

FIFTEENTH ANNUAL REPORT OF

THE VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE

FOR THE YEAR ENDING 30TH JUNE, 1980.

CYTOLOGY (GYNAECOLOGICAL) SERVICE

FOR THE YEAR ENDING 30th JUNE, 1980.

December, 1979, marked the end of the first fifteen years of operation of the Service. A detailed analysis of this period of activity is now being carried out and it is intended to publish the results of this analysis during 1981. Limited reference only will be made to these results in this current report but the preliminary indications are that considerable progress has been made towards achievement of the objectives of the Service.

BOARD OF MANAGEMENT:

During the financial year under discussion there were two changes to the composition of the Board of Management. In December, 1979, Dr. R. Motteram retired having represented the Cancer Institute since 1971. His place on the Board has been taken by Dr. P. N. J. Ironside who succeeded Dr. Motteram as Director of Pathology at the Cancer Institute. During 1979 Dr. P. M. Dennis also joined the Board of Management. Dr. Dennis is Director of Chemical Pathology at Prince Henry's Hospital and became a member of the Board of Management of the Service in his capacity as Chairman of Pathology Services at that hospital.

This year also saw a major change in the administration of the Service due to the retirement of the Manager, Mr. W. A. Cross. Mr. Cross had been Manager since the inception of the Service in December, 1964, and made a significant contribution to its development particularly in the early formative years. He has been succeeded by Mr. R. G. Edwards, Chief Executive of Prince Henry's Hospital.

DIAGNOSTIC ACTIVITIES:

From July 1st, 1979 to June 30th, 1980, 239,525 cervical smears were examined. This represents an increase of 7,459, or 3.2 per cent., on the volume of specimens received in the previous financial year. Since the commencement of diagnostic activities of the Service in January, 1965, 2,516,358 specimens have been received. Initial estimates indicate that these smears have been derived from approximately 900,000 women but attempts are being made to refine this figure. Meanwhile it is of considerable interest to study the population coverage that has been achieved as

FIGURE 1 - PERCENTAGE OF POPULATION SCREENED : 1965-1979

Victorian Female Population - 15 to 80
 (1,419,000)

Screened Population
 (898,000)



The total Victorian female population and the allocation to age groups has been achieved by an extrapolation of Victorian census figures to the year 1979. Women have been placed in the "screened population" if they have had one or more smears interpreted by the Cytology Service and, based on the date of the first smear and the age at that time, each "screened" woman has been placed in the 5 year age group appropriate to her age in 1979. Thus, for example, a woman who in 1970 at the age of 22 had her first smear would, in 1979, be 31 and hence would be allocated to age group 30 - 34 in figure 1. The figure shows a most gratifying population coverage particularly in the 35 to 49 year old age group. Many of the women over the age of 50, indicated as having been screened, actually had their cervical smear done when younger.

In the financial year under discussion major abnormalities were detected in 564 women. As in previous reports the term "major abnormalities" refers to all cases of invasive or established cancer and also to those conditions believed to immediately precede invasive cancer, namely severe dysplasia and carcinoma-in-situ. Since the inception of the Service major abnormalities, as defined, have been detected in 7,925 women. It is again emphasized that these figures refer to number of women, not specimens, as a patient with a cytological abnormality may have repeated smears to confirm the presence, or aid in the interpretation of this abnormality.

FINANCIAL ASPECTS:

For the year ending 30th June, 1980, the maintenance or operating cost of the Service was \$832,328 (this excludes a sum of \$11,513 for additional and replacement equipment). This represents an increased expenditure of \$58,636 or, 7.6 per cent., on the previous financial year. The major component of the operating cost was that of salaries and wages which accounted for \$619,528, or 74.43 per cent., of the total. Expenditure on salaries and wages rose by \$60,590, or 10.84 per cent., when compared to the previous financial year. This increased expenditure was a direct result of Wages Board determinations and National Wage increases.

As suggested in previous reports, the most valid measure of the efficiency and economy of the Service is the cost per specimen examined.

This can be calculated by dividing the operating costs for the full financial year by the total number of specimens examined in this period. Calculated on this basis the cost per smear during the financial year under consideration was \$3.47 representing an increase of \$0.14 on the cost of the previous financial year.

It is of some interest to look at the details of costs during the first fifteen years. Essentially there are two components in the cost of reporting on a cervical smear - the major one represented by the salaries and wages of all staff members involved in the evaluation of the specimen and the associated clerical activities, and all other costs such as laboratory supplies, postage etc. This latter component is designated as "Service and Materials" in the tables.

Table 1 (page 5) is a detailed analysis of these two components and also the total costs per smear for the first fifteen years of operation of the Service. There has been a quite dramatic increase in the average salary per staff member with a resultant, but not commensurate, increase in the salary component of the smear cost. The "Service and Materials" component has also increased although considerable stability was achieved in the earlier years. These trends are more clearly seen in table 2 (page 6) in which the initial year, the most recent year, and one interim year, namely 1972-73, are selected for closer study. Thus, in the first seven years the cost per smear remained virtually the same despite a marked increase in salaries. This was achieved by increasing staff efficiency, thus minimising the effects of salary increases, and by utilising bulk buying and efficient management measures to control the "materials" component of the costs. Inevitably there are limits to the levels of staff efficiency that may be achieved and it has also been difficult to compensate for the massive inflation that has occurred in the past fifteen years. The Service depends heavily on postal facilities and here there has been a dramatic escalation in costs. Thus, the basic letter rate in 1966 was 4 cents but is now 22 cents. The importance of staff efficiency is illustrated in table 3 (page 7) which shows the seven-fold increase in salaries being offset to some extent by a doubling of staff efficiency.

TABLE 1

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE

DETAILS OF COSTS 1965 - 80

Period	No. of Smears	Expenditure	Average Salary per Staff Member	Salary cost per Smear	Service and Materials	Total Cost per Smear
Jan. 1st 1965 to June 30th, 1965	4,928	\$24,068	\$1,725	\$1.70	\$3.18	\$4.88
<u>Financial Years</u>						
1965 - 1966	65,859	\$76,659	\$1,725	\$0.56	\$0.60	\$1.16
1966 - 1967	95,336	\$81,314	\$1,515	\$0.51	\$0.34	\$0.85
1967 - 1968	98,108	\$101,689	\$1,881	\$0.61	\$0.43	\$1.04
1968 - 1969	107,794	\$108,355	\$1,965	\$0.60	\$0.40	\$1.00
1969 - 1970	124,857	\$132,822	\$2,138	\$0.67	\$0.39	\$1.06
1970 - 1971	137,717	\$156,314	\$3,018	\$0.77	\$0.37	\$1.14
1971 - 1972	154,884	\$180,481	\$3,574	\$0.76	\$0.41	\$1.17
1972 - 1973	176,963	\$206,883	\$3,517	\$0.78	\$0.39	\$1.17
1973 - 1974	190,619	\$260,532	\$4,616	\$0.92	\$0.45	\$1.37
1974 - 1975	209,365	\$341,873	\$6,280	\$1.15	\$0.48	\$1.63
1975 - 1976	218,062	\$470,959	\$8,640	\$1.60	\$0.56	\$2.16
1976 - 1977	228,692	\$562,509	\$9,632	\$1.94	\$0.52	\$2.46
1977 - 1978	231,183	\$653,223	\$10,891	\$2.26	\$0.56	\$2.82
1978 - 1979	232,066	\$773,692	\$11,248	\$2.41	\$0.92	\$3.33
1979 - 1980	239,525	\$832,328	\$12,461	\$2.59	\$0.88	\$3.47

TABLE 2

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE

DETAILS OF COSTS 1965 - 1980

	SMEARS	EXPENDITURE	COST PER SMEAR	MATERIAL COMPONENT	SALARY COMPONENT
1965 - 1966	65,859	\$76,659	\$1.16	\$0.60	\$0.56
1972 - 1973	176,963	\$206,883	\$1.17	\$0.39	\$0.78
1979 - 1980	239,525	\$832,328	\$3.47	\$0.88	\$2.59

TABLE 3

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE

STAFF SALARIES V. STAFF EFFICIENCY 1965 - 1980

	SMEARS	STAFF (F.T.E.)	AVERAGE SALARY	SMEARS PER STAFF MEMBER
1965 - 1966	65,859	27	\$1,725	2,439
1979 - 1980	239,525	45	\$12,461	5,323

AVERAGE SALARY INCREASED SEVEN-FOLD.

STAFF EFFICIENCY MORE THAN DOUBLED.

STAFF:

In February, 1980, Dr. Julia Anson resigned but it is anticipated that the vacancy thus created will be filled towards the end of 1980. However, staffing of the Service, both medical and technical, continues to be a cause for concern. As indicated in previous reports, there is a critical shortage of cytopathologists in this country and indeed throughout the World. Cytotechnologists are also limited in number but the Service is buffered to some extent against this shortage by its extensive technologist training programme.

On June 30th, 1980, the staff consisted of:

Technical Staff:

<u>Full-Time</u>	Two (2) computer scientists. Eleven (11) cytotechnologists.
<u>Part-Time</u>	Twenty-nine (29) cytotechnologists and technicians.

Clerical Staff:

<u>Full-Time</u>	One (1) secretary. One (1) receptionist. One (1) computer clerk. Seven (7) V.D.U. operators. Five (5) typist/clerks.
<u>Part-Time</u>	One (1) computer clerk. One (1) typist.

COMPUTERIZATION OF CLERICAL ACTIVITIES:

The last annual report recorded the installation of a Univac V77/600 mini-computer and the commencement of work on the computerization of the many clerical activities of the Service. This work has now been completed and the system is an outstanding success. In the day to day processing of slides there are two major clerical activities, file searching and report production. At the time that a smear is evaluated it is essential to know whether the patient has a past history of abnormality - either cytological or histological. To determine this a file is kept in which is recorded details of all such patients and each day the incoming mail is matched against this file. Formerly this required a laborious and most time -

consuming search but the whole process can now be carried out in a rapid and most comprehensive way by use of the computer. At the time of this initial search the patient's identification data and other details are recorded and to this record is added the diagnostic report when slide evaluation has been completed. The computer is then coupled to a high speed printer which generates the report. The system is also available to monitor follow-up procedures and to carry out detailed analyses of information associated with the screening programme.

RESEARCH ACTIVITIES:

The research project initiated at the beginning of 1978 is proceeding satisfactorily with the financial support of the Anti-Cancer Council of Victoria. A further grant of \$30,000 was received from the Council early in 1980 whilst the Windermere Hospital Foundation Limited donated \$5,000 to the research activities of the Service. The major thrust of the project is to investigate genetic and viral factors in the development of cancer of the uterine cervix. The virus most closely studied so far has been the herpes simplex type 2 - a virus closely related to that which causes the common cold sore. However, more recently the project has been broadened to consider also the possible role of the wart virus in the genesis of cervical cancer. The Service is extremely grateful to the Anti-Cancer Council for its continued support. Not only is the research activity important in its own right but, as previously pointed out, it does provide considerable stimulus to the senior staff, both medical and technical.

SPACE:

Laboratory space continues to be a major source of concern. The area occupied by the Service in 1969 is overcrowded and inevitably inefficiencies and stresses develop. Undoubtedly one of the most serious deficiencies is the total lack of teaching areas as it was necessary to use the space formerly available for teaching to increase diagnostic and clerical facilities. This is particularly worrying in an organization such as the Cytology Service which has a continuing need to train new staff and which depends so heavily on continuing education and training programmes to maintain its standards of diagnostic performance.

TEACHING AND EDUCATIONAL ACTIVITIES:

As in previous years the combined laboratories of the Service and of the Prince Henry's Hospital Cytology department have provided a wide range of teaching activities. Many pathologists and technologists take advantage of the training facilities available but the major activity continues to be the participation in the courses conducted by the Royal Melbourne Institute of Technology. Thus, teaching for the subject, Advanced Clinical Cytology and the cytology section of Anatomical Pathology I, both components of the Bachelor of Applied Science degree, is carried out entirely by the staff of the combined service and hospital laboratories.

ASSISTANCE FROM OTHER ORGANIZATIONS:

Again it is a pleasure to acknowledge the assistance that the Cytology Service receives from other organizations. The harmonious relationship that exists with Prince Henry's Hospital is a major factor in the continued success of the Service. In particular the assistance, both direct and indirect, received from hospital staff members is acknowledged with gratitude.

The Anti-Cancer Council of Victoria has always supported the Service in its activities. The Council's public and professional educational programmes have done much to promote the work of the cytology service and the generous support of the research project has already been acknowledged.

Members of the Floral Group of Prince Henry's Hospital auxiliary continue to provide invaluable aid by packing the kits of materials used by the medical practitioners throughout Victoria. This is a rather tedious task often carried out in difficult circumstances because of restrictions on space. Nevertheless it is a task that is performed cheerfully and efficiently at all times.

ACHIEVEMENTS:

In the opening paragraph of this report it was stated that further progress had been made towards achieving the objectives of the Service. The ultimate objective, of course, is to eliminate death from cervical cancer amongst the women of Victoria. Obviously the ideal of complete elimination will never be realized but it would appear that a substantial reduction in mortality has already been achieved. At the outset it must

be emphasized that the impact of cytological population screening for cervical cancer on the death rate for this disease is, of necessity, a delayed one. In particular, the detection and treatment of pre-invasive carcinoma, or carcinoma-in-situ, will not influence the mortality rate for many years. This is so since the average time it takes a case of in-situ carcinoma to progress to invasive cancer is generally accepted to be ten years whilst a further five years usually elapses between the time of diagnosis of an invasive lesion and death in those cases with a fatal outcome.

The data that follow are derived from figures supplied by the Commonwealth Bureau of Census and Statistics and appreciation is expressed for this assistance. All the mortality rates are expressed as deaths per 100,000 total female population and all figures have been standardised for population variance. In addition, five year moving averages have been used in order to demonstrate the presence of any trends in the data.

TABLE 4

MORTALITY RATES FOR CARCINOMA OF THE CERVIX IN VICTORIA
5 YEAR MOVING AVERAGES / 100,000 TOTAL FEMALE POPULATION

1965	7.20
1966	7.18
1967	6.99
1968	6.83
1969	6.80
1970	6.74
1971	6.33
1972	6.28
1973	6.24
1974	6.15
1975	5.99
1976	6.00
1977	5.49

These overall mortality rates indicate that Victoria does appear to have a declining mortality rate although, as yet, the fall is not dramatic. However, as indicated earlier, the major impact of the screening programme has been on those women under the age of 50. Accordingly it seems reasonable to study the mortality rates for Victoria in two categories, those for women between the ages of 20 and 49 and those for women 50 years and over.

TABLE 5

MORTALITY RATES FOR CARCINOMA OF THE CERVIX IN VICTORIA
5 YEAR MOVING AVERAGES / 100,000 TOTAL FEMALE POPULATION

	<u>20 - 49 years</u>	<u>50 + years</u>
1965	5.44	21.06
1966	5.13	21.46
1967	4.93	21.01
1968	4.68	20.75
1969	4.57	20.78
1970	4.26	21.04
1971	3.83	20.03
1972	3.73	19.98
1973	3.13	20.82
1974	2.99	20.68
1975	2.62	20.63
1976	2.73	20.46
1977	2.26	19.12

It can now be seen that there has been a significant fall in the death rate for those women below 50 years of age whilst a much more modest reduction has been achieved in those aged 50 years or over.

Finally, it is of interest to examine the mortality rates prior to the introduction of mass cytological screening and compare them with more recent rates. Reliable mortality data for carcinoma of the cervix in Victoria are available from 1961 on and hence the years 1961-1965, inclusive can be used as the "pre-cytology" years. The figures from these years can be matched against the most recent five years for which figures are available, i.e. 1973-1977, inclusive.

TABLE 6

5 YEAR AVERAGE CERVICAL CANCER MORTALITY RATES
PER 100,000 FEMALES IN VICTORIA

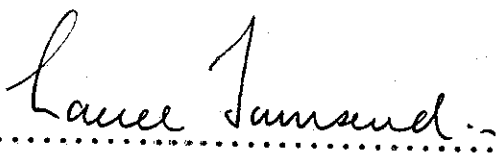
Age Groups	<u>30-34</u>	<u>35-39</u>	<u>40-44</u>	<u>45-49</u>	<u>50-54</u>	<u>55-59</u>	<u>60-64</u>	<u>65-69</u>
1961-65 inc.	2.06	4.94	12.34	12.62	17.71	13.08	19.31	21.96
1973-1977 inc.	0.79	1.85	3.19	7.07	14.68	19.29	18.68	23.64

It would thus appear that there has been a 62 per cent. reduction in mortality in those women between the ages of 30 and 39, whilst a reduction of 74 per cent., has been achieved in women between 40 and 44 years of age. The results in the older age groups are less dramatic but it can be anticipated that the long-term benefits of cytological screening will gradually spread to those groups also.

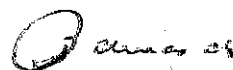
It is of considerable interest to note a recent widely publicised statement that there has been an increase in mortality from cancer of the cervix in young women in Australia in recent years. A preliminary reassessment of the data on which this statement is based confirms the validity of the conclusions with respect to total Australian figures. However, the figures for Victorian women have been re-analysed and this further analysis again indicates a downward trend in the death rate for cervical cancer in this State. A much more detailed statistical analysis is now being carried out with the aim of producing a paper testifying to the efficacy of the cytological screening programme in Victoria - perhaps in contrast to the experience in other States.

CONCLUSION:

The achievements recorded in this report are testimony to the efficacy of the cytology screening programme developed in Victoria and operated through the Victorian Cytology (Gynaecological) Service. They are, of course, the results of a co-operative effort - an effort involving not only those who are directly associated with the Service but also the medical practitioners throughout the State and, most importantly of all, the women of Victoria.



.....
CHAIRMAN
Sir Lance Townsend



.....
MANAGER
R. G. Edwards

AUDITORS' REPORT TO THE

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE

We report that we have examined the accounting records and financial statements of the Victorian Cytology (Gynaecological) Service for the year ended 30th June, 1980.

The financial statements comprise Operating Account Statement of Cash Receipts and Payments and Statement of Funds for the year ended 30th June, 1980 and Statement of Balances at 30th June, 1980.

In our opinion -

1. the Operating Account Statement of Cash Receipts and Payments is properly drawn up so as to give a true and fair view of the cash receipts and payments of the Service for the year ended 30th June, 1980.
2. the Statement of Balances and the Statement of Funds are properly drawn up so as to give a true and fair view of the state of affairs of the Service at 30th June, 1980 and the results of operations for the year ended on that date.
3. the accounting and other records of the Service examined by us have been properly maintained.

Parkhill Lithgow & Gibson

PARKHILL LITHGOW & GIBSON
Chartered Accountants

B. W. Lithgow
B. W. LITHGOW
PARTNER.

DECLARATION BY THE SECRETARY

I, ... RALPH GORDON EDWARDS Secretary of the Victorian Cytology
(Gynaecological) Service do solemnly and sincerely declare that -

The accompanying Statement of Balances at 30th June, 1980, Statement
of Receipts and Payments and Statement of Funds for the year ended
30th June, 1980, are to the best of my knowledge and belief correct.

And I make this solemn declaration conscientiously believing the
same to be true and by virtue of the provisions of an Act of Parliament
rendering persons making a false declaration punishable for wilful and
corrupt perjury.

R. Gordon Edwards

Declared at Melbourne in the State of Victoria
this *twenty fourth* day of *September* 1980

Before me

[Signature]
A Commissioner for Taking Declarations and
Affidavits under the Evidence Act 1958.

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE

OPERATING ACCOUNT - STATEMENT OF RECEIPTS AND PAYMENTS

FOR THE YEAR ENDED 30th JUNE, 1980.

<u>1979</u>			<u>1980</u>
\$	<u>RECEIPTS</u>		\$
753,169	Government Grants		831,600
21,536	Equipment Grants - Cost Sharing		11,513
200	Other Income - Bank Interest		<u>105</u>
<u>\$774,905</u>			<u>843,218</u>
	 <u>PAYMENTS</u>		
	Salaries		
	Non-Medical	560763	
	Medical	<u>58765</u>	619,528
491,018	Superannuation		4,224
67,920	Food Expenses		1,441
4,244	Domestic Charges		5,193
874	Fuel, Light and Power		3,727
5,620	Repairs and Maintenance		9,460
2,900	Replacements and Additional Equipment		11,513
6,784	Medical and Surgical		
21,536	Internal	14437	
	External.	<u>9830</u>	24,267
12,761	Administration Expenses		
817	Kit Stationery	12704	
	Stationery	9277	
3,277	EDP Expenses	67092	
17,945	Postal Charges	49435	
73,342	Travel	2258	
52,603	Insurance	2043	
312	Telephone	5712	
20,238	Other	<u>15967</u>	164,488
3,830			<u>843,842</u>
<u>9,207</u>			
<u>795,228</u>			
<u>\$(20,323)</u>	Operating Surplus (Deficit)		<u>\$(623)</u>

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE

STATEMENT OF FUNDS FOR THE YEAR ENDED 30th JUNE, 1980.

<u>1979</u>		<u>1980</u>
\$	<u>RESEARCH TRUST FUND</u>	\$
10,817	Balance brought forward from prior year	1,247
13,500	Grants received - Anti Cancer Council	
	Windermere Foundation	43500
		<u>5000</u>
<u>157</u>	Other receipts - bank interest	48,500
24,474		269
		<u>50,016</u>
	<u>Less Expenditure - salaries</u>	
		24070
<u>23,227</u>	- maintenance	
<u>1,247</u>		<u>4391</u>
		28,461
		<u>\$ 21,555</u>
	 <u>V77 600 RETENTION FUND</u>	
-	Balance - 1st July, 1978	6,000
	Receipts - Bank Interest	421
<u>6,000</u>	Transfer from Operating Account	-
<u>\$ 6,000</u>		<u>\$ 6,421</u>
	 <u>FIXED ASSETS AND CAPITAL FUND</u>	
196,839	Balance, 1st July, 1978	183,213
-	Add - Capital Grant Received	-
-	Transfer from Operating Fund.	-
<u>13,626</u>	Less - Transfer to Operating Fund	-
<u>183,213</u>	Balance 30th June, 1980.	<u>\$183,213</u>

VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE
STATEMENT OF BALANCES AS AT 30th JUNE, 1980.

LIABILITIES

<u>1979</u>		<u>1980</u>
1,247	Research Trust Fund	21,555
6,000	V77 600 Retention Account	6,421
183,213	Capital Funds	183,213
<u>(43,883)</u>	Accumulated Operating deficit	<u>(623)</u>
146,577		210,566
43,289	Bank Overdraft - operating account	952
624	Funds held in trust.	<u>(299)</u>
<u>\$190,490</u>		<u>\$211,219</u>

ASSETS

30	<u>Current Assets</u>	
1,247	Cash on hand	30
6,000	Cash at Bank - Research Trust Account	21,555
-	- V77 600 Retention Account	6,421
<u>7,277</u>	Prepayments	<u>-</u>
		28,006
183,213	<u>Fixed Assets.</u>	
<u>\$190,490</u>	Furniture and Equipment - at cost.	<u>183,213</u>
		<u>\$211,219</u>

Notes to and being part of the accounts.

1. Statement of Accounting Policy
 The financial statements are compiled on a cash accounting basis.

2. Future Lease Commitment - Varian Computer
 Total future lease instalments (\$3,365 x 44 months)

148,048
40,450
<u>\$188,498</u>