Nigel, Cervical
Here is the campaign plan!
RM

Education Unit
Cervical Screening
Campaign Plan

Background

Cervical cancer affects nearly 250 Victorian women annually and over 90 women die each year. Of these 90 women, it is estimated that 85% have never had a Pap Smear Test.

54% of cervical cancer occurs in women aged 40 - 69 whilst a further 16% occurs in women aged 70 and over. However, the majority (80%) of Smears received by the Victorian Cytology Service are from women under 50 years of age.

The women most at risk of cervical cancer are those who have either never been screened or whose screening history is outdated. An estimated 250,000 Victorian women are unscreened from an eligible population of 1.4 million.

Campaign Aim

To reduce the incidence and mortality of cervical cancer in Victorian women.

Objectives

1. To motivate all women over the age of 40 years who have never had a cervical screen or who have an outdated screening history to participate in screening.

2. To achieve this target through a carefully controlled program over two to three years; this will ensure that screening services can meet the demand generated.

3. To involve medical practitioners, other health professionals and the specific community in the public promotion on cervical screening.

4. To ensure that all public campaigns targetted at this specific risk group, does not exclude other women.

Campaign Plan

The overall strategy is to develop a carefully controlled and evaluated series of area campaigns; this will allow adaptation of the campaign in response to evaluation results and the needs of the specific area.

As the campaign becomes area-based, it is essential that local community health professionals and community groups are involved in the specific campaign planning and delivery.

A. PILOT PHASE

1. Pilot One: April 1987

The first pilot was held in two GP practices to trial the doctor-initiated opportunistic approach to cervical screening.

Based on the premis that 80% of women visit their doctor at least annually, doctors were encouraged to initiate cervical screening. Preliminary results showed an increase in screening although many women still fell through the net.

2. Pilot Two: August 1987

The second pilot in two further GP practices will again trial the opportunistic approach to cervical screening.

In this program, women visiting the GP surgery will have access to a motivational poster and brochure prior to their appointment. The acceptance of a cervical screening invitation will be compared to the results in Pilot 1.

Pilot 2 will also allow pretesting of the motivational resources.

Whilst these first two pilots trial the opportunistic approach to screening, educational resources are not targetted at women outside of the GP surgery.

3. **Pilot Three: October 1987**

This pilot program will trial community strategies in public education as well as maintaining the professional arm within medical services. Traralgon, with an estimated population of 24,000, has been selected for this pilot.

The Traralgon campaign will serve as a model for following area-based programs.

The lead up time for preparation is five-six months prior to the campaign with a further two months of evaluation following the major campaign thrust.

Plan

Phase I

Identify key health professionals, health agencies and community resouces within selected area.

Phase II

a. Preliminary notification of campaign to all GPs, health workers etc.

b. Preliminary discussions with health professionals and agencies. This will allow for joint decision-making within local community re specific campaign timing, strategies, and role of ACCV and local workers. These discussions must include liaison with support services such as local gynaecologists.

Phase III

a. Campaign preparation as a cooperative effort between local services and ACCV.

b. Identification of all appropriate women's groups for the organisation of specific educational programs.

Phase IV

a. Professional education. This will include inservice of relevant community workers and visiting all GP practices to inform them of campaign.

b. Resource supplies to all relevant community workers and groups.

c. Development of media releases.

Phase V Campaign

a. Initial high profile media campaign utilising local media.

b. Educational programs directed at target audience.

c. Initiation of screening via medical services.

Phase VI Evaluation

a. Prior to campaign:-

i. pretesting of resources as appropriate,
ii. research into specific area problems as appropriate,
iii. pre-campaign screening records.

b. Post campaign:-

i. outcome screening records,

ii. behavioural research on knowledge and attitudes etc.

The evaluation process involves both the Education Unit and the Centre for Behavioural Research in Cancer (CBRC). The evaluation details are to be defined by the CBRC.

B. MAIN CAMPAIGN

Following the completion of these pilot phases, the area campaigns will commence. The entire State will be reached over a two-three year period.

At any one time, two campaigns will be developing; the initial preparatory phases (I and II) of one will overlap the end phases (V and VI) of another.

The metropolitan health regions will be the last areas to be targetted. Because of the large populations within these areas, different strategies may need to be planned and may be dependent on the services of the VCGS at that time.

Proposed Timing of Area Campaigns

Area Number	Region	Population	Key Cities	Timing
1	Barwon	208,000	Geelong	Commence Oct 87 Campaign March 88 Evaluation/ completion May 88
2	Goulbourn	225,000	Shepparton Wodonga Wangaratta	Commence Jan 88 Campaign May/June 88 Evaluation/ completion July 88
3	South West Area Central Highlands	101,710 180,000	Warrnambool Hamilton Ballarat Horsham	Commence April 88 Campaign August 88 Evaluation/ completion Oct 88
4	Loddon- Campapse	234,000	Bendigo Mildura	Commence June 88 Campaign Oct 89 Evaluation/ completion Dec 88

5	Gippsland	253,000	Sale Bairnsdale Moe Morwell	Commence Oct 88 Campaign Mar 89 Evaluation/ completion May 89
6	Western Metropolitan	726,000		Commence Jan 89 Campaign June 89 Evaluation/ completion Aug 89
8	North-East Metropolitan	1.125 million		Commence Apr 89 Campaign Sept 89 Evaluation/ completion Nov 89
9	South-East Metropolitan	1 million		Commence Aug 89 Campaign Feb 90 Evaluation/ completion Apr 90

Note The East Central Statistical Division (Population 46,000) is not yet covered in this plan. It includes areas such as Healesville, Wonthaggi and French Island. The District will need to be incorporated into the various area programs as appropriate eg Healesville into the NE metropolitan area program.

CX-XSH-02:er
15 July 1987

Comments from Heather Mitchell

Revision of 8 Oct 86
Cacr2

MANAGERIAL GUIDELINES FOR IMPLEMENTATION AND EVALUATION OF CERVICAL SCREENING

Robert MacLennan, Queensland Institute of Medical Research

fill Cervix Cancer

Overview

This section is concerned with the basis for managerial decisions on the implementation of screening for cancer of the uterine cervix, ie with policy decisions on whether to implement screening or not, and gives guidelines on how to decide where in the health services to begin screening, and who should be responsible for ongoing screening in the population of a region. Technical guidelines on how to set up a screening programme are given elsewhere in this monograph. This section also deals with the important fields of surveillance and evaluation of screening, especially within different sectors of a health service. Thus this section considers the problems of screening for cervix cancer from a programme management viewpoint.

Where to begin screening within a population will depend on a comparison of information on who is developing the cancers with information on the extent of coverage by different sectors of the health services, together with a consideration of the costs and feasibility of implementation in the short term, and of repeated screening at intervals over many years.

1. Background

Cancer is increasingly recognised as a global problem, and not one limited to the industrial nations (Parkin et al 1984). Worldwide, cancer of the uterine cervix rates second among the numbers of cancers in women and fifth among all cancers in both sexes. Among women, cervix cancer is first in most developing areas, i.e. east, middle, southern and western Africa; middle America and tropical south America; in China and East and South Asia (except Japan); in Melanesia and Miconesia/Polynesia.

The precise etiology of cervical cancer is unknown. The major risk factor is associated with sexual intercourse, with the risk of cervical cancer extremely low in its absence. This knowledge offers no practical strategies for primary prevention. Technically, the use of exfoliative cytology (Pap smears) to detect precursor lesions and pre-invasive carcinoma is highly efficacious, and can prevent individual morbidity and mortality. To be effective at a public health level however, careful planning of programmes is required together with monitoring and surveillance of their implementation. Although there are very few populations anywhere, especially in developing countries, where cancer of the cervix is not an important public health problem, the decision to implement a screening programme will depend on several factors, including competing priorities, and availability of facilities and resources.

2. Should there be a Programme of Cervical Cancer Screening ?

A decision to implement screening for cancer of the uterine and cervix should be based on -

1. Evidence that cervical carcinoma is a health problem.
2. Characteristics of individuals and populations at high risk.
3. An appropriate health service infrastructure.
4. Technical resources for smears and cytology.
5. Resources for diagnosis and treatment of cases.

2.1. Evidence that Cervical Carcinoma is a Health Problem

Data on occurrence is a prerequisite for the planning of screening programmes. Ideally these should be population-based incidence and mortality rates. In many countries hospital and/or pathology laboratory data (often available as the relative frequency of cancer of various sites) may demonstrate that cervical carcinoma is a substantial problem even in the absence of

population-based statistics. Relative frequency data usually provide the total number of cases and their age distribution. In the absence of relative frequency or population-based data, the existence of a major problem could be inferred by analogy with other similar countries, provided that there is evidence of a problem from clinical sources. In the absence of such clinical evidence, it is likely that resources for treatment are not available and therefore that a screening programme is unlikely to be effective.

Incidence may be seriously underestimated due to cultural factors which decrease the diagnosis of symptomatic carcinoma of the cervix. Shyness of women and an aversion to gynaecological examinations by males could reduce ascertainment. As with many other diseases in developing countries, health authorities may be unaware of a substantial incidence of cervix carcinoma.

2.2. Characteristics of Individuals and Populations at High Risk

The incidence of cervical cancer is heterogeneous within many populations. Population groups likely to be at high risk on the basis of data from other populations may be targeted for a screening programme. Carcinoma of the cervix is considered to result from a carcinogenic agent transmitted by sexual intercourse. The epidemological evidence strongly suggests a male transmitted agent. There is accumulating evidence that human Papilloma virus may be involved in many cases.

Women at high risk are those with characteristics or risk factors associated with a high probability of exposure to a venerally transmitted agent: - early sexual intercourse and multiple sexual partners (of the woman or of a sexual partner). These are in turn often associated with low socioeconomic status. Some studies suggest an increased risk with oral contraceptive use, and also with smoking. Incidence increases steadily with age, is exceedingly rare under age 25, and increases to a plateau at ages 35-40 in populations with moderate incidence rates such as Western Europe, and some 10 years later in populations of high incidence such as in Latin America (Day, 1986). (22) However, incidence above 40 may be much higher due to denominators not taking hysterectomy into account

2.3. An appropriate Health Service Infrastructure

Should screening be part of existing services, or should a separate screening service be established ? Generally, the only feasible approach to implementing screening is through the existing health services. By using existing services, there is no need to build a new infrastructure.

2.4. Technical Resources for Smears, Cytology, Diagnosis and Treatment

Before cytology is introduced, the resources must be in place for taking adequate smears, reading the slides (cytology) follow-up of positive smears (biopsy, colposcopy (?) and treatment). These are discussed elsewhere in the monograph.

3. In which Health Service Sectors should Screening be offered ?

If on the basis of evidence of the occurrence of clinically invasive cervical cancer and a population profile resembling high risk populations it is concluded that cervical cancer is an important public health problem, the only effective means of control is a screening programme. This must target women at risk and decisions must be taken whether to incorporate screening into existing services such as Maternal and Child Health and Family Planning, or in other services with an older patient clientele; or whether to have a separate screening service.

The programme management decision will be based on a consideration of the epidemiology, the coverage of women at risk by different health service sectors, and on the relative costs. The goal for the planner of a screening programme is to obtain the optimal fit between the occurrence of cervical cancer, coverage by candidate health service sectors or alternative screening programmes, and relative costs. Ideally, those services should be selected which include women at highest risk, have the ability to take smears initially, and which can recall women previously screened.

3.1. Epidemiology

The target groups for screening should be women at risk of cervix cancer as defined by risk factors, including age, low socio-economic status, and other factors described above. Screening should be aimed at the age groups in which cervical cancer is common, starting a year or two before the incidence reaches appreciable levels (Day, 1986).

How queries this.
Do you screen to detect precursors or invasive cancer?

3.2. Coverage of women at risk

Information on the coverage of women by different sectors of the health services is potentially available from health service records. The concept of what is required is simple, and attempts to answer the question - What proportion, by age group, of women in the population are seen by specified health service sectors ? Although precise information can be difficult to obtain due to many sources of data and difficulties in data retrieval, only estimates are needed here, and informed "guesses" by experts would generally suffice. These will be based on the ages of women using different services such as Maternal and Child Health, Family Planning, private physicians, and public hospitals and health centres, together with estimates of the proportion of the total population using these health services.

In addition to the information by age on women using these services, it would be useful to have information on other characteristics such as socio-economic status which are correlates of risk for cervical cancer.

3.3 Comparison of Epidemiology and Coverage

The review of the demography of coverage by services may show that women at highest risk are not being adequately contacted by an appropriate service. Older women (above 40 yr) with highest rates are not systematically seen by the health services in most countries. In such cases, the programme manager needs to explore alternative means of increasing contact, such as active recruitment of women, for example of those on electoral (voters') rolls. Such population registers are often incomplete, and women at highest risk may not be registered.

3.4. Costs of Screening in different Health Service Sectors

The costs of screening can be considered in two main categories - costs of contact with subjects; and the incremental costs of cytology, and diagnostic and treatment services. Only the costs of contact will vary significantly between the different options for screening: for Family Planning and Maternal and Child Health, the costs of contact initially and at intervals in the future are low and incidental to the work of these services. Contact costs may be higher if hospitals are used to deliver screening since there is no organization for long-term followup. Contact costs will also be high for an independent screening service.

3.5 MCH and FP Services for Initiating Screening

MCH is usually the driving force in building up cervical screening in a region or country. There is a demand for screening by women coming to MCH services. There are therefore many advantages in commencing screening through Maternal and Child Health and Family Planning services because -

- o there is a high coverage of women in a definable target population
- o a baseline is created for further screening after 35 years of age when risk is greater
- o there is an educational value - women can become accustomed to the procedure and can be taught its importance

Generally MCH services need to be more selective in the frequency of screening. At a minimum, women should have at least one negative screen before the age of 35 years. (Younger age have at least 75% women before 35yr).

In Australia, there is to be more education of the women to have are screened after age 45yr.

Table A. Features of Health Service Sectors and Potential for Screening

SECTOR	DEMOGRAPHY OF PATIENTS	PATIENT FOLLOW-UP POTENTIAL	SPECIAL INTERESTS OF THE SERVICE
Maternal & Child Health	Young	High	-
Family Planning	Young	Medium	Cervical cancer
Antenatal/ Postnatal	Young	Low	-
STD Clinics	Young Low socioeconomic status	Low	Very high risk of cervical cancer
Primary care	All ages/children	Low	-
Hospital	All ages	Low	_
Network Screening	All ages	High	-

4. How often should Women be Screened ?

If a policy decision is taken to screen, the age at which regular screening is commenced, and the frequency of repeated screening will have major cost implications. Day (1986), after analysis of data from many screening programmes, has estimated the effects of different screening policies in terms of the reduction in the cumulative rate of invasive cervical cancer in populations with contrasting incidence rates of cervix cancer - those with a Western European pattern of medium incidence rates and those with high rates. The latter are based on Cali, Colombia and are likely to be typical of much of Latin America and Africa.

Based on European data and rates, Day (1986) has estimated the reduction of the cumulative rate of invasive cervical cancer in the age range 35 to 64 with different screening intervals, assuming negative smears prior to age 35 and at age 35.

Table B. Percentage reduction in the cumulative rate of invasive cervical cancer over the age range 35-64, with different frequencies of screening*

Screening frequency	% Reduction in cumulative rate	No. of tests
1 yearly	93.3	30
2	93.3	15
3	91.4	10
5	83.9	6
10	64.2	3

* from Day (1986)

It can be seen that screening all women every 10 years would give a greater reduction (64%) in cumulative rates of invasive cancer than screening half the women every 5 years (42%), or a third every 3 years (31%). Similar public health implications are likely for high risk developing countries.

The age at which regular screening is commenced is also highly pertinent to the optimal use of limited resources. It can be seen from tables C and D that little is gained by commencing screening at age 20 compared with age 25, and that starting at age 25 gives only a 6.6% reduction compared with starting at age 35. The effects of different policies of frequency of screening can be seen in the tables. Starting at age 25 (table D), a reduction of 83.5% is expected with screening every 5 years, compared with 90.9% for screening every 3 years. The number of tests to age 64 would be 8 and 13 respectively. Very little further would be gained by screening every 2 years.

Table C. Effect of different screening policies starting at age 20 (assuming incidence rates of the type seen in western Europe)[a] *

Screening schedule	Cumulative rate per 100,000	% reduction in rate	No of tests
No screening	1575		
Screening every 5 years 20-64	257.6	83.6	9
25-64	286.7	81.8	8
35-64	478.8	69.6	6
Screening every year 20-34 then every 5 years 35-64	232.3	85.5	21
Screening at ages 25, 26, 30 then every 5 years	274.5	82.6	9
Screening every 3 years 20-64	137.8	91.2	15
26-64	161.0	89.8	13
35-64	352.8	77.6	10
Screening every year, 20-34 then every 3 years, 35-64	131.2	91.7	25
Screening ages 25, 26, 29, then every 3 years	156.6	90.1	14
Screening every year, 20-64	105.0	93.3	35

[a] Assumed incidence rates per 100,000 at ages 20-64 are 5 (20-24), 15 (25-29), 25 (30-34), 45 (35-64).

* Table extracted from Day (1986).

Table D. Effect of different screening policies starting age 20, assuming incidence rates from Cali, Colombia.[a] *

Screening schedule	Cumulative rate per 100,000	% reduction in rate	No of tests
No screening	4890		0
Every 5 years, starting age 20	784.8	83.9	9
starting age 25	807.0	83.5	8
starting age 35	1129.8	76.9	6
Every 3 years, starting age 20	422.7	91.4	15
starting age 25	443.3	90.9	13
starting age 35	771.0	84.2	10
Every 2 years, starting age 20	327.6	93.3	23
starting age 35	691.3	85.9	15
Every 2 years, age 20-39[b]	2330.2	52.4	10
Every 10 years 25-64 after an initial repeat smear at age 26	1760.3	64.0	5

[a] Assumed incidence rates per 100,000 at ages 20-64 are 3 (20-24), 15 (25-29), 47 (30-34), 93 (35-39), 110 (40-44), 170 (45-49), 185 (50-54), 150 (55-59), 205 (60-64).

[b] Assuming a 2.5-fold reduction in risk at ages 45-49, and a 1.5-fold reduction in risk at ages 50-64.

* Table extracted from Day (1986)

5. Who should be responsible for Screening ?

A recent editorial in the Lancet (1985) discussed several points which successful cervical cancer screening programmes have in common:

- o They are organised as public-health cancer-control programmes, and not simply as laboratory services for providing a clinical investigation.
- o They target the age groups at greatest and most immediate risk (30+), concentrating on women who have never had a smear at all.
- o They use population registers.
- o Someone is in charge who is named, has a telephone number, and can be held to account.

The person who runs a cytology centre would be an excellent candidate for overall responsibility for screening.

6. Surveillance and Evaluation of Screening

Some type of surveillance and evaluation is essential in all programmes, including those in developing countries, to avoid inefficient and inappropriate use of resources. Measures of procedures such as the number of smears taken, and the number of positive smears referred for diagnosis are relatively easy to obtain, and are useful for management. They cannot evaluate effectiveness in terms of the prevention of invasive cancer, for which the failures of a screening programme are more pertinent.

The simplest form of surveillance and evaluation is to document the screening history in incident cases of invasive cervical cancer occurring in target populations. Such documentation could be done by comparing incident cases of cancer in a target population with a register of women from the same population who have been screened. These cytology registers are essential for other screening purposes such as active surveillance of women with recall for interval screening. Where there are no registers, a simple screening history

should be obtained from women with cervix cancer, but this is not always reliable since many women are unable to recall that a smear had been taken in the past.

A system of linked records is prerequisite for efficient surveillance. A population register (or available substitute) linked with a register of cytology allows periodic call-back for rescreening at appropriate intervals. Linking the cytology register with a cancer registry (which may be ad hoc and restricted to cervical cancer) enables evaluation of the screening programme by assessment of:

- False negative smears or cytology
- Cancers which escape through the screening interval
- Inadequate management of positive smears
- Groups missed in the target population - for one reason or another such as cultural barriers to screening, and to subsequent diagnosis and treatment.

The cancer registry could simply be an ad hoc collection of minimal information about cervical cancer. Minimal data should include identifying information on the patient; address; information about the cancer including the most valid basis of diagnosis; information about screening; and which sectors of the health service the patient usually uses. The service information should allow evaluation of screening for a specific health service sector. If the cytology register is comprehensive and population-based, it should be possible to assess the risk of cervical cancer in relation to screening history.

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~~Why is the cumulative [illegible] for Vic 0.112 vs. [illegible] 1:11~~

I agree to this

CERVICAL CANCER POLICY REVIEW

October 1986

AIM

To reduce the incidence of cervical cancer in Victoria over a given period by increasing public and professional awareness of the benefits of cervical screening.

EPIDEMIOLOGY: VICTORIA

1. INCIDENCE

Victorian Cancer Registry,	In Situ tumours	- 21/100,00 women, 1982
		- 42/100,000, 1983
	Invasive tumours	- 10.4/100,000 women
		- 12.3/100,000 crude rate, 1982
		- 11/100.000 crude rate, 1983
		- 479 women total (1982-83)
		See attachment 1

2. MORTALITY

Victorian Cancer Registry,	1982	3.6/100,000 women. (Attachment 2)
	1983	3.72/100,000 women (adjusted rate)
		4.62/100,000 women (crude rate)
		94 women total (1983)

Survival rates are unkown for Victoria. British figures show a five year survival rate of 50%, but Australian figures are possibly higher than that. G. Giles is currently planning a study on this particular area.

IS SCREENING EFFECTIVE IN REDUCING MORTALITY?

There is little doubt that population screening for carcinoma of cervix can reduce the mortality due to the disease, if the following conditions are met:-

1. All the women have the procedure. If this is not possible, then
   (a) Pick up those tumours occurring now - screen older women.
   (b) Prevent carcinoma occuring in the future - screen younger women.

2. The smear is taken correctly by the medical practitioner including both cervix and endocervix.

3. The cytology service is high quality (low false negatives); has quality control; has a low lag time for reporting; and has an effective recall procedure.

4. There is an appropriate and effective surgical response to a positive smear including colposcopy, local therapy for dysplasia, cone biopsy and hysterectomy where appropriate.

5. When the screening is performed at regular intervals. In Victoria, the recommendation is two-yearly for women aged 20 years and over, or under if sexually active. The American Cancer Society recommended once every three years, but this has been modified by the American College of Obstetricians and Gynaecologists. They recommend that sexually active women have a smear, if it is normal, then it is repeated in one year and if it is still normal, then three-yearly. In Finland, screens are recommended every five years from age of 20 or below if sexually active until the age of 50-55 years. Screening interval is an area of concern as there have been a number of tumours now reported showing a reduced interval between the onset of dysplasia and development of true invasive carcinoma, particularly in young women.

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IS SCREENING EFFECTIVE IN VICTORIA?

Who is being screened

There are currently 250,000 women still unscreened in Victoria from an eligible population of around 1,400,000 (D.Hill). The VCS represents 85% of all screening smears performed in Victoria. This figure is derived from the number of smears received by the VCS plus information from the Health Insurance Commission for Victoria and the Royal Women's Hospital. It does not include smears sent to Colin Laverty in Sydney who is currently competing for Victorian gynaecologists' smears. Attachment 3 shows the proportion of smears received by age group for 1984 from the VCS. These results show that greater than 80% of the smears received were from women under the age of 50 years. Attachment 4 shows the numbers of smears received per thousand women by age. It shows the greatest compliance in the 25-29 year old groups and a falling off thereafter. When adjusted for hysterectomy, the fall off with age is not so great. Attachment 5 shows the number of abnormalities per thousand smears at the VCS. It shows dysplasia as predominantly an abnormality of young women, whereas the major abnormalities tend to occur more frequently with increasing age.

Attachment 12 shows the incidence and mortality rates for carcinoma of the cervix in Victoria (1982-83) and Australia (1982). They show that although the incidence and mortality rates are highest after 40 years of age, in absolute terms, the number of women aged under 40 years is substantial. In

Victoria, 28% of the total incidence and 11% of the mortality occurs in women under 40 years of age. For Australia, the proportions are 31% and 9% respectively.

Who is not being screened

Of 593 women who died in Victoria from carcinoma of the cervix 1980-1985, excluding those smears associated with diagnostic workup, 85% had no screening history with the VCS (Attachment 6). Less than 3% had an adequate screening history (defined as three or more smears over the preceding ten years, one smear per year being counted). Thus around 85% of the deaths are occurring in the approximately 15% of unscreened women. Two possibilities exist for this discrepancy;-

(1) If the populations screened and unscreened are the same, then screening is effective in reducing the mortality in those women who have the procedure.

(2) We may be screening the wrong population at present. Those women who are unscreened are more likely to develop lethal tumours. Possibilities include that they are older women, or that they are lower socioeconomic status in the community with lower education level.

Why these women are not attending is is not known, and we look forward to the results of the Behavioural Sciences/Epidemiology Centres research.

The quality of cytology

Attachment 7 shows the proportion of women with a diagnosis of invasive cancer during 1982-84 who had one or more previously normal smears with the VCS. These results may possibly be due to either false negatives, or else rapidly invasive tumours

which occur within the screening interval. The quality of cytology is very much dependent on the nature of the laboratory and the quality control procedures undertaken by it.

The VCS has 98% repeatability for normal smears under blind control conditions. Of the 2% which do differ, the vast majority are minor, benign abnormalities. Of 220 women who died from carcinoma of the cervix who had a smear within the 24 months prior to diagnosis, 33 had negative smear reports. Twenty eight of these were available for reassessment and on careful reexamination, revealed the following: 13 negative, 5 benign abnormalities, 6 inconclusive, 3 dysplastic and 1 carcinoma in situ. This is an indication of the rate of false negative reporting of positive smears by the VCS. Technical errors by medical practitioners may be responsible for an uncertain number of missed diagnoses.

Less than 1% of all smears received by the VCS has no cells present i.e. totally unsatisfactory smear by the medical practitioner. A higher, but unknown proportion, contain no cells from the endocervix.

Recall procedures

To enable rapid and effective follow-up of those persons with positive cytology, effective recall procedures are necessary. The VCS has a computerised recall procedure which appears to be effective. Attachment 8 shows the cytology form and the recall forms from the VCS. If the service is overloaded with work, then the lag period between receipt of the smear and reporting may become a problem. This will need to be kept in consideration when deciding on a policy of public education about cervical smears.

Cost of Cytology

VCS 1984-85 financial year - $6.24 per smear.

This includes the cost of quality control and follow-up procedures. It is a subsidised cost which excludes building and maintenance from Prince Henry's Hospital. Thus it may be unrealistically low.

Private - Specialist pathologist rebate - $17.20

Plus hormonal status (not necessary for tumour diagnosis) - $28.50

Attachment 9 shows a summary of the VCS costs of screening women for cervical cancer in 1984. The cost of preventing a woman developing invasive cancer is $3,670. The cost of saving a woman's life from invasive cancer is estimated to be $10,500.

Uniformity of Gynaecological Response to a Positive Smear

is there a document?

A pilot survey of gynaecologists in Melbourne reveals a relatively uniform response to a positive smear. This involves colposcopy, biopsy, diathermy ablation where possible, or cone biopsy.

Are all areas the same

Attachments 10 & 11 show a different response and tumour rate in different Victorian regions. This may be important in planning region by region campaigns.

POSSIBILITIES FOR SCREENING IN VICTORIA

1. No change

Continue the present ad hoc arrangement.

2. Screen every woman once

(a) Mass public and professional campaigns to be undertaken throughout the State.

- need to have VCS prepared.

- need to have professional education to perform

smears adequately.

- need to have clear guidelines on the response to a positive smear (Gynaecologists/General Practitioner).

(b) A region by region campaign.

- easier on VCS.

- can be performed as a controlled study with careful strategy development, implementation and evaluation.

- easier to have professionals involved on a regional basis.

- easier on ACCV education budget.

3. Screen selected populations of woman once

(a) Women over the age of 40 years who are presently poor users of the service and amongst whom are the highest rates of cancer.

- need both public and professional education for effective campaign.

- could be done as a statewide campaign or as a region by region campaign.

- more cost-effective for early detection of cancers occurring now.

- easier on VCS facilities.

- probably easier for gynaecological response to positive smear i.e. more clear cut (so to speak).

- longer protective gain from one smear in this group.

(b) Younger women aged 20 years or younger if sexually active who are more at risk from cervical dysplasia associated with HPV and/or HSV infections.

- both public and professional education required.

- could be done on a statewide or regional basis.

- this is long term prevention planning by removing those dysplastic lesions present now and preventing invasive change occurring over time.

- there may be a short term gain in this group, if viral-associated dysplasia is associated with a short latent period before frank invasion.

4. Repeat Screening

(a) At present there is no consensus on screening intervals. Intervals vary from 1-5 years.

eventually we need to improve this to tailor requirements

(b) Screening intervals are probably better tailored to age, rather than a blanket policy over all women.

(c) Current Victorian recommendations of two yearly is leading to an average usage of the service at three yearly intervals.

CONCLUSION

The morbidity and mortality from carcinoma of the cervix in Victorian women remains high. The levels could possibily be higher were it not for current screening programmes.There appears to be a need for more screening in those currently developing tumours who have not been previously screened.

Screening appears to be useful in two roles:-

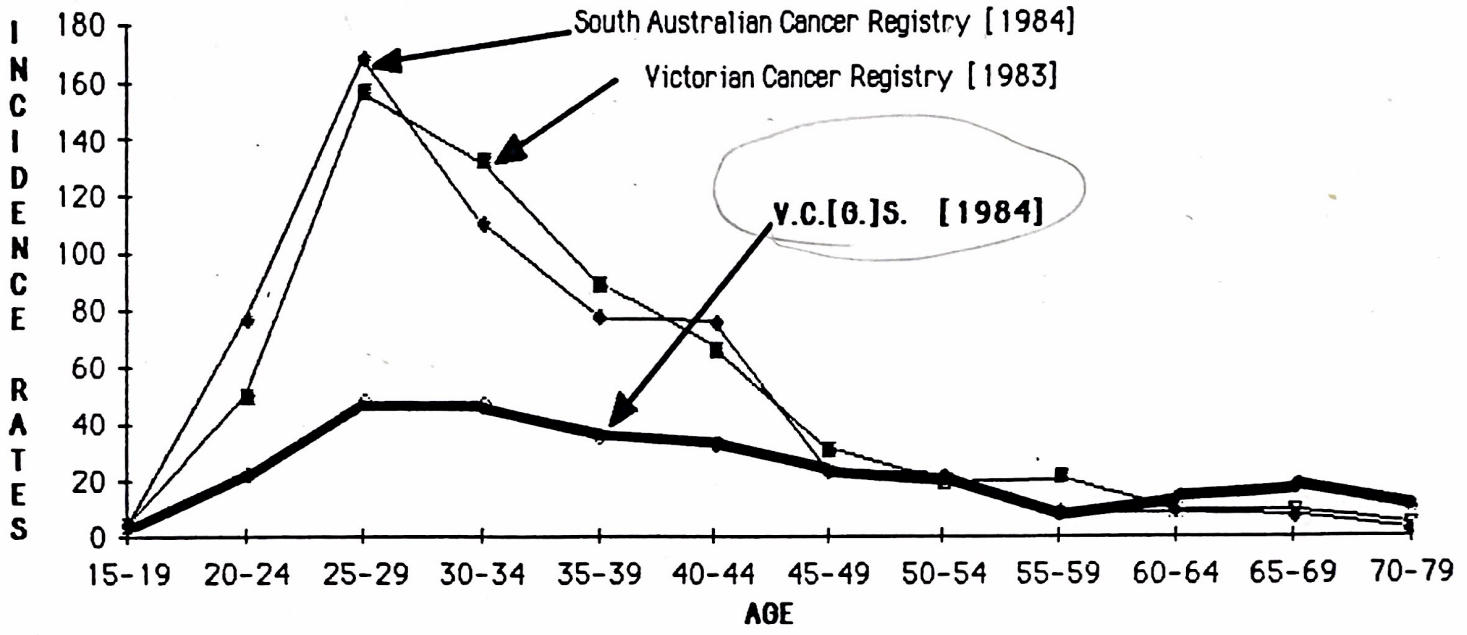
1. Primary prevention - young women with dysplasia ± viral infection
2. Early detection - older women with carcinoma in situ or invasive carcinoma now.

Further public education encouraging the use of cytology service and professional education enabling its use is required. The extent and nature of the programmes need to be carefully determined before implementation.

22 December 1986
RM:mr
25-PE-83

ATTACHMENT 1

AGE SPECIFIC INCIDENCE RATES PER 10,000 WOMEN FOR CARCINOMA IN SITU



This graph depicts the age-specific incidence rates for carcinoma in situ from 3 sources - the Victorian Cytology [Gynaecological] Service, the Victorian Cancer Registry, and the South Australian Cancer Registry. The rates correlate well between the two cancer registries.

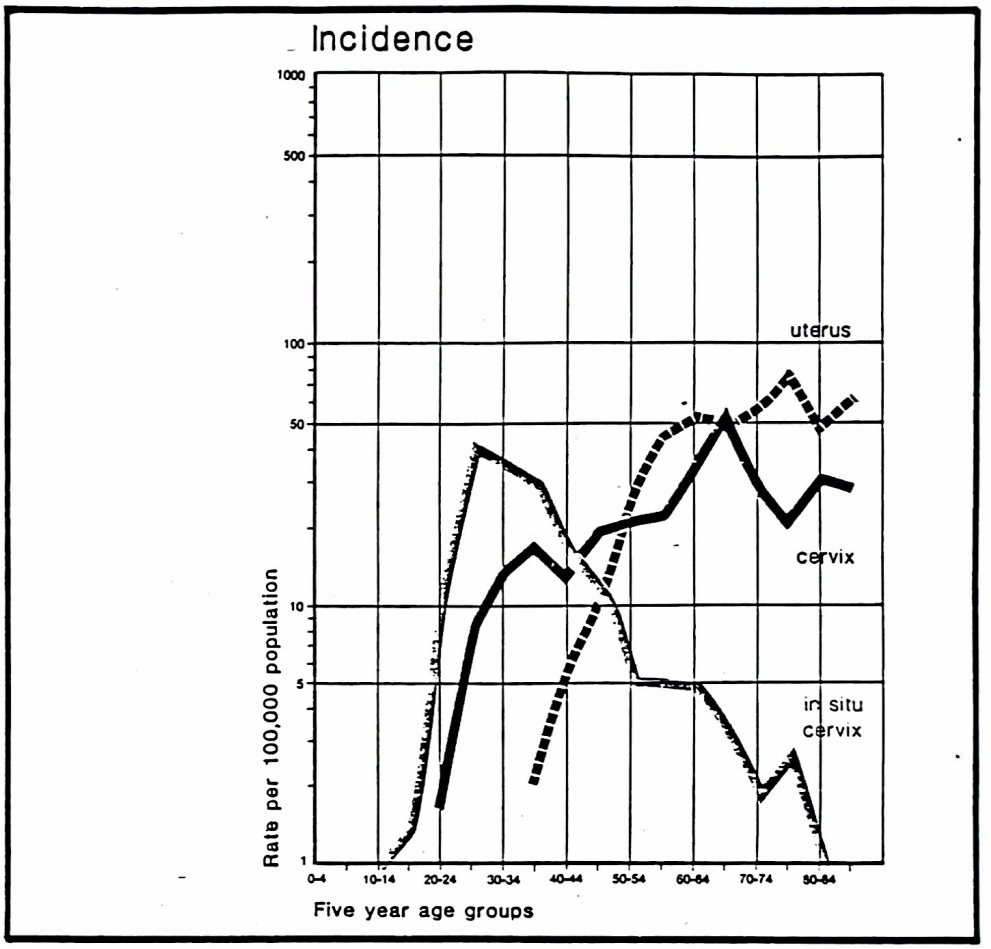
For women aged less than 45 years, the VC[G]S detection rates are below the cancer registries, indicating that a low risk population is being screened.

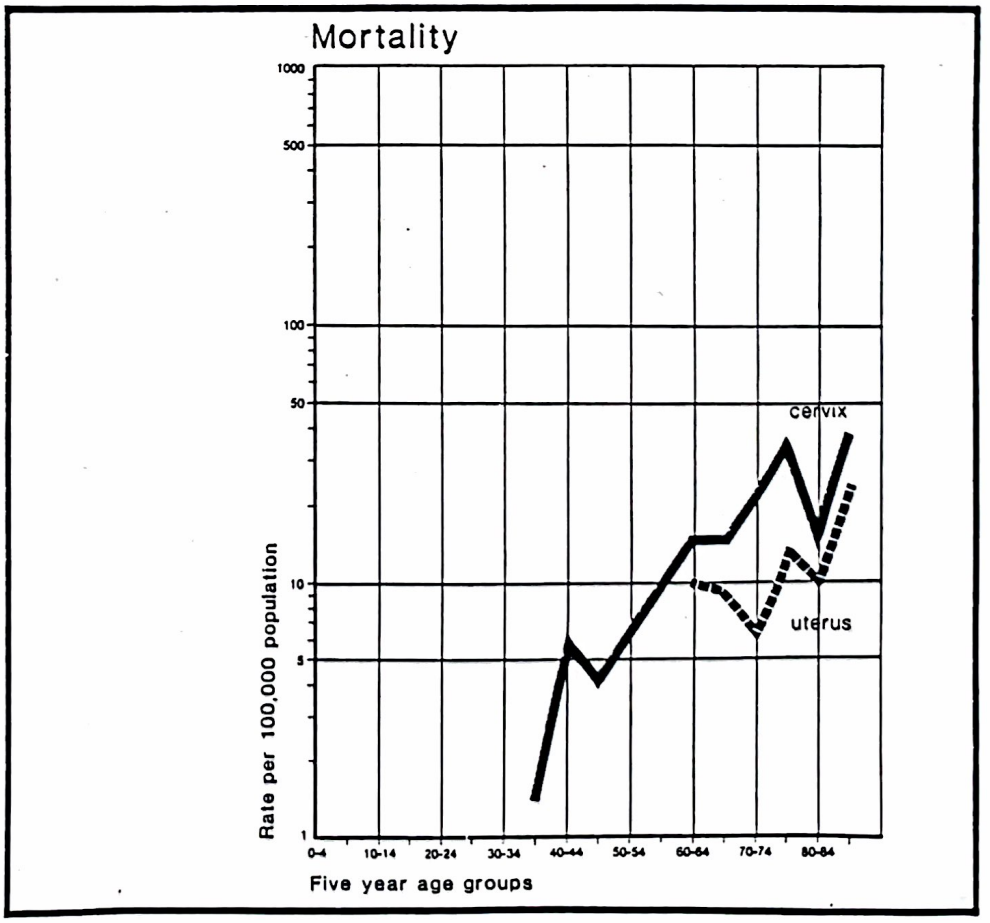
Between the age of 45 and 64 years, the VC[G]S rate approximates the cancer registries' rates.

For women aged 65 years and over, the VC[G]S rate is higher, indicating that the 'screening' is of a high risk population.

Source: H. Mitchell
VCGS. 1986

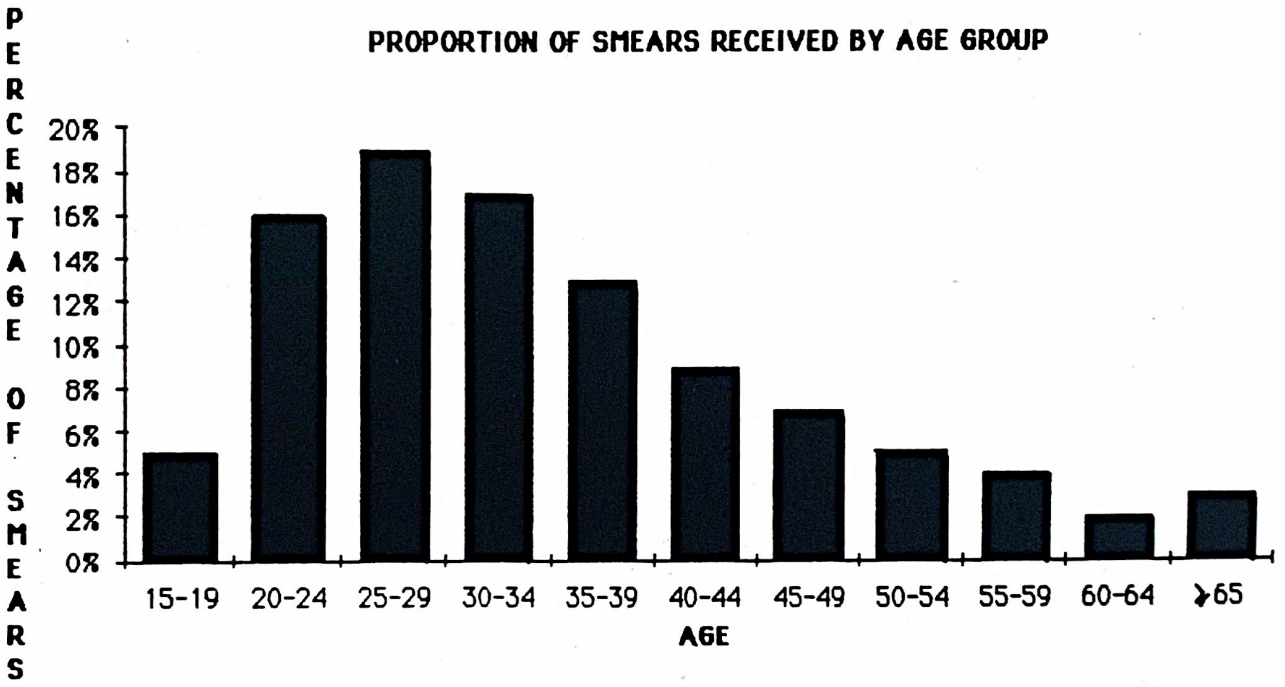
Victoria 1982





Source: Victorian Cancer Registry Statistical Report 14

ATTCHMENT 3

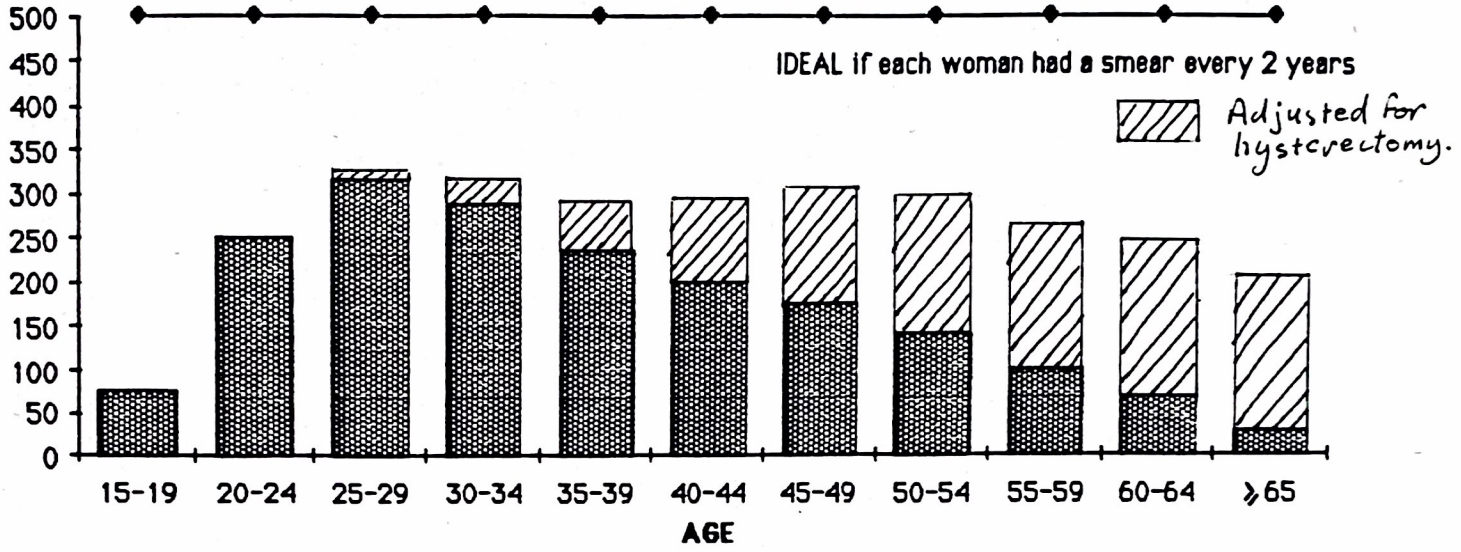


This graph demonstrates the age distribution of smears received by the VC[G]S during 1984.

More than 80% of the smears received were from women aged under 50 years.
Conversely, in excess of 80% of the incident cases of invasive cancer reported to the Victorian Cancer Registry are from women aged over 50 years.

Source: H. Mitchell
VCGS. 1986

NUMBER OF SMEARS RECEIVED PER 1000 WOMEN BY AGE



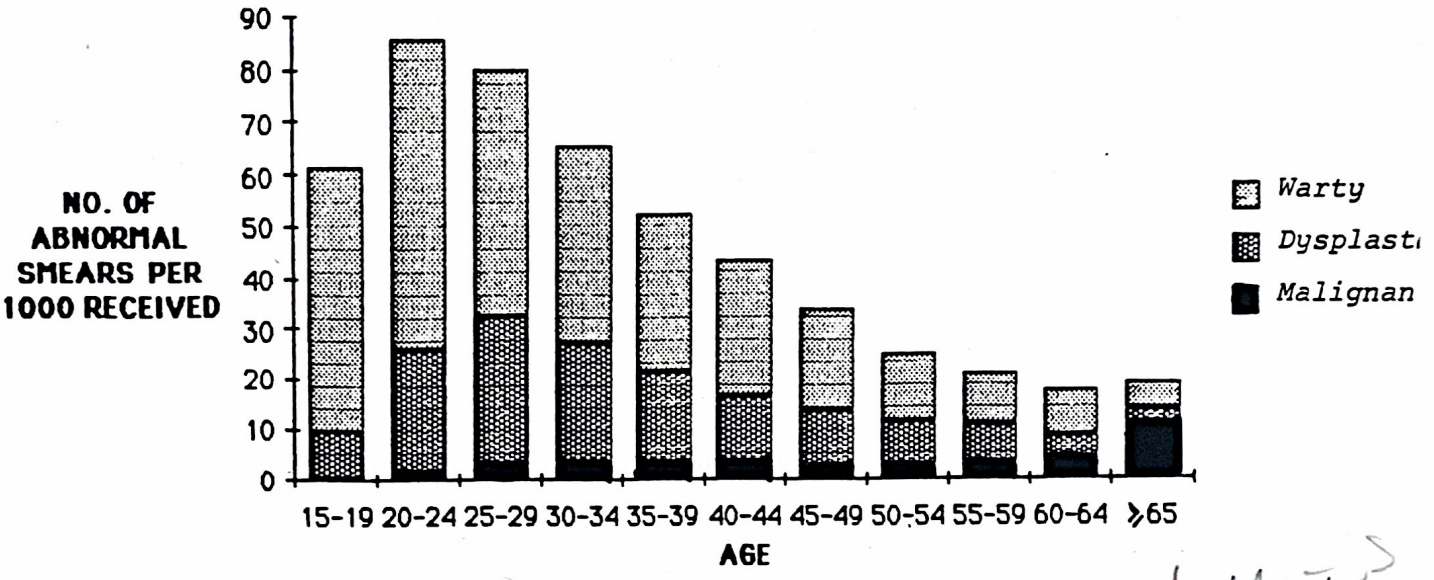
This graph demonstrates the age distribution of smears received by the VC[G]S during 1984 in comparison with an 'ideal' situation where each women had a smear every 2 years.

The greatest shortfall is in the older age groups. However the gap between the 'ideal' and 'reality' will be less than depicted as an unknown proportion of women of the older age groups will have had a hysterectomy.

It should also be remembered that about 15% of smears are examined in laboratories outside of the VC[G]S. Even if information on the age distribution of these smears was available, a sizeable shortfall would still exist.

Source: H. Mitchell
VCGS. 1986

NO. OF WARTY, DYSPLASTIC AND MALIGNANT SMEARS /1000 SMEARS RECEIVED BY AGE GROUP



were all the warty smears dysplastic?

This graph shows the number of abnormal smears per 1000 smears received by age.

The highest ratio of malignant smears is in women over 65 years of age [10.6 malignant smears/1000 examined]. This may be due in part to many smears in these age groups coming from symptomatic women. In age groups where more 'screening' smears are taken, the highest total rate of abnormalities are detected, albeit many of them as precursor lesions. For example, in women aged 20-24 years, 60 warty smears and 24.7 dysplastic smears were reported for each 1000 smears examined.

Source: H. Mitchell VCGS. 1986.

SCREENING HISTORY WITH THE VCGS FOR WOMEN WITH CARCINOMA-IN-SITU AND INVASIVE CANCER OF THE CERVIX

Screening History over the preceding 10 years defined as:

Adequate if 3 or more smears taken

Inadequate if 1 or 2 smears taken

Nil if no smears taken

Note: Smears taken within 3 months of the diagnosis are excluded.
Only one smear from each year is counted.

	ADEQUATE	INADEQUATE	NIL
INCIDENT CASES OF CARCINOMA IN SITU 1984 [n=777]	35%	45%	21%
INCIDENT CASES OF INVASIVE CANCER 1982-84 [n=700]	9%	23%	68%
FATAL CASES OF INVASIVE CANCER Diagnosed since 1975 Died during 1980-85 [n=593]	3%	12%	85%

Source: H. Mitchell
VCGS. 1986

222 [32%] of the 700 women with a diagnosis of invasive cancer during 1982-84 had one or more previously normal smear with the V.C.[O.]S.

Number of normal smears	Number of women
1	115
2	40
3	30
4	12
5	8
6	12
7	4
8	1
	222 [32%]

During the 3-60 months preceding the diagnosis, 114 women [16.3%] had one or more normal smears.

During the 3-36 months preceding the diagnosis, 66 women [9.4%] had one or more normal smears.

During the 3 months prior to diagnosis, 10 women had a normal smear.

Source: H. Mitchell VCGS. 1986

ATTACHMENT 8

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE
236-254 ST. KILDA ROAD, MELBOURNE, 3004. PHONE: 62 3831
P.O. BOX 253B, MELBOURNE, 3001

CYTOLOGY REQUEST FORM

INITIALS

O
K
I

REQUESTING DOCTOR:

DATE SMEAR TAKEN:

☐ SPECIMEN COLLECTION KIT REQUIRED

PLEASE COMPLETE ALL QUESTIONS. AVOID SHADED AREAS

CYTOLOGY NUMBER | DATE RECEIVED

NAME & DATE OF BIRTH ESSENTIAL BLOCK LETTERS PLEASE

PATIENT'S SURNAME

FIRST NAME

DATE OF BIRTH

Day Month Year

PREVIOUS SURNAME

ADDRESS

POSTCODE

COUNTRY OF BIRTH:

UR/REFERENCE NUMBER:

PREVIOUS ABNORMAL SMEARS:
VC(G)S ☐ OTHER LABORATORY ☐

PLEASE TICK RELEVANT SQUARES ☑

PARITY (Please circle): 0, 1, 2, 3, 4, 5, 6-10 > 10 — 1

HORMONAL STATUS
Pre Menopausal ☐
Pregnant ☐ due ../../..
Post Partum ☐ delivered ../../..
Menopausal ☐
Post Menopausal ☐ — 2

HORMONE THERAPY Oestrogen ☐ — 3
Other ..... — 4

CONTRACEPTION (as currently used) Oral ☐ IUD ☐ Tub. Lig. ☐
Other ☐

CANCER CHEMOTHERAPY ☐ (specify) — 5

PELVIC SURGERY ☐ (specify) — 6
Date Nature

PELVIC IRRADIATION ☐ (specify) — 7

SYMPTOMS Nil ☐ Discharge ☐ — 8
Abnormal Bleeding ☐ — 9

APPEARANCE OF CERVIX Normal ☐ — 10
Abnormal (specify) .....

ADDITIONAL NOTES Including any relevant treatment since last smear. — 11, 12, 13

PLEASE DO NOT WRITE BELOW THIS LINE

14 15 16
17 18 19
20 21
22 23 24 25 26 27
28 29
30 31

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE
236-254 ST. KILDA ROAD, MELBOURNE, 3004 : PHONE: 62 3831
P.O. BOX 253B, MELBOURNE. 3001.

REPORT No.

PATIENT

REPEAT SMEAR REMINDER

The cytology report on this patient included a recommendation for a repeat smear. Our records indicate that this repeat smear has not been received as yet. It may be that some other course of action was decided upon or that you have been unable to contact the patient. However, this reminder notice is sent in case the need for a repeat smear has been overlooked.

If cytology has been performed elsewhere or any other investigations carried out, we would be grateful for the results. These are important for our quality control programme.

Michael Drake, Director.

DETACH HERE AND RETAIN ABOVE SECTION. RETURN THIS SECTION WITH SLIDE.

Patient:

Address:

D.O.B.:

PLEASE COMPLETE ALL QUESTIONS. AVOID SHADED AREAS **PLEASE TICK RELEVANT SQUARES** ☑

PARITY (Please circle) : 0, 1, 2, 3, 4, 5, 6-10. >10

HORMONAL STATUS
Pre Menopausal ☐
Pregnant ☐ due...../...../.....
Post Partum ☐ delivered...../...../.....
Menopausal ☐
Post Menopausal ☐

HORMONE THERAPY Oestrogen ☐
Other .....

CONTRACEPTION (as currently used) Oral ☐ I.U.D. ☐
Other .....

CANCER CHEMOTHERAPY ☐ (specify)

PELVIC SURGERY ☐ (specify)

PELVIC IRRADIATION ☐ (specify)

1	
2	
3	
4	
5	
6	
7	

SYMPTOMS
Nil ☐
Discharge ☐ .....
Abnormal Bleeding ☐ .....

APPEARANCE OF CERIX
Normal ☐
Abnormal ☐ (specify) .....

ADDITIONAL NOTES

8	
9	
10	
11	
12	

13

LABORATORY USE ONLY — PLEASE DO NOT WRITE BELOW THIS LINE

14	15	16

17	18	19

20	21

22	23	24	25	26	27	28

29	30

31

32	33	34	35

36

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE

236-254 ST. KILDA ROAD, MELBOURNE, 3004 : Telephone 62-3831
P.O. Box 253B, MELBOURNE, 3001

Dear Doctor,

re:

This patient has had abnormal cytology reported by our Service and we would appreciate any details of subsequent investigations which may have been performed. In particular, we are interested in any cytological or histological investigations and the identity of the laboratory or pathologist concerned.

Should you send us any original documents, such as histology reports, I will ensure their prompt return.

I would be most appreciative of this information as it is important to our quality control program. I have enclosed a reply paid envelope to facilitate your reply.

Yours sincerely,

Michael Drake,
DIRECTOR.

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE
236-254 ST. KILDA ROAD, MELBOURNE, 3004. PHONE: 62 3831
P.O. BOX 253B, MELBOURNE, 3001.

ABNORMAL CYTOLOGY FOLLOW-UP

PATIENT

REPORT No. DATED

I am most interested in obtaining information regarding any diagnostic procedures and subsequent management that may have followed receipt of the cytology report on this patient. This information is sought as part of our quality control programme. I would be grateful if you would complete the questionnaire below. I am particularly interested in the details of any subsequent histology report and the name of the pathologist or institution concerned. Any original documents sent to us will be returned promptly. A reply-paid envelope is enclosed for your convenience.

Michael Drake, Director.

PLEASE ENCIRCLE THE APPROPRIATE WORDS. AVOID SHADED AREAS.

DATE OF INVESTIGATION: .....

CLINICAL RE-EVALUATION OF CX.: Normal Abnormal

Colposcopy: Not Done N.A.D. Dysplasia Ca-in-situ Invasive Ca Other .....

CERVICAL BIOPSY: Not Done Cone Random Punch Target Punch Other .....

ENDOMETRIAL BIOPSY: Not Done Full Curette Other .....

HISTOLOGICAL FINDING:

CERVIX: Metaplasia, Cervicitis, Dysplasia Mild, Mod., Severe, Carcinoma in situ, Carcinoma Microinvasive, Carcinoma Invasive, Adenocarcinoma, Other .....

ENDOMETRIUM: Normal Atrophy Hyperplasia Atypical hyperplasia Carcinoma (Type) .....

Other .....

OTHER SITE: ..... Benign .....

Malignant .....

PATHOLOGIST OR INSTITUTION: .....

ADDITIONAL NOTES:

SUMMARY OF VC[G]S COSTS OF SCREENING WOMEN FOR CERVICAL CANCER, 1984.

Cost per smear = $5.45

Cost of preventing a woman developing invasive cancer = $3,670

Cost of saving a woman's life from invasive cancer = $10,500

Source: H. Mitchell. 1986

SCREENING COSTS OF SAVING A LIFE FROM CANCER OF THE CERVIX

Intensive debate concerning the costs of individual items of medical practice can be anticipated as an ever increasing number of health care workers, pharmaceutical items, and diagnostic and therapeutic procedures compete for the health care budget. The financial costs associated with screening to detect disease are controversial. (1,2) The cost of examining a Pap smear can be precisely determined. For example, the Victorian Cytological Gynaecological Service [VCGS] expenditure during 1984 of $1,503,506 for 275,725 smears examined gives a cost of $5.45 per smear received. However a more important figure is the cost per life saved by detection through screening. We have undertaken an analysis of the 1984 VCGS costs of saving an asymptomatic woman's life from cancer of the cervix by detecting precursor disease. We emphasize that this type of cost estimate can only ever be an approximation, but as widely disparate estimates are quoted we have provided details as to how our figure was derived. The numerator in such calculations is easily defined as the operating costs of the VCGS but determination of the denominator is more difficult. An outline is provided of the method used to determine the number of cases of invasive cancer prevented by diagnosis at an asymptomatic precursor stage through VCGS screening and then the number of lives saved as a consequence of this.

Assumptions concerning symptom status and the progressive potential of precursor lesions are necessary. For the purposes of this financial estimation, all women diagnosed at a stage of invasive cancer will be considered to be symptomatic and therefore will not contribute to the cost estimates of a life saved by detection at an asymptomatic stage. All women with dysplasia, carcinoma in situ, and microinvasive carcinoma will be considered to have the same frequency of symptoms as normal women and will therefore be regarded as having asymptomatic disease. All women with a histological diagnosis of microinvasive carcinoma will be considered to have an inevitable progression to invasive carcinoma unless treated, 30% of lesions diagnosed as histological carcinoma in situ will be considered to have invasive potential unless treated (3,4), and 26% of all cytological dysplastic lesions will be considered to have the potential to progress to carcinoma in situ unless treated (5). The estimate of 26% was documented among women with mild cervical dysplasia, but as recent estimates for the probability of progression of the more severely dysplastic lesions are not available, in this analysis it has been applied to all women with cytological dysplasia. This will underestimate the number of women with potentially progressive lesions and therefore will overestimate the costs of saving a woman's life. Furthermore we have not included in this analysis women who had a first ever diagnosis

of wart virus infection without associated neoplastic change made in 1984, although in excess of 2600 women had a report of this nature issued.

Following VCGS smears 28 incident cases of histologically confirmed microinvasive carcinoma were diagnosed during 1984 with 6 of the women having dysplastic cytology earlier in the year. A further 807 women were diagnosed as having histological carcinoma in situ with 317 of these women having dysplastic cytology earlier in 1984. 2114 women had a first ever diagnosis of dysplasia during 1984 and after subtracting the 323 women who were known to progress to carcinoma in situ or microinvasive carcinoma during the same year, 1791 incident cases of non-progressive dysplasia remain. If a minimum of 26% of these dysplastic cases would progress to carcinoma in situ over a period of 10-30 months as documented by Campion (5), then 466 women would be expected to develop carcinoma in situ subsequently. Adding this number to the 807 incident cases of carcinoma in situ detected gives a total of 1273 women with carcinoma in situ during 1984 or expected in later years. If 30% of these women have progressive disease in the absence of treatment, then 382 women could be expected to develop invasive cancer. Adding this number to the 28 women who had microinvasive cancer detected gives a total of 410 women who could be anticipated to develop invasive cancer, but who as a result of screening were detected at an asymptomatic precursor stage. Therefore the screening cost to the VCGS in 1984 associated with preventing a woman developing invasive cancer was $3670 ($1,503,506 / 410). This relatively inexpensive figure should be compared with the very much larger financial and emotional costs to the women and the health care budget if invasive cancer had been allowed to develop.

The 5 year relative survival for invasive cancer of the cervix is 65% (6). If diagnosis had not been achieved at a precursor stage in these women and their disease had progressed to invasive cancer with survival rates not different to those of the general population, then 144 deaths among the 410 women diagnosed would be expected. The screening cost to the VCGS in 1984 associated with preventing a death from invasive cervical cancer was therefore $10,500 ($1,503,506/144).

A number of additional costs have not been accounted for. These include the cost of the visit to the medical practitioner to have the smear taken [but there is evidence that a significant proportion of Pap smears in Australia are taken in the context of a visit to the doctor for either gynaecological symptoms or pregnancy (7)], and the cost of treating women with precursor lesions diagnosed through screening that, in the absence of treatment, would not progress to

invasive malignancy. Currently there is no reliable way of predicting which precursor lesions these are. Against these additional costs must be weighed the importance of saving women's lives at relatively young ages and the less radical and less expensive treatment which can be used in the management of precursor lesions.

The $10,500 per life saved is determined from a government funded non-profit screening service. The estimated costs appear modest in relation to the benefits. Australia has grossly suboptimal screening services against this preventable cancer. It is time to seriously reconsider the sobering fact that mortality rates from cancer of the cervix have only dramatically declined in countries which have both systematic 'call' programs to normal women in the community and 'recall' programs after abnormal smears (8). No Australian State has 'call' facilities for normal women, and automatic 'recall' or follow-up after abnormal smears, although available through the VCGS, does not routinely occur in the majority of laboratories. Unnecessary deaths are occurring. A reorganisation of Pap smear screening services should be undertaken based on the experience and knowledge gained over the last 20 years.

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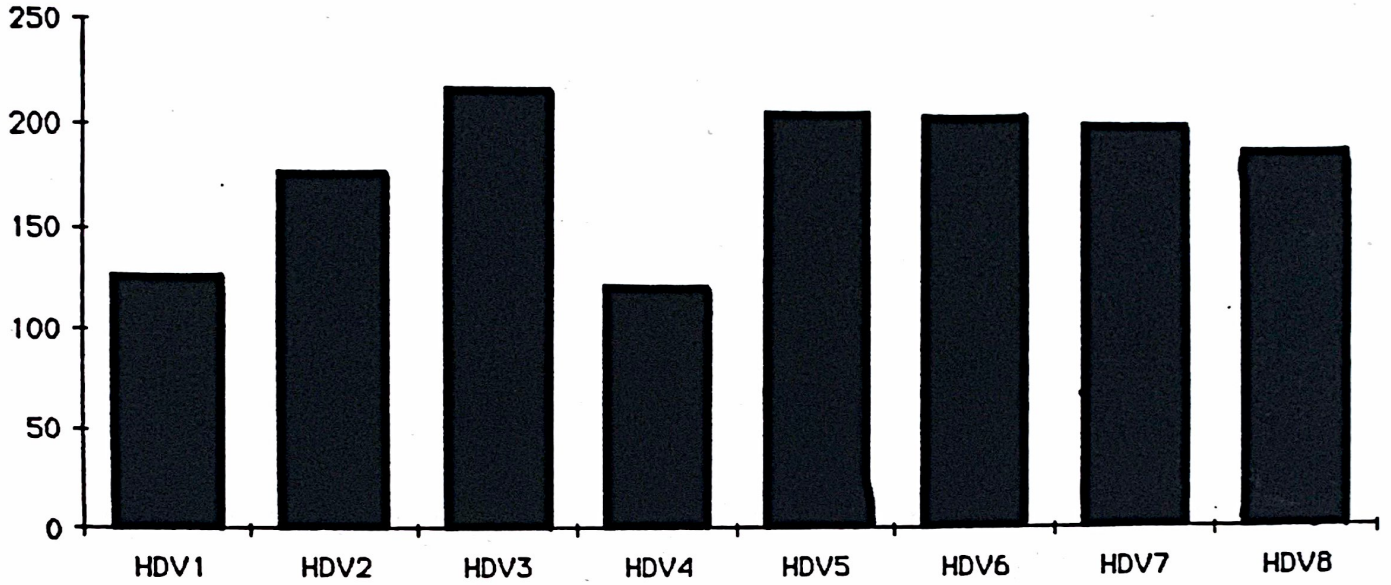
McGraw Hill, 1982;279-292.

NUMBER OF SMEARS RECEIVED/1000 WOMEN RESIDENTS BY HEALTH DEPARTMENT VICTORIA REGION [approximation only]



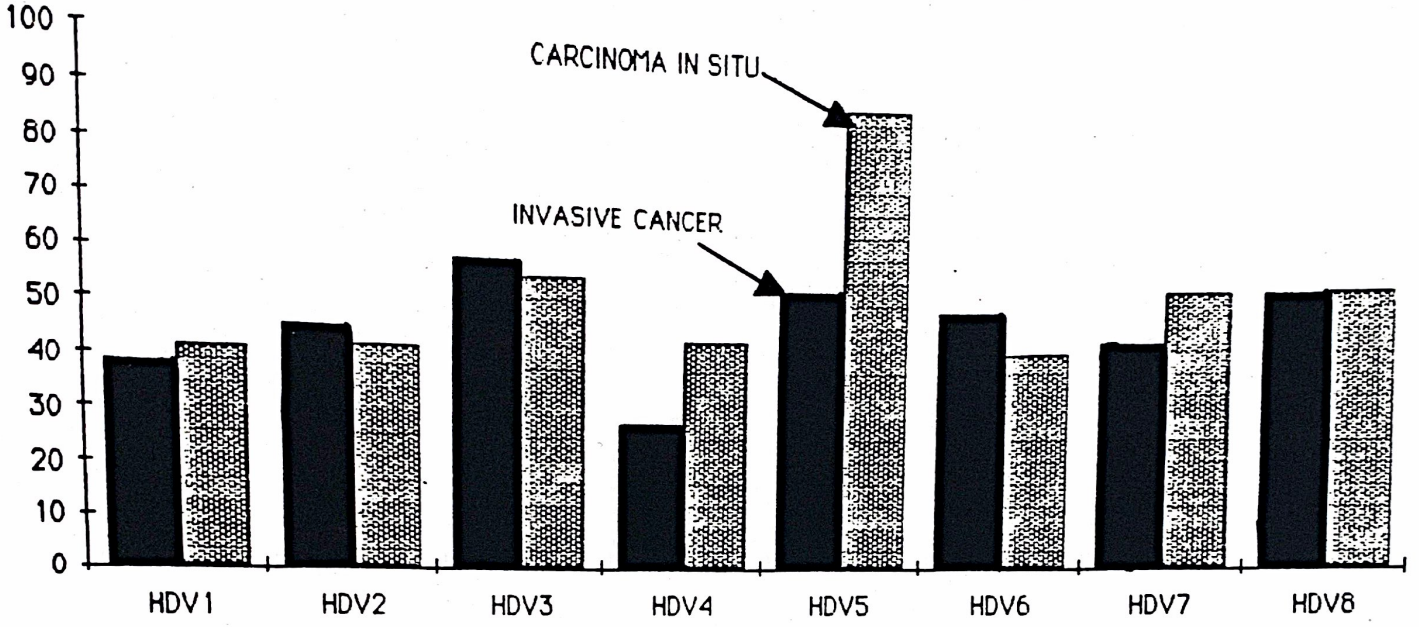
This graph depicts the distribution of smears received per 1000 female residents for each Health Department Region. The postcodes used in the calculations were those of the referring medical practitioners; this inevitably introduces some inaccuracies into the figures, and they are therefore presented as approximations only.

Low numbers of smears were received from HDV4 [Goulburn-North Eastern] and HDV 1 [Barwon-South Western]. The highest number received was from HDV3 [Loddon Campaspe-Mallee].

HDV 1	Barwon-South Western
HDV 2	Central Highlands-Wimmera
HDV 3	Loddon Campaspe-Mallee
HDV 4	Goulburn-North Eastern
HDV 5	Gippsland
HDV 6	Western Metropolitan
HDV 7	North-Eastern Metropolitan
HDV 8	Southern Metropolitan

Source: H. Mitchell
VCS. 1986

NUMBER OF CASES OF INVASIVE CANCER AND CARCINOMA IN SITU /100,000 WOMEN RESIDENTS BY HDV REGION [Approximate figures]



For this graph the carcinoma in situ rates were calculated from the 777 incident cases of histologically confirmed disease notified to the VC[G]S in 1984. The 700 cases of invasive cancer are derived from notifications for 1982-84 to the Victorian Cancer Registry and the VC[G]S.

Two points deserve comment:

- the high rate of carcinoma in situ in HDV 5 [Gippsland]
- the low rate of invasive cancer in HDV 4 [Goulburn-North Eastern]

Further investigation/validation of these figures should be undertaken before they are fully accepted as 'real'.

Source: H. Mitchell VCS. 1986

ATTACHMENT 12.

INCIDENCE FOR 180 CANCER OF CERVIX UTERI

1982-3 DATA FOR - WHOLE OF VICTORIA

AGES	MALES	RATE	FEMALES	RATE	TOTAL	RATE
0 - 4	0	0.0	0	0.0	0	0.0
5 - 9	0	0.0	0	0.0	0	0.0
10-14	0	0.0	0	0.0	0	0.0
15-19	0	0.0	0	0.0	0	0.0
20-24	0	0.0	7	2.0	7	1.0
25-29	0	0.0	31	9.5	31	4.7
30-34	0	0.0	46	14.4	46	7.2
35-39	0	0.0	51	17.9	51	8.9
40-44	0	0.0	31	13.7	31	6.7
45-49	0	0.0	40	20.2	40	9.9
50-54	0	0.0	39	19.5	39	9.6
55-59	0	0.0	38	18.9	38	9.4
60-64	0	0.0	58	32.5	58	17.0
65-69	0	0.0	59	38.5	59	20.8
70-74	0	0.0	33	25.6	33	14.5
75-79	0	0.0	20	21.9	20	13.1
80-84	0	0.0	15	25.1	15	16.6
85+	0	0.0	11	25.2	11	18.8
TOTAL	0	0.0 0.0 0.0	479	10.7 11.8 12.9	479	5.5 6.0 6.5
CUMULATIVE %		0.0		1.1		0.5
STANDARD RATE		0.0 0.0 0.0		9.3 10.2 11.1		4.7 5.2 5.7

RATETAB_12

22/8/84

MORTALITY FOR 130 CANCER OF CERVIX UTERI

1983 DATA FOR - WHOLE OF VICTORIA

AGES	MALES	RATE	FEMALES	RATE	TOTAL	RATE
0 - 4	0	0.00	0	0.00	0	0.00
5 - 9	0	0.00	0	0.00	0	0.00
10-14	0	0.00	0	0.00	0	0.00
15-19	0	0.00	0	0.00	0	0.00
20-24	0	0.00	0	0.00	0	0.00
25-29	0	0.00	1	0.57	1	0.28
30-34	0	0.00	2	1.21	2	0.51
35-39	0	0.00	3	1.87	3	0.93
40-44	0	0.00	5	3.41	5	1.59
45-49	0	0.00	2	1.76	2	0.86
50-54	0	0.00	9	9.01	9	4.44
55-59	0	0.00	7	7.07	7	3.47
60-64	0	0.00	14	13.90	14	6.93
65-69	0	0.00	8	8.78	8	4.59
70-74	0	0.00	20	25.17	20	14.15
75-79	0	0.00	7	10.75	7	6.05
80-84	0	0.00	5	10.70	5	6.44
85+	0	0.00	4	13.22	4	8.70
			7	31.53	7	25.51
		0.00		3.67		1.35
TOTAL	0	0.00	94	4.62	94	2.33
		0.00		5.57		2.31
CUMULATIVE %		0.00		0.42		0.22
		0.00		2.95		1.55
STANDARD RATE		0.00		3.72		1.95
		0.00		4.49		2.35

INCIDENCE FOR 180 CANCER OF CERVIX UTERI

1982 DATA FOR - WHOLE OF AUSTRALIA

AGES	MALES	RATE	FEMALES	RATE	TOTAL	RATE
0 - 4	0	0.00	0	0.00	0	0.00
5 - 9	0	0.00	0	0.00	0	0.00
10-14	0	0.00	0	0.00	0	0.00
15-19	0	0.00	0	0.00	0	0.00
20-24	0	0.00	10	1.52	10	0.75
25-29	0	0.00	67	10.81	67	5.34
30-34	0	0.00	103	16.99	103	8.38
35-39	0	0.00	110	20.92	110	10.27
40-44	0	0.00	83	20.81	83	10.15
45-49	0	0.00	72	19.79	72	9.65
50-54	0	0.00	92	24.56	92	12.00
55-59	0	0.00	91	24.53	91	12.23
60-64	0	0.00	92	27.71	92	14.48
65-69	0	0.00	99	34.15	99	18.26
70-74	0	0.00	48	20.42	48	11.47
75-79	0	0.00	34	21.18	34	12.54
80+	0	0.00	43	23.65	43	16.24
		0.00		11.67		5.84
TOTAL	0	0.00	949	12.43	949	6.25
		0.00		13.29		6.66
CUMULATIVE %		0.00		1.11		0.56
		0.00		10.19		5.18
STANDARD RATE		0.00		10.90		5.54
		0.00		11.61		5.90

MORTALITY FOR 180 CANCER OF CERVIX UTERI

1982 DATA FOR - WHOLE OF AUSTRALIA

AGES	MALES	RATE	FEMALES	RATE	TOTAL	RATE
0 - 4	0	0.0	0	0.0		
5 - 9	0	0.0	0	0.0		
10-14	0	0.0	0	0.0		
15-19	0	0.0	0	0.0		
20-24	0	0.0	1	0.2		
25-29	0	0.0	7	1.1		
30-34	0	0.0	13	2.1		
35-39	0	0.0	12	2.3		
40-44	0	0.0	22	5.2		
45-49	0	0.0	24	6.6		
50-54	0	0.0	30	8.0		
55-59	0	0.0	42	11.3		
60-64	0	0.0	48	14.5		
65-69	0	0.0	40	13.8		
70-74	0	0.0	36	15.3		
75-79	0	0.0	35	21.8		
80-84	0	0.0	21	20.1		
85+	0	0.0	18	23.3		
		0.0		0.1		
TOTAL	0	0.0	349	0.6		
		0.0		5.1		
CUMULATIVE %		0.0		0.4		
		0.0		3.2		
STANDARD RATE		0.0		3.6		
		0.0		0.0		

18 JUN 1985

Cervical Ca. Policy
Recruit

N.G

SET PIECE ON SCREENING OF CERVIX IN VICTORIA

Tuesday 7th October 1986

EPIDEMIOLOGY: VICTORIA

1983

1. INCIDENCE

Victorian Cancer Registry, 1982 — In Situ tumours - 21/100,00 women 42.4/100,000 863
Invasive tumours - 10.4/100,000 women 11/100 231

1983 — See attachment 1

2. MORTALITY

Victorian Cancer Registry, 1982 — 3.6/100,000 women. (Attachment 2)

Survival rates are unkown for Victoria. British figures show a five year survival rate of 50%, but Australian figures are possibly higher than that. G. Giles is currently planning a study on this particular area.

IS SCREENING EFFECTIVE IN REDUCING MORTALITY?

There is little doubt that population screening for carcinoma of cervix can reduce the mortality due to the disease, if the following conditions are met:-

1. All the women have the procedure. If this is not possible, then
   (a) Pick up those tumours occurring now - screen older women.
   (b) Prevent carcinoma occuring in the future - screen younger women.

2. The smear is taken correctly by the medical practitioner including both cervix and endocervix.

Run to desk.

3. The cytology service is high quality (low false negatives); has quality control; has a low lag time for reporting; and has an effective recall procedure.

4. There is an appropriate and effective surgical response to a positive smear including colposcopy, local therapy for dysplasia, cone biopsy and hysterectomy where appropriate.

5. When the screening is performed at regular intervals. In Victoria, the recommendation is two-yearly for sexually active women. The American Cancer Society recommended once every three years, but this has been modified by the American College of Obstetricians and Gynaecologists. It is now recommended that sexually active women have a smear, if it is normal, then it is repeated in one year and if it is still normal, then three-yearly. In Finland, screens are recommended every five years from age of 20 or below if sexually active until the age of 50-55 years. Screening interval is an area of concern as there have been a number of tumours now reported showing a reduced interval between the onset of dysplasia and development of true invasive carcinoma, particularly in young women.

References:

1. Hakama M. Trends in the incidence of cervical cancer in the Nordic countries. In: Magnus, K. Ed. Trends in Cancer Incidence: Causes and practical implications. Washington: McGraw Hill. 1982. pp279-292.
2. Hobbs P, Elkind KA, et al. Screening for cervical cancer: an opportunity for change. In: Smith A. Ed. Recent advances in community medicine. No.3. Edinburgh: Churchill Livingstone. 1985. pp249-268.
3. ICRF Coordinating Committee on Cervical Screening. Organisation of a programme for cervical cancer screening. Brit. Med. J. 1984. 289:894-893.
4. Lumsden G, Armstrong BK, Nandakumar A. A pilot cervical cytology screening service in Perth. Comm. Health Studies. 1986. 2: 173-180.
5. Elwood JM, Cotton RE, et al. Are patients with abnormal cervical smears adequately managed? Brit. Med. J. 1984. 289: 891-894.
6. Intervals between Pap tests: a compromise. World Health Forum. 1981. 2(4): 533-540.

IS SCREENING EFFECTIVE IN VICTORIA?

Who is being screened

There are currently 250,000 women still unscreened in Victoria from an eligible population of around 1,400,000 (D.Hill). The VCRG represents 85% of all screening smears performed in Victoria. Attachment 3 shows the proportion of smears received by age group for 1984 from the VCGS. These results show that greater than 80% of the smears received were from women under the

age of 50 years. Attachment 4 shows the numbers of smears received per thousand women by age. It shows the greatest compliance in the 25-29 year old groups and a falling off thereafter. Attachment 5 shows the number of abnormalities per thousand smears at the VCGS. It shows dysplasia as predominantly an abnormality of young women, whereas the major abnormalities tend to occur more frequently with increasing age.

Who is not being screened

Of 593 women who died in Victoria from carcinoma of the cervix 1980-1985, excluding those smears associated with diagnostic workup, 85% had no screening history with the VCGS (Attachment 6). Less than 3% had an adequate screening history (defined as three or more smears over the preceding ten years, one smear per year being counted). Thus around 85% of the deaths are occurring in the approximately 15% of unscreened women. Two possibilities exist for this discrepancy;-

(1) If the populations screened and unscreened are the same, then screening is effective in reducing the mortality in those women who have the procedure.

(2) We may be screening the wrong population at present. Those women who are unscreened are more likely to develop lethal tumours. Possibilities include that they are older women, or that they are lower socioeconomic status in the community with lower education level.

Why these women are not attending is is not known, and we look forward to the results of the Behavioural Sciences/Epidemiology Centres research.

The quality of cytology

Attachment 7 shows the proportion of women with a diagnosis of invasive cancer during 1982-84 who had one or more previously normal smears with the VCGS. These results may possibly be due to either false negatives, or else rapidly invasive tumours which occur within the screening interval. The quality of cytology is very much dependant on the nature of the laboratory and the quality control procedures undertaken by it. The VCGS has a very good record in this regard.

Recall procedures

To enable rapid and effective follow-up of those persons with positive cytology, effective recall procedures are necessary. The VCGS has a computerised recall procedure which appears to be effective. Attachment 8 shows the cytology form and the recall forms from the VCGS. If the service is overloaded with work, then the lag period between receipt of the smear and reporting may become a problem. This will need to be kept in consideration when deciding on a policy of public education about cervical smears.

Cost of Cytology

VCRG 1984-85 financial year - $5.80 per smear. This includes the cost of quality control and follow-up procedures.

Private - Specialist pathologist rebate - $17.20

Plus hormonal status - $28.50

Attachment 9 shows a summary of the VCGS costs of screening women for cervical cancer in 1984. The cost of preventing a woman developing invasive cancer is $3,670. The cost of saving a woman's life from invasive cancer is estimated to be $10,500.

Uniformity of Gynaecological Response to a Positive Smear

It is difficult to determine whether there is a standard response to a positive smear in Victoria. No doubt this could be the subject of a Behavioural Science study.

Are all areas the same

Attachments 10 & 11 show a different response and tumour rate in different Victorian regions. This may be important in planning region by region campaigns.

POSSIBILITIES FOR SCREENING IN VICTORIA

1. No change

Continue the present ad hoc arrangement.

2. Screen every woman once

(a) Mass public and professional campaigns to be undertaken throughout the State.

- need to have VCGS prepared.

- need to have professional education to perform smears adequately.

- need to have clear guidelines on the response to a positive smear (Gynaecologists/General Practitioner).

(b) A region by region campaign.

- easier on VCGS.

- can be performed as a controlled study with careful strategy development, implementation and evaluation.

- easier to have professionals involved on a regional basis.

- easier on ACCV education budget.

3. Screen selected populations of woman once

(a) Women over the age of 40 years who are presently poor users of the service and amongst whom are the highest rates of cancer.

- need both public and professional education for effective campaign.

- could be done as a statewide campaign or as a region by region campaign.

- more cost-effective for early detection of cancers occurring now.

- easier on VCGS facilities.

- probably easier for gynaecological response to positive smear i.e. more clear cut (so to speak).

- longer protective gain from one smear in this group.

(b) Younger women aged 20 years or younger if sexually active who are more at risk from cervical dysplasia associated with HPV and/or HSV infections.

- both public and professional education required.

- could be done on a statewide or regional basis.

- this is long term prevention planning by removing those dysplastic lesions present now and preventing invasive change occurring over time.

- there may be a short term gain in this group, if viral-associated dysplasia is associated with a short latent period before frank invasion.

4. Repeat Screening

(a) At present there is no consensus on screening intervals. Intervals vary from 1-5 years.

(b) Screening intervals are probably better tailored to age, rather than a blanket policy over all women.

(c) Current Victorian recommendations of two yearly is leading to an average usage of the service at three yearly intervals.

If this weak statement is true we have wasted a lot of money.

CONCLUSION

The morbidity and mortality from carcinoma of the cervix in Victorian women remains too high. The levels could possibily be higher were it not for current screening programmes. There appears to be a need for more screening in those currently developing tumours who have not been previously screened.

Screening appears to be useful in two roles:-

1. Primary prevention - young women with dysplasia ± viral infection
2. Early detection - older women with carcinoma in situ or invasive carcinoma now.

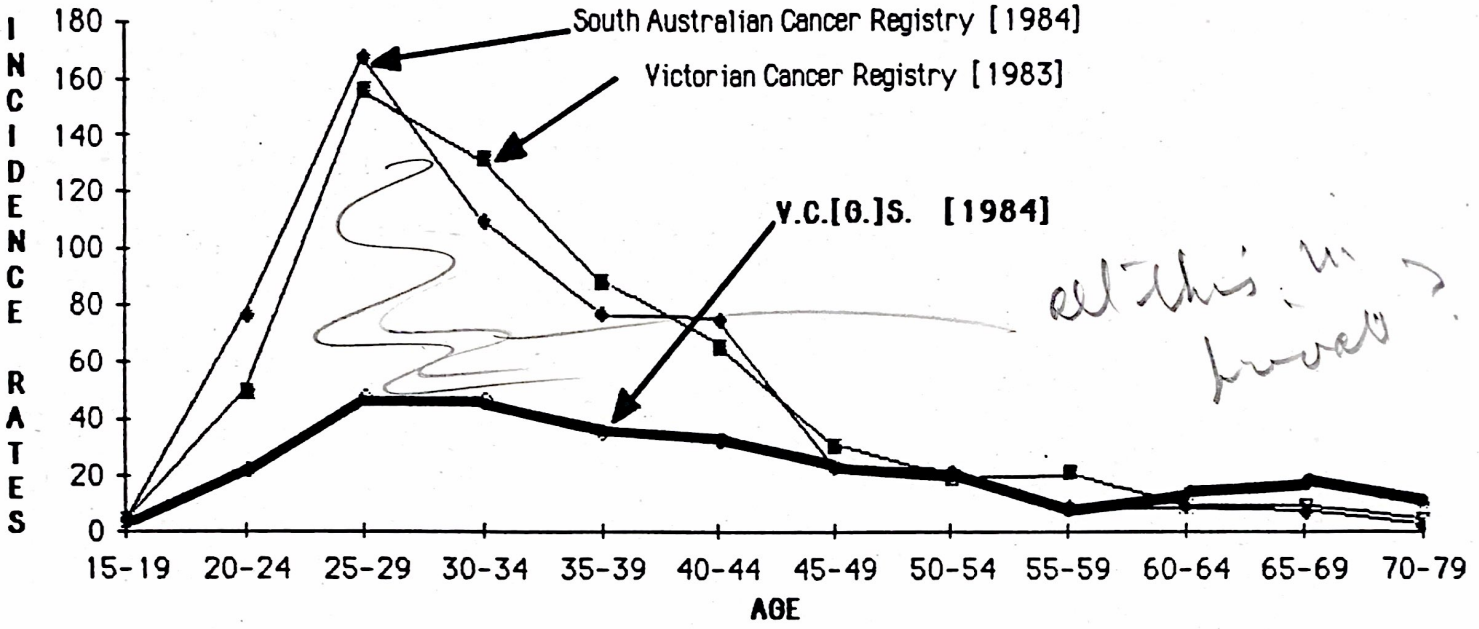
Further public education encouraging the use of cytology service and professional education enabling its use is required. The extent and nature of the programmes need to be carefully determined before implementation.

30th September, 1986
RM:mr
25-PE-83

ATTACHMENT 1

need actual numbers

AGE SPECIFIC INCIDENCE RATES PER 10,000 WOMEN FOR CARCINOMA IN SITU



all this in brown?

This graph depicts the age-specific incidence rates for carcinoma in situ from 3 sources - the Victorian Cytology [Gynaecological] Service, the Victorian Cancer Registry, and the South Australian Cancer Registry. The rates correlate well between the two cancer registries.

For women aged less than 45 years, the VC[G]S detection rates are below the cancer registries, indicating that a low risk population is being screened.

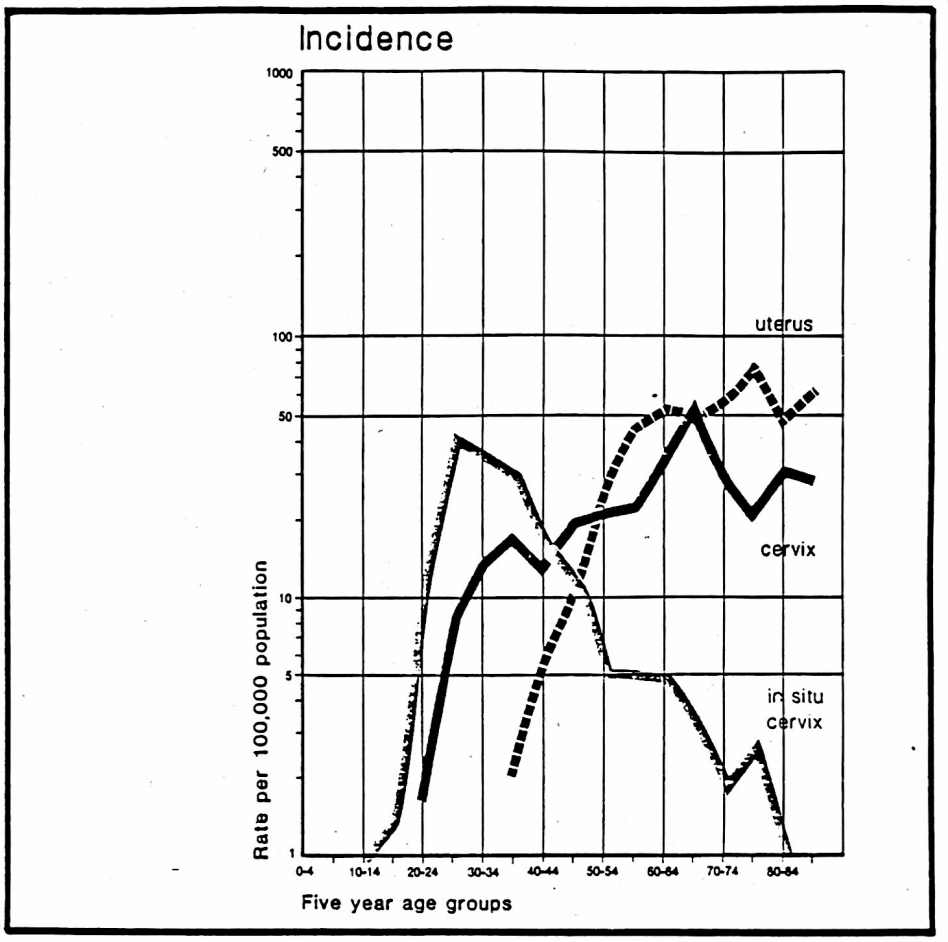
Between the age of 45 and 64 years, the VC[G]S rate approximates the cancer registries' rates.

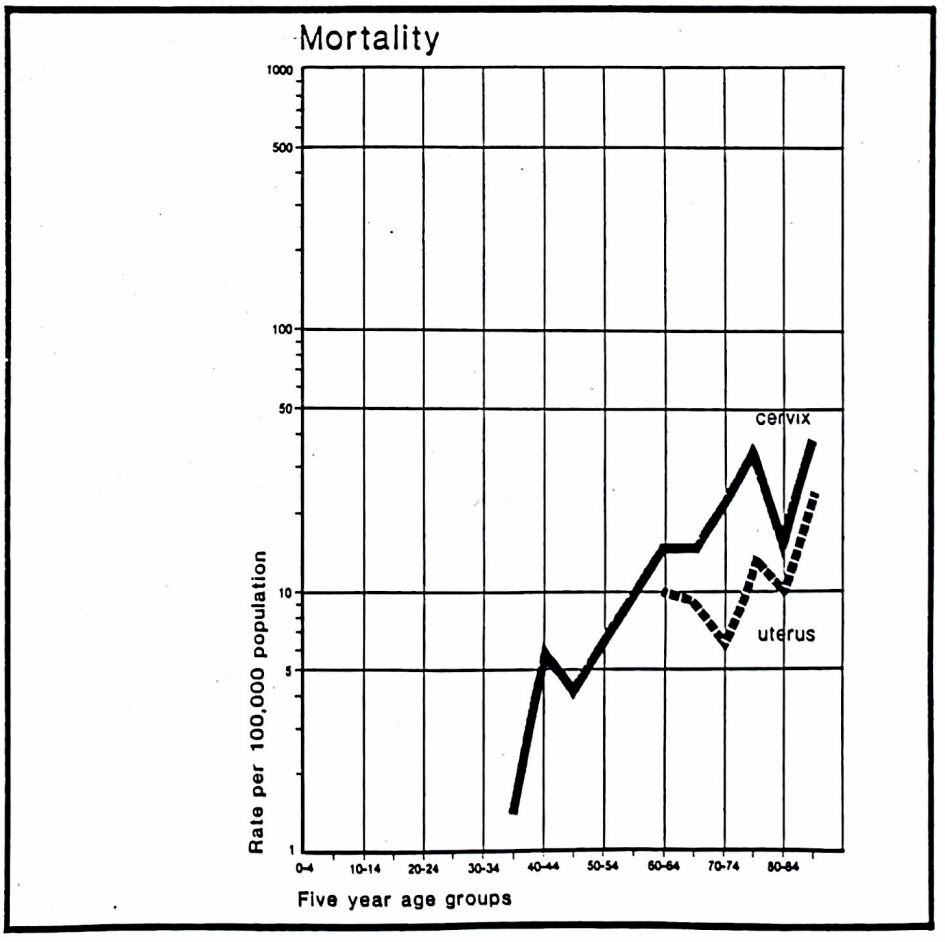
For women aged 65 years and over, the VC[G]S rate is higher, indicating that the 'screening' is of a high risk population.

Source: H. Mitchell VCGS. 1986

ATTACHMENT 2

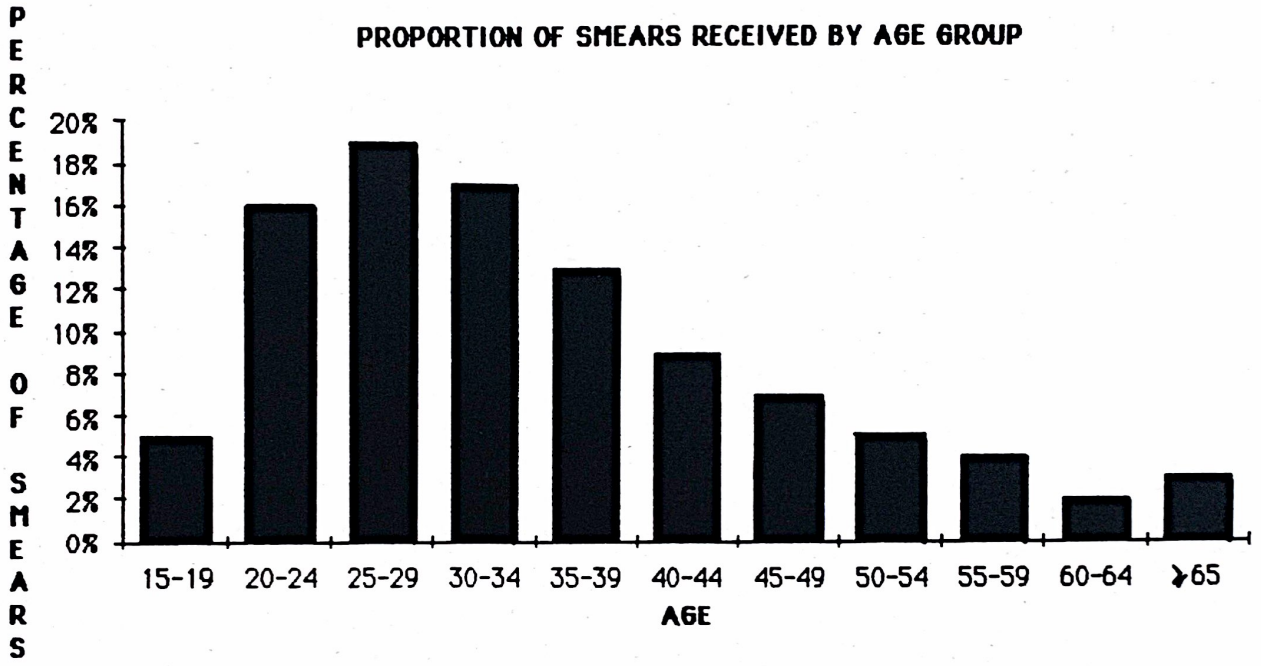
Victoria 1982





Source: Victorian Cancer Registry Statistical Report 1983

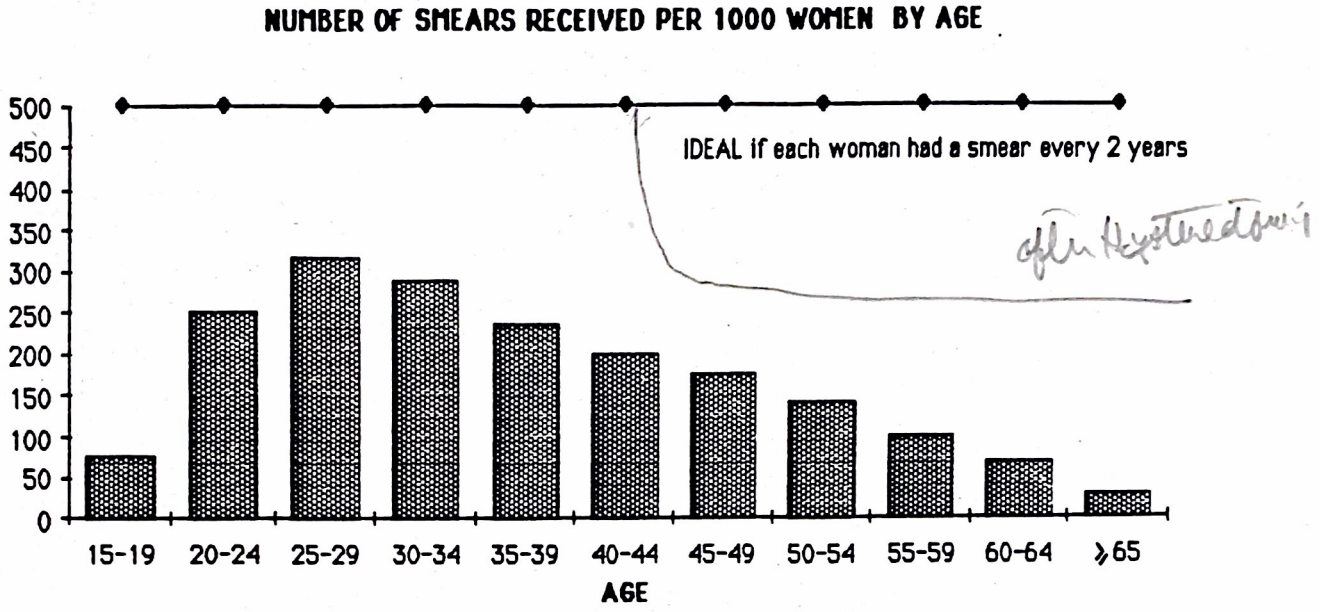
ATTCHMENT 3



This graph demonstrates the age distribution of smears received by the VC[G]S during 1984.

More than 80% of the smears received were from women aged under 50 years.
Conversely, in excess of 80% of the incident cases of invasive cancer reported to the Victorian Cancer Registry are from women aged over 50 years.

Source: H. Mitchell
VCGS. 1986

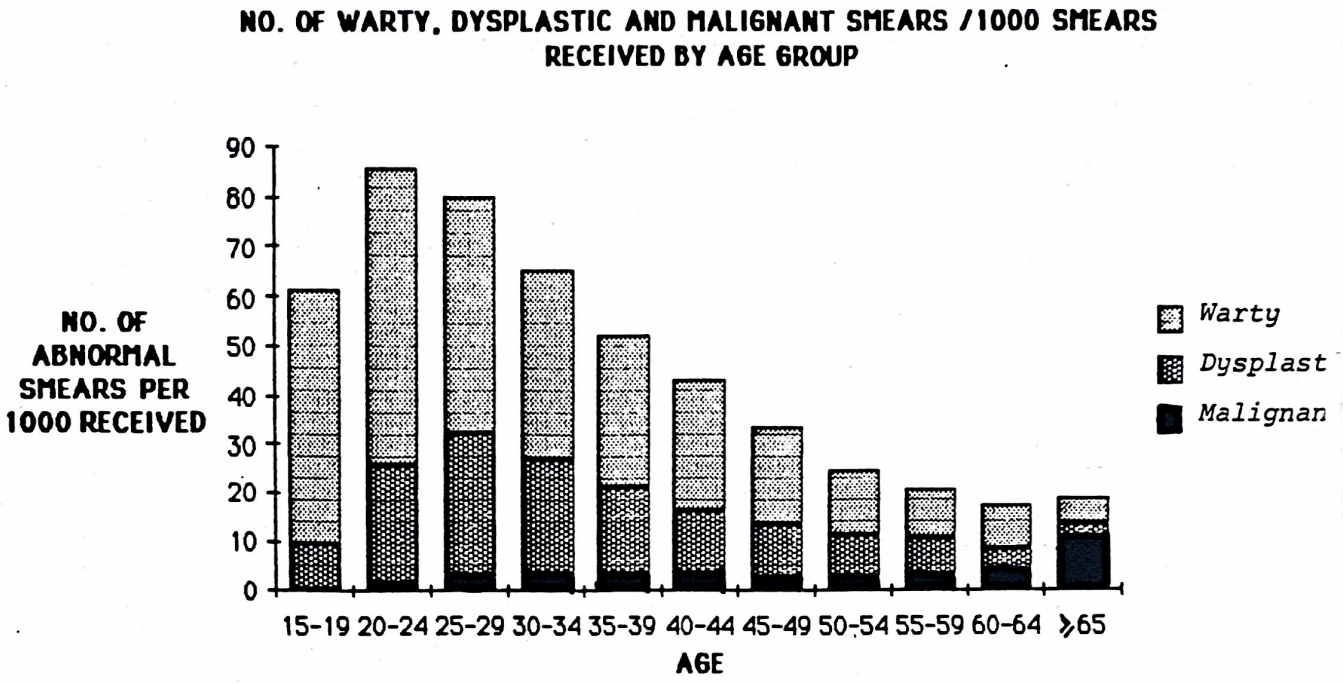


This graph demonstrates the age distribution of smears received by the VC[G]S during 1984 in comparison with an 'ideal' situation where each women had a smear every 2 years.

The greatest shortfall is in the older age groups. However the gap between the 'ideal' and 'reality' will be less than depicted as an unknown proportion of women of the older age groups will have had a hysterectomy.

It should also be remembered that about 15% of smears are examined in laboratories outside of the VC[G]S. Even if information on the age distribution of these smears was available, a sizeable shortfall would still exist.

Source: H. Mitchell
VCGS. 1986



This graph shows the number of abnormal smears per 1000 smears received by age.

The highest ratio of malignant smears is in women over 65 years of age [10.6 malignant smears/1000 examined]. This may be due in part to many smears in these age groups coming from symptomatic women. In age groups where more 'screening' smears are taken, the highest total rate of abnormalities are detected, albeit many of them as precursor lesions. For example, in women aged 20-24 years, 60 warty smears and 24.7 dysplastic smears were reported for each 1000 smears examined.

ATTACHMENT 6

SCREENING HISTORY WITH THE VCGS FOR WOMEN WITH CARCINOMA-IN-SITU AND INVASIVE CANCER OF THE CERVIX

Screening History over the preceding 10 years defined as:

Adequate if 3 or more smears taken

Inadequate if 1 or 2 smears taken

Nil if no smears taken

Note: Smears taken within 3 months of the diagnosis are excluded.
Only one smear from each year is counted.

	ADEQUATE	INADEQUATE	NIL
INCIDENT CASES OF CARCINOMA IN SITU 1984 [n=777]	35%	45%	21%
INCIDENT CASES OF INVASIVE CANCER 1982-84 [n=700]	9%	23%	68%
FATAL CASES OF INVASIVE CANCER Diagnosed since 1975 Died during 1980-85 [n=593]	3%	12%	85%

Source: H. Mitchell
VCGS. 1986

222 [32%] of the 700 women with a diagnosis of invasive cancer during 1982-84 had one or more previously normal smear with the V.C.[O.]S.

Number of normal smears	Number of women
1	115
2	40
3	30
4	12
5	8
6	12
7	4
8	1
	222 [32%]

During the 3-60 months preceding the diagnosis, 114 women [16.3%] had one or more normal smears.

During the 3-36 months preceding the diagnosis, 66 women [9.4%] had one or more normal smears.

During the 3 months prior to diagnosis, 10 women had a normal smear.

Source: H. Mitchell VCGS. 1986

ATTACHMENT 8

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE
236-254 ST. KILDA ROAD, MELBOURNE, 3004. PHONE: 62 3831
P.O. BOX 253B, MELBOURNE, 3001

CYTOLOGY REQUEST FORM

INITIALS

REQUESTING DOCTOR:

DATE SMEAR TAKEN:

☐ SPECIMEN COLLECTION KIT REQUIRED

PLEASE COMPLETE ALL QUESTIONS. AVOID SHADED AREAS

CYTOLOGY NUMBER

DATE RECEIVED

NAME & DATE OF BIRTH ESSENTIAL BLOCK LETTERS PLEASE

PATIENT'S SURNAME

FIRST NAME

DATE OF BIRTH

Day Month Year

PREVIOUS SURNAME

ADDRESS

POSTCODE

COUNTRY OF BIRTH:

UR/REFERENCE NUMBER:

PREVIOUS ABNORMAL SMEARS:
VC(G)S ☐ OTHER LABORATORY ☐

PLEASE TICK RELEVANT SQUARES

PARITY (Please circle): 0, 1, 2, 3, 4, 5, 6-10 > 10 [1]

HORMONAL STATUS
Pre Menopausal
Pregnant due / /
Post Partum delivered / /
Menopausal
Post Menopausal [2]

HORMONE THERAPY Oestrogen [3]
Other [4]

CONTRACEPTION (as currently used) Oral IUD Tub. Lig.
Other [5]

CANCER CHEMOTHERAPY (specify) [6]

PELVIC SURGERY (specify)
Date Nature [7]

PELVIC IRRADIATION (specify) [8]

SYMPTOMS Nil Discharge [9]
Abnormal Bleeding [10]

APPEARANCE OF CERVIX Normal
Abnormal (specify) [11]

ADDITIONAL NOTES Including any relevant treatment since last smear. [12] [13]

PLEASE DO NOT WRITE BELOW THIS LINE

[14] [15] [16]
[17] [18] [19]
[20] [21]
[22] [23] [24] [25] [26] [27]
[28] [29]
[30] [31]

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE
236-254 ST. KILDA ROAD, MELBOURNE, 3004 : PHONE: 62 3831
P.O. BOX 253B, MELBOURNE. 3001.

REPORT No.

PATIENT

REPEAT SMEAR REMINDER

The cytology report on this patient included a recommendation for a repeat smear. Our records indicate that this repeat smear has not been received as yet. It may be that some other course of action was decided upon or that you have been unable to contact the patient. However, this reminder notice is sent in case the need for a repeat smear has been overlooked.

If cytology has been performed elsewhere or any other investigations carried out, we would be grateful for the results. These are important for our quality control programme.

Michael Drake, Director.

DETACH HERE AND RETAIN ABOVE SECTION. RETURN THIS SECTION WITH SLIDE.

Patient:

Address:

D.O.B.:

PLEASE COMPLETE ALL QUESTIONS. AVOID SHADED AREAS **PLEASE TICK RELEVANT SQUARES** ☑

PARITY (Please circle) : 0, 1, 2, 3, 4, 5, 6-10. >10

HORMONAL STATUS
Pre Menopausal ☐
Pregnant ☐ due...../...../.....
Post Partum ☐ delivered...../...../.....
Menopausal ☐
Post Menopausal ☐

HORMONE THERAPY Oestrogen ☐
Other.....

CONTRACEPTION (as currently used) Oral ☐ I.U.D. ☐
Other.....

CANCER CHEMOTHERAPY ☐ (specify)

PELVIC SURGERY ☐ (specify)

PELVIC IRRADIATION ☐ (specify)

1	2	3	4	5	6	7

SYMPTOMS
Nil ☐
Discharge ☐.....
Abnormal Bleeding ☐.....

APPEARANCE OF CERIX
Normal ☐
Abnormal ☐ (specify).....

ADDITIONAL NOTES

8	9	10	11	12

13

LABORATORY USE ONLY — PLEASE DO NOT WRITE BELOW THIS LINE

14	15	16

17	18	19

20	21

22	23	24	25	26	27

28

29	30

31

32	33	34	35

36

Dear Doctor,

re:

This patient has had abnormal cytology reported by our Service and we would appreciate any details of subsequent investigations which may have been performed. In particular, we are interested in any cytological or histological investigations and the identity of the laboratory or pathologist concerned.

Should you send us any original documents, such as histology reports, I will ensure their prompt return.

I would be most appreciative of this information as it is important to our quality control program. I have enclosed a reply paid envelope to facilitate your reply.

Yours sincerely,

Michael Drake,
DIRECTOR.

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE
236-254 ST. KILDA ROAD, MELBOURNE, 3004. PHONE: 62 3831
P.O. BOX 253B, MELBOURNE, 3001.

ABNORMAL CYTOLOGY FOLLOW-UP

PATIENT

REPORT No. DATED

I am most interested in obtaining information regarding any diagnostic procedures and subsequent management that may have followed receipt of the cytology report on this patient. This information is sought as part of our quality control programme. I would be grateful if you would complete the questionnaire below. I am particularly interested in the details of any subsequent histology report and the name of the pathologist or institution concerned. Any original documents sent to us will be returned promptly. A reply-paid envelope is enclosed for your convenience.

Michael Drake, Director.

PLEASE ENCIRCLE THE APPROPRIATE WORDS. AVOID SHADED AREAS.

DATE OF INVESTIGATION: .....

CLINICAL RE-EVALUATION OF CX.: Normal Abnormal

Colposcopy: Not Done N.A.D. Dysplasia Ca-in-situ Invasive Ca Other .....

CERVICAL BIOPSY: Not Done Cone Random Punch Target Punch Other .....

ENDOMETRIAL BIOPSY: Not Done Full Curette Other .....

HISTOLOGICAL FINDING: **CERVIX:** Metaplasia Dysplasia Mild Carcinoma Microinvasive
Cervicitis Mod. Carcinoma Invasive
Severe Adenocarcinoma
Carcinoma in situ Other .....

ENDOMETRIUM: Normal Atrophy Hyperplasia Atypical hyperplasia Carcinoma (Type) .....

Other .....

OTHER SITE: ..... Benign .....

Malignant .....

PATHOLOGIST OR INSTITUTION: .....

ADDITIONAL NOTES:

SUMMARY OF VC[0]S COSTS OF SCREENING WOMEN FOR CERVICAL CANCER, 1984.

Cost per smear = $5.45

Cost of preventing a woman developing invasive cancer = $3,670

Cost of saving a woman's life from invasive cancer = $10,500

SCREENING COSTS OF SAVING A LIFE FROM CANCER OF THE CERVIX

Intensive debate concerning the costs of individual items of medical practice can be anticipated as an ever increasing number of health care workers, pharmaceutical items, and diagnostic and therapeutic procedures compete for the health care budget. The financial costs associated with screening to detect disease are controversial. (1,2) The cost of examining a Pap smear can be precisely determined. For example, the Victorian Cytological Gynaecological Service [VCGS] expenditure during 1984 of $1,503,506 for 275,725 smears examined gives a cost of $5.45 per smear received. However a more important figure is the cost per life saved by detection through screening. We have undertaken an analysis of the 1984 VCGS costs of saving an asymptomatic woman's life from cancer of the cervix by detecting precursor disease. We emphasize that this type of cost estimate can only ever be an approximation, but as widely disparate estimates are quoted we have provided details as to how our figure was derived. The numerator in such calculations is easily defined as the operating costs of the VCGS but determination of the denominator is more difficult. An outline is provided of the method used to determine the number of cases of invasive cancer prevented by diagnosis at an asymptomatic precursor stage through VCGS screening and then the number of lives saved as a consequence of this.

Assumptions concerning symptom status and the progressive potential of precursor lesions are necessary. For the purposes of this financial estimation, all women diagnosed at a stage of invasive cancer will be considered to be symptomatic and therefore will not contribute to the cost estimates of a life saved by detection at an asymptomatic stage. All women with dysplasia, carcinoma in situ, and microinvasive carcinoma will be considered to have the same frequency of symptoms as normal women and will therefore be regarded as having asymptomatic disease. All women with a histological diagnosis of microinvasive carcinoma will be considered to have an inevitable progression to invasive carcinoma unless treated, 30% of lesions diagnosed as histological carcinoma in situ will be considered to have invasive potential unless treated (3,4), and 26% of all cytological dysplastic lesions will be considered to have the potential to progress to carcinoma in situ unless treated (5). The estimate of 26% was documented among women with mild cervical dysplasia, but as recent estimates for the probability of progression of the more severely dysplastic lesions are not available, in this analysis it has been applied to all women with cytological dysplasia. This will underestimate the number of women with potentially progressive lesions and therefore will overestimate the costs of saving a woman's life. Furthermore we have not included in this analysis women who had a first ever diagnosis

of wart virus infection without associated neoplastic change made in 1984, although in excess of 2600 women had a report of this nature issued.

Following VCGS smears 28 incident cases of histologically confirmed microinvasive carcinoma were diagnosed during 1984 with 6 of the women having dysplastic cytology earlier in the year. A further 807 women were diagnosed as having histological carcinoma in situ with 317 of these women having dysplastic cytology earlier in 1984. 2114 women had a first ever diagnosis of dysplasia during 1984 and after subtracting the 323 women who were known to progress to carcinoma in situ or microinvasive carcinoma during the same year, 1791 incident cases of non-progressive dysplasia remain. If a minimum of 26% of these dysplastic cases would progress to carcinoma in situ over a period of 10-30 months as documented by Campion (5), then 466 women would be expected to develop carcinoma in situ subsequently. Adding this number to the 807 incident cases of carcinoma in situ detected gives a total of 1273 women with carcinoma in situ during 1984 or expected in later years. If 30% of these women have progressive disease in the absence of treatment, then 382 women could be expected to develop invasive cancer. Adding this number to the 28 women who had microinvasive cancer detected gives a total of 410 women who could be anticipated to develop invasive cancer, but who as a result of screening were detected at an asymptomatic precursor stage. Therefore the screening cost to the VCGS in 1984 associated with preventing a woman developing invasive cancer was $3670 ($1,503,506 / 410). This relatively inexpensive figure should be compared with the very much larger financial and emotional costs to the women and the health care budget if invasive cancer had been allowed to develop.

The 5 year relative survival for invasive cancer of the cervix is 65% (6). If diagnosis had not been achieved at a precursor stage in these women and their disease had progressed to invasive cancer with survival rates not different to those of the general population, then 144 deaths among the 410 women diagnosed would be expected. The screening cost to the VCGS in 1984 associated with preventing a death from invasive cervical cancer was therefore $10,500 ($1,503,506/144).

A number of additional costs have not been accounted for. These include the cost of the visit to the medical practitioner to have the smear taken [but there is evidence that a significant proportion of Pap smears in Australia are taken in the context of a visit to the doctor for either gynaecological symptoms or pregnancy (7)], and the cost of treating women with precursor lesions diagnosed through screening that, in the absence of treatment, would not progress to

invasive malignancy. Currently there is no reliable way of predicting which precursor lesions these are. Against these additional costs must be weighed the importance of saving women's lives at relatively young ages and the less radical and less expensive treatment which can be used in the management of precursor lesions.

The $10,500 per life saved is determined from a government funded non-profit screening service. The estimated costs appear modest in relation to the benefits. Australia has grossly suboptimal screening services against this preventable cancer. It is time to seriously reconsider the sobering fact that mortality rates from cancer of the cervix have only dramatically declined in countries which have both systematic 'call' programs to normal women in the community and 'recall' programs after abnormal smears (8). No Australian State has 'call' facilities for normal women, and automatic 'recall' or follow-up after abnormal smears, although available through the VCGS, does not routinely occur in the majority of laboratories. Unnecessary deaths are occurring. A reorganisation of Pap smear screening services should be undertaken based on the experience and knowledge gained over the last 20 years.

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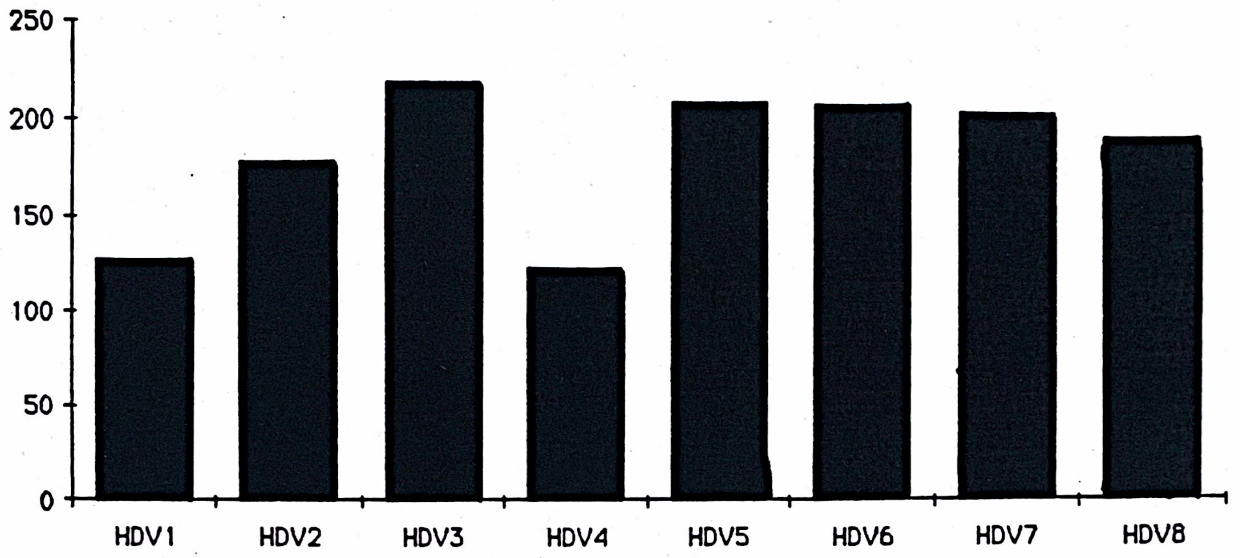
NUMBER OF SMEARS RECEIVED/1000 WOMEN RESIDENTS BY HEALTH DEPARTMENT VICTORIA REGION [approximation only]

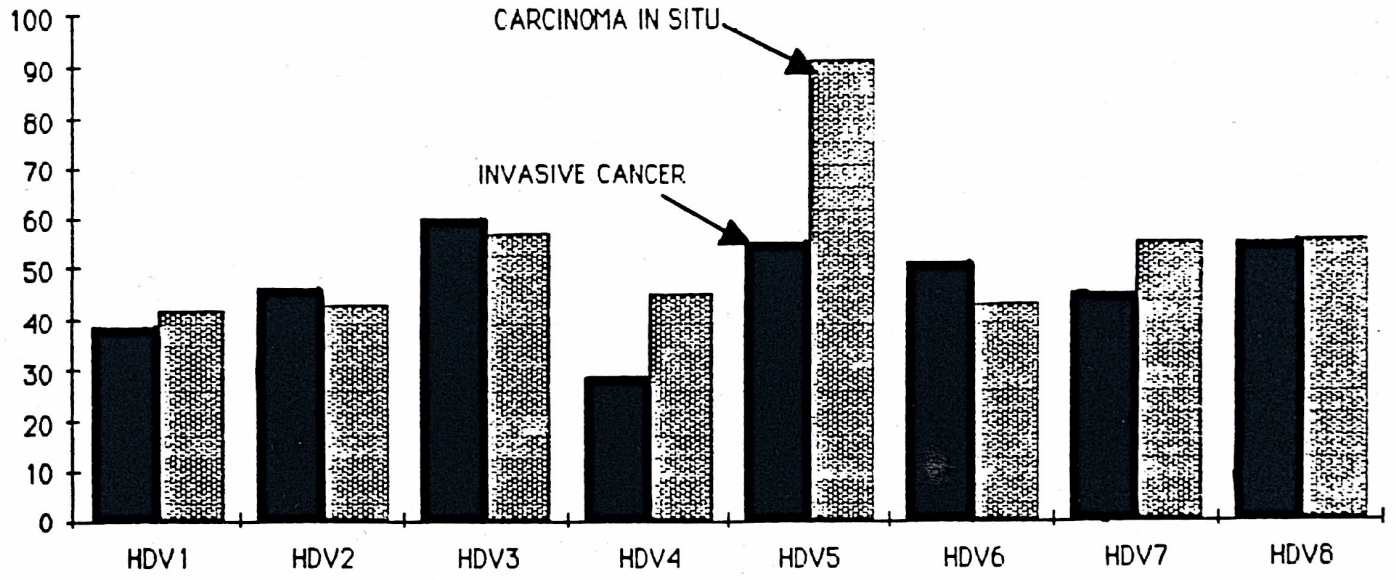


This graph depicts the distribution of smears received per 1000 female residents for each Health Department Region. The postcodes used in the calculations were those of the referring medical practitioners; this inevitably introduces some inaccuracies into the figures, and they are therefore presented as approximations only.

Low numbers of smears were received from HDV4 [Goulburn-North Eastern] and HDV 1 [Barwon-South Western]. The highest number received was from HDV3 [Loddon Campaspe-Mallee].

HDV 1 Barwon-South Western
HDV 2 Central Highlands-Wimmera
HDV 3 Loddon Campaspe-Mallee
HDV 4 Goulburn-North Eastern
HDV 5 Gippsland
HDV 6 Western Metropolitan
HDV 7 North-Eastern Metropolitan
HDV 8 Southern Metropolitan

NUMBER OF CASES OF INVASIVE CANCER AND CARCINOMA IN SITU /100,000 WOMEN RESIDENTS BY HDV REGION [Approximate figures]



For this graph the carcinoma in situ rates were calculated from the 777 incident cases of histologically confirmed disease notified to the VC[G]S in 1984. The 700 cases of invasive cancer are derived from notifications for 1982-84 to the Victorian Cancer Registry and the VC[G]S.

Two points deserve comment:

- the high rate of carcinoma in situ in HDV 5 [Gippsland]
- the low rate of invasive cancer in HDV 4 [Goulburn-North Eastern]

Further investigation/validation of these figures should be undertaken before they are fully accepted as 'real'.

MEETING MINUTES

CERVICAL CANCER POLICY REVIEW

NG, DH, GG, RM — October 1986

AIM

To reduce the incidence of cervical cancer in Victoria over a given period by increasing public and professional awareness of the benefits of cervical screening.

To induce the women in Victoria who are currently unscreened to present for at least one cervical smear.

To eventually establish a policy on the ideal frequency of cervical screening in symptomless women to prevent the development of carcinoma of the cervix.

DISCUSSION TO DATE

Preliminary discussions on the cervical cancer policy review have included an overview of the current policy in Victoria.

It has been estimated that there are 250,000 women in Victoria currently unscreened. Incidence and mortality data from the Victorian Cancer Registry has shown that the majority of tumours and deaths are occurring over the age of 40. However, there is still a substantial proportion of women under the age of 40 both developing the tumours and dying from them.

Examination of data from the VCGS has initially suggested that the major compliance for cervical screening was occurring in younger women. However, on adjustment of these figures for the hysterectomy rate estimated for the private sector in 1978, it is now seen that the rates of screening are approximately the same in each age group with only a small fall off with increasing age. Other data have shown that the majority of changes including warty change and dysplasia occur in the younger age groups. Invasive carcinoma tends to occur more frequently in the older age groups.

Examination of those women who have died from carcinoma of the cervix has revealed that 85% of them had no screening history with the VCGS. Less than 3% had an adequate screening history. Therefore, at present 85% of the deaths are occurring in the 15% of the community who are unscreened. It has not been resolved whether the population screened and unscreened are the same. However, we are working on that presumption.

The reasons why women do not attend are unknown.

DECISIONS AND OPTIONS

It has been decided that a campaign is necessary to reduce the incidence of cervical cancer in Victoria. Possible options, at present, include:-

Option 1

1. To screen women in Victoria who have not had a cervical smear.

2. To achieve this result over a period of three years.

3. To perform the campaign on a region by region basis.

4. To involve both medical practitioners and the public in the advertising and education programmes.

5. To involve the Victorian Gynaecologists in the education programme.

6. Involve the VCGS in development of any policy about increasing the screening rate.

Further work is necessary to determine which age groups to screen in view of the revised figures on the proportion screened related to hysterectomy, and the absolute numbers of women affected in each age group.

Information is also necessary on patient visits/doctor smears and obstacles to both of these in regard to cervical screening. This will be a project for the Behavourial Science Unit.

Further discussion of these approaches is scheduled for Tuesday, 28th October, 1986.

27th October, 1986
RM:mr
25-PE-82

CERVICAL CANCER POLICY REVIEW

October 1986

AIM

To reduce the incidence of cervical cancer in Victoria over a given period by increasing public and professional awareness of the benefits of cervical screening.

EPIDEMIOLOGY: VICTORIA

numbers

1. INCIDENCE

Victorian Cancer Registry,	In Situ tumours	- 21/100,00 women, 1982
		- 42/100,000, 1983
	Invasive tumours	- 10.4/100,000 women
		- 12.3/100,000 crude rate, 1982
		- 11/100.000 crude rate, 1983

See attachment 1

2. MORTALITY

Victorian Cancer Registry, 1982 — 3.6/100,000 women. (Attachment 2)

Survival rates are unkown for Victoria. British figures show a five year survival rate of 50%, but Australian figures are possibly higher than that. G. Giles is currently planning a study on this particular area.

IS SCREENING EFFECTIVE IN REDUCING MORTALITY?

There is little doubt that population screening for carcinoma of cervix can reduce the mortality due to the disease, if the following conditions are met:-

1. All the women have the procedure. If this is not possible, then
   (a) Pick up those tumours occurring now - screen older women.
   (b) Prevent carcinoma occuring in the future - screen younger women.

DO we stop screening in the partner's annual smear
women? i.e. are we penalising that women is
the only reason?

2. The smear is taken correctly by the medical practitioner including both cervix and endocervix.

3. The cytology service is high quality (low false negatives); has quality control; has a low lag time for reporting; and has an effective recall procedure.

4. There is an appropriate and effective surgical response to a positive smear including colposcopy, local therapy for dysplasia, cone biopsy and hysterectomy where appropriate.

5. When the screening is performed at regular intervals. In Victoria, the recommendation is two-yearly for sexually active women. The American Cancer Society recommended once every three years, but this has been modified by the American College of Obstetricians and Gynaecologists. They recommend that sexually active women have a smear, if it is normal, then it is repeated in one year and if it is still normal, then three-yearly. In Finland, screens are recommended every five years from age of 20 or below if sexually active until the age of 50-55 years. Screening interval is an area of concern as there have been a number of tumours now reported showing a reduced interval between the onset of dysplasia and development of true invasive carcinoma, particularly in young women.

<u>References:</u>

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IS SCREENING EFFECTIVE IN VICTORIA?

Who is being screened

There are currently 250,000 women still unscreened in Victoria from an eligible population of around 1,400,000 (D.Hill). The VCRGS represents 85% of all screening smears performed in Victoria. This figure is derived from the number of smears received by the VCGS plus information from the Health Insurance Commission for Victoria and the Royal Women's Hospital. It does not include smears sent to Colin Laverty in Sydney who is currently competing for Victorian gynaecologists' smears. Attachment 3 shows the proportion of smears received by age group for 1984 from the VCGS. These results show that greater than 80% of the smears received were from women under the age of 50 years. Attachment 4 shows the numbers of smears received per thousand women by age. It shows the greatest compliance in the 25-29 year old groups and a falling off thereafter. When adjusted for hysterectomy, the fall off with age is not so great. Attachment 5 shows the number of abnormalities per thousand smears at the VCGS. It shows dysplasia as predominantly an abnormality of young women, whereas the major abnormalities tend to occur more frequently with increasing age.

Attachment 12 shows the incidence and mortality rates for carcinoma of the cervix in Victoria (1982-83) and Australia (1982). They show that although the incidence and mortality rates are highest after 40 years of age, in absolute terms, the number of women aged under 40 years is substantial. In Victoria, 28% of the total incidence and 11% of the mortality occurs in women under 40 years of age.

For Australia, the proportions are 31% and 9% respectively.

Who is not being screened

Of 593 women who died in Victoria from carcinoma of the cervix 1980-1985, excluding those smears associated with diagnostic workup, 85% had no screening history with the VCGS (Attachment 6). Less than 3% had an adequate screening history (defined as three or more smears over the preceding ten years, one smear per year being counted). Thus around 85% of the deaths are occurring in the approximately 15% of totally unscreened women. Two possibilities exist for this discrepancy;-

(1) If the populations screened and unscreened are the same, then screening is effective in reducing the mortality in those women who have the procedure.

(2) We may be screening the wrong population at present. Those women who are unscreened are more likely to develop lethal tumours. Possibilities include that they are older women, or that they are lower socioeconomic status in the community with lower education level.

Why these women are not attending is is not known, and we look forward to the results of the Behavioural Sciences/Epidemiology Centres research.

The quality of cytology

Attachment 7 shows the proportion of women with a diagnosis of invasive cancer during 1982-84 who had one or more previously normal smears with the VCGS. These results may possibly be due to either false negatives, or else rapidly invasive tumours which occur within the screening interval. The quality of cytology is very much dependent on the

nature of the laboratory and the quality control procedures undertaken by it. The VCGS has a very good record in this regard.

They have 98% repeatability for normal smears under blind control conditions. Of the 2% which do differ, the vast majority are minor, benign abnormalities. ~~The false negative rate~~ for women who have a tumour ~~has been estimated to be between 5-10% for the VCGS. i.e. for 100 women who die from invasive cancer~~ who have had a smear within 24 months, 10% of these smears will have been reported as normal. ~~Analysis of these will reveal~~ that 50% were false negatives i.e. 5% of the original 100 smears. ~~Sampling~~ errors by medical practitioners may be responsible for ~~estimated false negative rates of up to 30%~~.

Less than 1% of all smears received by the VCGS has no cells present i.e. totally unsatisfactory smear by the medical practitioner. A higher, but unknown proportion, contain no cells from the endocervix.

Recall procedures

To enable rapid and effective follow-up of those persons with positive cytology, effective recall procedures are necessary. The VCGS has a computerised recall procedure which appears to be effective. Attachment 8 shows the cytology form and the recall forms from the VCGS. If the service is overloaded with work, then the lag period between receipt of the smear and reporting may become a problem. This will need to be kept in consideration when deciding on a policy of public education about cervical smears.

Cost of Cytology

VCRG 1984-85 financial year - $6.24 per smear. This includes the cost of quality control and follow-up procedures. It is a subsidised cost which may be unrealistically low.

Private - Specialist pathologist rebate - $17.20

Plus hormonal status - $28.50

Attachment 9 shows a summary of the VCGS costs of screening women for cervical cancer in 1984. The cost of preventing a woman developing invasive cancer is $3,670. The cost of saving a woman's life from invasive cancer is estimated to be $10,500.

Uniformity of Gynaecological Response to a Positive Smear

A pilot survey of gynaecologists in Melbourne reveals a relatively uniform response to a positive smear. This involves colposcopy, biopsy, diathermy ablation where possible, or cone biopsy.

Are all areas the same

Attachments 10 & 11 show a different response and tumour rate in different Victorian regions. This may be important in planning region by region campaigns.

POSSIBILITIES FOR SCREENING IN VICTORIA

1. No change

Continue the present ad hoc arrangement.

2. Screen every woman once

(a) Mass public and professional campaigns to be undertaken throughout the State.

- need to have VCGS prepared.

- need to have professional education to perform smears adequately.

- need to have clear guidelines on the response to a positive smear (Gynaecologists/General Practitioner).

(b) A region by region campaign.

- easier on VCGS.

- can be performed as a controlled study with careful strategy development, implementation and evaluation.

- easier to have professionals involved on a regional basis.

- easier on ACCV education budget.

3. Screen selected populations of woman once

(a) Women over the age of 40 years who are presently poor users of the service and amongst whom are the highest rates of cancer.

- need both public and professional education for effective campaign.

- could be done as a statewide campaign or as a region by region campaign.

- more cost-effective for early detection of cancers occurring now.

- easier on VCGS facilities.

- probably easier for gynaecological response to positive smear i.e. more clear cut (so to speak).

- longer protective gain from one smear in this group.

(b) Younger women aged 20 years or younger if sexually active who are more at risk from cervical dysplasia associated with HPV and/or HSV infections.

- both public and professional education required.

- could be done on a statewide or regional basis.

- this is long term prevention planning by removing those dysplastic lesions present now and preventing invasive change occurring over time.

- there may be a short term gain in this group, if

viral-associated dysplasia is associated with a short latent period before frank invasion.

4. Repeat Screening

(a) At present there is no consensus on screening intervals. Intervals vary from 1-5 years.

(b) Screening intervals are probably better tailored to age, rather than a blanket policy over all women.

(c) Current Victorian recommendations of two yearly is leading to an average usage of the service at three yearly intervals.

CONCLUSION

The morbidity and mortality from carcinoma of the cervix in Victorian women remains high. The levels could possibily be higher were it not for current screening programmes. There appears to be a need for more screening in those currently developing tumours who have not been previously screened.

Screening appears to be useful in two roles:-

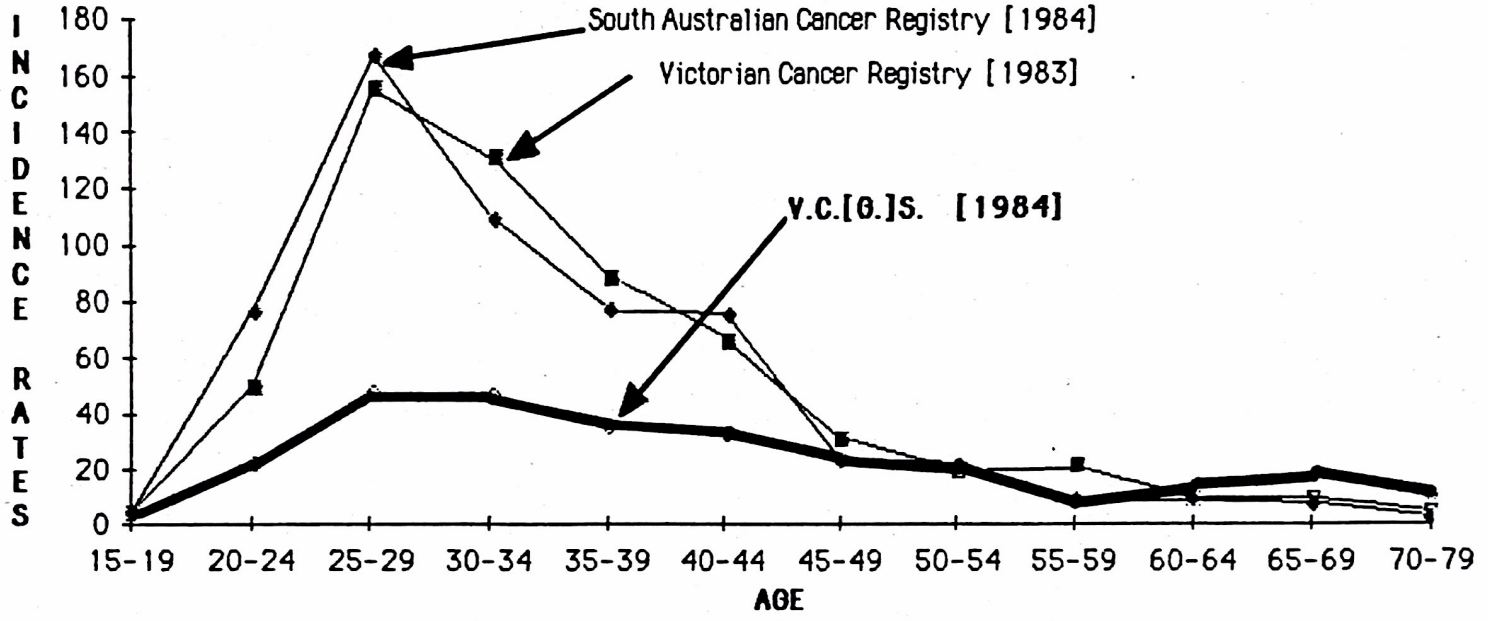
1. Primary prevention - young women with dysplasia ± viral infection
2. Early detection - older women with carcinoma in situ or invasive carcinoma now.

Further public education encouraging the use of cytology service and professional education enabling its use is required. The extent and nature of the programmes need to be carefully determined before implementation.

27th October, 1986
RM:mr
25-PE-83

ATTACHMENT 1

AGE SPECIFIC INCIDENCE RATES PER 10,000 WOMEN FOR CARCINOMA IN SITU



This graph depicts the age-specific incidence rates for carcinoma in situ from 3 sources - the Victorian Cytology [Gynaecological] Service, the Victorian Cancer Registry, and the South Australian Cancer Registry. The rates correlate well between the two cancer registries.

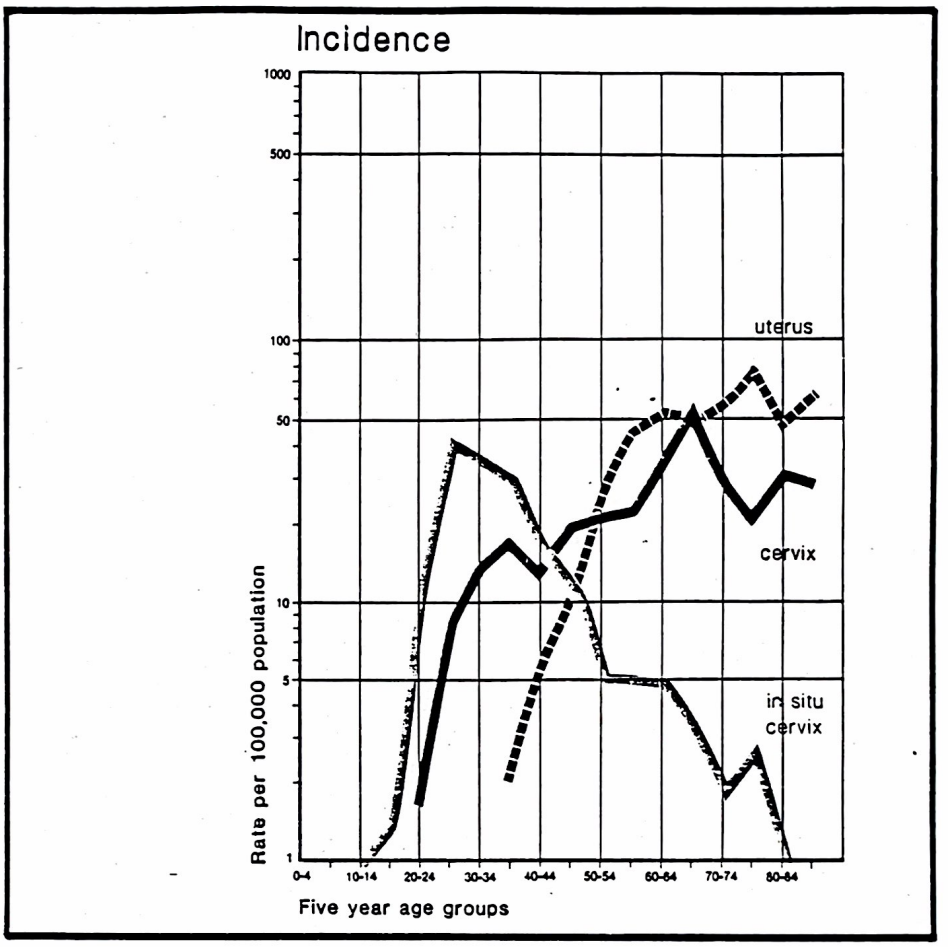
For women aged less than 45 years, the VC[G]S detection rates are below the cancer registries, indicating that a low risk population is being screened.

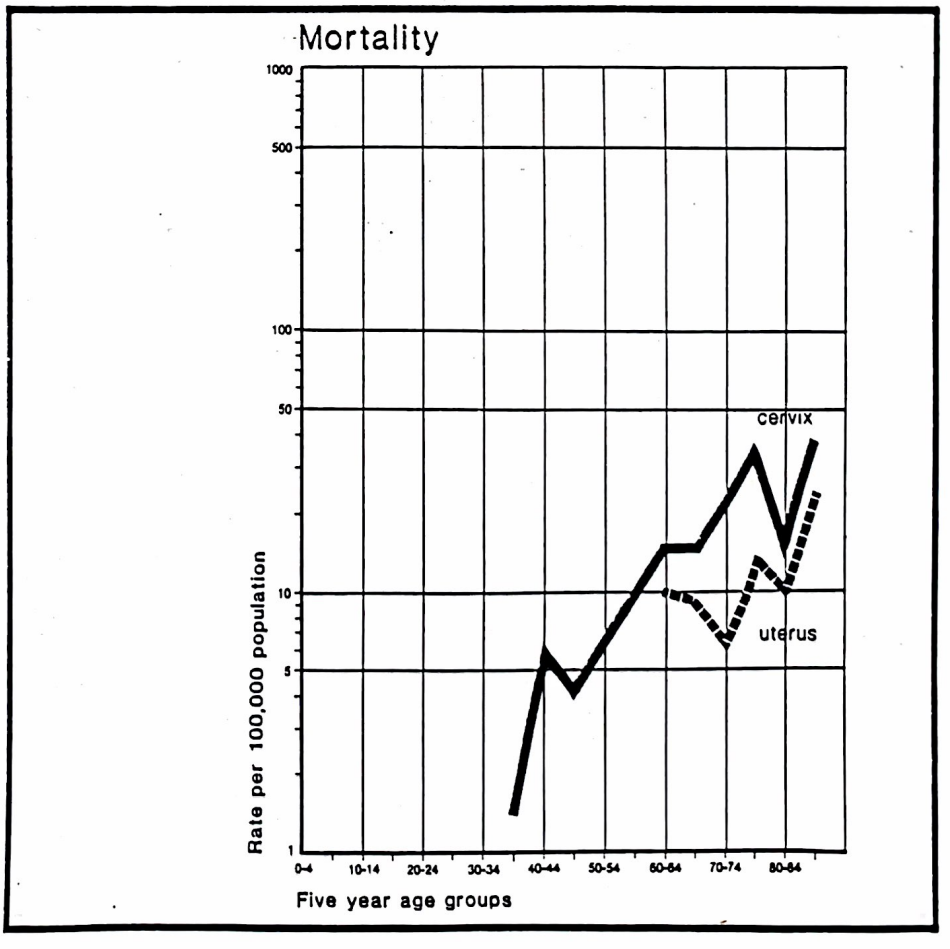
Between the age of 45 and 64 years, the VC[G]S rate approximates the cancer registries' rates.

For women aged 65 years and over, the VC[G]S rate is higher, indicating that the 'screening' is of a high risk population.

Source: H. Mitchell VCGS. 1986

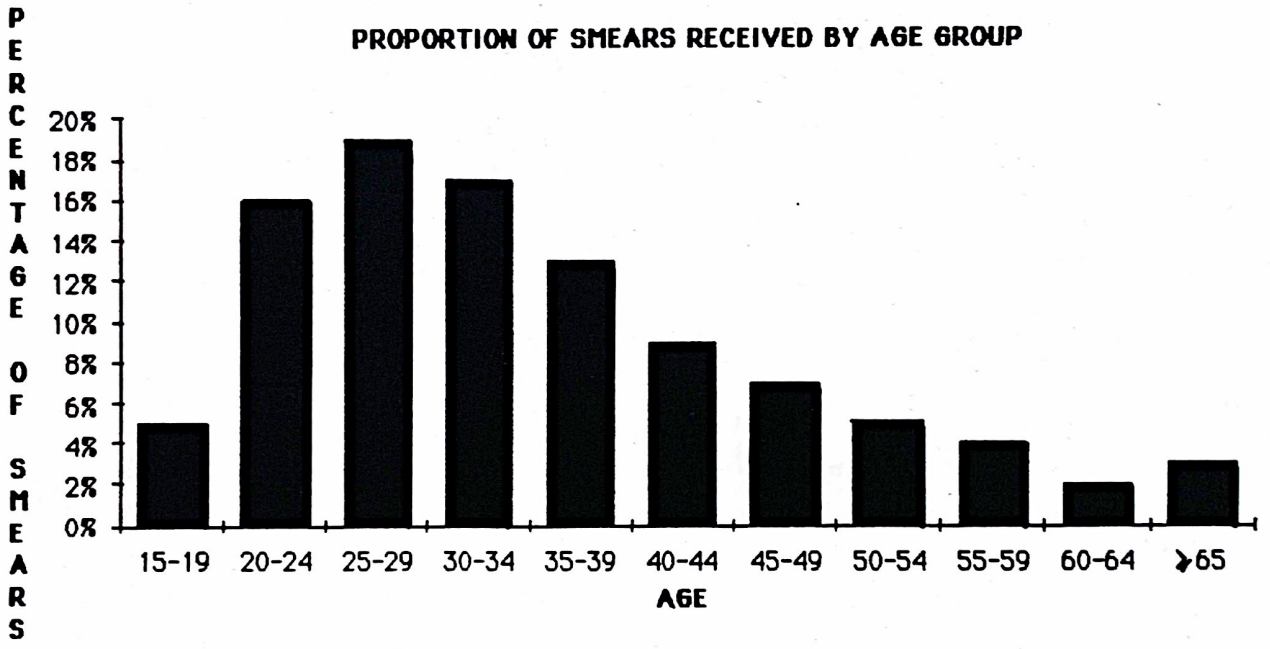
Victoria 1982





Source: Victorian Cancer Registry Statistical Report 19

ATTCHMENT 3

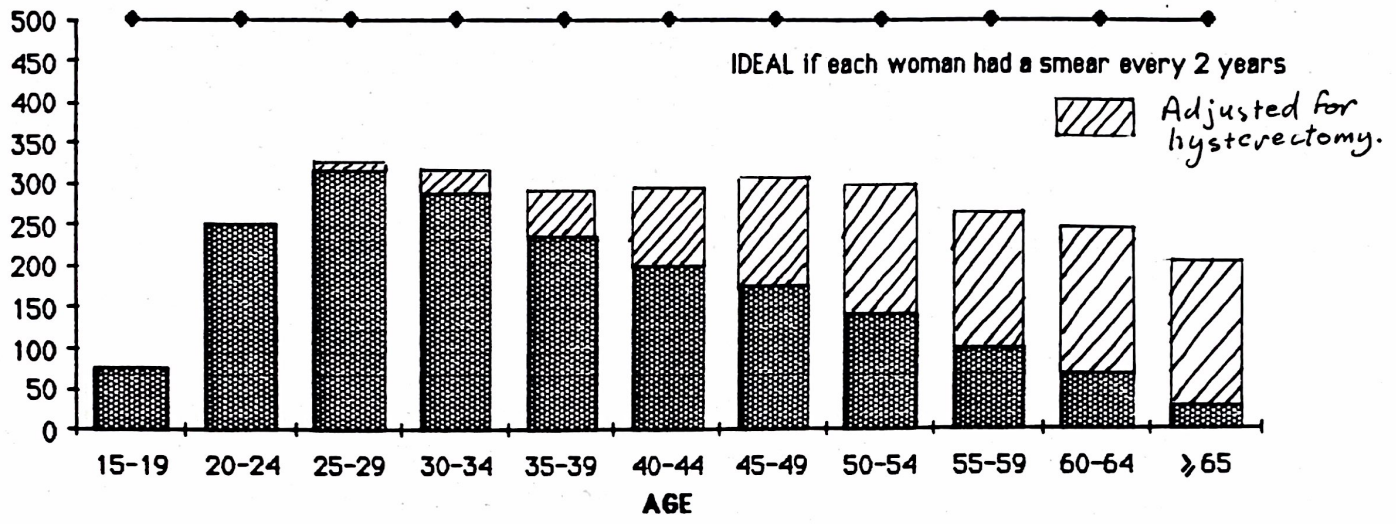


This graph demonstrates the age distribution of smears received by the VC[G]S during 1984.

More than 80% of the smears received were from women aged under 50 years.
Conversely, in excess of 80% of the incident cases of invasive cancer reported to the Victorian Cancer Registry are from women aged over 50 years.

Source: H. Mitchell
VCGS. 1986

NUMBER OF SMEARS RECEIVED PER 1000 WOMEN BY AGE



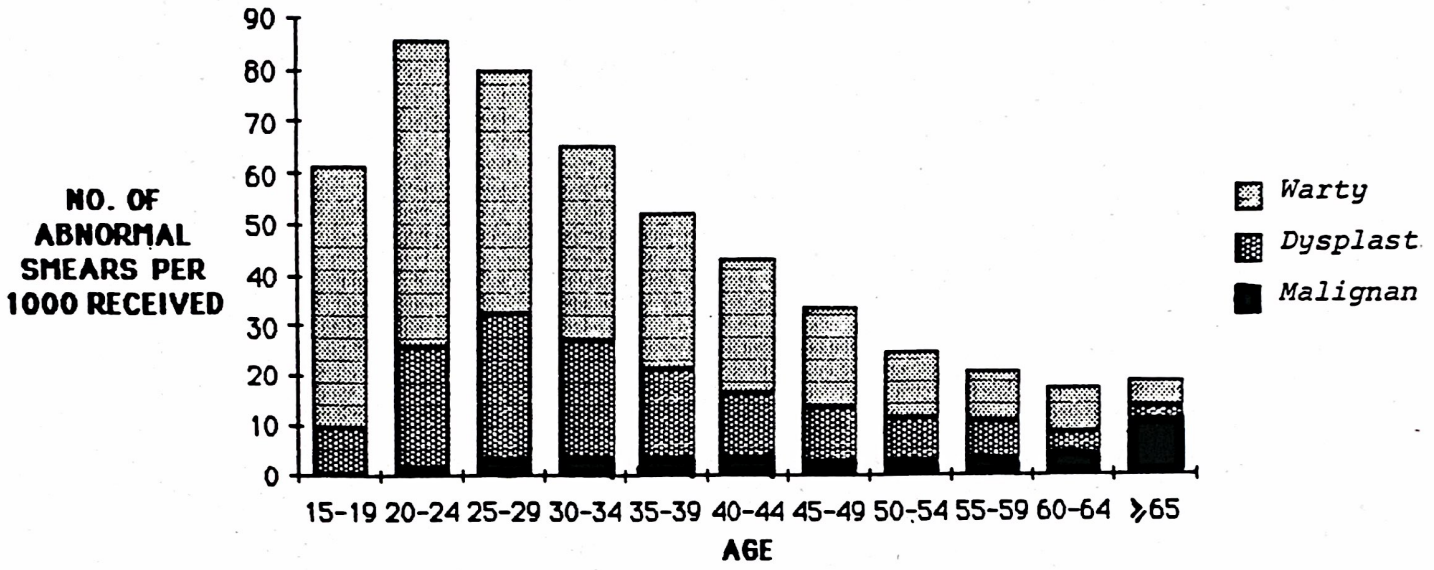
This graph demonstrates the age distribution of smears received by the VC[G]S during 1984 in comparison with an 'ideal' situation where each women had a smear every 2 years.

The greatest shortfall is in the older age groups. However the gap between the 'ideal' and 'reality' will be less than depicted as an unknown proportion of women of the older age groups will have had a hysterectomy.

It should also be remembered that about 15% of smears are examined in laboratories outside of the VC[G]S. Even if information on the age distribution of these smears was available, a sizeable shortfall would still exist.

Source: H. Mitchell
VCGS. 1986

NO. OF WARTY, DYSPLASTIC AND MALIGNANT SMEARS /1000 SMEARS RECEIVED BY AGE GROUP



This graph shows the number of abnormal smears per 1000 smears received by age.

The highest ratio of malignant smears is in women over 65 years of age [10.6 malignant smears/1000 examined]. This may be due in part to many smears in these age groups coming from symptomatic women. In age groups where more 'screening' smears are taken, the highest total rate of abnormalities are detected, albeit many of them as precursor lesions. For example, in women aged 20-24 years, 60 warty smears and 24.7 dysplastic smears were reported for each 1000 smears examined.

Source: H. Mitchell VCGS. 1986.

SCREENING HISTORY WITH THE VCGS FOR WOMEN WITH CARCINOMA-IN-SITU AND INVASIVE CANCER OF THE CERVIX

Screening History over the preceding 10 years defined as:

Adequate if 3 or more smears taken

Inadequate if 1 or 2 smears taken

Nil if no smears taken

Note: Smears taken within 3 months of the diagnosis are excluded.
Only one smear from each year is counted.

	ADEQUATE	INADEQUATE	NIL
INCIDENT CASES OF CARCINOMA IN SITU 1984 [n=777]	35%	45%	21%
INCIDENT CASES OF INVASIVE CANCER 1982-84 [n=700]	9%	23%	68%
FATAL CASES OF INVASIVE CANCER Diagnosed since 1975 Died during 1980-85 [n=593]	3%	12%	85%

Source: H. Mitchell
VCGS. 1986

222 [32%] of the 700 women with a diagnosis of invasive cancer during 1982-84 had one or more previously normal smear with the V.C.[O.]S.

Number of normal smears	Number of women
1	115
2	40
3	30
4	12
5	8
6	12
7	4
8	1
	222 [32%]

During the 3-60 months preceding the diagnosis, 114 women [16.3%] had one or more normal smears.

During the 3-36 months preceding the diagnosis, 66 women [9.4%] had one or more normal smears.

During the 3 months prior to diagnosis, 10 women had a normal smear.

Source: H. Mitchell VCGS. 1986

ATTACHMENT 8

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE
236-254 ST. KILDA ROAD, MELBOURNE, 3004. PHONE: 62 3831
P.O. BOX 253B, MELBOURNE, 3001

CYTOLOGY REQUEST FORM

INITIALS

O

K

I

REQUESTING DOCTOR:

DATE SMEAR TAKEN:

☐ SPECIMEN COLLECTION KIT REQUIRED

PLEASE COMPLETE ALL QUESTIONS. AVOID SHADED AREAS

CYTOLOGY NUMBER

DATE RECEIVED

NAME & DATE OF BIRTH ESSENTIAL BLOCK LETTERS PLEASE

PATIENT'S SURNAME

FIRST NAME

DATE OF BIRTH

Day Month Year

PREVIOUS SURNAME

ADDRESS

POSTCODE

COUNTRY OF BIRTH:

UR/REFERENCE NUMBER:

PREVIOUS ABNORMAL SMEARS:
VC(G)S ☐ OTHER LABORATORY ☐

PLEASE TICK RELEVANT SQUARES ☑

PARITY (Please circle): 0, 1, 2, 3, 4, 5, 6-10 > 10 — 1

HORMONAL STATUS
Pre Menopausal ☐
Pregnant ☐ due ...../...../.....
Post Partum ☐ delivered...../...../..... — 2
Menopausal ☐
Post Menopausal ☐

HORMONE THERAPY Oestrogen ☐ — 3
Other .....

CONTRACEPTION (as currently used) Oral ☐ IUD ☐ Tub. Lig. ☐ — 4
Other ☐

CANCER CHEMOTHERAPY ☐ (specify) — 5

PELVIC SURGERY ☐ (specify) — 6
Date Nature

PELVIC IRRADIATION ☐ (specify) — 7

SYMPTOMS Nil ☐ Discharge ☐ ..... — 8

Abnormal Bleeding ☐ ..... — 9

APPEARANCE OF CERVIX Normal ☐ — 10
Abnormal ☐ (specify) .....

ADDITIONAL NOTES Including any relevant treatment since last smear. — 11, 12, 13

PLEASE DO NOT WRITE BELOW THIS LINE

14 15 16

17 18 19

20 21

22 23 24 25 26 27

28 29

30 31

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE
236-254 ST. KILDA ROAD, MELBOURNE, 3004 : PHONE: 62 3831
P.O. BOX 253B, MELBOURNE. 3001.

REPORT No.

PATIENT

REPEAT SMEAR REMINDER

The cytology report on this patient included a recommendation for a repeat smear. Our records indicate that this repeat smear has not been received as yet. It may be that some other course of action was decided upon or that you have been unable to contact the patient. However, this reminder notice is sent in case the need for a repeat smear has been overlooked.

If cytology has been performed elsewhere or any other investigations carried out, we would be grateful for the results. These are important for our quality control programme.

Michael Drake, Director.

DETACH HERE AND RETAIN ABOVE SECTION. RETURN THIS SECTION WITH SLIDE.

Patient:

Address:

D.O.B.:

PLEASE COMPLETE ALL QUESTIONS. AVOID SHADED AREAS **PLEASE TICK RELEVANT SQUARES** ☑

PARITY (Please circle) : 0, 1, 2, 3, 4, 5, 6-10. >10

HORMONAL STATUS
Pre Menopausal ☐
Pregnant ☐ due...../...../.....
Post Partum ☐ delivered...../...../.....
Menopausal ☐
Post Menopausal ☐

HORMONE THERAPY Oestrogen ☐
Other.....

CONTRACEPTION (as currently used) Oral ☐ I.U.D. ☐
Other.....

CANCER CHEMOTHERAPY ☐ (specify)

PELVIC SURGERY ☐ (specify)

PELVIC IRRADIATION ☐ (specify)

1 2 3 4 5 6 7

SYMPTOMS
Nil ☐
Discharge ☐.....
Abnormal Bleeding ☐.....

APPEARANCE OF CERVIX
Normal ☐
Abnormal ☐ (specify).....

ADDITIONAL NOTES

8 9 10 11 12

13

LABORATORY USE ONLY — PLEASE DO NOT WRITE BELOW THIS LINE

14	15	16

17	18	19

20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE

236-254 ST. KILDA ROAD, MELBOURNE, 3004 : Telephone 62-3831
P.O. Box 253B, MELBOURNE, 3001

Dear Doctor,

re:

This patient has had abnormal cytology reported by our Service and we would appreciate any details of subsequent investigations which may have been performed. In particular, we are interested in any cytological or histological investigations and the identity of the laboratory or pathologist concerned.

Should you send us any original documents, such as histology reports, I will ensure their prompt return.

I would be most appreciative of this information as it is important to our quality control program. I have enclosed a reply paid envelope to facilitate your reply.

Yours sincerely,

Michael Drake,
DIRECTOR.

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE
236-254 ST. KILDA ROAD, MELBOURNE, 3004. PHONE: 62 3831
P.O. BOX 253B, MELBOURNE, 3001.

ABNORMAL CYTOLOGY FOLLOW-UP

PATIENT

REPORT No. DATED

I am most interested in obtaining information regarding any diagnostic procedures and subsequent management that may have followed receipt of the cytology report on this patient. This information is sought as part of our quality control programme. I would be grateful if you would complete the questionnaire below. I am particularly interested in the details of any subsequent histology report and the name of the pathologist or institution concerned. Any original documents sent to us will be returned promptly. A reply-paid envelope is enclosed for your convenience.

Michael Drake, Director.

PLEASE ENCIRCLE THE APPROPRIATE WORDS. AVOID SHADED AREAS.

DATE OF INVESTIGATION: .....

CLINICAL RE-EVALUATION OF CX.: Normal Abnormal

Colposcopy: Not Done N.A.D. Dysplasia Ca-in-situ Invasive Ca Other .....

CERVICAL BIOPSY: Not Done Cone Random Punch Target Punch Other .....

ENDOMETRIAL BIOPSY: Not Done Full Curette Other .....

HISTOLOGICAL FINDING:

CERVIX: Metaplasia, Cervicitis, Dysplasia Mild, Mod., Severe, Carcinoma in situ, Carcinoma Microinvasive, Carcinoma Invasive, Adenocarcinoma, Other .....

ENDOMETRIUM: Normal Atrophy Hyperplasia Atypical hyperplasia Carcinoma (Type) .....

Other .....

OTHER SITE: ..... Benign .....

Malignant .....

PATHOLOGIST OR INSTITUTION: .....

ADDITIONAL NOTES:

SUMMARY OF VC[G]S COSTS OF SCREENING WOMEN FOR CERVICAL CANCER, 1984.

Cost per smear = $5.45

Cost of preventing a woman developing invasive cancer = $3,670

Cost of saving a woman's life from invasive cancer = $10,500

SCREENING COSTS OF SAVING A LIFE FROM CANCER OF THE CERVIX

Intensive debate concerning the costs of individual items of medical practice can be anticipated as an ever increasing number of health care workers, pharmaceutical items, and diagnostic and therapeutic procedures compete for the health care budget. The financial costs associated with screening to detect disease are controversial. (1,2) The cost of examining a Pap smear can be precisely determined. For example, the Victorian Cytological Gynaecological Service [VCGS] expenditure during 1984 of $1,503,506 for 275,725 smears examined gives a cost of $5.45 per smear received. However a more important figure is the cost per life saved by detection through screening. We have undertaken an analysis of the 1984 VCGS costs of saving an asymptomatic woman's life from cancer of the cervix by detecting precursor disease. We emphasize that this type of cost estimate can only ever be an approximation, but as widely disparate estimates are quoted we have provided details as to how our figure was derived. The numerator in such calculations is easily defined as the operating costs of the VCGS but determination of the denominator is more difficult. An outline is provided of the method used to determine the number of cases of invasive cancer prevented by diagnosis at an asymptomatic precursor stage through VCGS screening and then the number of lives saved as a consequence of this.

Assumptions concerning symptom status and the progressive potential of precursor lesions are necessary. For the purposes of this financial estimation, all women diagnosed at a stage of invasive cancer will be considered to be symptomatic and therefore will not contribute to the cost estimates of a life saved by detection at an asymptomatic stage. All women with dysplasia, carcinoma in situ, and microinvasive carcinoma will be considered to have the same frequency of symptoms as normal women and will therefore be regarded as having asymptomatic disease. All women with a histological diagnosis of microinvasive carcinoma will be considered to have an inevitable progression to invasive carcinoma unless treated, 30% of lesions diagnosed as histological carcinoma in situ will be considered to have invasive potential unless treated (3,4), and 26% of all cytological dysplastic lesions will be considered to have the potential to progress to carcinoma in situ unless treated (5). The estimate of 26% was documented among women with mild cervical dysplasia, but as recent estimates for the probability of progression of the more severely dysplastic lesions are not available, in this analysis it has been applied to all women with cytological dysplasia. This will underestimate the number of women with potentially progressive lesions and therefore will overestimate the costs of saving a woman's life. Furthermore we have not included in this analysis women who had a first ever diagnosis

of wart virus infection without associated neoplastic change made in 1984, although in excess of 2600 women had a report of this nature issued.

Following VCGS smears 28 incident cases of histologically confirmed microinvasive carcinoma were diagnosed during 1984 with 6 of the women having dysplastic cytology earlier in the year. A further 807 women were diagnosed as having histological carcinoma in situ with 317 of these women having dysplastic cytology earlier in 1984. 2114 women had a first ever diagnosis of dysplasia during 1984 and after subtracting the 323 women who were known to progress to carcinoma in situ or microinvasive carcinoma during the same year, 1791 incident cases of non-progressive dysplasia remain. If a minimum of 26% of these dysplastic cases would progress to carcinoma in situ over a period of 10-30 months as documented by Campion (5), then 466 women would be expected to develop carcinoma in situ subsequently. Adding this number to the 807 incident cases of carcinoma in situ detected gives a total of 1273 women with carcinoma in situ during 1984 or expected in later years. If 30% of these women have progressive disease in the absence of treatment, then 382 women could be expected to develop invasive cancer. Adding this number to the 28 women who had microinvasive cancer detected gives a total of 410 women who could be anticipated to develop invasive cancer, but who as a result of screening were detected at an asymptomatic precursor stage. Therefore the screening cost to the VCGS in 1984 associated with preventing a woman developing invasive cancer was $3670 ($1,503,506 / 410). This relatively inexpensive figure should be compared with the very much larger financial and emotional costs to the women and the health care budget if invasive cancer had been allowed to develop.

The 5 year relative survival for invasive cancer of the cervix is 65% (6). If diagnosis had not been achieved at a precursor stage in these women and their disease had progressed to invasive cancer with survival rates not different to those of the general population, then 144 deaths among the 410 women diagnosed would be expected. The screening cost to the VCGS in 1984 associated with preventing a death from invasive cervical cancer was therefore $10,500 ($1,503,506/144).

A number of additional costs have not been accounted for. These include the cost of the visit to the medical practitioner to have the smear taken [but there is evidence that a significant proportion of Pap smears in Australia are taken in the context of a visit to the doctor for either gynaecological symptoms or pregnancy (7)], and the cost of treating women with precursor lesions diagnosed through screening that, in the absence of treatment, would not progress to

invasive malignancy. Currently there is no reliable way of predicting which precursor lesions these are. Against these additional costs must be weighed the importance of saving women's lives at relatively young ages and the less radical and less expensive treatment which can be used in the management of precursor lesions.

The $10,500 per life saved is determined from a government funded non-profit screening service. The estimated costs appear modest in relation to the benefits. Australia has grossly suboptimal screening services against this preventable cancer. It is time to seriously reconsider the sobering fact that mortality rates from cancer of the cervix have only dramatically declined in countries which have both systematic 'call' programs to normal women in the community and 'recall' programs after abnormal smears (8). No Australian State has 'call' facilities for normal women, and automatic 'recall' or follow-up after abnormal smears, although available through the VCGS, does not routinely occur in the majority of laboratories. Unnecessary deaths are occurring. A reorganisation of Pap smear screening services should be undertaken based on the experience and knowledge gained over the last 20 years.

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4. Hakama M, Rasanen-Virtanen U,
Effect of a mass screening program on the risk of cervical cancer.
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Edit. Bonett A, Roder D,
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8. Hakama M,
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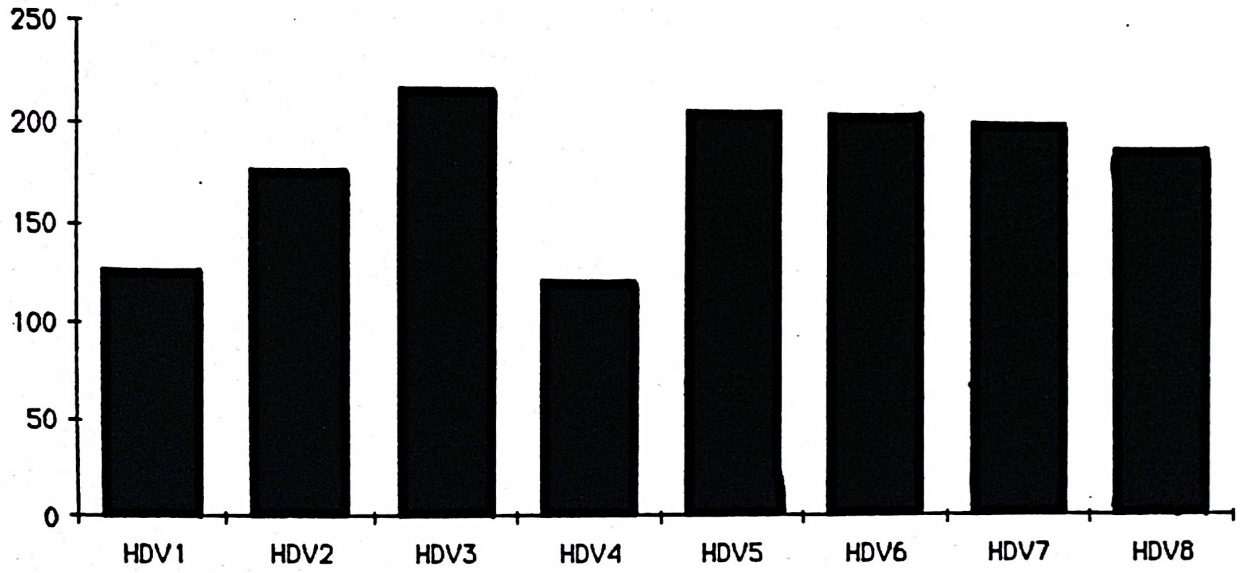
NUMBER OF SMEARS RECEIVED/1000 WOMEN RESIDENTS BY HEALTH DEPARTMENT VICTORIA REGION [approximation only]

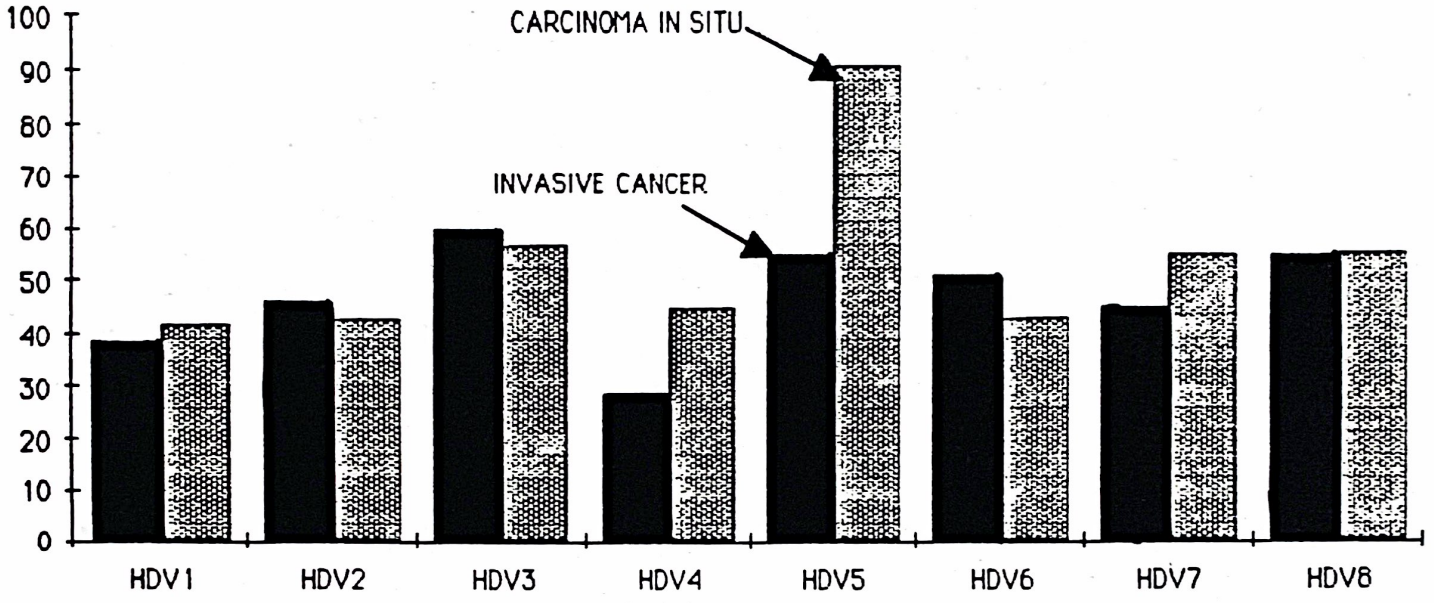


This graph depicts the distribution of smears received per 1000 female residents for each Health Department Region. The postcodes used in the calculations were those of the referring medical practitioners; this inevitably introduces some inaccuracies into the figures, and they are therefore presented as approximations only.

Low numbers of smears were received from HDV4 [Goulburn-North Eastern] and HDV 1 [Barwon-South Western]. The highest number received was from HDV3 [Loddon Campaspe-Mallee].

HDV 1 Barwon-South Western
HDV 2 Central Highlands-Wimmera
HDV 3 Loddon Campaspe-Mallee
HDV 4 Goulburn-North Eastern
HDV 5 Gippsland
HDV 6 Western Metropolitan
HDV 7 North-Eastern Metropolitan
HDV 8 Southern Metropolitan

NUMBER OF CASES OF INVASIVE CANCER AND CARCINOMA IN SITU /100,000 WOMEN RESIDENTS BY HDV REGION [Approximate figures]



For this graph the carcinoma in situ rates were calculated from the 777 incident cases of histologically confirmed disease notified to the VC[G]S in 1984. The 700 cases of invasive cancer are derived from notifications for 1982-84 to the Victorian Cancer Registry and the VC[G]S.

Two points deserve comment:

- the high rate of carcinoma in situ in HDV 5 [Gippsland]
- the low rate of invasive cancer in HDV 4 [Goulburn-North Eastern]

Further investigation/validation of these figures should be undertaken before they are fully accepted as 'real'.

ATTACHMENT 12.

INCIDENCE FOR [illegible] CANCER OF CERVIX UTERI

1982-3 DATA FOR - WHOLE OF VICTORIA

AGES	MALES	RATE	FEMALES	RATE	TOTAL	RATE
0 - 4	0	0.0	0	0.0	0	0.0
5 - 9	0	0.0	0	0.0	0	0.0
10-14	0	0.0	0	0.0	0	0.0
15-19	0	0.0	0	0.0	0	0.0
20-24	0	0.0	7	2.0	7	1.0
25-29	0	0.0	31	9.5	31	4.7
30-34	0	0.0	46	14.4	46	7.2
35-39	0	0.0	51	17.9	51	8.9
40-44	0	0.0	31	13.7	31	6.7
45-49	0	0.0	40	20.2	40	9.9
50-54	0	0.0	39	19.5	39	9.6
55-59	0	0.0	38	18.9	38	9.4
60-64	0	0.0	58	32.5	58	17.0
65-69	0	0.0	59	38.5	59	20.8
70-74	0	0.0	33	25.6	33	14.5
75-79	0	0.0	20	21.9	20	13.1
80-84	0	0.0	15	25.1	15	16.6
85+	0	0.0	11	25.2	11	18.8
TOTAL	0	0.0 0.0 0.0	479	10.7 11.8 12.9	479	5.5 6.0 6.5
CUMULATIVE %		0.0		1.1		0.5
STANDARD RATE		0.0 0.0 0.0		9.3 10.2 11.1		4.7 5.2 5.7

RATETAB_12

22/8/84

MORTALITY FOR 130 CANCER OF CERVIX UTERI

1983 DATA FOR - WHOLE OF VICTORIA

AGES	MALES	RATE	FEMALES	RATE	TOTAL	RATE
0 - 4	0	0.00	0	0.00	0	0.00
5 - 9	0	0.00	0	0.00	0	0.00
10-14	0	0.00	0	0.00	0	0.00
15-19	0	0.00	0	0.00	0	0.00
20-24	0	0.00	1	0.57	1	0.28
25-29	0	0.00	2	1.21	2	0.61
30-34	0	0.00	3	1.87	3	0.93
35-39	0	0.00	5	3.41	5	1.69
40-44	0	0.00	2	1.76	2	0.86
45-49	0	0.00	9	9.01	9	4.44
50-54	0	0.00	7	7.07	7	3.47
55-59	0	0.00	14	13.90	14	6.93
60-64	0	0.00	8	8.78	8	4.59
65-69	0	0.00	20	25.17	20	14.15
70-74	0	0.00	7	10.75	7	6.05
75-79	0	0.00	5	10.70	5	6.44
80-84	0	0.00	4	13.22	4	8.70
85+	0	0.00	7	31.53	7	25.51
		0.00		3.67		1.35
TOTAL	0	0.00	94	4.62	94	2.33
		0.00		5.57		2.31
CUMULATIVE %		0.00		0.42		0.22
		0.00		2.95		1.35
STANDARD RATE		0.00		3.72		1.95
		0.00		4.49		2.35

INCIDENCE FOR 180 CANCER OF CERVIX UTERI

1982 DATA FOR - WHOLE OF AUSTRALIA

AGES	MALES	RATE	FEMALES	RATE	TOTAL	RATE
0 - 4	0	0.00	0	0.00	0	0.00
5 - 9	0	0.00	0	0.00	0	0.00
10-14	0	0.00	0	0.00	0	0.00
15-19	0	0.00	0	0.00	0	0.00
20-24	0	0.00	10	1.52	10	0.75
25-29	0	0.00	67	10.81	67	5.34
30-34	0	0.00	103	16.99	103	8.38
35-39	0	0.00	110	20.92	110	10.27
40-44	0	0.00	83	20.81	83	10.15
45-49	0	0.00	72	19.79	72	9.65
50-54	0	0.00	92	24.56	92	12.00
55-59	0	0.00	91	24.53	91	12.23
60-64	0	0.00	92	27.71	92	14.48
65-69	0	0.00	99	34.15	99	18.26
70-74	0	0.00	48	20.42	48	11.47
75-79	0	0.00	34	21.18	34	12.54
80+	0	0.00	43	23.65	43	16.24
		0.00		11.67		5.84
TOTAL	0	0.00	949	12.48	949	6.25
		0.00		13.29		6.66
CUMULATIVE %		0.00		1.11		0.56
		0.00		10.19		5.18
STANDARD RATE		0.00		10.90		5.54
		0.00		11.61		5.90

MORTALITY FOR 180 CANCER OF CERVIX UTERI

1982 DATA FOR - WHOLE OF AUSTRALIA

AGES	MALES	RATE	FEMALES	RATE	TOTAL	RATE
0 - 4	0	0.0	0	0.0		
5 - 9	0	0.0	0	0.0		
10-14	0	0.0	0	0.0		
15-19	0	0.0	1	0.2		
20-24	0	0.0	7	1.1		
25-29	0	0.0	13	2.1		
30-34	0	0.0	12	2.3		
35-39	0	0.0	22	5.2		
40-44	0	0.0	28	6.6		
45-49	0	0.0	30	8.0		
50-54	0	0.0	42	11.3		
55-59	0	0.0	48	14.5		
60-64	0	0.0	40	13.8		
65-69	0	0.0	36	15.3		
70-74	0	0.0	35	21.8		
75-79	0	0.0	21	20.1		
80-84	0	0.0	18	23.3		
85+						
		0.0		0.1		
TOTAL	0	0.0	349	0.6		
		0.0		5.1		
CUMULATIVE %		0.0		0.0		
		0.0		3.2		
STANDARD RATE		0.0		3.6		
		0.0		0.0		

18 JUN 1985