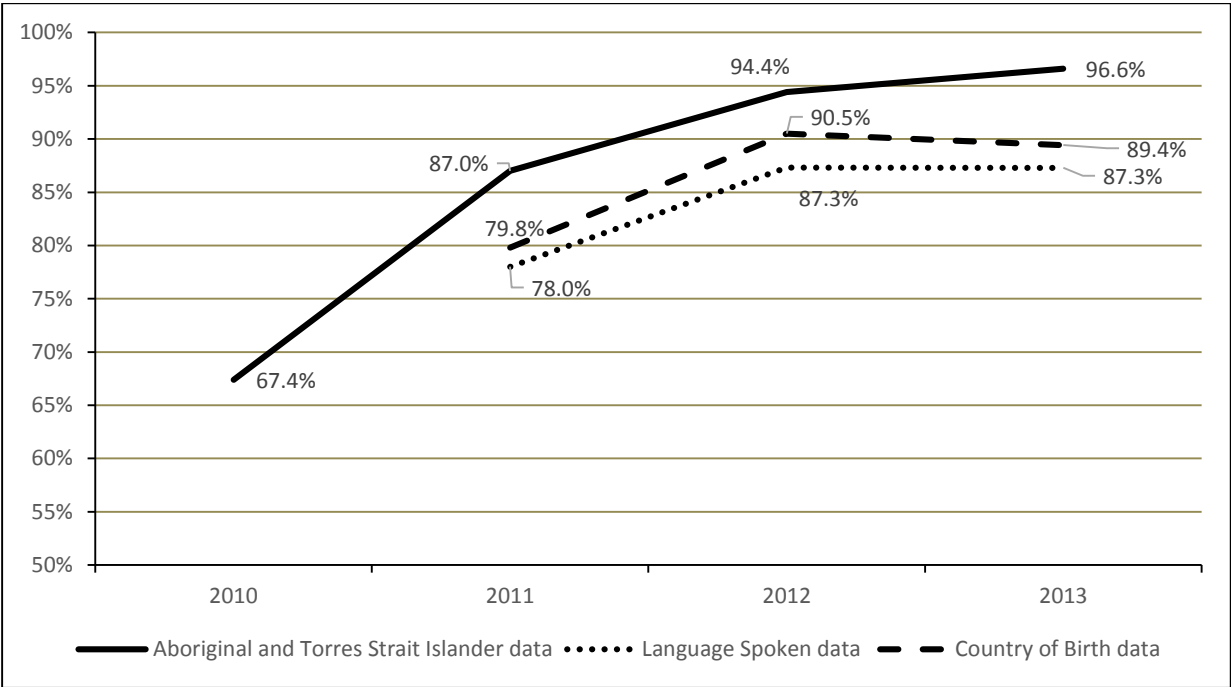


In 2013, the overall percentage of Pap tests recorded by nurses for which Language Spoken at Home was collected was 87.3%. This has stayed the same since 2012. The most common Non-English languages were as follows: Vietnamese, Khmer, Greek, Mandarin, Italian, Arabic, Chinese, Spanish, Cantonese and Maltese.

The overall percentage of Pap tests recorded by nurses for which Country of Birth was recorded was 89.5%. This is a decrease of 1% compared with the 90.5% recorded in 2012. The most common countries of birth outside of Australia were as follows: England, China (excludes SARS and Taiwan), Vietnam, New Zealand, Cambodia, United Kingdom (includes Channel Islands and Isle of Man), Burma (Myanmar), Philippines, Greece and Italy.

VCCR continues to work closely with VCS Pathology and PapScreen Victoria to capture all of these data items on the registry database from nurse notifications including from nurses who use private pathology services. Figure 10.2 below represents the continued increase in the recording of Aboriginal and Torres Strait Islander status and the high percentage of Language Spoken at Home and Country of Birth data collection. The graph illustrates the strong commitment of nurses involved in cervical screening and of all other key stakeholders.

Figure 10.2 Percentage of Pap tests collected by nurses for which Aboriginal and Torres Strait Islander Status, Language Spoken at Home¹⁸ and Country of Birth¹⁸ were recorded by year



¹⁸ Language Spoken at Home and Country of Birth not collected prior to 2011.

11. Conclusion

There are currently 437 active credentialed nurses in Victoria. Of these, 401 report Pap tests directly to VCS Pathology and the other 36 report through other private pathology services under a doctor's name.

During 2013 the number of tests collected by these credentialed nurses and reported to the Registry increased to 38,012 (88% reported through VCS Pathology and 12% reported through private pathology under a doctor's name). The Pap tests collected by nurses represent 6.3% of all Pap tests performed that year, continuing the observed trend of 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. There was also an increase in other practice types (e.g. Hospitals and dysplasia clinics) which represents some of the nurses who report under a doctor's name.

The majority of nurses who collected Pap tests and Victorian women who had Pap tests collected by nurses during 2013 were located in major cities or inner regional areas of Victoria.

In 2013 nurses continued to collect a higher proportion of tests from women over the age of 50 years than other provider types. Within DH regions, increases for proportion of Pap tests collected by nurses were seen in Barwon South West, East Metropolitan, Gippsland and South Metropolitan.

Although a general downward trend has continued to be observed over the last decade, the proportion of tests with an endocervical component continues to be higher and rising for nurses than other provider types.

The data in this report highlights the 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. Also of note is the commitment of nurses for complete data collection to assist with targeting under screened groups.

12. References

Australian Bureau of Statistics, *Australian Statistical Geography Standard (ASGS), July 2011*. Cat. no.1270.0.55.001

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1270.0.55.001July%202011?OpenDocument>

Australian Bureau of Statistics, *Glossary of Statistical Geography Terminology, 2013*.

<http://www.abs.gov.au/ausstats/abs@.nsf/mf/1217.0.55.001>

Department of Health, 2013. 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.

Postal Area to ASGS RA conversion file courtesy of the Australian Institute of Health and Welfare, May 2014. Data is based on 2011 Remoteness Areas on 2011 census data.

Victorian Cervical Cytology Registry (VCCR), *2006 Cytology Coding Schedule*.



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