



**EVALUATION OF PAP TESTS COLLECTED BY NURSES
IN VICTORIA DURING 2007**

**Victorian Cervical Cytology Registry
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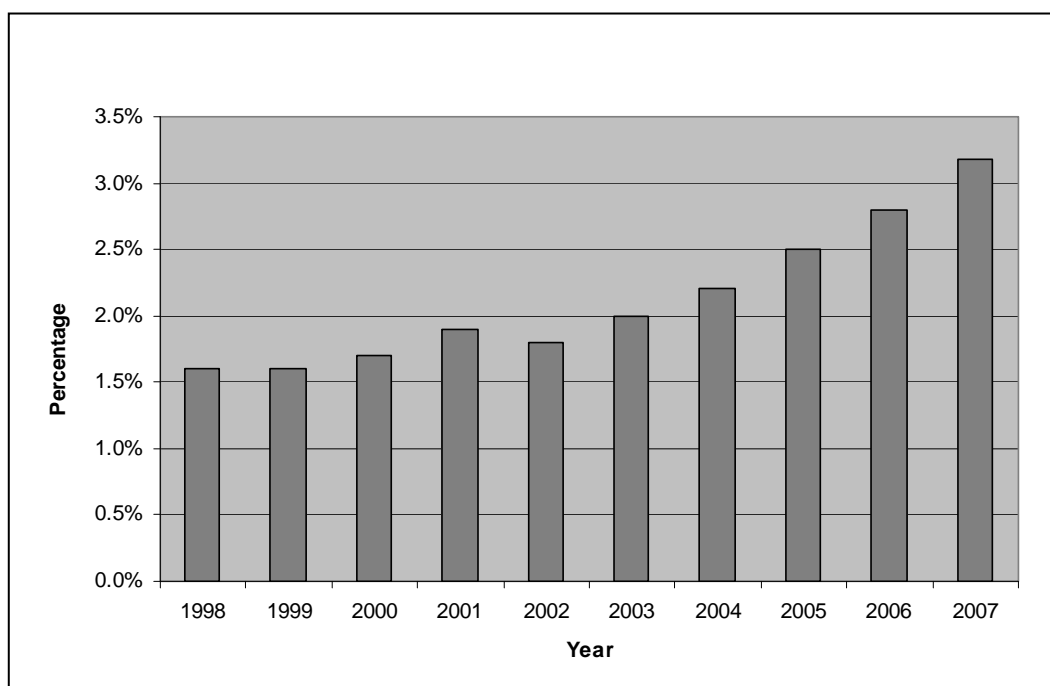
1. Number of Pap Tests Collected by Nurses

As known to the Victorian Cervical Cytology Registry (VCCR), a total of 18,651 Pap tests were collected by nurses during 2007 (with 18,410 being from women with a cervix). This is out of a total of 585,511 Victorian Pap tests for 2007 (with 574,909 being from women with a cervix). The number of tests collected by nurses represents 3.2% of all Victorian Pap tests collected in 2007. The following table shows comparison figures for earlier years. Over the last ten years, the number and proportion of Pap tests collected by nurses has doubled.

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
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%

Figure 1.1 Proportion of Pap tests collected by nurses in Victoria



2. Post- Hysterectomy Tests

Two hundred and forty one Pap tests collected by nurses during 2007 were taken from women whose records indicate they have had a hysterectomy. This represents 1.3% of tests collected by nurses during 2007 (which is the same as for 2006). Among all Pap tests collected in Victoria in 2007, 1.8% were from women who have had a hysterectomy. This proportion did not vary when excluding nurse practitioners from the Victorian sample.

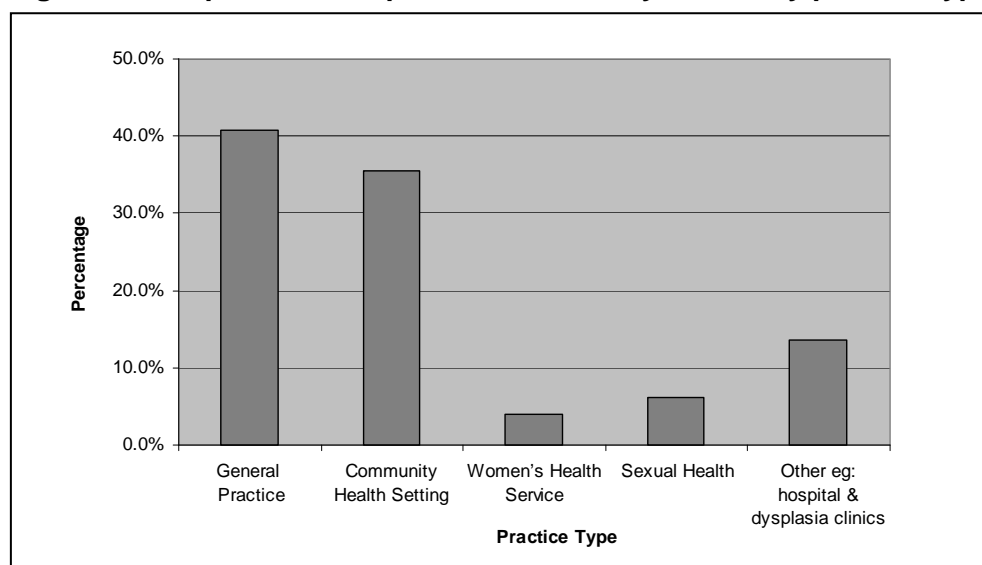
3. Type of Practice for Nurses

Of the Pap tests collected by nurses in 2007, the majority were conducted in General Practice or a Community Health setting. The proportion of Pap tests collected in General Practice or a Community Health setting increased from 72.0% in 2006 (data not shown) to 76.3% in 2007.

Table 3.1 Number of Pap tests collected by nurses in 2007 by practice type

Practice type	Number of practices	Number of nurses at each practice type ¹	Number of smears taken in 2007 by nurses	% of smears by practice type
General Practice	108	90	7,616	40.8%
Community Health Setting	129	98	6,623	35.5%
Women's Health Service	10	7	737	4.0%
Sexual Health ²	49	36	1,135	6.1%
Other eg: hospital and dysplasia clinics	49	37	2,540	13.6%
Total	345	268	18,651	100%

Figure 3.1 Proportion of Pap tests collected by nurses by practice type



¹ The most common practice type used for nurses who worked at multiple practices.

² Sexual Health includes Melbourne Sexual Health Centre and Family Planning, Action Centre.

4. Location and Volume of Practice

During 2007, the Registry recorded 268 nurses as having collected Pap tests. The Registry is unable to include data on Pap tests taken by nurses if the nurse has not indicated to the pathology laboratory that they collected the test. It is thought this practice occurs infrequently in Victoria.

The volume of Pap tests collected by nurses in 2007, sub-classified by the practice location, is shown in the table below according to ARIA – the Accessibility/Remoteness Index of Australia. ARIA measures the remoteness of a location from service centres such as large towns and is considered to have a number of advantages compared with RRMA. ARIA has 5 classifications:

1. Highly Accessible – relatively unrestricted access to a wide range of goods and services and opportunities for social interaction.
2. Accessible – some restrictions to a wide range of goods and services and opportunities for social interaction.
3. Moderately Accessible – significantly restricted accessibility of goods, services and opportunities for social interaction.
4. Remote – very restricted accessibility of goods, services and opportunities for social interaction.
5. Very Remote – very little accessibility of goods, services and opportunities for social interaction.

Nurses who collected Pap tests in Victoria in 2007 have practice locations which belong to the first three categories.

Table 4.1 Nurse location and volume of Pap tests by ARIA classification

Number of Pap tests collected in 2007	Nurses located in Highly Accessible areas (= 201)	Nurses located in Accessible or Moderately Accessible areas (n= 67)
>200 tests	13 (6.5%)	5 (7.5%)
100-199 tests	33 (16.4%)	10 (14.9%)
50-99 tests	46 (22.9%)	13 (19.4%)
20-49 tests	34 (16.9%)	17 (25.4%)
10-19 tests	28 (13.9%)	13 (19.4%)
1-9 tests	47 (23.4%)	9 (13.4%)

The median number of tests collected during 2007 by a nurse in a Highly Accessible area was 37 tests (range 1 - 605). For nurses working in other areas, the median number was 31 tests (range 3 - 868). This is different from 2006 where the median was slightly lower for Highly Accessible areas than other areas.

5. Location of Women Screened

The location of residence of women whose Pap tests were collected by nurses in 2007 is shown in the following table. The ARIA classification of remoteness is also used for this data. Compared with 2006, the proportion of women who had a Pap test in 2007 in a Highly Accessible area was slightly higher (73.2% in 2007 compared with 70.8% in 2006).

Table 5.1 Location of women by ARIA classification

Location by ARIA classification	Number (%) of women screened
Highly Accessible	13,652 (73.2%)
Accessible	3,335 (17.9%)
Moderately Accessible	1,615 (8.7%)
Remote	3 (<0.1%)
Not able to be determined ³	46 (0.2%)
Total	18,651 (100%)

6. Age Distribution of Women Screened

The age distribution of the women whose Pap tests were collected by the nurses is shown in the following table. A comparison of the age distribution for all Victorian tests during 2007 is provided. The table shows that the proportion of Pap tests collected by nurses for women over the age of 50 years is greater than for all Victorian Pap tests. Compared with 2006 there were slight increases in the proportion of tests for 20-39 year old women (data not shown), but this was still below the average for all Victorian Pap tests.

Table 6.1 Age distribution of women screened in 2007

Age group	% of Pap tests collected by nurses	% of all Victorian Pap tests
<20 yrs	2.6%	2.3%
20-29 yrs	17.1%	20.3%
30-39 yrs	19.5%	25.2%
40-49 yrs	23.5%	23.4%
50-59 yrs	20.5%	17.4%
60-69 yrs	15.0%	9.9%
70+ yrs	1.8%	1.5%
Total	100%	100%

³ Address for woman unavailable

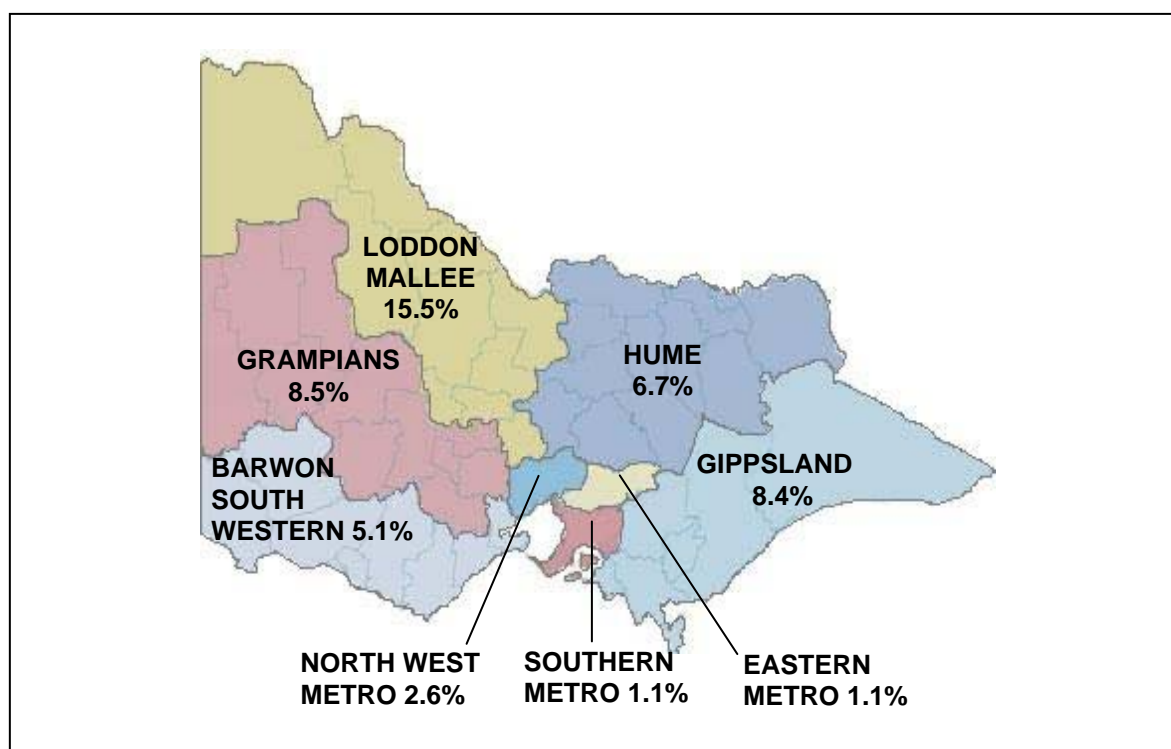
7. Proportion of Pap Tests Collected by Nurses by DHS Region

Most Victorian postcodes are assigned to a Region of the Victorian Department of Human Services. Victoria is divided into eight regions, five in rural Victoria and three covering metropolitan Melbourne. The table and image below show that the rural DHS regions had a higher proportion of tests collected by nurses, for women with a cervix, than those within metropolitan Melbourne. Compared with the previous year the proportion of tests collected by nurses increased in all DHS regions, with the biggest increase seen in the Loddon Mallee and Hume regions (from 13.6% to 15.5% and 4.8% to 6.7% respectively). Only small increases were seen in the metropolitan DHS regions between 2006 and 2007.

Table 7.1 Pap tests for women with a cervix collected by nurses in 2007 by Department of Human Services region

Region name	Number of Pap tests collected by nurses ⁴	Number of nurses in each region	% of all Victorian Pap tests collected by nurses
Barwon South Western	1,760	25	5.1%
Eastern Metropolitan	1,192	18	1.1%
Gippsland	2,006	29	8.4%
Grampians	1,604	30	8.5%
Hume	1,697	34	6.7%
Loddon Mallee	4,402	35	15.5%
North West Metropolitan	4,229	79	2.6%
Southern Metropolitan	1,475	18	1.1%

Figure 7.1 Proportion of Pap tests collected by nurses in 2007 by Victorian DHS region

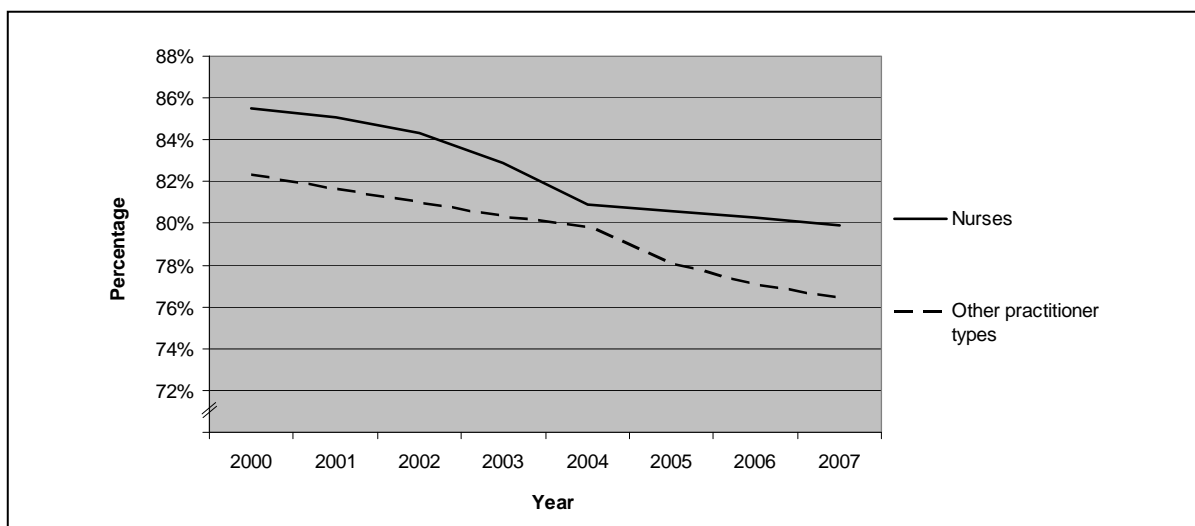


⁴ Excludes 241 post-hysterectomy Pap tests and 45 where woman postcode was missing or not able to be matched.

8. Endocervical Status

Of the technically satisfactory Pap tests collected from women with a cervix by nurses in 2007, 79.9% were reported as including an endocervical component. During 2007, 76.4% of all technically satisfactory Pap tests taken by other practitioner types, from women with a cervix, were reported as having an endocervical component⁵. The graph below illustrates a decline in the proportion of Pap tests with an endocervical component since 2000, however the decline is less for nurses compared with other practitioner types.

Figure 8.1 Proportion of Victorian Pap tests with an endocervical component for nurses and other practitioner types



9. Profile of Pap Test Reports for Women with a Cervix

The following table shows the Pap test report categories for tests collected by nurses and other practitioner types in 2007 for women with a cervix⁶. Compared with all Victorian tests collected during 2007, nurses had a slightly higher proportion of tests with a negative result and a slightly lower proportion of low grade and unsatisfactory tests. Compared with 2006 data, the percentage of low grade Pap tests collected by nurses decreased (from 5.7% to 4.8%) while the proportion of negative tests increased (from 91.7% to 92.7%)

Table 9.1 Profile of Pap test reports collected in 2007 for women with a cervix

Report category	Number (%) of Pap tests collected by nurses	% of all Victorian Pap tests
High grade abnormality	88 (0.5%)	0.8%
Low grade abnormality	893 (4.8%)	5.2%
Inconclusive	85 (0.5%)	0.6%
Negative	17,071 (92.7%)	91.4%
Unsatisfactory	269 (1.5%)	2.0%
Total	18,406 (100%)	100%

⁵ This percentage excludes nurse practitioners. This is not comparable with the percentage provided in the 2006 Nurse report where nurse practitioners were included.

⁶ Based only on the squamous cell code within the VCCR Cytology Code Schedule.

10. Time Since Previous Screening for Women with a Cervix

The following table shows the time since any previous Pap test, as known to the Registry, for tests collected in 2007. Compared with all Victorian Pap tests the proportion collected by nurses was greatest for tests where the time interval since the last test was greater than 2 years. This is consistent with data from 2006.

Table 10.1 Time since previous Pap test for women with a cervix

Time since previous test	Number (%) of Pap tests collected by nurses in 2007	% of all Victorian Pap tests collected in 2007
No previous test	2,128 (11.5%)	11.1%
4 yrs +	1,706 (9.3%)	7.3%
3.0 to <4 yrs	1,207 (6.6%)	5.6%
2.5 to <3 yrs	1,684 (9.1%)	7.9%
2.0 to <2.5 yrs	6,812 (37.0%)	32.9%
1.5 to <2 yrs	2,032 (11.0%)	11.7%
1.0 to <1.5 yrs	1,729 (9.4%)	12.0%
0.5 to <1 yr	730 (4.0%)	7.0%
<0.5 yrs	382 (2.1%)	4.5%
Total	18,410 (100%)	100%

11. Conclusion

Over the last decade the number of Pap tests collected by nurses has doubled. In 2007 the number of tests collected by nurses rose to 18,651 which is 3.2% of all Pap tests performed in Victoria for that year.

The proportion of post-hysterectomy Pap tests collected by nurses remained similar to that for all Victorian Pap tests. General Practice and Community Health settings remained the main types of practice where nurses collect Pap tests. In 2007, nurses who practiced in ARIA areas classified as Highly Accessible tended to take more Pap tests than those in Accessible and Moderately Accessible areas, and almost three quarters of women who had a Pap test in 2007 were in a highly accessible area.

Compared with all Victorian Pap tests collected in 2007, women aged over 50 years were more likely to have their test collected by a nurse. Nurses continued to collect a higher proportion of Pap tests in rural DHS regions compared with metropolitan regions, with an increase seen in the Loddon Mallee and Hume DHS regions from the previous year. There was a very slight decline in the proportion of tests collected by nurses with an endocervical component, however this remained higher than for other practitioner types.

12. References

Australian Institute of Health and Welfare 2004. Rural, regional and remote health; a guide to remoteness classifications. AIHW cat .no PHE 53. Canberra: AIHW

Measuring Remoteness: Accessibility/Remoteness Index of Australia (ARIA) Revised Edition. Occasional Papers: New Series Number 14, October 2001

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