TENTH ANNUAL REPORT OF THE VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE FOR THE YEAR ENDING 30th JUNE, 1975.

During the period covered by this report another milestone in the history of the V. C. (G.)S. was passed; on December 31st, 1974, the Service completed the first decade of its activities. The information derived from these ten years is stored on electromagnetic tape and already detailed analyses of much of this data have been carried out. These analyses show that the V. C. (G.)S. is an efficient and effective organization that is achieving the objectives for which it was established.

DIAGNOSTIC ACTIVITIES:

From July 1st, 1974 to June 30th, 1975, 209,365 smears were examined bringing the total number of specimens examined since the inception of the Service in January, 1965, to 1,366,830. The number of specimens examined during the year under discussion represents an increase of approximately 10 per cent. on the figure for the previous financial year. Reference to the histogram depicted in figure 1 (see page 2) shows that this 10 per cent. increase represents a further step in the growth of the activities of the Service that has been remarkably uniform over the years. In an attempt to determine the basis of this increase a sample of the recent work was analysed.

Table 1: Analysis of 500 Consecutive Smears Received in 1975.

No previous smear record	49.8%
Previous smear by V. C. (G.)S.	50.2%

Rather surprisingly this analysis suggested that the current work of the Service comprises almost equal numbers of new and old patients. It might have been assumed that, after ten years of operation, most of the specimens would have been from women already screened on at least one occasion. That this is not a valid assumption is shown by reference to table 2.

GROWTH OF ACTIVITY 1965 - 1974

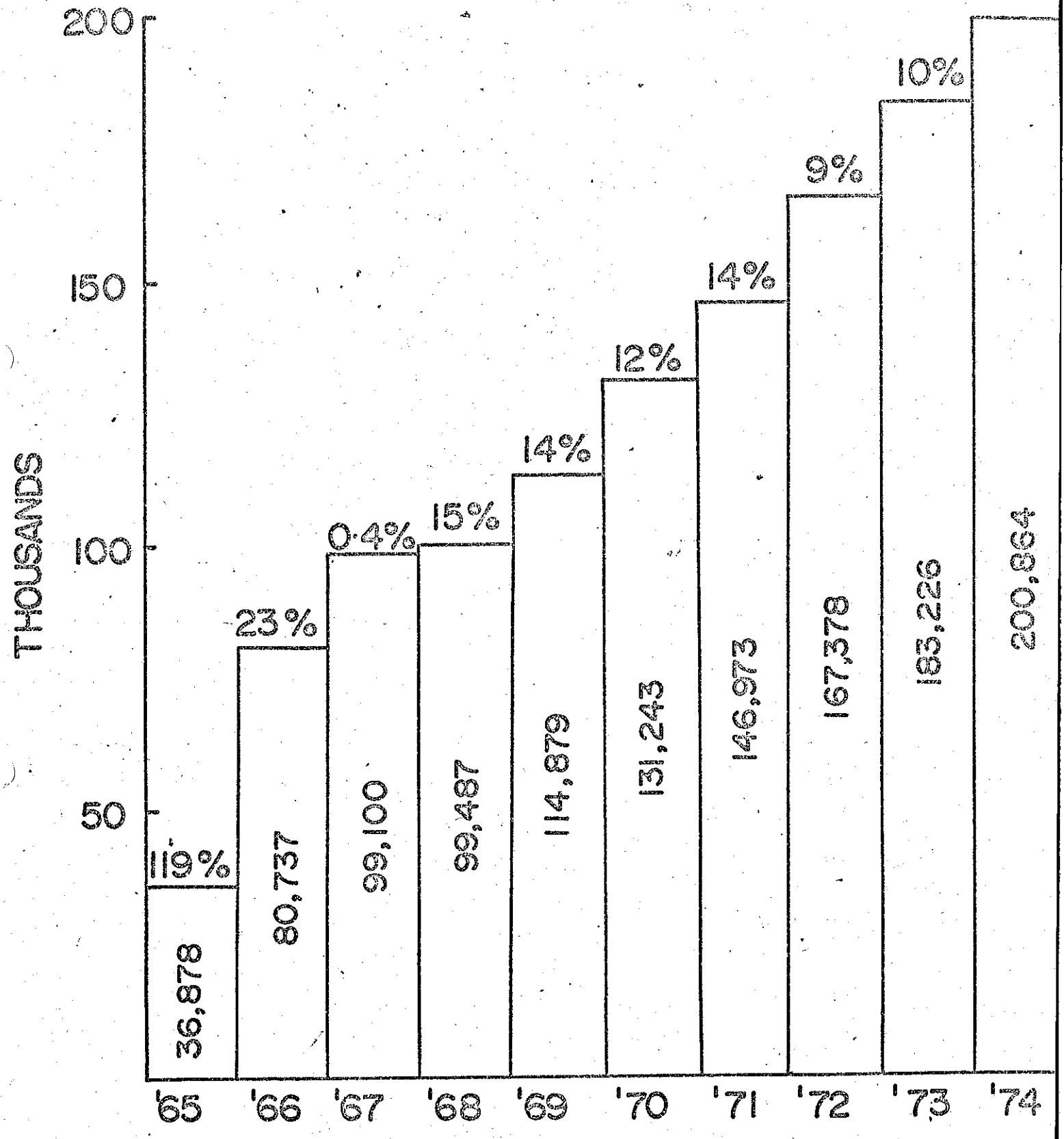
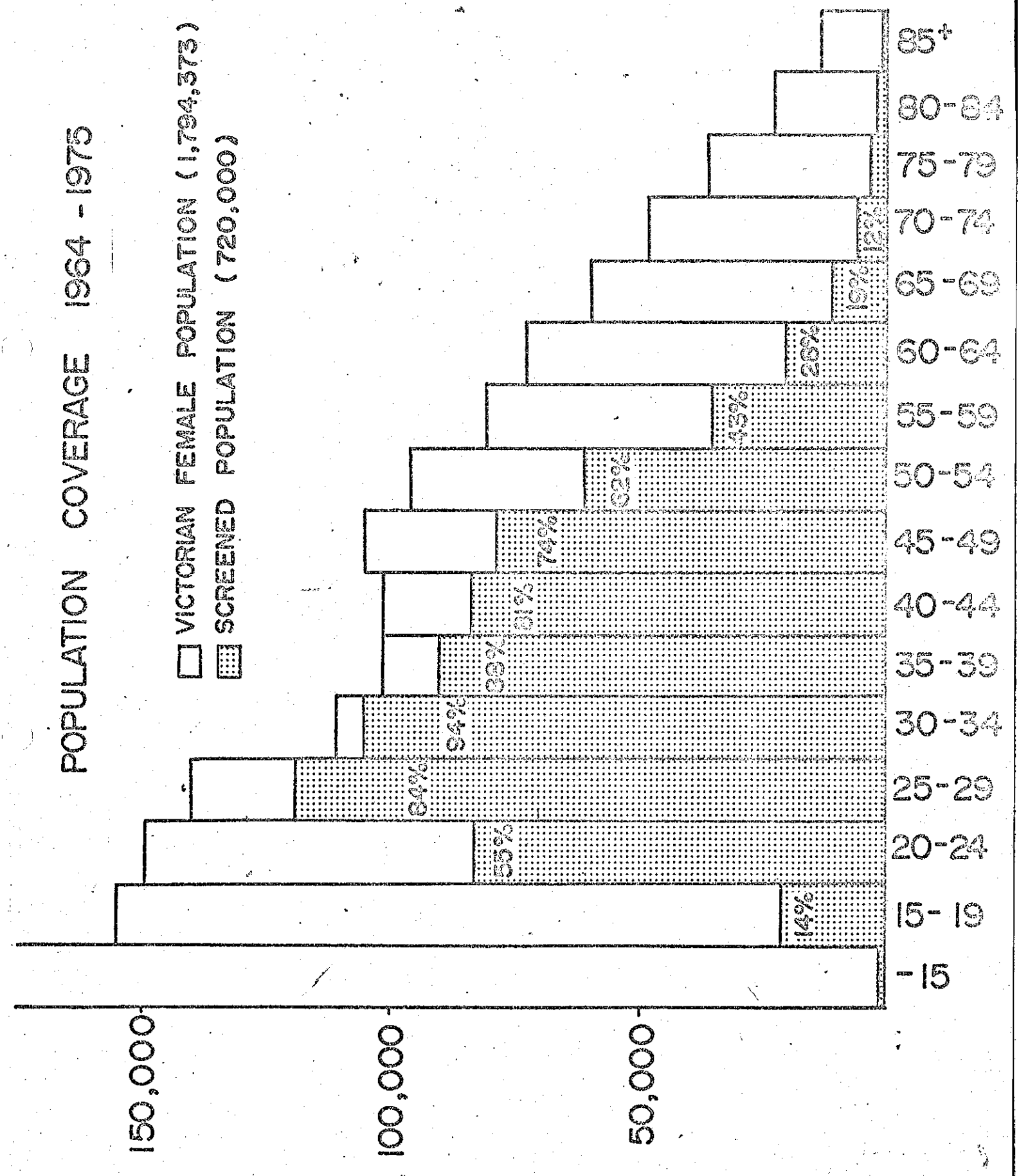


Table 2: Frequency of Repeats After One Normal Smear : 1965 - 1974

Total number of patients with normal smears only		676, 611
Number of patients who have had	1 smear in period	352, 304
	2	220, 850
	3	67, 000
	4	24, 300
	5	8, 510
	6	2, 625
	7	725
	8	200
	9	67
	10	23
Number of patients who have had more than 10 smears in period		7

This detailed analysis of the first decade's figures shows that, of those women whose smears were normal on the first occasion, less than half have as yet returned for a further test. In assessing this figure it should be remembered that the Service recommends routinely that a woman return for a repeat smear in two years should the initial smear be negative. Although these figures are somewhat disappointing it must be recognized that, whereas it is relatively easy to persuade a patient to have a screening test on the first occasion, it is much more difficult to motivate them to return for repeat examinations. It is probable that more vigorous public education measures are necessary in this area. Conversely, it should also be recognized that the first screening of any population is by far the most rewarding as it results in the detection of all those cases of cancer and pre-cancer that could be expected to manifest themselves over the next decade or more. Hence, whilst failure on the part of patients to report for repeat tests is disappointing and a matter for concern; it in no way diminishes the value of the initial screening test.

Another interesting aspect of the diagnostic activities of the Service is the type of population coverage that is being achieved and this is shown in figure 2 (see page 4). In this figure the coverage is related to five year age groups. The number "screened" refers to those women who have had a cervical smear on at least one occasion, and the percentage of the age group screened is derived by comparison of this group with the Victorian census figures. Reference to this table shows a remarkable involvement in the screening programme of women under the age of 50 years with a somewhat disappointing coverage of the older age groups.


POPULATION COVERAGE 1964 - 1975
VICTORIAN FEMALE POPULATION (1,734,373)
SCREENED POPULATION (720,000)
150,000
100,000
50,000
85+
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
-15
14%
33%
84%
84%
39%
81%
74%
62%
43%
26%
18%
18%

This may reflect the greater enthusiasm of younger people for public health measures, but is probably due largely to the fact that many smears are received from ante- and post-natal clinics, from family planning clinics, and from young women seeking contraceptive advice from their medical practitioner.

Finally, with respect to the diagnostic activities, it is of interest to look at figures relating to major abnormalities. Since the inception of the Service major abnormalities have been detected in 4, 324 patients, 641 such cases being detected during the financial year under discussion. The term "major abnormalities" refers to cases of severe dysplasia and carcinoma-in-situ, conditions which are believed to immediately precede the development of invasive cancer, and all cases of invasive or established cancer. It should also be stressed that the figures refer to individual patients and not numbers of specimens, since several specimens may be received from the one patient, particularly one in whom abnormalities have been detected. An analysis of 3, 598 major abnormalities diagnosed histologically during the first decade is shown in table 3.

Table 3: Major Cervical Lesions Diagnosed Histologically : 1965 - 1974

Severe dysplasia/carcinoma-in-situ	2, 564
Microinvasive carcinoma	183
Invasive squamous cell carcinoma	778
Cervical adenocarcinoma (invasive)	73
Total number of cases	3, 598

It is of interest to note that approximately two-thirds of these cases had severe dysplasia or carcinoma-in-situ or that the ratio of pre-invasive to invasive disease was approximately two and a half to one. The number of cases of microinvasive carcinoma is also of considerable interest. This is a term used to describe those cancers that are mostly confined still to the surface tissues but are just beginning to break through into the deeper tissues. Although this type of cancer is an invasive or established one it is still very amenable to successful treatment. Like carcinoma-in-situ it cannot be diagnosed by clinical means, cytological examination being necessary for its detection.

The ages at which these major abnormalities were diagnosed are also of considerable interest. The following table refers to histological diagnoses, not cytological predictions. Those cases for whom details of age are not available have been deleted from this table.

Table 4: Age Distribution of Major Abnormalities : 1965 - 1974

	Severe Dysplasia/ Carcinoma-in-situ	Micro-invasive Carcinoma	Invasive Squamous Cell Carcinoma
Less than 20 years	0	0	0
20 - 24 years	77	0	1
25 - 29 years	405	13	16
30 - 34 years	480	21	27
35 - 39 years	468	34	47
40 - 44 years	460	40	99
45 - 49 years	339	29	114
50 - 54 years	173	19	131
55 - 59 years	75	11	126
60 - 64 years	40	13	99
65 - 69 years	15	0	54
70 years plus	10	2	55
	2,542	182	769

When the screening programme was being planned there was considerable discussion of the age limits of the population to be screened. The final decision to recommend regular tests for all non-virginal women over the age of 21 years was criticized on the grounds that it was unnecessary to involve women of this age in a cervical cancer detection programme; indeed 35 years was suggested as a more appropriate age. Hence, it is of considerable interest to note that there have been 13 cases of micro-invasive and 17 cases of frankly invasive, or a total of 30 cases of invasive cervical cancer diagnosed in women under the age of 30. Restriction of the programme to women of 35 years and older would have led to 962 cases of severe dysplasia/carcinoma-in-situ, 34 cases of microinvasive carcinoma, and 44 cases of frankly invasive carcinoma being missed - a total of 1,040 major lesions!

Similarly it was suggested that an upper age limit be imposed. With this suggestion in mind it should be noted that 55 cases of severe dysplasia/carcinoma-in-situ and 15 cases of microinvasive carcinoma were diagnosed in women over the age of 60 whilst 208 cases of established invasive cancer occurred in this group. Indeed it is interesting to note the relatively high incidence of pre-invasive and early invasive lesions occurring in elderly women.

The rate of detection of major abnormalities, namely, approximately one in every one hundred and eighty women examined is comparable to that of other countries similar to Australia such as the United States of

FINANCIAL ASPECTS:

The total maintenance expenditure for the financial year ending 30th June, 1975 was $341,873. This represents an increase of $81,341, or approximately 31 per cent., on the previous financial year. As in previous years the major component of this increase was wages, the costs in this area rising from $175,220 to $241,786. This increase of approximately 38 per cent. was due almost entirely to a National Wage increase and increases as a result of various Wages Boards' determinations.

As in previous annual reports, it is important to relate the cost of maintaining the Service to its achievements.

As already indicated, the total number of specimens examined since the inception of the Service is 1,366,830. The total expenditure on maintenance (i.e. excluding capital costs) for this period has been $1,670,990 and hence the average cost per smear has been $1.22. This cost is particularly significant when one considers that the current schedule fee for a gynæcological smear is $8.30 with a Medibank rebate of $7.10. However, it may be more reasonable to derive the average cost per smear from the figures for the most recent financial year, i.e. the year covered by this report. As previously stated, during this year 209,365 smears were examined at a maintenance cost of $341,873, the average cost per smear being $1.63.

The reasons for this relatively low cost were considered in some detail in the last annual report of the Service. The analyses depicted in this report have been continued and the general levels of efficiency and economy have been maintained. This can be verified by a comparison between the "base" year and the most recent year, there being no need to reproduce in full the detailed analyses given in the previous report.

Table 5: Details of Smear Costs

Financial Year	No. of Smears	Expenditure	Average Salary per Staff Member	Salary Cost per Smear	Service and Materials	Total Cost per Smea
1965-66	65,859	$76,659	$1,725	$0.56	$0.60	$1.16
1974-75	209,365	$341,873	$6,280	$1.15	$0.48	$1.63

The "service and materials cost" comprises the cost of materials supplied to the medical practitioners, laboratory supplies, postage, and indeed all the costs of running the Service with the exception of technical and clerical staff salaries. The containment of costs in this area, despite the massive inflation that has occurred in the community, is remarkable

The salary component of the smear costs is also of interest. Despite an increase in the average salary per staff member of some 360 per cent. the salary cost per smear has increased by only 200 per cent. As indicated in the previous report the economy in this area can be attributed to increased staff efficiency this efficiency being expressed as the average number of smears processed per staff member, all technical and clerical staff being included in the calculation. Again the detailed analyses will not be reproduced but simply a comparison between the most recent financial year and the base year.

Table 6:

Financial Year	No. of Smears Examined	Staff Efficiency: Full-time or F/T Equivalent Staff	Staff Efficiency: Efficiency - Smears per Staff Member
1965 - 1966	65,859	27	2,439
1974 - 1975	209,365	38.5	5,438

It can be seen that the staff efficiency, measured in this way, has increased by approximately 120 per cent., i.e. efficiency has more than doubled in this ten year period.

There are, of course, areas of anxiety. The continued and rapid rise in salaries must be reflected in smear costs, particularly as staff efficiency reaches its peak, and the Service, being largely dependent upon mailing activities, is very vulnerable to increases in postal charges.

ASSISTANCE FROM OTHER ORGANIZATIONS:

In every annual report since the inception of the Service it has been our pleasure and responsibility to acknowledge the assistance of two organizations, namely the Anti-Cancer Council of Victoria and the Floral Group of the Prince Henry's Hospital Auxiliaries.

The work of the Anti-Cancer Council in the field of professional and public education has done much to ensure the acceptance of the programme of the V.C.(G.)S. both by the bulk of medical practitioners in Victoria and by the women of this State.

The Auxiliary members continue to pack the kits of materials sent to the medical practitioners and in this way make a major contribution to the effectiveness and economy of the Service.

TEACHING AND EDUCATIONAL ACTIVITIES:

Senior staff of the Service in association with those of the Prince Henry's Hospital Cytology Department continue to make a significant contribution to the training of cytopathologists and cytotechnologists within Victoria, and throughout Australia, and close links with the World

Health Organization have been maintained. As in previous years the subjects Clinical Cytology I and Clinical Cytology II, components of the Diploma of Medical Laboratory Technology course, have been taught in collaboration with the Royal Melbourne Institute of Technology. The introduction of these subjects into the diploma has facilitated greatly the training and qualification of career cytotechnologists.

Full-time training in cytotechnology has been conducted for technologists from other hospitals and laboratories in Victoria and inter-state whilst several pathologists and technologists have availed themselves of the teaching materials and tuition for varying periods of time.

During the first half of 1975 Mr. Joseph Lavett, a W.H.O. Fellow from Papua New Guinea, completed a six month full-time course in cytotechnology. Currently a Burmese Pathologist, Dr. Khin Maung Yin and two technologists from that country, Mr. Khin Maung Jack Ko and Mr. Khin Maung Lwin, are engaged in a twelve month period of study under the Colombo Plan. At the completion of this training they will return to Rangoon where they will establish cytological diagnostic and training facilities.

During the latter part of 1974 the Laboratory Manager, Mr. Edgar Wilson, spent eight weeks as a W.H.O. Consultant at the Arignar Anna Memorial Cancer Institute, Kancheepuram, Southern India. The cytology laboratories at this institute are staffed by a pathologist and technologists who were trained in our laboratories. Whilst in Kancheepuram Mr. Wilson assisted in a course of training for cytotechnologists and also advised on various aspects of the cancer control programme in that area.

STAFF:

In the final analysis the efficiency and effectiveness of any organization depends largely upon the staff of that organization. As indicated in previous reports, the high level of staff efficiency can be related primarily to the remarkable stability that has been achieved. This stability, and the enthusiasm and technical competence of all staff members, is due in part to careful selection and effective training. However, the involvement of the Service in the various teaching activities referred to above does much to maintain these staff attributes.

At June 30th, 1975 the following technical and clerical staff was employed:

Technical Staff:

Full-time	One (1) Laboratory Manager
	Two (2) Senior Cytotechnologists
	Three (3) Cytotechnologists
	Two (2) Trainee Cytotechnologists
Part-time	Two (2) Senior Cytotechnologists
	Twenty-four (24) Screeners
	Two (2) Preparation Technicians

Clerical Staff:

Full-time	One (1) Secretary
	One (1) Clerical Supervisor
	One (1) Medical Record Librarian
	Eight (8) Typist/Clerks
	Two (2) Key Punch Operators
Part-time	Two (2) Typist/Clerks

The medical staffing of the Service has continued to be a cause for concern but there are indications that stability has been achieved in this area also. In January, 1975 Dr. Tang Siew Khin was appointed as a full-time Specialist Pathologist. At this time Dr. J. Dowling reverted to full-time employment by Prince Henry's Hospital with cessation of his involvement with the V. C. (G.)S. Dr. R. Barua resigned in December, 1974 and in June, 1975 the vacancy created by this resignation was filled by Dr. Gabriele Medley. The V. C. (G.)S. now employs the equivalent of one and three quarter specialist pathologists, viz:

Dr. Michael Drake (Director)	Quarter-time.
Dr. Gabriele Medley	Half-time.
Dr. Tang Siew Khin	Full-time.

Drs. Drake and Medley are otherwise employed within the Prince Henry's Hospital Department of Anatomical Pathology.

In October, 1974, the Director of the Service was invited to accept responsibility for the Pacific Regional Office of the International Academy of Cytology. The regional offices are responsible for the educational activities of the International Academy within the various regions of the world. This invitation was accepted. Dr. Drake remains a member of the International Board of Cytopathology, the I. A. C. Subcommittee on Cytotechnology registration, and the National Editor (Australia) for the Journal "Acta Cytologica". The Chief Cytotechnologist of the Service, Mrs. W. M. Swaffield, is currently a member of the Committee on

ACHIEVEMENTS:

In the annual report for the year ended 30th June, 1974, detailed analyses of the mortality rates for carcinoma of the cervix in Victoria were presented. In summary, these showed a significant downward trend from 1965 to 1973, inclusive, in the mortality rates for women between the ages of 20 and 49 years. Using a five-year moving average technique, the mortality rate for this age group was 5.17 in 1965 and 3.01 in 1973. Further a comparison was drawn between the average cervical cancer mortality rate for the years 1961 to 1965, inclusive, and that for the years, 1969 to 1973, inclusive. This comparison suggested a halving of the mortality rate for those women between the ages of 30 and 44 and a reduction by one third for those women between the ages of 45 and 49. Both methods of study suggested that there had been no alteration in the mortality rate for women over the age of 50.

The mortality statistics are not yet available for 1974 nor does it seem meaningful to carry out analyses of such statistics on a yearly basis. As indicated in our last report, it is still too early to expect a major impact on the cervical cancer death rate but the results given above are very encouraging indeed. It is anticipated that a more dramatic effect will become apparent during the second decade of activities of the Service.

CONCLUSION:

The Victorian Cytology (Gynaecological) Service is an efficient and economic organization that appears to be achieving, to some extent, its ultimate aim, namely, the prevention of death due to cervical cancer amongst the women of Victoria. Perhaps at this stage greater attention should be paid to one of the basic objectives of the Service as specified in the by-laws of the Service.

Thus, by-law 3(a), under the heading "Objects", reads "to provide in Victoria facilities for research and investigation with respect to the cytological examination of gynaecological specimens associated with cancer detection and to undertake such research and investigation." As indicated in the body of this report a very large number of specimens have been examined and these specimens have come from a group of women comprising over half the women of Victoria. The results of these examinations are stored in a form suitable for computer analyses as is the large volume of

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An outstanding opportunity exists for research, both basic and applied, into the life history of cervical cancer, and improved methods of detection of this disease.

This Report would not be complete without reference to the outstanding qualities of the Director, Dr. Michael Drake. The achievements of the Service have been due in the main to these qualities. His energy is unbounded, his enthusiasm is radiated right throughout his staff, and his leadership is excellent.

A disservice will be done to the women of Victoria, and a wonderful opportunity lost if advantage is not taken of these qualities to launch now the research activities referred to above.

Lance Townsend,
Chairman.

W. A. Cross,
Manager.