

APPENDICES

APPENDIX 1: List of tables and figures

Figure 1:	Biennial cervical screening rates by age group in NSW	18
Figure 2:	Biennial cervical screening rates by NSW regions	21
Figure 3:	Biennial cervical screening rates in NSW Area Health Services . .	24
Figure 4:	Map of NSW showing biennial cervical screening rates in AHSs . .	32
Figure 5:	Biennial screening rate by socioeconomic quintile in Urban NSW (20-69 year)	36
Figure 6:	Biennial screening rate by socioeconomic quintile in NSW (20-69 year)	36
Figure 7:	Biennial cervical screening rates in 20-69 year age group by Divisions of General Practice (Metropolitan)	40
Figure 8:	Biennial cervical screening rates in 20-69 year age group by DGP (Rural)	41
Figure 9:	Triennial cervical screening rates by age group in NSW	43
Figure 10:	Triennial cervical screening rate in the 20-69 year age group women in NSW AHSs	46
Figure 11:	Age-specific incidence rates of all cervical cancer in NSW, 1995-1997	96
Figure 12:	Age-standardised incidence of cervical cancer in NSW, 1972-1997	97
Figure 13:	Age-specific incidence rates of micro-invasive cervical cancer in NSW, 1995-1997	99
Figure 14:	Age-specific incidence rates of invasive cervical cancer in NSW, 1995-1997	101
Figure 15:	Age -specific incidence of SCC in NSW, 1995-1997	103
Figure 16:	Age-specific incidence rates of cervical cancer classified as other than squamous in NSW, 1995-1997	105
Figure 17:	Age-specific mortality rates for cervical cancer in NSW, 1995-1997	107
Figure 18:	Annual age-standardised mortality from cervical cancer in NSW, 1972-1997	107
Table 2.1:	Measures and source data	11
Table 3.1:	Biennial cervical screening rate by age group in NSW women . . .	17
Table 3.2:	Biennial rates by NSW urban and rural areas	20
Table 3.3:	Biennial screening rates by NSW Area Health Services	23
Table 3.4:	Biennial screening rates by NSW Area Health Services and 5 year age group	26

Table 3.5:	Biennial screening rates by LGA in NSW	28
Table 3.6:	Biennial screening rates by socioeconomic status in NSW	35
Table 3.7:	Biennial screening rates by Divisions of General Practice in NSW	38
Table 3.8:	Biennial screening rates by Divisions of General Practice In NSW	39
Table 3.9:	Triennial cervical screening rates by age group in NSW women	42
Table 3.10:	Number and proportion of women screened and 3-year screening rates by NSW Area Health Services and age group . . .	45
Table 3.11:	Proportion of women with further screens within a two year period	47
Table 3.12:	For women in the 20-69 year age target group, number and proportion of repeat screens within two years by 5-year age group	48
Table 3.13:	Number and proportion of repeat screens within two years by AHS women in the 20-49 target group screened initially in February 1997 with a negative cytology result	51
Table 3.14:	Number and proportion of repeat screens within two years by AHS women in the 50-69 target group screened initially in February 1997 with a negative cytology result	52
Table 3.15:	Number and proportion of repeat screens within two years by AHS women in the 20-69 target group screened initially in February 1997 with a negative cytology result	53
Table 3.16:	Number and proportion of repeat screens within two years for women in the target age groups screened initially in February 1997 with a negative cytology result	54
Table 4.1:	Technically unsatisfactory smears by 5-year age groups	55
Table 4.2:	Technically unsatisfactory smears by Area Health Service	57
Table 4.3:	Technically unsatisfactory smears by NSW laboratory location . . .	58
Table 4.4:	Endocervical component by 5- year age groups	59
Table 4.5:	Endocervical component by Area Health Service and age group	61
Table 4.6:	Endocervical component by NSW laboratory location	62
Table 4.7:	Participation in screening by NSW women	63
Table 4.8:	Distribution of cytology reports of squamous cell codes	64
Table 4.9:	Distribution of reports according to cytological evidence of human papilloma virus for NSW women	65
Table 4.10:	Distribution of cytology reports for codes relating to the endocervical cells	66
Table 4.11:	Distribution of cytology reports for the codes relating to other (non-cervical) component for NSW women	67
Table 4.12:	Distribution of recommendation codes for women	68

Table 4.13: Distribution of histology findings in NSW women	69
Table 4.14: Correlation between cytology and histology tests NSW	70
Table 4.15: Distribution of histological findings performed within 6 months of cytology reports of CIN 2 or worse by 5-year age groups	73
Table 4.16: Distribution of histological findings performed within 6 months of cytology reports of CIN 2 or worse by Area Health Services	75
Table 4.17: Distribution of histological findings performed within 6 months of cytology reports of CIN 2 or worse by laboratory location in the 20-69 year age group	77
Table 4.18: Number and proportion of women with cytology reports of CIN of any degree or worse confirmed histologically within 6 months by 5-year age groups	78
Table 4.19: Number and proportion of women with cytology reports of CIN of any degree or worse by Area Health Service	81
Table 4.20: Number and proportion of women with histologically confirmed CIN of any degree by laboratory location	82
Table 4.21: Histologically verified low grade intra epithelial abnormalities per 1,000 women by age group in NSW	83
Table 4.22: Histologically verified high grade epithelial abnormalities per 1,000 women by age group in NSW	84
Table 4.23: Ratio of histologically verified low-grade to high-grade abnormalities by age group in NSW	85
Table 5.1: Number and proportion of women in NSW whose first cytology report contained no management recommendation	87
Table 5.2: Number and proportion of women with no management recommendation by Area Health Service and age group	89
Table 5.3: Number and proportion of women with no management recommendation by laboratory location in NSW	90
Table 5.4: Number and proportion of screened women whose first cytology report contains recommendation for colposcopy or a referral to a gynaecologist for specialist opinion in NSW	92
Table 5.5: Number and proportion of women with management recommendation for colposcopy or specialist opinion by NSW AHS and age group	94
Table 6.1: Number of new cases of cervical cancer and age-specific incidence rates of cervical cancer among women in NSW, 1995-1997	96
Table 6.2: Number of new cases of micro-invasive cervical cancer and age-specific incidence rates of micro-invasive cervical cancer among women in NSW, 1994-1996	98

Table 6.3:	Number of new cases of invasive cervical/age-specific incidence rates of invasive cervical cancer among women in NSW, 1995-1997	100
Table 6.4:	Number of new cases and age-specific incidence rates of squamous cell carcinoma in NSW , 1995-1997	103
Table 6.5:	Number of new cases of cervical cancer classified as other than squamous, and age-specific incidence rates, NSW, 1995-1997 .	104
Table 6.6:	Number of cervical cancer deaths and age-specific mortality rates for cervical cancer in NSW, 1995-1997	106
Table A1:	Number of NSW women at risk of cervical cancer by age group	121
Table A2:	Proportion of women with an intact cervix, 1997	121
Table A3:	Target population in NSW according to LGA classification	123
Table A4:	Number and proportion of women screened in reporting period of January 1997- December 1998 with age unknown, AHS unknown and opt-off rate	126
Table A5:	List of LGAs in each Division of General Practice with postcode	129
Table A6:	List of LGAs and their SES quintile	138

APPENDIX 2: Glossary

Abnormal:

All technically satisfactory specimens not reported as negative.

Area Health Service:

Geographical areas are usually defined by the boundaries of a number of local government areas. Area Health Services have responsibility for providing primary and secondary health care to the community within this area.

Cervical Cancer:

Abnormal cells that have spread from the surface of the cervix to tissue deeper in the cervix or to other parts of the body

CIN:

Stands for Cervical Intra-epithelial Neoplasia and refers to abnormal changes or growth in the surface layers of the cervix. It is also a classification system that grades cervical abnormalities which have the potential to become cervical cancer. The system classifies cervical abnormalities into three stages of severity, from CIN 1 through CIN 2 to CIN 3. This system is used interchangeably with the dysplasia classification system.

CIN not graded:

CIN that was detected on a histology specimen but where confident assessment of the severity of the abnormality was not possible.

Colposcopy:

Is a method of examining and assessing the cervix and lower genital tract to help plan the sites for tissue removal and the appropriate treatment for an abnormality.

Cytology:

Is study of cells. A Pap test consists of cells scraped from the cervix which are screened for abnormal changes.

De-identified tests:

Pap tests performed on women who have opted off the NSW Pap Test Register

Detection Rate:

The number of abnormalities detected per 1000 women screened within the reporting period.

Division of General Practice (DGP):

These are local networks of general practitioners working within defined geographical areas. Divisions were established as part of commonwealth initiatives aimed at enhancing general practice.

Dysplasia:

This term describes abnormal changes in the cervix. It is also a classification system that grades cervical abnormalities which have the potential to become cervical cancer. It classifies abnormalities into three stages of severity, from mild dysplasia, through moderate dysplasia to severe dysplasia. This system is used interchangeably with the CIN nomenclature.

Endocervical Cells:

Is a type of cell found on the surface of the cervix. The presence of these cells on a Pap test shows that the sample come from an area where the endocervical cells met the squamous cells. This area is where cancer is more likely to develop. In this report endocervical component is utilised interchangeably with endocervical cells.

Endocervical Component:

Refers to endocervical and or meta plastic cells that are found on the surface of the cervix. The presence of these cells on a Pap test show that the sample came from the area where the endocervical cells met the squamous cells. This area is where cancer is more likely to develop. In this report endocervical component is utilised interchangeably with endocervical cells.

Glandular Cells:

Cells that secrete cellular products, for example mucus. Endocervical cells are glandular cells.

High Grade Epithelial Abnormality:

Describes abnormalities of the cervix that are more severe than a low grade epithelial abnormality. It includes abnormalities such as CIN2, CIN 3, high grade endocervical lesions, adenocarcinoma in situ, cancer (squamous and other than squamous) and lesions where cancer is suspected. Inconclusive reports and CIN not graded are not included in this category.

High Grade Intra Epithelial Abnormality:

Describes abnormalities of the cervix that are more severe in nature than a low grade epithelial abnormality but less severe than cancer. It only includes abnormal change where the change is still confined to the surface of the cervix and invasion of the underlying tissue has not occurred. Abnormalities include CIN 2, CIN 3, high grade intra epithelial endocervical lesions and adenocarcinoma in-situ. Inconclusive and CIN not graded are not included in this category.

Histology:

Is study of tissues. A small piece of tissue is removed from the cervix and it is viewed for abnormal tissue structure and cellular change.

Histology Confirmation:

Is where an abnormality detected on a Pap test is confirmed by a similar abnormality being detected on a subsequent histology specimen.

Human Papilloma Virus (HPV):

HPV is a virus that has been associated with the development of cervical cancer. HPV is reported when cellular changes meeting particular criteria are observed.

Inconclusive:

Is a category of Pap test report where the Pap test contained abnormal cells which suggest the possibility of a high grade abnormality but in which a confident cytological diagnosis is not possible.

Invasive:

Is a stage of cancer. It describes that the abnormal changes have progressed to an extent that the cells are invading surrounding tissue or other parts of the body.

Local Government Area (LGA):

Geographical areas that are the responsibility of local government councils

Low Grade Abnormality:

Describes abnormalities of the cervix that are less severe in nature than a high grade epithelial abnormality. It includes abnormalities such as mild atypia , HPV effect, CIN 1, and low grade glandular abnormalities.

Malignant:

Describes abnormal changes consistent with cancer.

Micro-invasive Cancer:

Is a cancer that can not be visualised by observing the cervix. These cancers can only be detected microscopically.

Mild Atypia:

Describes a low grade epithelial abnormality of the cervix that is less severe than CIN 1. The changes maybe consistent with human papilloma virus.

Negative:

Contains all specimens in which no abnormal material was detected plus specimens in which reactive and inflammatory cellular change were reported. Reports of atypia and HPV effect are not considered to be in this category.

No abnormal squamous cells:

Is a term that describes Pap test which are negative but have no inflammatory or reactive squamous cell changes

Opt Off

Refers to women who decide they do not wish their personal details placed onto the NSW Pap Test Register. The persons date of birth and results are still collected.

Other than Squamous Malignancy

Refers to cervical malignancy originating in cell types other than squamous cells. This covers malignancy originating from glandular cells, other cell types and malignancies where the cell type is not definable.

Pap Test:

Is a pathology test that checks for abnormal changes on the cervix. It is a screening test that aims to find signs that cervical cancer might appear in the future. The term Pap test is used interchangeably with the term Pap Smear.

Pap Smear:

Is a pathology test that checks for abnormal cell from the cervix. It is a screening test that aims to find signs that cervical cancer might appear in the future. The term Pap smear is used interchangeably with the term Pap test.

Reactive and Inflammatory Change

Refers to material that is negative but show signs of irritation. The irritation can be due to infection.

Recommendation:

Is part of a cytological report and advises about what management action should be taken in response to the Pap test result. The recommendations should be consistent with NHMRC guidelines on the management of women with screen detected abnormalities.

Re-screening:

Refers to women who have another Pap test before the time set out by the Australian screening policy, which is every two years.

Screening test:

Is a test done on all people at risk of developing a certain disease even if there are no symptoms. Screening tests predict the likelihood of someone developing a particular disease.

Smear throughput:

The number of Pap tests carried out in a year by a laboratory

SNOMED:

Stands for Systematised Nomenclature of Human Medicine. It is a classification system created to index procedures and diagnoses. It allows integration of a medical report into a series of standardised codes.

Socio-Economic Status (SES):

To arrive at the SES, Local Government Areas (LGAs) were arranged in decreasing order of SES, using the 1991 ABS socio-economic index for areas. Then the LGAs were partitioned into five groups, with approximately the same population of women in each quintile.

Squamous Malignancy:

Cervical Cancer can be derived from several cells types. One of these cell types is the squamous cell and most cervical cancers are derived from this cell type.

Suspicious of Invasion:

Is where a high grade intra-epithelial abnormality exists but further abnormal material suggested the possibility of cervical cancer but a confident diagnosis of cancer was not possible.

Technically Satisfactory:

A category of pap tests that can be assessed for the presence of an abnormality.

Technically Unsatisfactory:

A category of pap tests that cannot be assessed at all due to the paucity of the sample, a covering of blood or inflammatory exudate and or poor fixation.

APPENDIX 3: Number of women screened

1. The number of women screened is the count of women who had a Pap test at least once during the reporting period. This count includes women whose first smear during the period was for follow-up or diagnostic purposes. The number may therefore lead to an over-estimate of the number of women who received a Pap test for the purposes of screening for cervical cancer. The NSW CSP presently receives these data from the NSW Pap Test Register in the form of counts of women screened, in five year age groups, within each LGA for a specific reporting period. The Program aggregates this data into counts of women screened in each Area Health Service, by urban or rural Regional classification, by Division of General Practice and by socio-economic status.
2. The number of women screened may also be overestimated if the NSW Pap Test Register is unable to match the record of a woman with her previous record. The extent of these matching failure is likely to be low.
3. The number of women screened does not include any repeat smears conducted on an individual woman during the reporting period. A woman who received two or more Pap tests during a single reporting period is counted once only.
4. The NSW Pap Test Register counts those women screened for whom a result has been received from the cytology laboratory.
5. The number of women screened includes only women with an address reported by the NSW Pap Test Register as being located in NSW. The count excludes women who were screened in NSW but whose nominated address is outside NSW or where postcode was not allocated to an LGA (see Appendix 6). It does include women normally resident in NSW who are screened inter-state if a NSW address is given and the test is reported by a laboratory that has an information transfer agreement with the NSW Pap Test Register.
6. Agreements between the NSW Pap Test Register and inter-state laboratories which service border areas of NSW mean that, unless otherwise stated, most NSW women who are screened by inter-state

laboratories will be recorded by the NSW Pap Test Register if a NSW address is provided. The problem of under-reporting from inter-state laboratories is being addressed by ongoing negotiations between the NSW Pap Test Register and the relevant laboratories.

7. Allocation of a woman to a specific LGA or AHS is made each time the data are extracted by the NSW Pap Test Register, and is therefore based on each woman's most recent known address. If a change of address has been recorded since a woman received her Pap test, the NSW Pap Test Register reallocates that woman to the most recent LGA of residence.
8. Data on the number of women screened in the recently created LGA of Pittwater are not yet available from the NSW Pap Test Register. Counts of women screened and target populations for Pittwater LGA remain part of Warringah LGA, in the Northern Sydney AHS.
9. The number of women recorded as screened by the NSW Pap Test Register excludes women who have elected to "opt-off" the Register. The term "opt-off" applies to women who withhold personal details from the NSW Pap Test Register which prevents allocation to Area Health Services or Local Government Area. During the 24 month reporting period around 2.6% of Pap tests performed in NSW were done on women who opted-off the NSW Pap Test Register.

APPENDIX 4: Target (or denominator) population

1. The target population is the number of women estimated to be at risk of cervical cancer aged between 20 and 69 years who would benefit from screening.
2. The target population is derived from the 1997 Estimated Resident Female Population of NSW obtained from the Australian Bureau of Statistics (ABS), and adjusted for the proportion of women estimated to have undergone a hysterectomy. The current target population for women in NSW used by the NSW CSP is presented in Table A1.
3. The age-specific hysterectomy fractions that have been used to calculate the target population are those for all NSW women and have been provided to the Program by the NSW Health Department from the 1997 NSW Health Survey. The hysterectomy data are presented in Table A2.
4. The target population is not fixed, but will change with updated estimates of hysterectomy fractions and projections of LGA populations. The NSW CSP will issue revised screening rate data as such information becomes available.
5. Sydney LGA and South Sydney LGA have been apportioned to Central Sydney AHS and to South Eastern Sydney LGA as follows: 42% of the population of Sydney LGA and South Sydney LGA have been allocated to Central Sydney AHS with the remainder assigned to South Eastern Sydney AHS. The allocation also applies to the number of women screened. This split is designated by the NSW Health Department in the allocation of Area Health Services and is not specific to this report.

Table A1: Number of NSW women at risk of cervical cancer by age group

Age Group (years)	Number of women in target population
20-24	222,772
25-29	241,047
30-34	236,938
35-39	241,031
40-44	209,007
45-49	173,972
50-54	136,325
55-59	92,120
60-64	84,609
65-69	78,279
20-29	1,324,767
50-69	391,333
20-69	1,716,100

Source: ABS 1997 Estimated Resident Population adjusted for 1997 NSW Health Survey hysterectomy fraction

Table A2: Proportion of women with an intact cervix, NSW 1997

Age group (years)	Proportion of women with intact cervix
20-24	0.999
25-29	0.991
30-34	0.981
35-39	0.962
40-44	0.901
45-49	0.814
50-54	0.749
55-59	0.638
60-64	0.666
65-69	0.625

Source: 1997 NSW Health Survey

APPENDIX 5: Proportion of screened women

1. The proportion of women screened is calculated by the NSW CSP from the number of women who had a Pap test at least once during the reporting period, as a percentage of the target population of NSW women residents.
2. The proportion of the target population who are screened in a two yearly period (biennial screening rate) is based on the numbers of women screened during the first twenty-four month reporting period which became available recently from the NSW Pap Test Register.
3. The proportion of women screened has been calculated separately for women in the target age groups of 20-49 years, 50-69 years, and also in 5 year age breakdown for the 24 month reporting period.
4. Data are presented for the proportion of women screened within each LGA, AHS and for the whole state, with regional breakdowns according to the ABS's Rural, Remote and Metropolitan Areas classification (1991 Census edition).⁴
5. The maximum value for the two year screening proportion has been set at 100%, and estimated values which exceed this level have been set to 100 per cent (this may occur in LGAs with high-screening populations or LGAs with a high proportion of women working in seasonal occupations).

Proportion of screened women by Division of General Practice (DGP)

Biennial cervical screening rate for individual DGP were obtained by using data from three different sources. The sources were:

- i. Screening rate data by LGA - obtained from the NSW Pap Test Register
- ii. LGA to postcode allocation data obtained from the Australia Post and the Australian Bureau of Statistics and
- iii. Post Code to DGP data obtained from the General Practice branch of the Commonwealth Department of Health and Aged Care.

APPENDIX 6: Sub-populations

I. Regional Classification

1. Women living in rural and remote areas are a key target group for the NSW CSP. A key objective of the Program's general recruitment efforts is to increase the number of women at risk in rural and remote areas who have been screened at least once during a two year period to 60% by 1999.
2. Within each AHS, Local Government Areas have been assigned to one of six Area Classifications based upon population and remoteness developed by the Department of Primary Industries and Energy and Department of Human Services and Health.⁴

Individual LGAs are designated as metropolitan (*capital city* or *other metropolitan centre*) or non-metropolitan (*large rural centre*; *small rural centre*; *other rural area*; and *other remote area*). Non-metropolitan statistical local areas are assigned according to their index of remoteness, which is conceptualised in terms of population density and distance to large population centres.

3. The target population of NSW women eligible for cervical screening according to the six Area classifications is summarised in Table A3.
4. There are currently no accurate data available on hysterectomy fractions at individual LGAs or Area Health Service levels. Consequently, estimates of target populations of women at risk of cervical cancer, especially at the regional classification, AHS and LGA level are not as accurate as would be desired.

Table A3: Target population in NSW according to LGA classification

Area Classification	Age group (years)		
	20-49	50-69	20-69
Capital city	881,391	246,400	1,127,791
Large rural centre	60,927	17,942	78,868
Other metropolitan centre	164,058	49,833	213,890
Other rural area	122,150	45,402	167,553
Small rural centre	86,456	28,539	114,995
Other remote area	10,589	3,168	13,758

Source: 1997 ABS ERP for NSW / 1997 NSW Health Survey (hysterectomy fraction)

II. Socio-economic status (SES) classification

To arrive at the SES quintiles, Local Government Areas (LGAs) were arranged in decreasing order of SES, using the 1991 ABS socio-economic index for areas. Then the LGAs were partitioned into five groups, with approximately the same population of women in each quintile. There were five indexes used to describe socio-economic aspects of geographic areas. Each index summarises a different aspect of the socio-economic conditions in an area. These indexes have been obtained by summarising the information from a variety of underlying social and economic variables, each index using a different set of underlying variables. For the purpose of this report we used "Index of relative socio-economic disadvantage. The variables used to create the index of relative socio-economic disadvantage focus on attributes such as low income, relatively lower educational attainment and high unemployment. For example, an area would have a low value on the index of relative socio-economic disadvantage if it contained a large proportion of comparatively disadvantaged households. (See Table A7)

APPENDIX 7: Explanatory notes on data

For all graphs and tables

1. Under-reporting to the NSW Pap Test Register from inter-state laboratories is likely to partly account for the low number and proportion of women screened in the Far West AHS. Since August 1997, data from a laboratory have been routinely forwarded to the Register, resulting in increased recorded screening rates for localities in the Far West. Screening data from a laboratory that collects tests for this area still remain outstanding for the period between August 1996 and August 1997, but will be extracted in the near future.
2. Women screened in the Western Sydney, Wentworth, Mid North Coast, Hunter and Northern Rivers Area Health Services are under-enumerated. This is due to the fact that the ABS local government area allocation data is out of date. An example is the postcode area of West Pennant Hills not being allocated to either Baulkham Hills LGA or Hornsby LGA, thereby affecting screening rates in both Western Sydney AHS and Northern Sydney AHS. Post codes with a substantial number of screened women on the NSW Pap Test Register who were not allocated to an LGA are summarised in Table A4. These women also could not be allocated to an AHS.
3. An unknown number of women may nominate their work address or Post Office Box rather than their home address for registration with the NSW Pap Test Register. However, population denominator data from the census are based on LGA of residence. The recording of these addresses for Pap tests is likely to overestimate the number and proportion of women screened in those Local Government Areas with significant business or employment activities, such as Sydney, South Sydney or North Sydney, and perhaps the large Rural centres.
4. The NSW Pap Test Register does not possess data on the ages of a small proportion of screened women (see Table A4). Because these women cannot be reported by target age group, they have been excluded from the count of women screened in the tables presented in this report.
5. A number of women who have had pap tests do not consent to disclose their personal details to the NSW Pap Test Register. The effect of this non-disclosure is to under-estimate the proportion of women screened in NSW (see Table A4). This is referred to as the "opt-off" rate.

6. Screening rates in the Bankstown, Fairfield, Hawkesbury, Hunter Urban, Hornsby Ku-Ring-Gai, Liverpool, Western Sydney, Barrier, Mallee, New England, NSW Outback, Port Macquarie and the South East NSW DGP are also under-enumerated because of failure of laboratory reporting or non-allocation to an LGA. Unknown age also affect some DGPs, (e.g., the Northern Sydney DGP.)

Table A4: Number and proportion of women screened in reporting period of January 1997 - December 1998 with age unknown, AHS unknown and opt-off rate.

	Number of women/ tests	Proportion of women
AHS unknown	14,056 ¹	0.8%
Age unknown	9,184 ¹	0.5%
Opt-off	38,134 ²	1.6%

¹ These figures refers to number of women.

² This figure refers to number of smears.

APPENDIX 8: Statistical Confidence Intervals

1. The screening rate is the ratio of two parameters from an entire population: the number of screens divided by the number of women residents in LGA (adjusted for the hysterectomy fraction). Since the number of screens varies stochastically at each point in time it can be regarded as a 'sample in time', and a confidence interval can be applied to it as for a random sample. The main purpose of calculating confidence intervals is to indicate the precision of the estimated screening rates thus aiding interpretation of differences and trends, and preventing over-interpretation of data based on small numbers.
2. Then the number of screens is greater than 100, the Normal approximation of the binomial is employed. The method of calculating the 95% confidence intervals for the rate using this approach is as follows² :

where $Rate - (1.96 \times SE)$ to $Rate + (1.96 \times SE)$

and $SE = \text{standard error of Rate}$

$$SE = \sqrt{\frac{Rate * (1 - Rate)}{Population}}$$

3. When the number of screens is 100 or less, the Poisson Method is used to determine confidence intervals because the assumptions of the Normal approximation of the binomial are violated if numbers are small. A Poisson table² is used to obtain the 95% lower and upper confidence interval values for the number of screens, and the rates for the 95% confidence intervals are calculated by dividing the 95% confidence intervals by the number of eligible women.
4. Each graphical representation of screening rates in this report includes 95% statistical confidence intervals to facilitate the comparison of screening rate measurements. If measurements are significantly different (at the 5% significance level), their 95% confidence intervals do not generally overlap.
5. The 95% confidence intervals indicate sampling error but not systematic bias such as that due to under-enumeration.

Test for Trend and Heterogeneity

In this document **chi squared test for trend** analysis is used along with **test for heterogeneity**. Wherever trend analysis is used it is mentioned with its corresponding p - value. Where trend analysis is not mentioned, test for heterogeneity is used.

APPENDIX 9

Table A6: List of LGAs in each Division of General Practice with postcode

Area Health Service	LGA	Post Codes
Central Sydney DGP		
Central Sydney	Ashfield	2045, 2130 - 2133
Western Sydney	Auburn	2140
Central Sydney	Burwood	2132 - 2136
Central Sydney	Canterbury	2133
Central Sydney	Concord	2135, 2137 - 2139
Central Sydney	Drummoyne	2046 - 2047
Central Sydney	Leichhardt	2037 - 2041, 2050
Central Sydney	Marrickville	2042, 2044, 2048 - 2050, 2203 - 2204
Central Sydney	South Sydney	2006 - 2008, 2015 - 2017, 2042, 2043, 2050
Central Sydney	Strathfield	2135, 2136, 2140
Central Sydney	Sydney	2007, 2009
Eastern Sydney DGP		
South Eastern Sydney	Randwick	2021
South Eastern Sydney	South Sydney	2008, 2010, 2011, 2021
South Eastern Sydney	Sydney	2000, 2010, 2011
South Eastern Sydney	Waverley	2022, 2026, 2029, 2030
South Eastern Sydney	Woollahra	2021 - 2023, 2025, 2027 - 2030
South Eastern Sydney DGP		
South Eastern Sydney	Botany	2018 - 2020, 2032, 2035, 2036
South Eastern Sydney	Randwick	2031 - 2036
South Eastern Sydney	South Sydney	2015, 2017, 2018, 2033
South Eastern Sydney	Waverley	2024
Canterbury DGP		
Central Sydney	Ashfield	2133, 2193
South Western Sydney	Bankstown	2196
Central Sydney	Burwood	2133
Central Sydney	Canterbury	2133, 2191 - 2196, 2206, 2208, 2209
South Eastern Sydney	Rockdale	2208
South Eastern Sydney	Hurstville	2208, 2209
Bankstown DGP		
Western Sydney	Auburn	2143
South Western Sydney	Bankstown	2143, 2162, 2190, 2197 - 2200, 2211 - 2214
Western Sydney	Parramatta	2162
Central Sydney	Strathfield	2190
Western Sydney DGP		
Western Sydney	Auburn	2141, 2144
Western Sydney	Baulkham Hills	2117, 2151 - 2156
Western Sydney	Blacktown	2146-2148, 2155, 2761, 2763, 2766, 2767, 2770
Western Sydney	Holroyd	2142, 2145, 2146, 2148, 2150, 2160
Northern Sydney	Hornsby	2154
Western Sydney	Parramatta	2115-2117, 2142, 2145, 2146, 2150-2153, 2160

Area Health Service	LGA	Post Codes
<i>The Northern Sydney DGP</i>		
Northern Sydney	Ku-Ring-Gai	2069, 2070
Northern Sydney	Lane Cove	2065, 2066
Northern Sydney	Mosman	2088, 2090, 2091
Northern Sydney	North Sydney	2060 - 2061, 2065, 2089, 2090
Northern Sydney	Warringah	2087
Northern Sydney	Willoughby	2063 - 2069
<i>St. George District DGP</i>		
Central Sydney	Canterbury	2208 - 2210
South Eastern Sydney	Hurstville	2208 - 2210, 2218, 2220, 2222, 2223
South Eastern Sydney	Kogarah	2217 - 2223
South Eastern Sydney	Rockdale	2205, 2207, 2208, 2216 - 2219
<i>Liverpool DGP</i>		
South Western Sydney	Camden	2171
South Western Sydney	Campbelltown	2173 - 2174
South Western Sydney	Fairfield	2170 - 2171
South Western Sydney	Liverpool	2168, 2170, 2171, 2173, 2174
Wentworth	Penrith	2171
South Eastern Sydney	Sutherland	2171, 2173
<i>Fairfield Health Service DGP</i>		
South Western Sydney	Bankstown	2161, 2163
South Western Sydney	Fairfield	2161, 2163 - 2166, 2176, 2177
Western Sydney	Holroyd	2160, 2161, 2164
Western Sydney	Parramatta	2160, 2161
<i>Hornsby Ku-Ring-Gai DGP</i>		
Western Sydney	Baulkham Hills	2118, 2125, 2154, 2157, 2158
Central Coast	Gosford	2083, 2775
Wentworth	Hawkesbury	2775
Northern Sydney	Hornsby	2076 - 77, 2079 - 83, 2118 - 21, 2125, 2126, 2154, 2157 - 2159,
Northern Sydney	Hunters Hill	2110 - 2111
Northern Sydney	Ku-Ring-Gai	2071 - 2076
Western Sydney	Parramatta	2114, 2118, 2121, 2122
Northern Sydney	Ryde	2109, 2111 - 2114, 2122
<i>Manly Warringah DGP</i>		
Northern Sydney	Manly	2092 - 2095
Northern Sydney	Pittwater	2084, 2101 - 2108
Northern Sydney	Warringah	2084 - 2087, 2093, 2096, 2097, 2099 - 2101
<i>Sutherland DGP</i>		
South Eastern Sydney	Sutherland	2224 - 2234
<i>Macarthur DGP</i>		
South Western Sydney	Camden	2171, 2567, 2570
South Western Sydney	Campbelltown	2167, 2174, 2558 - 2560, 2563 - 2566
South Western Sydney	Fairfield	2171
South Western Sydney	Liverpool	2171, 2174
Wentworth	Penrith	2171

Annual Statistical Report 1998

Area Health Service	LGA	Post Codes
Macarthur DGP contd.		
South Eastern Sydney	Sutherland	2171
South Western Sydney	Wollondilly	2560, 2568 - 2574
Illawarra DGP		
Illawarra	Kiama	2533, 2534
Illawarra	Shellharbour	2527 - 2529
Illawarra	Woollongong	2500, 2502, 2505, 2506, 2508, 2515 - 2519, 2525, 2526, 2528.
Hunter Urban DGP		
Hunter	Cessnock	2287, 2321, 2323, 2325, 2326, 2330, 2334 - 5
Hunter	Dungog	2321
Mid North Coast	Great Lakes	2324
Wentworth	Hawkesbury	2330
Hunter	Lake Macquarie	2259, 2264, 2265, 2267, 2280 - 2287, 2289, 2290, 2301, 2305.
Hunter	Maitland	2320 - 2324, 2326, 2334
Hunter	Newcastle	2287, 2289, 2291 - 2300, 2302 - 2305, 2307, 2308, 2322
Hunter	Port Stephens	2295, 2301, 2314, 2321, 2322, 2324
Hunter	Singleton	2330, 2335
Central Coast	Wvong	2259
Hunter Rural DGP		
Hunter	Cessnock	2321, 2323, 2325 - 2327, 2330, 2334, 2335
Hunter	Dungog	2311, 2321, 2420, 2421
Mid North Coast	Gloucester	2422
Mid North Coast	Great Lakes	2312, 2324, 2415, 2422, 2423, 2425, 2428
Mid North Coast	Greater Taree	2424, 2426, 2427, 2429, 2430
Mid North Coast	Hastings	2429
Wentworth	Hawkesbury	2330
Hunter	Lake Macquarie	2301
Hunter	Maitland	2321, 2323, 2324, 2326, 2334
Hunter	Merriwa	2329, 2337
Hunter	Murrurundi	2338, 2339
Hunter	Muswellbrook	2328, 2333
Hunter	Port Stephens	2301, 2315, 2321, 2324
Hunter	Scone	2336, 2337
Hunter	Singleton	2330, 2335
NSW Central Coast DGP		
Central Coast	Gosford	2250, 2251, 2256, 2257, 2260
Hunter	Lake Macquarie	2259
Central Coast	Wvong	2258, 2259, 2261 - 2263
Shoalhaven DGP		
Illawarra	Shoalhaven	2535, 2540, 2541
The South East NSW DGP		
Southern	Bega Valley	2546, 2548 - 2551
Mid Western	Blayney	2583
Southern	Bombala	2630 - 2633
Southern	Boorowa	2586
Southern	Cooma-Monaro	2621, 2626, 2630, 2631
Mid Western	Cowra	2583

Annual Statistical Report 1998

Area Health Service	LGA	Post Codes
<i>The South East NSW DGP (contd)</i>		
Southern	Crookwell	2580, 2583
Southern	Eurobodalla	2536, 2537, 2545, 2546
Mid Western	Evans	2583
Southern	Goulburn	2580
Southern	Gunning	2581, 2582
Southern	Harden	2584, 2585
Southern	Mulwaree	2579 - 2581
Southern	Queanbeyan	2620
Illawarra	Shoalhaven	2536, 2538, 2539
Southern	Snowy River	2627, 2628, 2630
Southern	Tallaganda	2622
Greater Murray	Tumbarumba	2627
Greater Murray	Tumut	2630
South Western Sydney	Wingecarribee	2579
Southern	Yarrowlumla	2620, 2621
Southern	Yass	2582, 2584, 2620
<i>Australian Capital Territory DGP</i>		
Southern	Cooma-Monaro	2621
Southern	Queanbeyan	2620
Southern	Yarrowlumla	2620, 2621
Southern	Yass	2620
<i>Port Macquarie DGP</i>		
Mid North Coast	Coffs Harbour	2441
Mid North Coast	Greater Taree	2443
Mid North Coast	Hastings	2439 - 2441, 2443 - 2446
Mid North Coast	Kempsey	2431, 2440, 2441
Mid North Coast	Nambucca	2440, 2441
Far West	Unincorporated	2898
<i>Mid North Coast DGP</i>		
Mid North Coast	Bellingen	2453 - 2455
Mid North Coast	Coffs Harbour	2441, 2450, 2452, 2454, 2456
Northern Rivers	Copmanhurst	2460
Northern Rivers	Grafton	2460
Mid North Coast	Hastings	2441
Mid North Coast	Kempsey	2441
Northern Rivers	Macleay	2460
Mid North Coast	Nambucca	2441, 2447- 2449
Northern Rivers	Nymboida	2450, 2453, 2460
Northern Rivers	Ulmarra	2450, 2456, 2460, 2462
<i>Northern Rivers DGP</i>		
Northern Rivers	Ballina	2477 - 2480
Northern Rivers	Byron	2479 - 2483
Northern Rivers	Casino	2470
Northern Rivers	Copmanhurst	2470
Northern Rivers	Kyogle	2469, 2470, 2474, 2476
Northern Rivers	Lismore	2471, 2472, 2480

Annual Statistical Report 1998

Area Health Service	LGA	Post Codes
Northern Rivers DGP contd.		
Northern Rivers	Maclean	2463 - 2466
Northern Rivers	Richmond River	2469 - 2473
New England	Tenterfield	2470, 2475, 2476
Northern Rivers	Tweed	2483
Tweed Valley DGP		
Northern Rivers	Byron	2483
Northern Rivers	Tweed	2483 - 2490
New England DGP		
New England	Armidale	2350
New England	Bingara	2359
Northern Rivers	Casino	2470
Northern Rivers	Copmanhurst	2470
New England	Dumaresq	2350, 2365
New England	Glen Innes	2370
New England	Guyra	2350, 2359, 2365, 2369
New England	Inverrel	2360, 2361, 2370, 2403, 2410
Northern Rivers	Kyogle	2470
Northern Rivers	Richmond River	2470
New England	Severn	2365, 2370, 2371
New England	Tenterfield	2372, 2470
New England	Uralla	2350, 2354, 2358, 2359
New England	Walcha	2354
New England	Yallaroj	2403
Wagga Wagga DGP		
Greater Murray	Bland	2671
Greater Murray	Carrathool	2652
Greater Murray	Coolamon	2652, 2701, 2702
Greater Murray	Cootamundra	2588, 2590, 2594, 2725
Greater Murray	Culcairn	2642, 2658
Greater Murray	Gundagai	2722, 2729
Southern	Harden	2587, 2588, 2722
Greater Murray	Hume	2642
Greater Murray	Junee	2590, 2650, 2652, 2663, 2666
Greater Murray	Lockhart	2642, 2655, 2656, 2658
Greater Murray	Narrandera	2652
Greater Murray	Temora	2666
Greater Murray	Tumbarumba	2642, 2653
Greater Murray	Tumut	2720, 2729, 2730
Greater Murray	Urana	2652
Greater Murray	Wagga Wagga	2650 - 2652, 2655, 2661, 2702
Greater Murray	Young	2587, 2594
Central West DGP		
Mid Western	Bathurst	2795
Greater Murray	Bland	2668, 2669, 2721
Mid Western	Blayney	2791 - 2793, 2795, 2797 - 2799
Macquarie	Bogan	2877

Annual Statistical Report 1998

Area Health Service	LGA	Post Codes
Central West DGP (contd.)		
Southern	Boorowa	2794
Mid Western	Cabonne	2798, 2800, 2804 - 2806, 2864 - 2868, 2870
Greater Murray	Carrathool	2669, 2877
Macquarie	Cobar	2672, 2877
Mid Western	Cowra	2793, 2794, 2804, 2805, 2808
Southern	Crookwell	2795
Mid Western	Evans	2795
Mid Western	Forbes	2806, 2810, 2871, 2877
Mid Western	Greater Lithgow	2790, 2795, 2845, 2846, 2847
Greater Murray	Griffith	2669
Greater Murray	Gundagai	2727
Southern	Harden	2726
Mid Western	Lachlan	2669, 2672, 2874, 2877
Hunter	Merriwa	2850
Macquarie	Mudgee	2850
Mid Western	Oberon	2787
Mid Western	Orange	2800
Mid Western	Parkes	2870, 2874 - 2876
Mid Western	Rylstone	2795, 2846, 2848, 2849, 2850
Mid Western	Weddin	2721, 2809, 2810
Macquarie	Wellington	2850, 2866, 2868
South Western Sydney	Wollondilly	2787
Southern	Young	2803, 2807
Dubbo Plains DGP		
Macquarie	Bogan	2825, 2831
Far West	Brewarrina	2831
Mid Western	Cabonne	2868
Macquarie	Cobar	2831
Macquarie	Coolah	2395, 2842 - 2844, 2852
Macquarie	Coonabarabran	2357, 2395, 2396, 2844
Macquarie	Coonamble	2828, 2829, 2831
Macquarie	Dubbo	2830, 2831
Macquarie	Gilgandra	2827, 2830, 2831
Mid Western	Lachlan	2873
Hunter	Merriwa	2850
Macquarie	Mudgee	2850, 2852
New England	Narrabri	2396
Macquarie	Narromine	2821, 2823, 2869
Mid Western	Parkes	2869
Mid Western	Rylstone	2850
Far West	Walgett	2829
Macquarie	Warren	2824, 2825
Macquarie	Wellington	2820, 2830, 2831, 2850, 2868

Annual Statistical Report 1998

Area Health Service	LGA	Post Codes
Barwon DGP		
New England	Barraba	2346, 2347
New England	Bingara	2390, 2404
Macquarie	Coonabarabran	2379
New England	Gunnedah	2380 - 2382
New England	Manilla	2346
New England	Moree Plains	2398 - 2400, 2405 - 2407, 2409
New England	Narrabri	2382, 2388, 2390, 2397
Far West	Walgett	2386, 2387, 2833
New England	Yallaro	2400 - 2402, 2408
Murrumbidgee DGP		
Far West	Balranald	2711
Greater Murray	Berrigan	2712 - 2714, 2716
Greater Murray	Bland	2665
Greater Murray	Carrathool	2652, 2675, 2680, 2711
Greater Murray	Conargo	2714
Greater Murray	Coolamon	2652, 2665
Greater Murray	Griffith	2680, 2681
Greater Murray	Hay	2711
Greater Murray	Jerilderie	2700, 2716
Greater Murray	Junee	2652
Greater Murray	Leeton	2700, 2703, 2705, 2706
Greater Murray	Murrumbidgee	2700, 2706, 2707, 2711
Greater Murray	Narrandera	2652, 2665, 2700
Greater Murray	Temora	2665
Greater Murray	Urana	2652, 2700
Greater Murray	Wagga Wagga	2652
Greater Murray	Wakool	2733
NSW Outback DGP		
Macquarie	Bogan	2831
Far West	Bourke	2840
Far West	Brewarrina	2831, 2838, 2839
Far West	Central Darling	2835
Macquarie	Cobar	2831, 2835
Macquarie	Coonamble	2831
Macquarie	Dubbo	2831
Macquarie	Gilgandra	2831
Far West	Unincorporated	2840
Far West	Walgett	2832, 2834
Macquarie	Wellington	2831
Southern Highlands DGP		
Illawarra	Kiama	2577
Southern	Mulwaree	2579
Illawarra	Shoalhaven	2577
South Western Sydney	Wingecarribee	2575 - 2579
South Western Sydney	Wollondilly	2574

Annual Statistical Report 1998

Area Health Service	LGA	Post Codes
North West Slopes (NSW) DGP		
Macquarie	Coonabarabran	2343
New England	Gunnedah	2340 - 2343
New England	Manilla	2345
New England	Nundle	2340
New England	Parry	2340 - 2342, 2344, 2345, 2352, 2353, 2355
New England	Quirindi	2343
New England	Tamworth	2340
New England	Uralla	2354
New England	Walcha	2354
Nepean DGP		
Western Sydney	Blacktown	2760
South Western Sydney	Liverpool	2745
Wentworth	Penrith	2745, 2747 - 2750, 2759, 2760
South Western Sydney	Wollondilly	2752
Blue Mountains DGP		
Wentworth	Blue Mountains	2773, 2774, 2776 - 2780, 2782 - 2786
Western Sydney	Baulkham Hills	2756, 2765
Western Sydney	Blacktown	2762, 2765
Central Coast	Gosford	2775
Wentworth	Hawkesbury	2753 - 2758, 2765, 2775
Northern Sydney	Hornsby	2775
Wentworth	Penrith	2753, 2765
Barrier DGP		
Far West	Broken Hill	2880
Greater Murray	Carrathool	2878
Far West	Central Darling	2836, 2878, 2879
Far West	Unincorporated	2880
North East Victorian DGP		
Greater Murray	Culcairn	2642
Greater Murray	Hume	2642
Greater Murray	Lockhart	2642
Greater Murray	Tumbarumba	2642
Border DGP		
Greater Murray	Albury	2640, 2641
Greater Murray	Berrigan	2647
Greater Murray	Corowa	2646, 2647
Greater Murray	Culcairn	2642, 2659, 2660
Greater Murray	Holbrook	2644
Greater Murray	Hume	2640, 2642 - 2644
Greater Murray	Lockhart	2642, 2644, 2645
Greater Murray	Tumbarumba	2642
Greater Murray	Urana	2645, 2646
Murray Plains DGP		
Greater Murray	Conargo	2710
Greater Murray	Deniliquin	2710
Greater Murray	Murray	2710, 2731
Greater Murray	Wakool	2710, 2732
Greater Murray	Windouran	2710

Annual Statistical Report 1998

Area Health Service	LGA	Post Codes
<i>Mallee DGP</i>		
Far West	Balranald	2715, 2734, 2737
Far West	Central Darling	2648
Far West	Unincorporated	2648
Greater Murray	Wakool	2736
Far West	Wentworth	2648, 2717, 2738, 2739

APPENDIX 10: List of LGAs and their relevant SES quintiles**Table A7: List of LGAs and their SES quintile**

LGA	AREA HEALTH SERVICE	SES QUINTILE
Albury	Greater Murray	3.00
Armidale	New England	3.00
Ashfield	Central Sydney	3.00
Auburn	Western Sydney	5.00
Ballina	Northern Rivers	4.00
Balranald	Far West	4.00
Bankstown	South Western Sydney	4.00
Barraba	New England	5.00
Bathurst	Mid Western	2.00
Baulkham Hills	Western Sydney	1.00
Bega Valley	Southern	3.00
Bellingen	Mid North Coast	5.00
Berrigan	Greater Murray	2.00
Bingara	New England	4.00
Blacktown	Western Sydney	4.00
Bland	Greater Murray	3.00
Blayney	Mid Western	2.00
Blue Mountains	Wentworth	1.00
Bogan	Macquarie	4.00
Bombala	Southern	2.00
Boorowa	Southern	3.00
Botany	South Eastern Sydney	5.00
Bourke	Far West	5.00
Brewarrina	Far West	5.00
Broken Hill	Far West	5.00
Burwood	Central Sydney	2.00
Byron	Northern Rivers	5.00
Cabonne	Mid Western	2.00
Camden	South Western Sydney	1.00
Campbelltown	South Western Sydney	4.00

Annual Statistical Report 1998

LGA	AREA HEALTH SERVICE	SES QUINTILE
Canterbury	Central Sydney	5.00
Carrathool	Greater Murray	3.00
Casino	Northern Rivers	5.00
Central Darling	Far West	5.00
Cessnock	Hunter	4.00
Cobar	Macquarie	4.00
Coffs Harbour	Mid North Coast	5.00
Conargo	Greater Murray	1.00
Concord	Central Sydney	2.00
Coolah	Macquarie	3.00
Coolamon	Greater Murray	3.00
Cooma-Monaro	Southern	2.00
Coonabarabran	Macquarie	4.00
Coonamble	Macquarie	5.00
Cootamundra	Greater Murray	3.00
Copmanhurst	Northern Rivers	3.00
Corowa	Greater Murray	2.00
Cowra	Mid Western	4.00
Crookwell	Southern	2.00
Culcairn	Greater Murray	2.00
Deniliquin	Greater Murray	3.00
Drummoyne	Central Sydney	2.00
Dubbo	Macquarie	3.00
Dumaresq	New England	1.00
Dungog	Hunter	2.00
Eurobodalla	Southern	4.00
Evans	Mid Western	1.00
Fairfield	South Western Sydney	5.00
Forbes	Mid Western	3.00
Gilgandra	Macquarie	4.00
Glen Innes	New England	4.00
Gloucester	Mid North Coast	3.00
Gosford	Central Coast	2.00
Goulburn	Southern	3.00

LGA	AREA HEALTH SERVICE	SES QUINTILE
Grafton	Northern Rivers	4.00
Great Lakes	Mid North Coast	5.00
Greater Lithgow	Mid Western	3.00
Greater Taree	Mid North Coast	4.00
Griffith	Greater Murray	3.00
Gundagai	Greater Murray	2.00
Gunnedah	New England	3.00
Gunning	Southern	1.00
Guyra	New England	4.00
Harden	Southern	3.00
Hastings	Mid North Coast	4.00
Hawkesbury	Wentworth	2.00
Hay	Greater Murray	4.00
Holbrook	Greater Murray	2.00
Holroyd	Western Sydney	3.00
Hornsby	Northern Sydney	1.00
Hume	Greater Murray	1.00
Hunters Hill	Northern Sydney	1.00
Hurstville	South Eastern Sydney	2.00
Inverell	New England	3.00
Jerilderie	Greater Murray	2.00
Junee	Greater Murray	4.00
Kempsey	Mid North Coast	5.00
Kiama	Illawarra	1.00
Kogarah	South Eastern Sydney	1.00
Ku-ring-gai	Northern Sydney	1.00
Kyogle	Northern Rivers	5.00
Lachlan	Mid Western	4.00
Lake Macquarie	Hunter	2.00
Lane Cove	Northern Sydney	1.00
Leeton	Greater Murray	2.00
Leichhardt	Central Sydney	3.00
Lismore	Northern Rivers	4.00

Annual Statistical Report 1998

LGA	AREA HEALTH SERVICE	SES QUINTILE
Liverpool	South Western Sydney	5.00
Lockhart	Greater Murray	2.00
Maclean	Northern Rivers	5.00
Maitland	Hunter	2.00
Manilla	New England	5.00
Manly	Northern Sydney	1.00
Marrickville	Central Sydney	5.00
Merriwa	Hunter	2.00
Moree Plains	New England	5.00
Mosman	Northern Sydney	1.00
Mudgee	Macquarie	4.00
Mulwaree	Southern	1.00
Murray	Greater Murray	2.00
Murrumbidgee	Greater Murray	2.00
Murrurundi	Hunter	3.00
Muswellbrook	Hunter	2.00
Nambucca	Mid North Coast	5.00
Narrabri	New England	3.00
Narrandera	Greater Murray	4.00
Narromine	Macquarie	4.00
Newcastle	Hunter	4.00
North Sydney	Northern Sydney	1.00
Nundle	New England	2.00
Nymboida	Northern Rivers	4.00
Oberon	Mid Western	2.00
Orange	Mid Western	3.00
Parkes	Mid Western	4.00
Parramatta	Western Sydney	3.00
Parry	New England	2.00
Penrith	Wentworth	2.00
Port Stephens	Hunter	3.00
Queanbeyan	Southern	2.00
Quirindi	New England	2.00
Randwick	South Eastern Sydney	3.00

LGA	AREA HEALTH SERVICE	SES QUINTILE
Richmond River	Northern Rivers	5.00
Rockdale	South Eastern Sydney	3.00
Ryde	Northern Sydney	1.00
Rylstone	Mid Western	4.00
Scone	Hunter	2.00
Severn	New England	3.00
Shellharbour	Illawarra	3.00
Shoalhaven	Illawarra	5.00
Singleton	Hunter	2.00
Snowy River	Southern	1.00
South Sydney	South Eastern Sydney	5.00
South Sydney	Central Sydney	5.00
Strathfield	Central Sydney	2.00
Sutherland	South Eastern Sydney	1.00
Sydney	South Eastern Sydney	5.00
Sydney	Central Sydney	5.00
Tallaganda	Southern	2.00
Tamworth	New England	3.00
Temora	Greater Murray	4.00
Tenterfield	New England	5.00
Tumbarumba	Greater Murray	2.00
Tumut	Greater Murray	3.00
Tweed	Northern Rivers	5.00
Ulmarra	Northern Rivers	5.00
Uralla	New England	2.00
Urana	Greater Murray	3.00
Wagga Wagga	Greater Murray	2.00
Wakool	Greater Murray	2.00
Walcha	New England	2.00
Walgett	Far West	5.00
Warren	Macquarie	3.00
Warringah	Northern Sydney	1.00
Waverley	South Eastern Sydney	2.00

Annual Statistical Report 1998

LGA	AREA HEALTH SERVICE	SES QUINTILE
Weddin	Mid Western	4.00
Wellington	Macquarie	5.00
Wentworth	Far West	4.00
Willoughby	Northern Sydney	1.00
Windouran	Greater Murray	1.00
Wingecarribee	South Western Sydney	2.00
Wollondilly	South Western Sydney	2.00
Wollongong	Illawarra	3.00
Woollahra	South Eastern Sydney	1.00
Wyong	Central Coast	5.00
Yallaroi	New England	2.00
Yarrowlumla	Southern	1.00
Yass	Southern	1.00
Young	Southern	3.00
Unincorp. Far West	Far West	3.00

APPENDIX 11: Suggested citations

1. Commonwealth Department of Human Services and Health. *Making a Pap smear better. Report of the steering committee on quality assurance in screening for the prevention of cancer of the cervix.* AGPS, Canberra. 1993.
2. National Health and Medical Research Council. *Screening to prevent cervical cancer: Guidelines for the management of women with screen detected abnormalities.* Commonwealth Department of Human Services and Health. AGPS, Canberra. 1994.
3. Jelfs PL. *Cervical cancer in Australia.* Australian Institute of Health and Welfare: Cancer series no: 3. AIHW, Canberra, 1995.
4. Commonwealth Department of Human Services and Health. *The Interim evaluation of the organised approach to cancer of the cervix 1991-95. Report of the evaluation steering committee, May 1995.* AGPS, Canberra, 1995.
5. National Cervical Screening Program. *Performance standards for Australian laboratories reporting cervical cytology, November 1996.* The Commonwealth Department of Health and Family Services. AGPS, Canberra, 1996.
6. National Cancer Control Initiative. *Cancer Control towards 2002. The first stage of a nationally co-ordinated plan for cancer control.* The Commonwealth Department of Health and Family Services. AGPS, Canberra, 1997.
7. NSW Cervical Screening Program. *Strategic Directions 1996-1999. A joint Commonwealth / State initiative managed by the Western Sydney Area Health Service, 1997.*
8. NSW Cervical Screening Program. *Situation Analysis - An overview prepared by the NSW Cervical Screening Program. A joint Commonwealth / State initiative managed by the Western Sydney Area Health Service, 1997.*

9. The Commonwealth Department of Health and Family Services. *Pap smear test results: A guide for women with an abnormal pap smear test*. AGPS, Canberra, 1997.
10. National Pathology Accreditation and Advisory Council. *Requirements for gynaecological (cervical) cytology*. AGPS, Canberra 1997.
11. The Commonwealth Department of Health and Family Services. *Screening for the prevention of cervical cancer*. AGPS, Canberra, 1998.
12. NSW Cervical Screening Program. *Cervical screening in NSW: Legal Issues*. A joint Commonwealth / State initiative managed by the Western Sydney Area Health Service, 1998.
13. NSW Cervical Screening Program. *Preventing cancer of the cervix: An overview for medical students*. A joint Commonwealth / State initiative managed by the Western Sydney Area Health Service, 1998.
14. NSW Cervical Screening Program and the NSW Pap Test Register. *First Annual Statistical Report 1997*. Westmead Hospital, Sydney, 1999.

REFERENCES

1. NSW Cervical Screening Program. NSW Cervical Screening Program Strategic Directions 1996 to 1999, Sydney. 1997
2. Gardner and Altman Statistics with Confidence, BMJ, London. 1989.
3. Australian Bureau of Statistics. Socio-economic indexes for areas. 1990, AGPS, Canberra.
4. Department of Primary Industries and Energy and Department of Human Services and Health. Rural, Remote and Metropolitan Areas Classification 1991 Census Edition, AGPS, Canberra. 1994
5. Cote R. Systematised Nomenclature of Medicine, College of American Pathologists, Ill. 1987