

Again the financial year just concluded has been a period of development associated with considerable diagnostic activity. Some of the developmental problems have been solved; others remain.

#### FINANCIAL AND STATISTICAL

The accompanying audited Statements of Account show that, for the year to 30th June, 1968, the Service operated at a cost which was \$4,671 less than the amount of \$111,401 available to us. The main reasons for this result are the increased staff efficiency referred to later in this Report, and the failure to receive during the year the number of smears we had hoped to receive.

The year under review saw the examination of 98,108 smears, which divided into the running costs for the year - \$101,689, being total cost \$106,730 less \$5,041 capital expenditure - gives a cost of 104 cents per smear. For the previous financial year it was 85 cents per smear. The main reason for the increase of 19 cents per smear is to be found in the increased salary bill which moved up \$11,712 - 24% during the year under review.

The overall picture, that is from inception of the Service to 30th June, 1968, is that 264,231 smears have been examined for a net running cost of \$262,337, or 99 cents per smear.

#### STAFFING

In the first two reports of the Service reference was made to the very considerable problems of staffing a cytology laboratory capable of carrying out a large-scale cancer detection programme. As indicated in these earlier reports, one of the major problems is related to the lack of trained cytotechnicians in Australia and the need for a long period of training before a technician can contribute to the work of the department. Thus the loss of trained technicians must be minimised and for this reason the high turnover of technical staff, referred to in the last annual report, had serious financial implications for the Service.

There are indications, however, that this problem has been largely overcome in the past year. This has been achieved in two ways :-

(1) Certain positions have been recognized as "key" ones and an attempt has been made to fill these positions with carefully selected career cytologists. The positions thus designated are :-

- (a) Laboratory Manager - this position was filled by Mr. Edgar Wilson who was appointed in October, 1967. Combining as he does considerable experience and ability both in laboratory administration and the technical aspects of diagnostic cytology, Mr. Wilson has contributed a great deal to the efficiency and stability of the Service.
- (b) Cytotechnologists - these are defined as Science graduates or holders of the Diploma of Medical Laboratory Technology who have also received training in diagnostic cytology. Two positions have been created and both these are filled by Science graduates. These staff members play a most valuable role in the work of the laboratory, checking and supervising the work of the screeners and controlling the teaching and limited research activities of the Service.
- (c) Senior Cytotechnicians - four such positions are envisaged but as yet none has been filled on a permanent basis. The attraction of staff to these positions, and their subsequent retention, does pose a considerable problem because of the lack of a recognized qualification in cytology at a technician level and hence the lack of a suitable salary scale. The problem is a complex one impinging as it does on the qualifications, status and salaries of other hospital laboratory workers. However, a great deal of thought has been given to overcoming the problem and some steps have already been taken in this direction. Thus, for example, the recent introduction of cytology into the existing medical laboratory certificate and diploma courses of the Royal Melbourne Institute of Technology does pave the way for a suitable qualification for the cytotechnician.

Meanwhile it will probably be necessary for the Service to

establish an arbitrary salary range for a small group of carefully selected technicians who have had considerable practical experience in cytology and who have displayed above average ability and responsibility.

- (2) A larger group of cytotechnicians or "screeners" is being utilized for the initial screening of the specimens. Considerable stability has been achieved in this group by the employment of married women on a part-time basis. Thus sixteen women are now employed, each working five half-days per week. Morning and afternoon sessions are worked with a short period of overlap. The latter allows for group educational activities which are essential for maintaining skill and motivation.

This venture into part-time staffing would appear to be an outstanding success. There have been no resignations and the group has demonstrated quite remarkable interest and enthusiasm and a high degree of responsibility and competence.

With increasing experience and hence increased work-capacity of the part-time group there will be a decreasing need for full-time screeners. A natural "wastage" of full-time staff will be allowed to occur without replacement although it will be necessary to maintain always a small group of full-time technicians to train for the more senior positions in the unit. The staff situation on 30th June, 1968, was as follows :-

Technical Staff:

|           |                                 |
|-----------|---------------------------------|
| Full-time | One (1) Laboratory Manager      |
|           | Two (2) Cytotechnologists       |
|           | Ten (10) Screeners              |
|           | Two (2) Preparation Technicians |
|           | Total = 15                      |

Part-time Sixteen (16) half-time Screeners.

Clerical Staff:

|                                 |
|---------------------------------|
| One (1) Secretary-administrator |
| One (1) Senior Typist           |
| Three (3) Typists               |
| One (1) Senior File Clerk       |
| Three (3) File Clerks           |

Total = 9

It is appropriate to mention here that the staff members mentioned above are not the only persons required to sustain the activities of the Service. They are the persons directly employed by the Service, but over and above these there are those whose services are made available by Prince Henry's Hospital to supply the necessary diagnostic and administrative services. The Director of the laboratory of the Service, Dr. Michael Drake, is the Surgical Pathologist and Specialist in charge of Cytology of Prince Henry's, and in his activities as they relate to his appointment as Director, is ably assisted by Dr. Peter Thomson, M.B., B.S., M.C.P.A., who joined the staff of the hospital as Assistant Haematologist and Assistant Cytopathologist in May, 1968. These are the persons who supply the expert medical knowledge without which the Service could not function. And the rather more obscure but equally necessary administrative functions of staff recruitment, payroll preparation and accounting for the activities of the Service are performed by hospital staff members concurrently with their activities in these directions on behalf of the hospital.

#### RECORD AND FILING PROBLEMS

Contrary to the encouraging staff situation the records and files of the Service are still a cause of great concern. As indicated in the last report the problem is related not to the complexity of the data but rather to its volume. Already the files of the Service contain over one quarter of a million patient record cards and these are being added to at the rate of 300 - 400 daily.

It cannot be too strongly emphasized that it is imperative for the data of the Cytology Service to be stored in a form that can be readily retrieved and analysed. Such analysis is essential for the continual assessment of the efficacy and activities of the Service and for the control of diagnostic accuracy.

In addition, it must be realized that the analysis of the vast amount of information to be derived from the activities of the Service could be

of considerable value in the understanding of the natural history of cervical cancer and may also shed light on various aspects of cancer of other areas of the body.

A follow-up system on manual filing methods has already been implemented. Thus as from 1st January, 1968, letters have been sent to all medical practitioners who have referred smears in which serious abnormalities have been demonstrated. These letters are sent two months after the smear has been reported upon and they seek information regarding any investigations carried out as a result of the abnormal cytological findings. The response to these letters has been most gratifying, over 95 per cent of the practitioners contacted furnishing follow-up information. It must be appreciated that cytology is a science that rests heavily on observer interpretation and as such it cannot be practised in a vacuum. Failure to correlate the cytological predictions with the subsequent histological findings will lead inevitably to a deterioration in diagnostic accuracy.

Because of the volume of records involved the use of electronic data processing is inevitable. In comparable laboratories where manual methods have been relied upon, immense problems, involving considerable expense, have been encountered. Conversely, in laboratories where electronic data processing has been employed these problems have been avoided. In the cytology laboratories of New South Wales, recently utilised computer facilities have already been of considerable value.

The record and filing problems of the V.C.(G) S. are currently being evaluated by Mr. John O'Donohue, Research Officer, of the Department of Health. Mr. O'Donohue has spent a great deal of time and effort on these problems and the results of his work to date are most encouraging.

#### RESEARCH PROGRAMME

This is still being restricted by the shortage of suitable laboratory space.

However, the chromosome studies are still being carried out and the cytogenetics laboratory is now capable of most routine chromosome techniques.

The preliminary work has thus been done in order for the research project outlined in the previous report to be fully implemented when the new laboratories are occupied.

#### EDUCATIONAL PROGRAMME

Again appreciation must be recorded for the efforts of the Anti-Cancer Council of Victoria in publicising the activities of the Service and, in particular, for continuing to stress the advantages of a regular "cell-test" for cervical cancer to the women of Victoria. Public meetings are still being held throughout the State and these are still being attended by large numbers of women.

It is true that the educational programme is not as intense at present as in the earlier years of the Service and this is possibly reflected in the failure to maintain the initial increase in the number of new smears being received by the Service. However, it is planned to increase the publicity again in the near future and it is hoped this will ensure the continued co-operation of the population at risk in the screening programme.

#### DIAGNOSTIC ACTIVITIES

Approximately 1,900 medical practitioners throughout Victoria are now registered with the Service.

From 1st July, 1967 to 30th June, 1968, 98,108 smears were examined. Thus a total of 264,231 smears have been examined since the inception of the Cytology Service.

As indicated above, a detailed analysis of these figures cannot be carried out without the aid of electronic data processing. However, a recent estimate, based on a limited sampling technique, suggested that between 20% and 25% of the adult female population has now been screened.

In the period covered by this report 289 "positive" cases were detected, making a total of 728 since the commencement of the Service. This final total is based on figures that differ slightly from those given in the earlier reports. A recent review of the "abnormal" file revealed a discrepancy

in the calculation of the "*positive*" cases. Thus several patients who had had "*positive*" smears on widely separate occasions had been included as "*positive*" cases on each occasion.

As emphasized before, in evaluating the total number of "*positive*" cases it must be appreciated that the total includes all those cases in which the cell findings were regarded as "*strongly suggestive of malignancy*" as well as those in which there were "*malignant cells identified*".

In addition it must be emphasized that follow-up information is incomplete and that not all those cases listed as "*positive*" have as yet been verified by tissue examination. However, the follow-up programme outlined earlier has already demonstrated a number of patients who have been shown to have pre-invasive or early invasive carcinoma of the cervix despite a complete absence of symptoms and signs at the time of cytological examination.

It is far too early to demonstrate any effect of these early diagnoses on the mortality figure for cervical cancer in Victoria. The lesions detected by a cytology screening programme are in an early form and probably many would not manifest themselves as clinical carcinomas for some years. Hence the successful treatment of these lesions could not be expected to alter significantly the current mortality figures. In this regard the recent figures for the comparable cytology service in the Canadian Province of British Columbia are of considerable interest. This service has now been functioning for over twelve years. Initially, as would be expected, no significant change in the cervical cancer death rate was observed although for some years now there has been a marked decrease in the incidence of invasive carcinoma. However, there are now indications that the mortality rate is also declining. Thus the adjusted mortality rate has fallen from 10.6 per 100,000 in 1964 to be consistently below 8 per 100,000 over the past three years while the crude mortality rate fell from 11.7 per 100,000 in 1966 to 8.8 per 100,000 in 1967.

These results are very encouraging indeed. They provide a clear indication that continuation of the work already commenced so successfully in Victoria should result in a very significant saving of life in this State.

CONCLUSION

Since inception in 1964, the Service has functioned in areas "lent" to it by the Pathology Department of Prince Henry's Hospital. It is a tribute to the Director that the Service has functioned as efficiently as it has in these temporary and necessarily cramped and fragmented areas. But 1969 will see an end to this.

One entire floor - approximately 5,000 square feet - of a new block being constructed on the hospital site will become the new headquarters of the Service. Cost of its construction and equipping will be to the order of some \$150,000 - \$160,000, and occupation is expected to take place about mid-March, 1969. The maintenance and servicing of this much greater area - which will be carried out by hospital staff - can be expected to increase considerably following occupation, but the grouping of all personnel in one area which permits a functional internal lay-out should bring advantages and efficiencies to help counteract this cost increase. However, in the long run, maximum efficiency will depend upon the maximum number of women availing themselves of the service which the V.C. (G) S. was created to provide.

We look forward with confidence to the future.

Lance Townsend,  
Chairman

W. A. Cross,  
Manager & Secretary.