

IRISH CERVICAL SCREENING PROGRAMME

PHASE I

Mid-Western Health Service Executive Area

2004

Annual Statistical Report

TABLE OF CONTENTS

List of Tables

List of Figures

	Page
1 INTRODUCTION	1
2 STATISTICS	5
2.1 Summary	5
2.2 Objective	5
2.3 Methodology	5
2.4 Analysis	6
2.4.1 Level of Screening	8
2.4.1.1 Number of Women Screened	8
2.4.1.2 Coverage	9
2.4.2 Entry for women into the cervical screening programme	10
2.4.2.1 Method of entry	10
2.4.2.2 Response of women to invitation letters	11
2.4.3 Smear activity	12
2.4.3.1 Adherence to screening policy	12
2.4.4 Cytology	13
2.4.4.1 Cytology findings	13
2.4.5 Histology	15
2.4.5.1 Histology findings by age	15
2.4.6 Colposcopy	17

TABLES

		Page
Table 1.	Number of women on the CSR by age group and category	7
Table 2.	Annual number of unique women screened by age at first smear	8
Table 3.	Response of women to an invitation letter to attend for screening	11
Table 4.	Cytology findings	14
Table 5.	Distribution of histology findings by highest ranking SNOMED grade	16
Table 6.	Number of unique women who attended colposcopy by age group, year of first attendance and total number of attendances	17
Table 7.	Types of ICSP related colposcopy procedures by year	18
Table 8.	Types of colposcopy procedures as a percentage of number of procedures	19

FIGURES

	Page
Figure 1. Correlation between the number of eligible women on the CSR database and the 2002 projected census for 2004	8
Figure 2. ICSP coverage for the period October 2000 – December 2004 based on Central Register	9
Figure 3. Method of programme entry for women by age group	10
Figure 4. Distribution of ICSP policy and inappropriate smears by age	12
Figure 5. Distribution of histology findings by highest ranking SNOMED grade	15
Figure 6. Colposcopy procedures undertaken by age group	17
Figure 7. Types of colposcopy procedures undertaken by year	18
Figure 8. Types of colposcopy procedures as a percentage of number of procedures	19

1. INTRODUCTION

Two external review reports of the first phase Irish Cervical Screening Programme were delivered in 2004. The Board of HeBE commissioned these reports with a view to recommendations that would inform the planning for a national extension of the programme. The primary goal was to have a robust model for this national expansion; one that would fulfil the criteria for a national public health programme and lead to a reduction in morbidity for Irish women.

The two reports commissioned were:

‘The Report on the Irish Cervical Screening Programme’ by Dr Euphemia McGoogan July 2004

www.icsp.ie/publications/reports.asp

‘An evaluation of the first phase of the Irish Cervical Screening Programme from the woman’s perspective’ by the Women’s Health Council.

www.icsp.ie/publications/reports.asp

The external review process affirmed the organisational elements put in place by the central national office in Limerick and identified issues to be addressed to move the process to a national domain. The programme is a public health population based screening programme based in primary care.

The main successes to date are the creation of a population register, an information system electronically linked to the service providers, the ISO 9001-2000 standard achievement, a certified smartaker training programme, promotional material and quality standards. The

reports were adopted by the Board of HeBE at their meeting in September 2004 and are currently under consideration by the Department of Health and Children, Cancer Services Division. The Department has initiated a consultation process with the key stakeholders including professional academic bodies, general practitioners, nurses, cytology screening laboratories, colposcopy clinics, (a gynae OPD) and histology laboratories to follow up on these reports and to plan the transition from phase 1 to national roll out.

The Programme is a population based public health screening programme targeting women aged 25-60 years of age. The success of the screening programme relies on the integration of services through population health, primary care and hospital services.

The face of the Programme is the health professional, the doctors and nurses as the smartakers, who take the smear tests in primary care setting. The critical element for the woman is the result of the test, available from our cytology laboratory service. The colposcopy clinic serves to 'see and treat' women. The histology laboratory service supports this service.

The International Agency for Research on Cancer (IARC) is a part of the World Health Organisation and confirmed, in May 2004, the efficacy of cervical cancer screening for women over 25 years in reducing mortality. The experts emphasized that in order to achieve this goal optimally, an organised programme with quality of every step of the entire process is a prerequisite. In such circumstances, it was estimated that a reduction of 80% mortality can be achieved. Extrapolating this to the Irish context where currently up to 80 women die annually from cervical cancer – an 80% reduction could save 60 lives a year. This programme when fully quality assured has the potential to save the lives of

women who would be actively contributing to our society with valuable places in the family and workplace. This cannot be underestimated and is the impetus to drive this programme forward.

The Irish Cervical Screening Programme was awarded certification with the National Standards Authority of Ireland (NSAI)-the ISO 9001-2000 standard in May 2004. The internationally renowned quality award was achieved by the ICSP following audits by the certification body, NSAI. The aim is to reduce the incidence and mortality from cervical cancer in the priority population aged 25-60 years and the ISO Quality certification is testament to ICSP's ongoing commitment to providing its customers with the utmost standards in quality service.

In 1995 the age-standardised incidence rate for Ireland was 9.5 per 100,000 compared to 13.9 per 100,000 in the UK. Despite the differences in incidence, mortality was almost the same in both countries (4.6 in Ireland compared to 5 per 100,000 in the UK) indicating that Irish women were being diagnosed with their cancer at a later stage when medical intervention was less likely to achieve a cure. Currently up to 80 women die in Ireland each year from cervical cancer. Because cervical cancer affects relatively young women, it is an important cause of lost years of life.

Researchers from the cancer registries in Cork and Belfast studied cervical cancer death-rates between 1971 and 2000 in the UK and the Republic of Ireland (British Journal of Cancer 18 November 2004). They found that deaths from cervical cancer fell substantially in the UK after the national screening programme was introduced in 1988, whereas in

Ireland where a national programme has not yet been introduced, there has been a steady increase from year to year.

Experts believe that Ireland must follow the other countries with a national screening programme such as Northern Ireland, Wales, Scotland and England and implement an organised population-based screening programme to reduce death-rates in cervical cancer.

By 1993, 83 per cent of 20 – 59 year-old women in the UK were being screened for cervical cancer on a three- or five-yearly basis. However, in Ireland, only nine per cent of the population are being screened in an organized screening programme.

Researchers found that, since 1988, deaths from cervical cancer in England and Wales dropped by five per cent a year and, in Scotland, by four per cent a year. Northern Ireland also saw a two per cent drop in deaths per year. However, the Republic of Ireland has seen a steady increase of 1.5 per cent every year since 1978.

2. STATISTICS

2.1 Summary

This statistical review for 2004 found that coverage of the target population of women aged 25-60 was 65.5%. Access to the service was initiated at the discretion of their doctor for 78.3% of women as compared to 21.7% of women having a smear test taken in response to an Irish Cervical Screening Programme invitation letter from January 2004 to December 2004. There were 2,685 unique women seen in colposcopy from October 2000 to December 2004 representing 5.7% (2,685/47,409) of the total number screened.

2.2 Objective

The objectives of this analysis focuses on the levels of screening, smear generated cytology, and clinical activity. In particular:

1. To ascertain the annual uptake and overall coverage, of smear testing by women in the Phase I Mid-Western Health HSE region.
2. To outline the method of entry for women into the screening programme.
3. To determine the frequency of smears and to provide a measure of the level of adherence to ICSP screening policy.
4. To report ICSP generated laboratory and colposcopy activity describing cytology and histology findings amongst women screened.

2.3 Methodology

The prime source of data for this presentation is taken from the Cervical Screening Register (CSR) and based on data up to 31st December 2004. Reporting on screening activity at population level in the Phase I Mid-Western HSE region is made possible by the demographic details and screening data stored centrally in the CSR for each woman.

A minimum data set is established for the CSR and interfaced electronic linkages to facilitate unique identification of a woman across inputs and outputs. The Personal Public Service (PPS) number is the unique identifier recommended. An extensive de-duplication process of women's files has been undertaken and matching software is active on the CSR. Information retained on the women for ICSP purposes is subject to the Data Protection Act 1998.

2.4 Analysis

The CSR contained the files of 89,472 women for Phase I of the screening programme as of December 2004. These women were grouped into one of three categories: active, inactive or permanently inactive (Table 1).

The inactive category identifies those women who are, for an interim, exempt from the programme for reasons such as self-deferral of routine smear, under the care of colposcopy services or undergoing other medical treatment, reported to be pregnant, under age or has temporarily moved out of the ICSP region.

The permanently inactive file is an archive of women who are not, or no longer, eligible for the screening programme due to death, reaching the age of 61, having a history of a total hysterectomy, having moved out of the country or having requested not to be part of the programme.

Table 1. Number of women on the CSR by age group and category for the period October 2000 – December 2004

Age Group	Active	Inactive	Permanently inactive	Total
<25	607	1,875	19	2,501
25-29	6,612	1,357	133	8,102
30-34	13,295	2,517	598	16,410
35-39	11,913	2,020	482	14,415
40-44	10,741	1,454	446	12,641
45-49	9,311	993	446	10,750
50-54	8,264	785	559	9,608
55-59	7,150	647	611	8,408
60 only	273	111	1,010	1,394
61+	298	289	4,656	5,243
All Total	68,464	12,048	8,960	89,472

Figure 1 profiles the CSR population demographics against the 2002 census data for the HSE Mid-Western area. The under 25 and over 60 age groups along with women in the permanently inactive CSR category have been excluded to better reflect the ICSP target population.

On the whole, the correlation is good between the CSR and projected census counts of women. The number of women aged 35 years and over in the CSR is aligned well with the census while less congruence is evident in the lower age groupings especially for those women under 30. This younger cohort is more mobile in residential terms than older age groups and could explain the disparity.

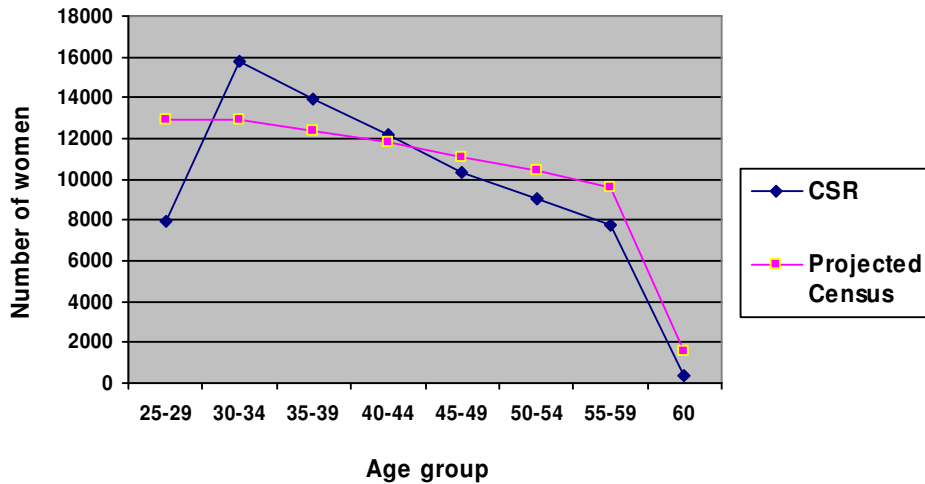


Figure 1. Correlation between the number of eligible women for the period October 2000 – December 2004 on the CSR database and the 2002 Projected Census for 2004

2.4.1 Level of screening

2.4.1.1 Number of women screened

Between October 2000 and December 2004, 47,409 unique women attended for cervical screening in the Phase I region of which 8.6% (4,054/47,409) were below and 2.8% (1,318/47,409) above the age threshold for ICSP screening. (Table 2).

Table 2. Number of unique women screened by age at first smear for the period October 2000 – December 2004

Age Group	2000 [§]	2001	2002	2003	2004	Total
<25	221	1,041	966	899	927	4,054
25-29	289	1,818	1,747	1,541	1,502	6,897
30-34	277	1,836	1,819	1,881	1,439	7,252
35-39	265	1,826	1,832	1,846	1,290	7,059
40-44	251	1,602	1,564	1,638	1,215	6,270
45-49	246	1,303	1,293	1,442	1,036	5,320
50-54	182	1,073	1,028	1,179	973	4,435
55-59	118	670	1,531	1,268	632	4,219
60 only	14	78	293	156	44	585
61+	41	280	467	327	203	1,318
Total	1,904	11,527	12,540	12,177	9,261	47,409

2.4.1.2 Coverage

Coverage is a cumulative measure of the number of eligible women (25-60 years) who have undergone smear testing over the screening interval and provides information on the relative extent to which the ICSP is reaching its target population. Coverage of women in the Mid-Western HSE region over the 51 months period from October 2000 – December 2004 is defined as the number of women screened expressed as a percentage of the eligible women from the CSR database (Figure 2).

Coverage from October 2000 to the end of 2004 was 65.5% (42,037/75,531).

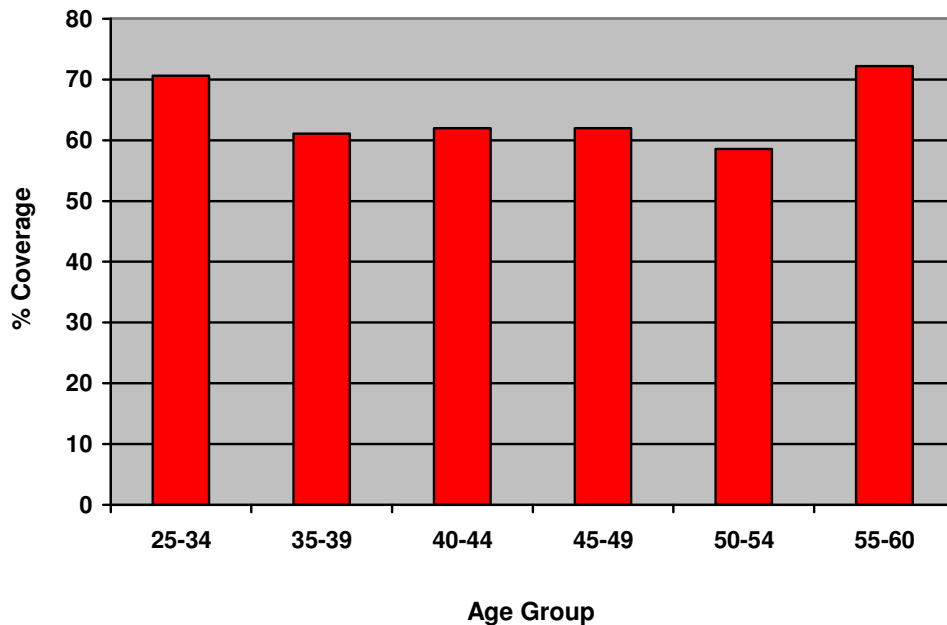


Figure 2. ICSP coverage for the period October 2000 –December 2004

2.4.2 Entry for women into the cervical screening programme

During Phase I of the ICSP, first programme smear can be as a result of an ICSP invitation letter issued to the women or can be directly initiated at the discretion of her doctor. A direct smear pre-empts an invitation letter being sent to the woman in the first five year screening interval.

2.4.2.1 Method of entry

The majority, 80.5% (38,175/47,409), of women screened from October 2000 to December 2004 entered the programme directly and included almost all women under 30 years of age (Figure 3). This is taking into account that no invitation letters are issued to women under 25. Those most likely to attend for smear testing as a result of an invite from the ICSP were women over 55+ years of age. Some 61 year old women received invitation letters prior to 2004.

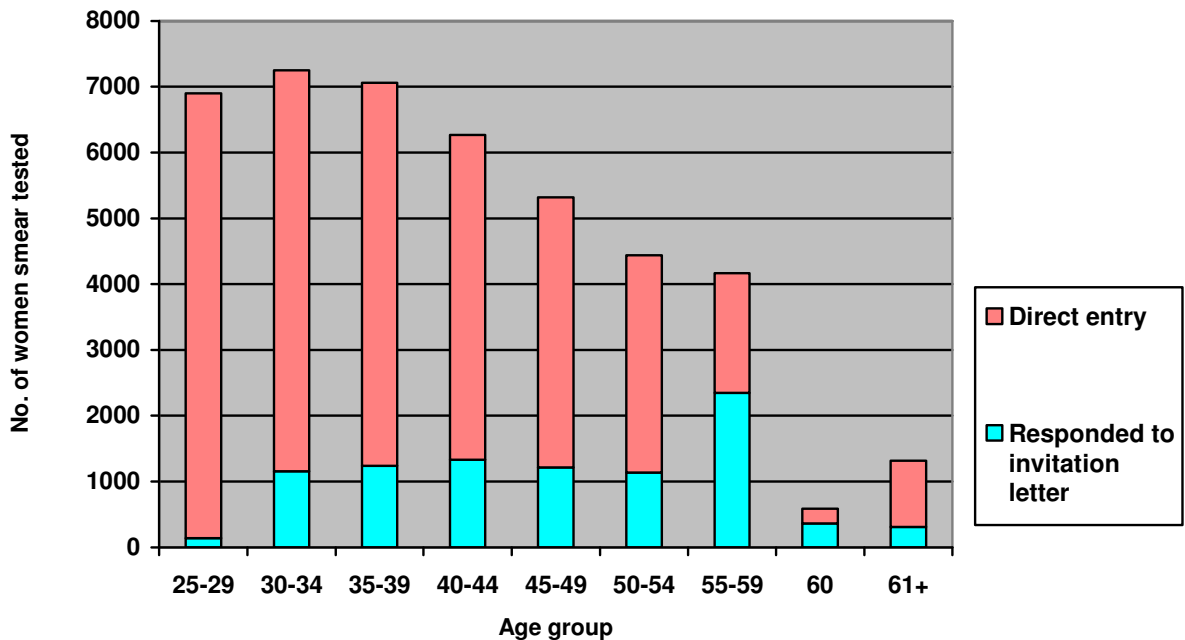


Figure 3. Method of programme entry for women by age group for the period October 2000 –December 2004

2.4.2.2 Response of women to invitation letters

Over the review period from October 2000 – December 2004, 103,022 invitation letters including reminders were sent to 36,542 women offering free screening as part of the ICSP systematic call / recall programme. Table 3 gives an indication of the level of response of these women to the invite letters with response benchmarked against the call open cycle of six months. Twenty seven percent (9,701/36,542) of women had a smear taken sometime during the six months following the issuing of the invitation letter. A further 13.6% (4,964/36,542) did not have a smear taken for a number of reported reasons as listed in Table 3. There were a large number of non-responders, 59.9% (21,877/36,542), which cannot fully be explained by the possibility of the CSR holding an incorrect address on the woman.

Table 3. Response of women to an invitation letter to attend for an ICSP smear for the period October 2000 to December 2004

Responses	No. of women	% of total no. of women issued an invitation letter
Smear taken within defined period	9,701	26.5
Woman requested not to be part of the ICSP	318	0.9
Reported death	102	0.3
Reported recent smear taken prior to letter	199	0.5
Reported Hx of total hysterectomy	1,419	3.9
Reported to live outside the ICSP region	2,007	5.5
No response	21,877	59.9
Other	919	2.5
Total	36,542	

2.4.3 Smear activity

2.4.3.1 Adherence to ICSP screening policy

Overall, policy smears represented 80.9 % (17,667/21,843) of all smears received by the ICSP and accounted for €750,000 worth of payments issued to GPs for 2004 (fee per smear €46.33 in 2004).

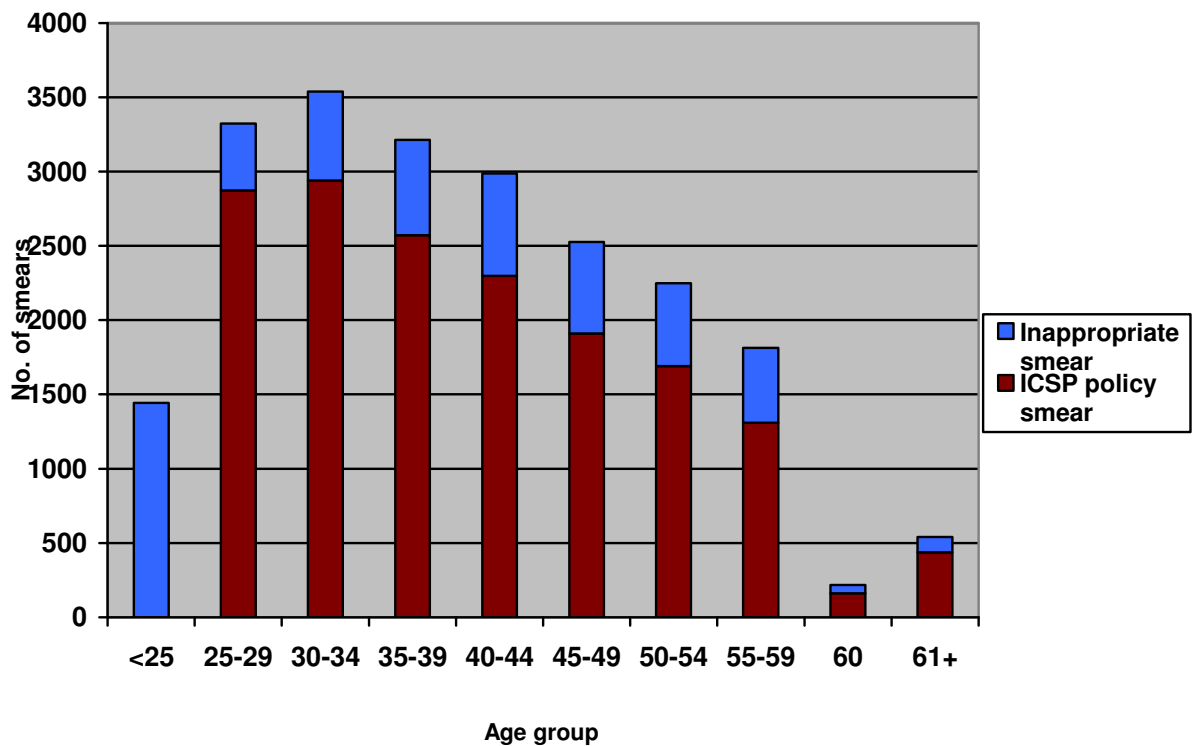


Figure 4. Distribution of ICSP policy and inappropriate smears by woman's age for period January 2004 to December 2004

2.4.4 Cytology

Of the 78,769 smears taken from 2000 to 2004, the slides of 369 smears were either damaged or broken.

2.4.4.1 Cytology findings

Eighty three percent of smears were found to be normal while around 10% were inadequate for cyto-screening and required repeating (Table 4). Smear samples where moderate and severe dyskaryosis was found and where invasive squamous carcinoma and glandular neoplasia were suggested represented almost 2% of all smears tested.

University College Hospital Galway was the largest processor of ICSP smears up to the end of 2004 accounting for 69% (53,064/76,832) of all smears reported with another quarter (19,133/76,832) being processed by St. Luke's Hospital. The level of inadequate or unsatisfactory reporting at UCHG and St. Luke's Hospital on PAP smears ranged from 9.6% (5,120/53,064) - 12.3% (2,362/19,133) respectively.

Table 4. Cytology findings for the period October 2000 – December 2004

Lab	Smears		Cytology findings																
	n	NAD		Unsatisfactory/Inadequate		BNA (sq) or HPV		BNA (gl)		Mild dyskaryosis		Moderate dyskaryosis		Severe dyskaryosis		Query invasive Sq Ca		Query Glandular Neoplasia	
		No.	%of n	No.	%of n	No.	%of n	No.	%of n	No.	%of n	No.	%of n	No.	%of n	No.	%of n	No.	%of n
2000 [§]	17	8	47.1	4	23.5	1	5.9	0	0	3	17.6	0	0	0	0	0	0	1	5.9
2001	8642	7162	82.9	842	9.7	260	3.0	19	0.2	174	2.0	80	0.9	102	1.2	1	0.0	2	0.0
2002	20324	16825	82.8	2046	10.1	636	3.1	25	0.1	375	1.8	207	1.0	193	0.9	13	0.1	4	0.0
2003	24384	20365	83.5	2114	8.7	767	3.1	22	0.1	590	2.4	263	1.1	237	1.0	14	0.1	12	0.0
2004	23465	19385	82.6	2574	11.0	587	2.5	31	0.1	473	2.0	216	0.9	178	0.8	10	0.0	11	0.0
Total	76832	63745	83.0	7580	9.9	2251	2.9	97	0.1	1615	2.1	766	1.0	710	0.9	38	0.0	30	0.0

§ Start in October of 2000

2.4.5 Histology

Histology findings relating to the cervix were reported for 1,263 women screened for the period of October 2000-December 2004. The highest ranking SNOMED coding is reported here for each woman.

2.4.5.1 Histology findings by year

For 34% (435/1,263) of women, the severest SNOMED result was low grade CIN 1. Over 30% (403/1,263) of women were found with pre-invasive CIN 3. Carcinoma was diagnosed in 14 women.

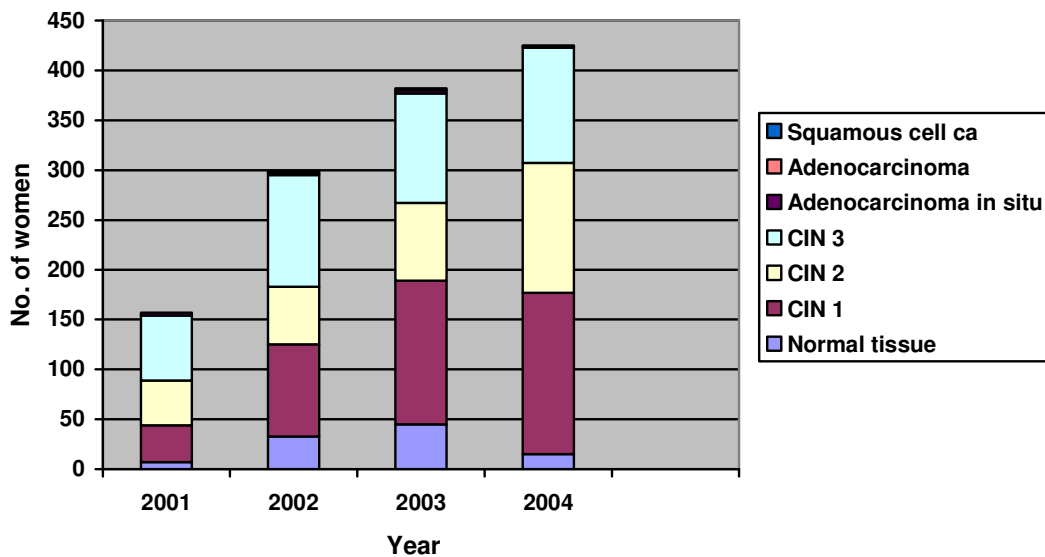


Figure 5. Distribution of histology findings by highest ranking SNOMED code for the period January 2004 – December 2004

Table 5. Distribution of histology findings by highest ranking SNOMED code for the period January 2001 – December 2004

	No. of women	Inadequate		Normal tissue		CIN 1		CIN 2		CIN 3		CGIN		Adeno-carcinoma in situ		Adeno-carcinoma		Squamous cell ca	
		M09010		M00100		M74006		M74007		M74008		M74009		M81402		M81403		M80703	
Age group	n	No.	% of n	No.	% of n	No.	% of n	No.	% of n	No.	% of n	No.	% of n	No.	% of n	No.	% of n	No.	% of n
2001	157	0	0.0	7	4.5	37	23.6	45	28.7	65	41.4	0	0.0	3	1.9	0	0.0	0	0.0
2002	299	0	0.0	33	11.0	92	30.8	58	19.4	112	37.5	0	0.0	2	0.7	0	0.0	2	0.7
2003	382	0	0.0	45	11.8	144	37.7	78	20.4	110	28.8	0	0.0	3	0.8	0	0.0	2	0.5
2004	425	0	0.0	15	3.5	162	38.1	130	30.6	116	27.3	0	0.0	0	0.0	1	0.2	1	0.2
Total	1263	0	0	100	7.9	435	34.4	311	24.6	403	31.9	0	0	8	0.6	1	0.1	5	0.4

2.4.6 Colposcopy

The following provides information on the level of activity in colposcopy on screened women – (Table 6,7,8) (Figure 6,7,8). There were 2,685 women seen in colposcopy over the five year period representing 5.7% (2,685/47,409) of the total number screened.

Table 6. Number of unique women who attended colposcopy for the period October 2000 – December 2004

Age group	No. of unique women						No. of attendances
	2000	2001	2002	2003	2004	Total	2000-2004
<25	1	141	86	97	117	442	794
25-29	5	162	108	135	134	544	1,144
30-34	2	145	81	145	148	521	1,094
35-39	2	99	67	110	90	368	719
40-44	1	77	45	62	85	270	554
45-49	2	67	39	73	65	246	454
50-54	0	31	26	31	41	129	227
55-59	0	28	24	29	23	104	174
60	0	2	5	5	3	15	25
61+	0	9	7	18	12	46	70
Total	13	761	488	705	718	2,685	5,255

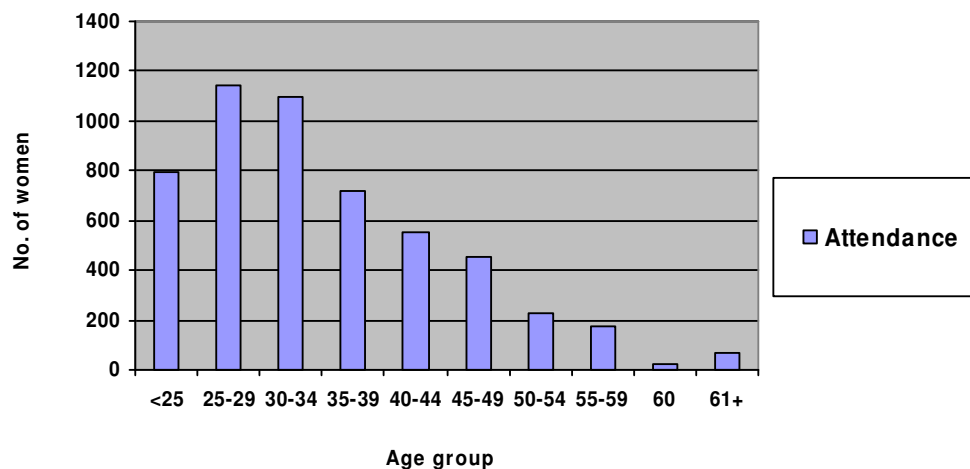


Figure 6. Number of unique women who attended colposcopy for the period October 2000 – December 2004

Table 7. Types of colposcopy procedures undertaken by year for the period October 2000 – December 2004

ICSP Colposcopy Procedures				
	Total number of Procedures	Lletz	Punch biopsy	Smear
Year	n	No.	No.	No.
2000	17	0	6	11
2001	1411	100	390	921
2002	1304	105	343	856
2003	2025	185	509	1331
2004	2279	212	586	1481
Total	7036	602	1834	4600

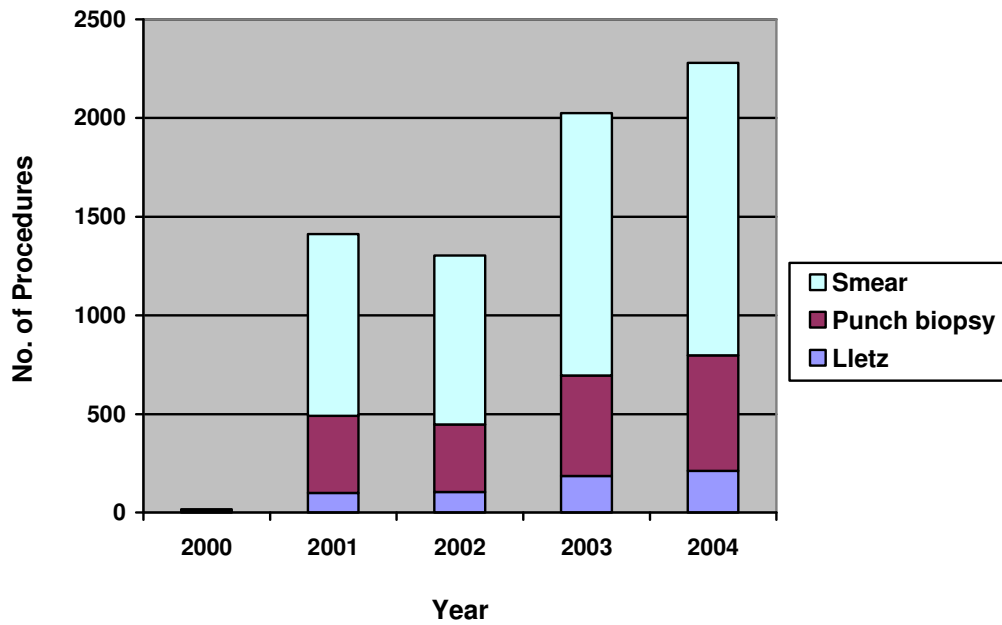


Figure 7. ICSP related colposcopy procedures undertaken by year for the period October 2000 – December 2004

Table 8. Types of colposcopy procedures as a percentage of number of procedures for the period October 2000 – December 2004

ICSP Colposcopy Procedures							
	Total number of unique women	Lletz		Punch biopsy		Smear	
Year	n	No.	%of n	No.	%of n	No.	%of n
2000	13	0	0.0	6	46.2	11	84.6
2001	761	100	13.1	390	51.2	921	121.0
2002	488	105	21.5	343	70.3	856	175.4
2003	705	185	26.2	509	72.2	1331	188.8
2004	718	212	29.5	586	81.6	1481	206.3
Total	2685	602	22.4	1834	68.3	4600	171.3

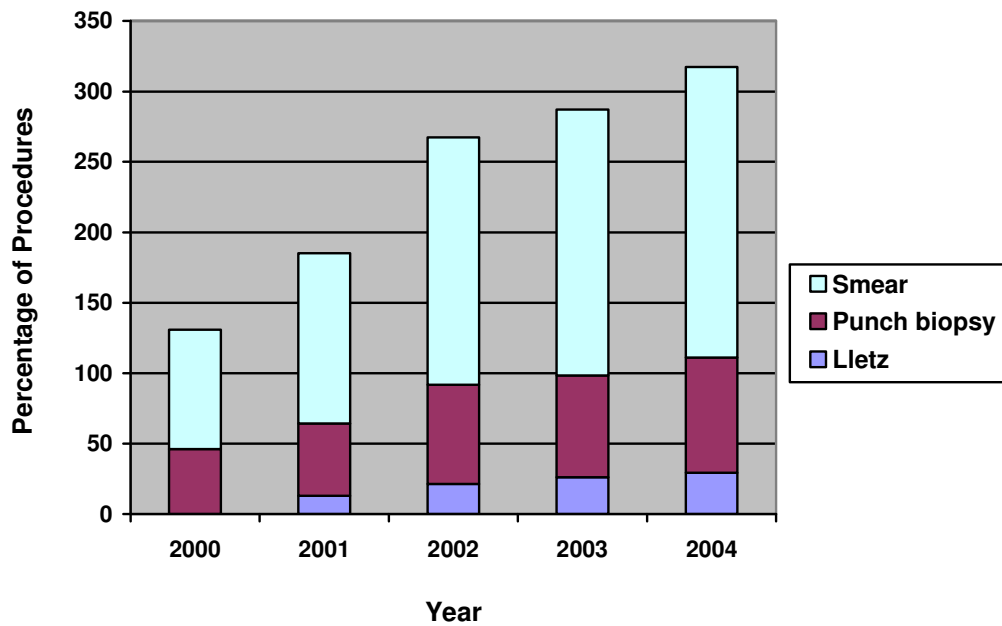


Figure 8. Types of colposcopy procedures as a percentage of number of procedures undertaken by year for the period October 2000 – December 2004