

**TWENTY FIRST ANNUAL REPORT OF THE
VICTORIAN CYTOLOGY (GYNAECOLOGICAL) SERVICE
FOR THE YEAR ENDING 30TH JUNE, 1986**

TWENTY FIRST ANNUAL REPORT OF THE
VICTORIAN CYTOLOGY* (GYNAECOLOGICAL) SERVICE

FOR THE YEAR ENDING 30TH JUNE, 1986

The diagnostic activities of the cytology service continue at a high level and indeed, as in previous years, there has been a further increase in the amount of work received. Problems relating to space, staff and equipment persist but, despite these, a high quality of work has been maintained and the efficiency of the Service, as measured by the cost per specimen processed has increased.

BOARD OF MANAGEMENT

The composition of the Board of Management remains unaltered. Members of the Board, and the organizations of which they are nominees, are as follows:

Professor R.J. Pepperell	Chairman - appointed by Minister for Health
Mr. L.P. White	
Mr. G.W. Duxbury	Prince Henry's Hospital
Dr. N. Gray	
Assoc. Professor E.P.G. Guli	Anti-Cancer Council of Victoria
Mr. A.G. Bond	Australian Medical Association
Dr. P. Ironside	Appointed in their own right by the
Mrs. D. Sargeant	Minister as "Two other persons"
Dr. D.C. Forster	Chairman, Pathology Services, Prince Henry's Hospital
Dr. M. Drake	Director of the Service

DIAGNOSTIC ACTIVITIES

From 1st July, 1985 to 30th June, 1986, the Service received 289,537 specimens. This represents an increase of 9,460 or 3.4 per cent. on the number of specimens received in the previous financial year. Since each individual "specimen" may comprise two or more smears the Service has processed over 300,000 smears during the period under discussion. Since the inception of the Service, and the commencement of diagnostic activities in January, 1965, 4,156,107 specimens have been processed, the four millionth smear being received during December, 1985. These smears have been derived from approximately one million women throughout Victoria.

Whilst this is a most impressive total there are clear indications that many women in Victoria have never had the benefit of a cervical smear. This fact was confirmed by a recent survey commissioned by the Anti-Cancer Council of Victoria, the results of which are set out in the following table:

Contd/.....

Pap. Test Survey, Victoria - July, August, September, 1984.

Age in years	Population in '000's	%	Never had Pap. Test Number in '000's - 95% confidence limits
18-24	236	42.3	70 - 129
25-34	335	11.7	19 - 59
35-49	335	10.0	16 - 50
50 + over	504	23.1	97 - 135
<hr/>			
Total 18 + over	1,410	20.4	234 - 341

(Roy Morgan Research Centre)

Thus it would appear that approximately 300,000, or 20 per cent., of Victorian women have never had a cervical smear. Analyses of our own data would suggest that only 16 per cent. of women between the ages of 15 and 19 are having smears whilst only 14 per cent. of the smears received are from women over the age of 50 years - this despite the fact that 80 per cent. of deaths from cervical cancer occur in this latter age group. Equally disconcerting is the suggestion that some groups or categories of women are not exposed at all to the screening service. These include certain ethnic communities and possibly some geographically isolated or financially deprived groups.

This evidence of under-utilization of the facilities available is particularly disturbing in the light of the apparent changing nature of cervical cancer. Experience in Victoria, and indeed throughout the world, indicates that the disease is becoming more common particularly in young women. All deaths from cervical cancer must be regarded as preventable and it must also be recognized that the greater the delay in diagnosis, with a consequent advancement of the disease, the more radical is the treatment required and the greater the degree of morbidity. Conversely early detection and modern therapy allow for curative treatment with minimal long term effects for the patient.

In order to motivate more women to have cervical smears the Anti-Cancer Council of Victoria will conduct an education programme. Whilst this is obviously essential the results of such a programme will cause problems for the cytology service which, in its current state, would be unable to cope with a significantly increased workload. It is probable that the programme will be conducted initially in one or two regional areas where the effects of the programme can be both controlled and monitored. It should then be possible to predict, with considerable accuracy, the results of a general educational programme, in terms of smear numbers, the expected results, in terms of lesions detected, and the implications for the Service in terms of space, staff and equipment. The support required for such a programme would be additional to that required currently since, as indicated below, the Service is unable to cope adequately with the current workload.

FINANCIAL ASPECTS

For the year ending 30th June, 1986, the maintenance or operating cost of the Service, on an accrual basis, was \$1,771,310.00. This represents an increase of \$23,883.00 or only 1.4 per cent. in comparison with the previous financial year. Salaries and wages were, as usual, the major component of expenditure accounting for \$1,320,407.00. The increased expenditure on salaries and wages, as compared to the previous financial year, was \$14,914.00 or 1.1 per cent.

Contd/....

Using the method applied in previous years the cost per specimen processed for the financial year ending 30th June, 1986, was \$6.12 - a decrease of \$0.12 or 1.9 per cent. when compared to the cost per specimen processed in the previous financial year.

That the Service has been able to achieve a reduction in the cost per smear in these days of burgeoning inflation is truly remarkable. That it has done so despite the many problems described subsequently in this report makes this achievement even more outstanding. It is extremely disconcerting therefore to note that, despite this impressive performance, the Service still faced a deficit of \$23,429.00 at the conclusion of the financial year. Whilst this is a relatively modest sum it further emphasizes that the Service is just not being funded adequately. As has been repeatedly stressed attempting to operate within the funds provided has necessitated a number of compromises. Such compromises cannot be tolerated indefinitely if the quality of services is to be maintained.

STAFF

During the latter part of 1985 Dr. Prudence Allan joined the staff of Prince Henry's Hospital being seconded to the work of the Service for 75 per cent. of her time. This appointment increased the medical staff of the Service to a total of 2.75 equivalent full-time pathologists. In addition the medical staff was augmented by a full-time medical epidemiologist, also appointed in the latter part of 1985. The administrative activities of the Service were strengthened greatly by the appointment, in 1985, of a business manager, Mr. Brian Salter.

Expressed as equivalent full-time members (E.F.T.), the staff, as at 30th June, 1986, comprised 60.79 E.F.T's and consisted of:

Medical Staff:

2.75 E.F.T. Pathologists (employed by Prince Henry's Hospital and seconded to Service).

1 Medical Epidemiologist

Technical Staff:

Full-time 19 Scientists, technologists and technicians.
Part-time 27 " " "

Clerical Staff:

Full-time 1 Business Manager

1 Secretary/Administrator

20 V.D.U. operators, file and mail clerks
Part-time 5 " " "

One part-time administrative assistant, employed by Prince Henry's Hospital is also seconded to the work of the Service whilst money derived from educational and research activities is used to employ an additional 1.55 equivalent full-time staff members.

In May, 1986 Dr. Medley was a guest speaker at the Scientific meeting of the Australian Society of Colposcopy and Cervical Pathology. This meeting was held in Sydney and Dr. Medley's topic was "Frequency of Papanicolaou Screening - the Current Controversy". In August, 1985, Dr. Medley participated in the ANZAAS Festival of Science, held in Melbourne. Her contribution was in the general area of cervical cancer screening and

dealt specifically with "The Effect of Screening on the Screened Population". In September, 1985, Dr. Drake was an invited lecturer at the 7th Asia Pacific Cancer Conference, which was held in Jakarta, Indonesia. His main lecture was titled "The role of Cytology in the Early Detection of Cancer" whilst he also participated in a symposium on the detection and management of lung cancer. In May, 1986, Dr. Drake attended the 9th International Congress of Cytology, held in Brussels, and presented one of the Congress lectures. The topic was "Some Observations on the Histogenesis of Gastric and Oesophageal Cancer". During the Congress Dr. Drake was elected President-Elect of the International Academy of Cytology.

TEACHING ACTIVITIES

Since the inception of the cytology service teaching has been a major activity. Initially this was a necessity as there was a critical shortage of scientists and technologists trained in the specialized techniques of cytology and a virtual absence of programmes designed to produce such people. Courses were developed to meet this need and these have now become an integral part of the course conducted by the Royal Melbourne Institute of Technology for the Bachelor of Applied Science degree. The entire cytology component of this course remains the responsibility of the combined laboratories of the V.C.(G.)S. and Prince Henry's Hospital Department of Cytopathology.

In addition to these formal teaching activities, training is provided for a large number of pathologists and technologists from hospitals and laboratories throughout Victoria, from other States of Australia, and from overseas. During the year under discussion, for example, pathologists from New Zealand and Hong Kong spent several months studying cytopathology in the laboratories of the V.C.(G.)S. Finally, as already indicated, the Director, Dr. Michael Drake, and the Deputy Director, Dr. Gabriele Medley, give frequent lectures on diagnostic cytology and cancer screening locally, nationally and internationally.

RESEARCH ACTIVITIES

The research activities of the Service have been given a major boost by the appointment of a full-time medical epidemiologist, Dr. Heather Mitchell. Dr. Mitchell, a graduate of Monash University Medical School had a brilliant academic career, graduating in 1976. She gained her Fellowship of the Royal Australasian College of Physicians in 1983 and subsequently studied medical epidemiology in London. As a result of this work she received the degree of Master of Science from the University of London. The appointment of Dr. Mitchell at this time was most opportune as the entire data base of the Service is being transferred currently to the new computer system. When this transfer is complete it will be possible to present epidemiological information on the 20 years period that the Service has been in operation. Whilst awaiting completion of this transfer it has been possible for Dr. Mitchell to work on records covering the period since 1982, these being fully computerised. Principal areas of epidemiological research so far include quantifying the risk of cervical cancer in women who have cytological evidence of infection with human papilloma virus (published in the Lancet, 15th March, 1986), determining the transition time from normal cytology to histological carcinoma in situ for the 807 women who had this lesion reported to the V.C.(G.)S. in 1984 (submitted for publication), and determining the prevalence of human papilloma virus infection in the women whose smears are received by the V.C.(G.)S. (submitted for publication).

Contd/.....

It is envisaged that the following major analyses will be undertaken during 1986 - 1987:

- a description of the age specific usage rates for women over the time period 1965 - 1986.
- an analysis of the use individual women made of the V.C.(G.)S. after a normal smear report was issued in 1971. It is not known what the frequency of screening is for individual women, and whether it can be shown to vary with age, area of residence, and type of practitioner taking the smear.
- a study of the amount by which a woman's risk of cervical cancer is reduced by having a negative smear with the V.C.(G.)S. Studies from a variety of countries have indicated that at least a three-fold reduction in risk is possible, and that high levels of protection last for up to 36 months. However the degree of protection appears to vary considerably between different types of organisations, with centrally organised screening organisations appearing to confer a greater protection. An estimate of the overall false negative rate for the V.C.(G.)S. may also be possible from this study. Information of this type is useful in planning the most effective form of delivery of a screening service for a country. In addition, it assists in discussions about the recommended frequency of screening. No such studies have yet been undertaken within Australia.

The V.C.(G.)S. continues to play a major role in the New Zealand Contraception and Health Study, acting as the Central Study Laboratory for that project. This study has now been in progress since 1981. It involves the observation of more than 7,500 women over a period of up to 10 years, these women being allotted to one of three matched groups according to their contraceptive regime. Thus one group is composed of I.U.C.D. users, a second group is on oral contraceptives, whilst the third group relies on the injectable contraceptive "Depo-Provera". The study is an observational one and involves a detailed record of all health problems developing within the study group over the ten year period. Ultimately the occurrence of disease and its nature will be correlated with the contraceptive used. Of particular interest is the possible development of uterine malignancy and cervical smears are taken regularly from each participant. The Director, Dr. Michael Drake, was involved in the study design and acts as its consultant, reviewing all cervical smears and all tissue specimens derived from the participants. The results of this review are used as the basis of the study, the reports of local pathologists being used for patient management purposes only. The study is funded by the Upjohn Pharmaceutical Company but is controlled by an independent committee the Chairman of which is Professor Liggins of Auckland University.

Of major significance to the V.C.(G.)S. has been the introduction into the New Zealand Contraception Study of sophisticated D.N.A. quantification techniques. These enable cells and tissues to be evaluated and, by quantification of nuclear material, disturbances in the chromosomal and genetic material can be detected. This quantification can be expressed in terms of "euploidy" and "aneuploidy", the former indicating a normal quantity and distribution of the genetic material whilst the latter implies a disturbed amount and distribution of this material. The importance of this procedure can be illustrated by D.N.A. quantification studies of a series of smears showing morphologic evidence of human papilloma or wart virus infection. Thus although these may appear similar morphologically D.N.A. studies will show that some are euploid and some aneuploid. The proposition is that the former will probably regress whilst the latter, being initiated on the "pathway of neoplasia" will probably progress. There is no doubt that D.N.A. quantification studies will become very relevant to routine cytodiagnosis and patient management

Contd/.....

and hence it is extremely gratifying to note that the equipment required to carry out these studies has been installed in the V.C.(G.)S. This equipment is being used as part of the New Zealand Contraception Study and hence was funded by the Upjohn Company. Upjohn also paid for a scientist, Miss Jane Hocking, to visit Chicago and learn how to operate the equipment. Subsequently considerable support was received from Professor George Wied and his team at the University of Chicago, the group responsible for developing the equipment. The equipment now installed at the V.C.(G.)S. is the first of its type in Australia.

ASSISTANCE FROM OTHER ORGANIZATIONS

Since its inception the cytology service has enjoyed a very close and mutually rewarding association with Prince Henry's Hospital. It is again our pleasure to pay tribute to the many members of the staff of Prince Henry's Hospital who provide so much help, both directly and indirectly, throughout the year.

Appreciation is also expressed to the Anti-Cancer Council of Victoria. Having played an integral role in the establishment of the Service the Council has continued to support its activities throughout the years.

No report would be complete without acknowledging our great debt to the Floral Group of Prince Henry's Hospital. Since the inception of the Service this group of workers have packed the kits of materials used for the collection of specimens by the medical practitioners throughout Victoria. This task, carried out so cheerfully and efficiently, has been of inestimable value to the V.C.(G.)S.

PROBLEMS RELATING TO SPACE, STAFF AND EQUIPMENT

All recent reports have stressed the problems faced by the Service due to a shortage of space, staff and equipment and it is a matter for regret that such problems must again feature in this report. As indicated most dramatically in an earlier part of this report the cytology service operates extremely efficiently and hence it is particularly unfortunate that this efficiency should be threatened by a chronic and indeed worsening shortage of funds.

An illustration of the benefits of a modest injection of funds is provided by the installation of the new computer for the Service. The previous report described the acquisition of this system and the ensuing twelve months have seen a vast improvement in the operation of the Service. In addition, as already discussed, the new system has created an enormous epidemiological research potential. The computer is an I.C.L. System 25 supported by software developed by Hospro Pty. Ltd. The initial storage capacity of the system was 520 megabytes. Towards the end of the financial year under discussion a further 130 megabyte disc drive was added, increasing the total memory storage to 650 megabytes and facilitating a reorganization of existing files. All data from the old system have been transferred and are now stored on disc. This is a considerable improvement on the old system as all data back to 1965 can now be retrieved and analysed. Previously this was only possible with the abnormal cases and the normal cases for a maximum of three months. The I.C.L./Hospro system is functioning efficiently and no major problems have been encountered. The "up-time" on the system is in the vicinity of 99.9 per cent. which by any commercial standards is excellent.

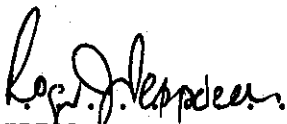
In contrast to this most satisfactory resolution to the computer problems of the Service, the difficulties relating to chronic space shortages remain. As indicated in previous reports the Service continues to be accommodated in an area of just over 5,000 square feet planned in 1965 and

occupied in March, 1969. At the time of occupying the new building the Service was receiving approximately 100,000 smears each year and had a total staff of 43, both full and part-time, both technical and clerical. As recorded above, the Service now processes approximately 300,000 smears annually and has a total staff of approximately 80 people. The resultant crowding of all areas has led to a serious impairment of efficiency and is undoubtedly a major factor in the relatively high rate of work-related illnesses and the industrial problems that surface from time to time. Repeated submissions have been made to the Health Department and a variety of possible solutions proposed. The latter have included a complete re-location of the Service or its temporary accommodation in leased premises. Despite the urgency of these submissions there seems no prospect of relief. Presumably when the V.C.(G.)S. is re-located, with the closure of Prince Henry's Hospital, adequate planned space will be made available but it is highly improbable that the Service can continue to function for the years that must elapse before this re-location takes place. It is possible that Prince Henry's Hospital will be able to make some additional space available but, in this event, it will be imperative that funds be provided to finance the structural alterations that will be required.

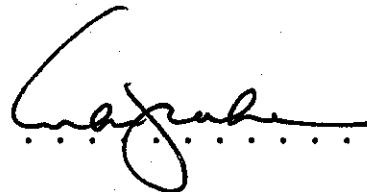
Finally, problems created by the staff ceilings imposed in 1978 have been alluded to repeatedly in previous reports. It has been stressed that the actual microscopic interpretation of smears cannot be automated and hence the procedure must be regarded as a labour-intensive one. Any significant increase in the number of smears must be matched by a commensurate increase in the number of people required to interpret them. It is not surprising, therefore, that the Service, handling an ever increasing volume of work with staff numbers fixed arbitrarily in 1978, is threatened constantly by a complete breakdown of diagnostic activities. Even in the absence of such a complete breakdown the cytology service is constantly plagued by prolonged delays in the issuing of reports. This leads to a high level of anxiety amongst the women of Victoria and causes considerable inconvenience to their medical practitioners. It also leads to potentially dangerous delays in the management of specific patients as the presence of a disease process may not be recognized until the smear is belatedly examined. As previously reported also, this quantitative shortage of staff is aggravated by an increasing incidence of repetitive strain injuries and other work-related illnesses. These have been experienced by V.D.U. operators, file clerks and microscopists and have impaired seriously the efficiency of all work areas.

CONCLUSION

Once more it has been necessary to conclude an annual report with a description of problems that have been present for some years and which threaten the continued operation of the Service. That the Service can continue to operate so efficiently and indeed, as indicated above, improve its efficiency, despite these problems is a tribute to all those associated with the V.C.(G.)S. Over four million smears have now been processed by the Service and the contribution to the health of Victorian women has been considerable. It would be a tragedy if this contribution should be threatened in any way by a lack of financial support.

..... 

R.J. PEPPERELL
CHAIRMAN

..... 

M. DRAKE
DIRECTOR