Appendixes

Appendix A: Cervical cancer—symptoms, detection and treatment

Cervical cancer affects the cells of the cervix, which is the lower part of the womb (uterus) as it joins the inner end of the vagina. Like other cancers, cervical cancer is a disease where normal cells change, begin to multiply out of control, and form a growth or tumour. The cancer may arise from the squamous cells at the transformation zone where the squamous cells on the outside of the cervix join the columnar cells in the lining of the cervical canal (squamous cell carcinoma) or from the cells in the cervical canal (adenocarcinoma). Over two-thirds of cervical cancers are squamous cell carcinomas, which are most easily detected on the Pap smear, and about 20% are adenocarcinomas. If not detected early, the tumour can invade local tissue and spread (metastasise) to other parts of the body. The main symptoms of cervical cancer are unusual bleeding from the vagina, and very rarely an unusual vaginal discharge. However, these symptoms are quite common and are usually not due to cancer.

A cervical cancer may take 10 or more years to develop, but before this the cells may show pre-cancerous changes. These early changes can be detected by a Pap smear (described in more detail below), and if they are promptly treated, cervical cancer can be prevented. The National Health and Medical Research Council recently approved a revised classification system of the Australian Modified Bethesda System (2004) which will be used to classify data collected from July 2006 onwards; however, the data in this report have been collated using the previous classification system in which these pre-cancerous lesions have two levels of severity—low-grade epithelial abnormalities and high-grade epithelial abnormalities. An earlier classification described various grades of cervical intraepithelial neoplasia (CIN). Low-grade abnormalities include minor changes in squamous cells and CIN 1, and high-grade abnormalities include CIN 2, CIN 3, squamous carcinoma in situ, adenocarcinoma in situ and invasive carcinoma (squamous or adenocarcinoma).

The Pap smear is the most common way to detect pre-cancerous changes, which rarely cause any symptoms. The test involves a doctor or nurse practitioner inserting a speculum into the vagina and gently scraping the surface of the cervix. This process collects cells that are transferred onto a slide or into a special liquid, which is then sent to a pathology laboratory for assessment. Pap smears are offered by general practitioners, gynaecologists, family planning clinics, women's health centres, hospital outpatient clinics and, in some circumstances, specially trained nurses.

If the Pap smear shows an abnormality, the woman may be advised to have a repeat smear if the abnormality is low grade or she may be advised to have a colposcopy. With colposcopy, a doctor is able to look directly at the cervix under magnification using an instrument called a colposcope. Using a special stain the doctor can highlight any suspicious area, which may be pre-cancerous or cancerous. The doctor will then take a tissue sample (a biopsy) of the suspicious area for further examination by a pathologist.

Pre-cancerous changes can be easily and effectively treated to prevent the progression to cervical cancer. The type of treatment depends on whether the change observed is low or

high grade, the woman's age and general health, whether she wants to have children, and on her preferences.

There is a range of treatments for pre-cancerous changes, including laser treatment, loop excision (LLETZ), cryosurgery (cold coagulation), electrodiathermy, or cone biopsy (either by laser or by scalpel). In a small number of instances, a hysterectomy may be necessary.

For invasive cancer, a cone biopsy or hysterectomy is generally performed. If the cancer cells are detected on the surface of the cervix only, it may be treated by a cone biopsy. If it has invaded deeper into the cervix, a hysterectomy is generally performed. In advanced cases, a radical hysterectomy is needed to remove the cervix and uterus along with a margin of tissue around the cervix and lymph nodes from the pelvis. Radiotherapy is sometimes used as well as surgery, and for more advanced cases it may be used on its own.

Appendix B: Data sources and limitations

All data used in this report are based on calendar years. Data are derived from multiple sources and are summarised below.

Table B1: Cervical cancer screening indicators data sources

Indicator	Description	Data source
1	Participation rate for cervical cancer screening	National Cervical Screening Program
2	Early re-screening	National Cervical Screening Program
3	Low-grade abnormality detection	National Cervical Screening Program
4	High-grade abnormality detection	National Cervical Screening Program
5.1	Incidence of micro-invasive cervical cancer National Cancer Statistics Clearing House (ICD-10 C53)	National Cancer Statistics Clearing House
5.2	Incidence of squamous, adenocarcinoma, adeno-squamous and other cervical cancer (ICD-10 C53)	National Cancer Statistics Clearing House
5.3	Incidence by location (ICD-10 C53)	National Cancer Statistics Clearing House
6.1	Mortality from cervical cancer (ICD-9 180 for data up to and including 1996; ICD-10 C53 for data from 1997 onwards)	AIHW Mortality Database
6.2	Mortality by location	AIHW Mortality Database
6.3	Mortality by Indigenous status	AIHW Mortality Database

Population data

The Australian Bureau of Statistics estimated resident female population has been used to calculate incidence and mortality rates. Participation rates were calculated using the average of the estimated resident female population for the two-year reporting period. There may be some variation in published participation rates because national rates use estimated resident population data in the denominator whereas local data analysis may use Census counts. The denominator population used to calculate cervical screening participation rates has been adjusted by the estimated proportion of women who have had a hysterectomy by age. These data were derived from the 2001 National Health Survey, and are tabled in Appendix D.

The age-standardised rates in this publication are calculated using the total estimated 2001 mid-year Australian resident population. Where appropriate, rates are also standardised to the WHO World Standard Population for international comparison. Both the Australian and the WHO World Standard Populations are in Appendix D.

Indigenous mortality data

Due to the difficulties of Indigenous identification, mortality data used in Indicator 6.3 are based on deaths in Queensland, Western Australia, South Australia and the Northern Territory only.

Other data limitations

- Hysterectomy fractions are calculated using national data derived from the ABS National Health Survey using aggregate data that do not necessarily reflect variation at the state or territory level. In this report, data from the 2001 National Health Survey have been used.
- Participation rates will be underestimates to the extent that a small percentage of women choose to opt off local registers and have been excluded from the statistics in this report.
- The participation numbers for states and territories other than Victoria, the Australian Capital Territory and the Australian totals may be overestimated because of double counting of some women in registers. This may be the result of difficulty in identifying state or territory of residence for women in border areas and the inclusion in registers of women resident overseas.
- Participation rates published by state and territory programs may differ from those in this publication because of variation in denominators used.

Trend data

Where trend data have been provided for indicators relating to participation, early re-screening, low-grade abnormalities or high-grade abnormalities, it is important to note that for some years not all jurisdictions were able to supply data and there were differences in how data were reported for some reporting periods (footnotes advising the limitations of data have been provided wherever this was applicable). For some states and territories the absence of data is due to a later commencement date for the registry, as shown below.

States and territories	Date registry commenced
New South Wales	July 1996
Victoria	November 1989
Queensland	February 1999
Western Australia	July 1994
South Australia	June 1993
Tasmania	May 1994
Australian Capital Territory	March 1995
Northern Territory	March 1996

Appendix C: Methods

This section describes the methods employed to calculate the estimates presented in the tables in the body of this publication.

Crude rates

A crude rate is defined as the number of events over a specified period of time (for example, a year) divided by the total population. For example, a crude cancer incidence rate is similarly defined as the number of new cases of cancer in a specified period of time divided by the population at risk. Crude death rates and cancer incidence rates are expressed in this report as rates per 100,000 population. Crude participation rate is expressed as a percentage.

Age-specific rates

Age-specific rates are calculated by dividing the number of cases occurring in each specified age group by the corresponding population in the same age group expressed as a percentage or a rate per 1,000 or 100,000 population. This rate may be calculated for particular age and sex groupings, for example:

$$\text{Age-specific cervical cancer incidence rate in females aged 50–54 years in 2002} = \frac{\text{New cases aged } 50-54 \text{ years (year 2002)}}{2002 \text{ female population aged } 50-54 \text{ years}} \times 100{,}000$$

$$= \frac{78}{650{,}212} \times 100{,}000$$

$$= 12.0 \text{ per } 100{,}000$$

Age-standardised rates (AS rates)

Rates are adjusted for age to facilitate comparisons between populations that have different age structures, for example, between youthful and ageing communities. There are two different methods commonly used to adjust for age. In this publication we use direct standardisation in which age-specific rates are multiplied against a constant population (the Australian 2001 Standard Population unless otherwise specified). This effectively removes the influence of age structure on the summary rate that is described as the age-standardised rate. The method may be used for the calculation of participation, incidence and mortality rates. The method used for this calculation comprises three steps.

Step 1: Calculate the age-specific rate (as shown above) for each age group.

Step 2: Calculate the expected number of cases in each five-year age group by multiplying the age-specific rates by the corresponding standard population and dividing by the appropriate factor (that is, 100,000 for mortality and incidence rates and 100 for the participation rate).

Step 3: Sum the expected number of cases in each group, divide by the total of the standard population and multiply by the appropriate factor (that is, 100,000 for mortality and incidence rates and 100 for the participation rate). This gives the age-standardised rate.

Confidence intervals

Population numbers for incidence, mortality and screening have a natural level of variability for a single year above and below what might be expected in the mean over many years. The percentage variability is small for large population numbers but high for small numbers such as mortality in a young age group. One measure of the likely difference is the standard error, which indicates the extent to which a population number might have varied by chance in only one year of data.

In the 95% confidence interval there are about 19 chances in 20 that the difference will be less than two standard errors.

The 95% confidence intervals (CIs) in this report were calculated using a method developed by Dobson et al. (1991). This method calculates approximate confidence intervals for a weighted sum of Poisson parameters.

Appendix D: Population data

Table D1: Australian Standard Population[a] and WHO World Standard Population[b]

Age group	World Standard Population (W)	Australian 2001 Population Standard (A)
0–4	8.86	1,282,357
5–9	8.69	1,351,664
10–14	8.60	1,353,177
15–19	8.47	1,352,745
20–24	8.22	1,302,412
25–29	7.93	1,407,081
30–34	7.61	1,466,615
35–39	7.15	1,492,204
40–44	6.59	1,479,257
45–49	6.04	1,358,594
50–54	5.37	1,300,777
55–59	4.55	1,008,799
60–64	3.72	822,024
65–69	2.96	682,513
70–74	2.21	638,380
75–79	1.52	519,356
80–84	0.91	330,050
85+	0.63	265,235
Total	**100.03**	**19,413,240**

Sources

(a) ABS 2002.

(b) Ahmad et al. 2002.

Table D2: Hysterectomy fractions for women aged 15–80+ years, 2001

Age group	% of women who have not had a hysterectomy
18–19	100.0
20–24	100.0
25–29	100.0
30–34	98.9
35–39	95.6
40–44	90.6
45–49	82.5
50–54	76.5
55–59	66.2
60–64	68.9
65–69	66.8
70–74	68.1
75–79	67.9
80+	69.0
Total	**85.5**

Source: ABS 2002.

Appendix E: Tables published on the Internet

Indicator 1: Participation

Table 1: Proportion of women participating in the National Cervical Screening Program, by age, 1996–1997 to 2004–2005

Table 2: Proportion of women participating in the National Cervical Screening Program, by age, states and territories, 1996–1997 to 2004–2005

Table 3: Number of women participating in the National Cervical Screening Program, by age, states and territories, 2004–2005

Table 4: Proportion of women participating in the National Cervical Screening Program, by age, states and territories, 2004–2005

Table 5: Number of women participating in the National Cervical Screening Program, by age, states and territories, 2003–2004

Table 6: Proportion of women participating in the National Cervical Screening Program, by age, states and territories, 2003–2004

Table 7: Number of women participating in the National Cervical Screening Program, by age, states and territories, 2002–2003

Table 8: Proportion of women participating in the National Cervical Screening Program, by age, states and territories, 2002–2003

Table 9: Number of women participating in the National Cervical Screening Program, by age, states and territories, 2001–2002

Table 10: Proportion of women participating in the National Cervical Screening Program, by age, states and territories, 2001–2002

Table 11: Number of women participating in the National Cervical Screening Program, by age, states and territories, 2000–2001

Table 12: Proportion of women participating in the National Cervical Screening Program, by age, states and territories, 2000–2001

Table 13: Number of women participating in the National Cervical Screening Program, by age, states and territories, 1999–2000

Table 14: Proportion of women participating in the National Cervical Screening Program, by age, states and territories, 1999–2000

Table 15: Number of women participating in the National Cervical Screening Program, by age, states and territories, 1998–1999

Table 16: Proportion of women participating in the National Cervical Screening Program, by age, states and territories, 1998–1999

Table 17: Number of women participating in the National Cervical Screening Program, by age, states and territories, 1997–1998

Table 18: Proportion of women participating in the National Cervical Screening Program, by age, states and territories, 1997–1998

Table 19: Number of women participating in the National Cervical Screening Program, by age, states and territories, 1996–1997

Indicator 2: Early re-screening

Indicator 3: Low-grade abnormality detection

Indicator 4: High-grade abnormality detection

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Appendix G: Pre-2006 NHMRC guidelines for the management of women with screen-detected abnormalities

This reference sheet is a summary of the NHMRC guidelines for the management of women with screen-detected abnormalities. It is intended to assist medical practitioners to take appropriate action on receipt of Pap smear reports. (Information on the new NHMRC guidelines can be found on page 85.)

Low-grade epithelial abnormalities		
Pap smear report	**Investigation**	**Management**
Non-specific minor squamous cell changes/atypia		Repeat smear at 12-monthly intervals until it reverts to normal.
Minor changes in endocervical cells/ low-grade glandular change	Repeat smear in 6 months using cytobrush and spatula. If low-grade abnormality persists, refer for colposcopy and biopsy if indicated.	If endocervical cell abnormality confirmed, refer to gynaecologist for appropriate treatment.
HPV effect/HPV-associated cell changes	Repeat smear at 6-monthly intervals. If HPV-associated cell changes persist after 12 months, refer for colposcopy.	If HPV confirmed, continue with 6-monthly smears until two negative reports are received. Repeat smear annually for 2 years then revert to 2-yearly screening.
Possible CIN 1 ± HPV/possible mild dysplasia	Repeat smear at 6-monthly intervals until two successive negative reports are received. If lesion persists for 12 months, refer for colposcopy.	If CIN 1 confirmed, follow either observational or active management program as explained on reverse of sheet.
CIN 1 ± HPV/mild dysplasia	Refer for colposcopy and biopsy if indicated.	If CIN 1 confirmed, follow either observational or active management program as explained on reverse of sheet. If higher grade abnormality diagnosed, see below.

High-grade epithelial abnormalities		
Pap smear report	**Investigation**	**Management**
CIN 2 ± HPV/moderate dysplasia	Refer for colposcopy and directed biopsy.	If CIN 2 confirmed, treatment by gynaecologist with appropriate expertise is required.
CIN 3 ± HPV/severe dysplasia	Refer for colposcopy and directed biopsy.	If CIN 3 confirmed, treatment by gynaecologist with appropriate expertise is required.
CIN 3 ± HPV with possible invasion; endocervical glandular dysplasia; or adenocarcinoma in situ	Refer to gynaecologist with expertise in colposcopic evaluation of malignancies.	Treatment by gynaecologist with appropriate expertise is required.
Invasive squamous cell carcinoma (SCC) or Adenocarcinoma	Refer to gynaecologist skilled in the management of malignancies, or a specialist unit, for urgent evaluation and management.	Treatment by gynaecologist with appropriate expertise is required.
Inconclusive—abnormal cells highly suggestive but not diagnostic of a high-grade abnormality	Refer for colposcopy and possible biopsy, unless there is an obvious diagnostic difficulty, e.g. epithelial atrophy or infection. In this case, treat the problem and repeat the smear.	If high-grade lesion confirmed, treatment by gynaecologist with appropriate expertise is required.

Management of women with low-grade epithelial abnormalities

A cytological assessment of CIN 1 requires referral for colposcopy and, if indicated, biopsy. There is controversy over the management—**observational** and **active**. Both treatment options should be fully discussed with the woman.

Observational management

If the diagnosis of CIN 1 is confirmed and the woman elects not to be treated, cervical smears should be taken at 6-monthly intervals until the abnormality either regresses or progresses. After two negative smears at 6-monthly intervals, smears should be taken at yearly intervals. If two consecutive annual smears are normal the woman can revert to 2-yearly screening.

Active management

Treatment by an accepted method, either ablative or excisional.

Pap smear report	Management
Negative/within normal limits	Repeat smear in 2 years.
Negative/within normal limits and no endocervical cells present	Repeat smear in 2 years.
Negative with inflammation	Repeat smear in 2 years.
Note: Investigate any symptoms that are not readily explained, such as post-coital or intermenstrual bleeding. A negative Pap smear must not be taken as reassurance in these circumstances. Further investigation may involve referral to a gynaecologist.	
Unsatisfactory	Repeat smear in 6–12 weeks, with treatment and where possible correction of any problems beforehand if appropriate.

Post-treatment assessment	After initial post-treatment colposcopic assessment by gynaecologist, repeat smear at 6-monthly intervals for 1 year. Following treatment of a high-grade epithelial abnormality, smears should be repeated yearly thereafter. Following treatment for a low-grade epithelial abnormality, revert to normal 2-yearly screening after two consecutive normal smears at yearly intervals.
Special circumstances	
Total hysterectomy for CIN	Annual smears from vaginal vault for 5 years, then revert to 2-yearly smears.
Total hysterectomy for benign causes	No further smears required if previous smears were negative. Baseline smear if reason for hysterectomy and/or previous Pap smear history unknown.
Subtotal hysterectomy for benign causes—cervix present	Continue normal 2-yearly screening.
Abnormality during pregnancy	Refer for colposcopy during 1st trimester to exclude invasive disease. If confirmed high-grade abnormality, repeat colposcopy during mid-trimester to exclude progression. Lesion should be reassessed 8 weeks post-partum.

Changes in 2005 to NHMRC guidelines for the management of asymptomatic women with screen-detected abnormalities

Data in this report on cervical screening in Australia to 2004–2005 are based on the NHMRC guidelines which were in place to 2005. In 2005 the NHMRC approved revised guidelines as a result of an improved understanding of the natural history of the human papillomavirus (HPV) and its link to cervical cancer. Most particularly, this involves evidence of the pivotal role of persistent infection with high-risk HPV subtypes as a necessary, but not sufficient, cause for cervical malignancy to occur (NCSP 2005).

The new management approach for women with possible or definite low-grade cervical cytology is based on the acceptance that low-grade squamous intraepithelial abnormalities represent acute HPV infection with one of the over 100 known types of HPV. These HPV viruses are classified according to their status as low or high risk of progression to cancer; only four types have been associated with cervical cancer in Australia. Recent work in molecular biology and epidemiology suggests most HPV infections acquired by women resolve without medical intervention (NCSP 2005).

The major changes in the revised guidelines include:

- the use of a new terminology for the classification of cervical cytology reporting—the Australian Modified Bethesda System 2004 (AMBS 2004);
- repeat Pap smears for most women with low-grade squamous change;
- more conservative management of women with biopsy proven CIN 1;
- colposcopy for all women with atypical glandular cell reports; and
- the use of HPV testing as test of cure following treatment for high-grade abnormalities (CIN 2 and 3) (Professor Ian Hammond, 14 March 2005).

These guidelines are based on revised terminology which will be used for the classification of cervical cytology reporting, the AMBS 2004. The AMBS 2004 classification system will be used to classify data collected for *Cervical screening in Australia 2005–2006*.

Further information on the new guidelines can be found on the Australian Government Department of Health and Ageing website <www.cervicalscreen.health.gov.au> and in *Screening to prevent cervical cancer: guidelines for the management of asymptomatic women with screen-detected abnormalities* <www.nhmrc.gov.au/publications>.

Glossary

Ablative therapy: the destruction of cells on the surface of the cervix using laser therapy, chemicals or diathermy.

Adenocarcinoma: a cancer formed from the cells of a gland.

Adenosquamous: a mix of adenocarcinoma and squamous cells in the same sample.

Adjuvant: enhancing or administered to enhance the effectiveness of a treatment or substance.

AS rate: age-standardised rate. A method of removing the influence of age when comparing populations with difference age structures. This is usually necessary because the rates of many diseases vary strongly (usually increasing) with age. The age structures of the different populations are converted to the same 'standard' structure; then the disease rates that would have occurred with that structure are calculated and compared (AIHW 2006).

Atypia: the condition of being irregular.

Basement membrane: the delicate, non-cellular layer on which an epithelium is seated. The epithelium forms the surface portion of the skin and lines hollow organs and all passages of the respiratory, digestive and genito-urinary systems.

Benign: not malignant.

Cancer death: a death where the underlying cause (see *underlying cause of death*) is indicated as cancer. Persons with cancer who die of other causes are not counted in the death statistics in this publication.

Cancer (malignant neoplasm): a large range of diseases, in which some of the body's cells become defective, begin to multiply out of control, can invade and damage the area around them, and can also spread to other parts of the body to cause further damage (AIHW 2006).

Cervical cancer: this term covers all cancers specific to the uterine cervix, including micro-invasive cervical cancer. Types of cervical cancers include squamous cell carcinoma, adenocarcinoma (including mucoepidermoid and adenoid carcinomas), adenosquamous, and other and unspecified carcinomas. The term 'all cervical cancers' denotes all these types of cervical cancer, unless otherwise specified.

CIN (cervical intraepithelial neoplasia): squamous cell carcinoma of the cervix is mostly preceded, over a period of years, by a spectrum of asymptomatic abnormalities known as cervical intraepithelial neoplasia (CIN) graded as CIN I (mild dysplasia), CIN II (moderate dysplasia) and CIN III (severe dysplasia and carcinoma in situ). CIN usually occurs at least a decade before cervical cancer. If CIN remains untreated, some women will develop cervical cancer and others will progress to invasive cervical cancer, despite treatment (AIHW: Jelfs 1995).

Colposcopy: a microscopic examination of the lower genital tract with a magnifying instrument called colposcope. This method of conservative evaluation allows the clinician to more accurately assess the cytologic abnormality by focusing on the areas of greatest cellular abnormality and by sampling them with a biopsy to attain diagnosis (NCSP 2004).

Cone biopsy: biopsy in which an inverted cone of tissue is excised, as from the uterine cervix.

Cryosurgery: the destruction of tissue using extreme cold.

Dysplasia: abnormal development or growth patterns of cells (NCSP 2004).

Endocervical: the inside of the uterine cervix or the mucous membrane lining of the cervix.

Epidemiology: the study of the patterns and causes of health and disease in populations, and the application of this study to improve health (AIHW 2006).

Epithelium: tissue lining the outer layer of a body or lining a cavity (e.g. vagina or mouth) (NCSP 2004).

Exfoliate: to break away or remove (shed) cells. In the context of this report it refers to the removal of cells from a person for the purpose of a Pap smear test.

HGA: high-grade abnormalities as defined for this report include CIN 1/2, CIN 2, CIN 3 or adenocarcinoma in situ.

Histology: the microscopic study of the minute structure and composition of tissues.

Hysterectomy: refers to the surgical procedure whereby all or part of the uterus is removed.

HPV: Human papillomavirus. The virus that causes genital warts and which is linked in some cases to the development of more serious cervical cell abnormalities (NCSP 2004).

Hysterectomy fractions: the proportion of women who have had their uterus removed by hysterectomy.

ICD-10: International Classification of Diseases—a coding system used to identify the primary site of the malignancy. This classification is in its 10th revision.

Incidence: the number of new cases (of an illness or event, and so forth) occurring during a given period (AIHW 2006).

Indigenous Australian: A person of Aboriginal and/or Torres Strait Islander descent who identifies as an Aboriginal and/or Torres Strait Islander and is accepted as such by the community with which he or she is associated (AIHW 2006).

Intraepithelial: the area within the layer of cell tissues forming the epidermis of a body cavity. These cells comprise contiguous cells having minimum intercellular substance (NCSP 2004).

Invasive cancer: a tumour whose cells have a tendency to invade healthy or normal tissues.

LGA: low-grade abnormalities include atypia, warty atypia (human papillomavirus (HPV) effect), possible CIN, equivocal CIN, CIN 1 or endocervical dysplasia not otherwise specified.

Lymph node: masses of lymphatic tissue, often bean-shaped, that produce lymphocytes and through which lymph filters. These are located throughout the body.

Malignant: abnormal changes consistent with cancer.

Metastasis: the process by which cancerous cells are transferred from one part of the body to another, for example, via the lymphatic system or the bloodstream.

Micro-invasive squamous cell carcinoma (micro-invasive cancer): a lesion in which the cancer cells have invaded just below the surface of the cervix, but have not developed any potential to spread to other tissues.

Mortality: see *cancer death.*

Neoplasia: the new and abnormal development of cells that may be harmless or cancerous (malignant) (NCSP 2004).

New cancer case: a person who has a new cancer diagnosed for the first time. One person may have more than one cancer and therefore may be counted twice in incidence statistics if it is decided that the two cancers are not of the same origin. This decision is based on a series of principles set out in more detail in a publication by Jensen et al. (1991).

Pap smear: a test prepared for the study of exfoliated cells from the cervix (refer to Appendix A).

Post-partum: following childbirth.

Radiation therapy: the treatment of disease with any type of radiation, most commonly with ionising radiation, such as X-rays, beta rays and gamma rays.

Screening: the performance of tests on apparently well people in order to detect a medical condition at an earlier stage than would otherwise be the case.

Squamous malignancy: thin and flat cells, shaped like soft fish scales. They line the outer surface of the cervix (ectocervix). They meet with columnar cells in the squamo-columnar junction. Eighty–eighty-five per cent of cancers of the cervix arise from squamous cells. Abnormalities associated with squamous cells are most likely abnormalities to be picked up by Pap smears (NCSP 2004).

Stroma: the supporting framework of an organ.

The Institute: the Australian Institute of Health and Welfare.

Tumour: an abnormal growth of tissue. Can be 'benign' (not a cancer) or 'malignant' (a cancer) (AIHW 2006).

Underlying cause of death: the condition, disease or injury initiating the sequence of events leading directly to death; that is, the primary, chief, main or principal cause (AIHW 2006).

References

ABS (Australian Bureau of Statistics) 1993. Estimated resident population by age and sex: Australian states and territories, June 1987 to June 1992. ABS cat. no. 3201.0. Canberra: ABS.

ABS (Australian Bureau of Statistics) 1999. Deaths Australia 1998. ABS cat. no. 3302.0. Canberra: ABS.

ABS (Australian Bureau of Statistics) 2000. Causes of death 1999. ABS cat. no. 3303.0. Canberra: ABS.

ABS (Australian Bureau of Statistics) 2001. Information paper: outcomes of ABS views on remoteness consultation, Australia 2001. ABS cat. no. 1244.0.00.001. Canberra: ABS.

ABS (Australian Bureau of Statistics) 2002. National Health Survey: summary of results, Australia 2001. ABS cat. no. 4364.0. Canberra: ABS.

ABS & AIHW (Australian Bureau of Statistics and Australian Institute of Health and Welfare) 2005. The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples, 2005. ABS cat. no. 4704.0. AIHW cat. no. IHW 14. Canberra: ABS.

Ahmad OB, Boschi-Pinto C, Lopez AD, Murray CJL, Lozano R & Inoue M 2002. Age standardization of rates: a new WHO standard. GPE Discussion Paper Series No. 31. Geneva: World Health Organization, <http://www3/whi.int/whosis/discussion_papers/discussion_papers.cfm>.

AIHW & AACR (Australian Institute of Health and Welfare and Australasian Association of Cancer Registries) 2002. Cancer in Australia 1999. Cancer Series no. 20. AIHW cat. no. CAN 15. Canberra: AIHW.

AIHW: Jelfs PL 1995. Cervical cancer in Australia. Cancer Series no. 3. Canberra: AIHW.

AIHW (Australian Institute of Health and Welfare) 2006. Australia's health 2006. AIHW cat. no. AUS 73. Canberra: AIHW.

DHSH (Department of Human Services and Health) 1994. Summary of NHMRC guidelines for the management of women with screen-detected abnormalities. Canberra: AGPS.

DHSH (Commonwealth Department of Human Services and Health) 1994b. Screening to prevent cervical cancer: guidelines for the management of women with screen detected abnormalities. Canberra: AGPS (Australian Government Publishing Service).

Dobson A, Kuulasmaa K, Eberle E & Scherer J 1991. Confidence intervals for weighted sums of Poisson parameters. Statistics in Medicine 10:457–62.

Doll R & Smith PG 1982. Comparison between cancer registries: age-standardised rates. In: Waterhouse J, Shanmugaratnam K, Muir C & Powell J (eds). Cancer incidence in five continents, vol. IV. Lyons: International Agency for Research on Cancer.

DPIE & DHSH (Department of Primary Industries and Energy and Department of Human Services and Health) 1994. Rural, remote and metropolitan areas classification. 1991 Census edition. Canberra: AGPS.

Hammond, Professor Ian. Presentation to consumers on '*Screening to prevent cervical cancer: guidelines for the management of asymptomatic women with screen-detected abnormalities*', March 2005

Heley S 2007. Pap test update. Australian Family Physician 36(3):112–115.

National Cervical Screening Program (NCSP) 2004. Research report: survey and analysis of current practice in cervical histopathology. Screening Monograph No. 2/2004.

Jensen OM, Parkin DM, Machennan R & Muir C (eds) 1991. Cancer registration: principles and methods. Lyons: International Agency for Research on Cancer.

Marcus AC & Crane LA 1998. A review of cervical cancer screening intervention research: implications for public health programs and future research. Preventive Medicine 27:13–31.

Ostor AG & Mulvany N 1996. The pathology of cervical neoplasia. Current Opinion in Obstetrics and Gynecology 8:69–73.

Snider JA & Beauvais JE 1998. Pap smear utilization in Canada: estimates after adjusting the eligible population for hysterectomy status. Chronic Diseases in Canada 19(1):19–24.

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