

SHEPHERD FOUNDATION



*10th.
Anniversary
Report*

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The Shepherd Foundation was established in March 1970, as a non-profit charitable trust to provide preventive medical services in the Victorian community. The trust fund was donated by George and Mary Shepherd; Mr. Shepherd was the inventor of the famous Shepherd Castor. The Shepherd Foundation provides funds for prevention and early detection of common chronic diseases and for education and research in relation to these aspects of health care.

This report reviews the activities of the Shepherd Foundation since the Health Testing Centre was opened in 1971 by the Hon. John Rossiter, Minister of Health in Victoria. The Board of Trustees, which includes two Trustees nominated by the Royal Australian College of General Practitioners, feels justified in thinking that the Foundation has made significant achievements in relation to all its major objectives.

The main achievements of the Shepherd Foundation, which are the subject of this Tenth Anniversary report are summarised below:—

Automated Multiphasic Health Testing (AMHT):—

The major operation of the Foundation has been its automated multiphasic health testing centre. Over 140,000 patients from all parts of Australia have been tested and they were referred by 1,800 doctors. The biomedical profile has been modified from year to year in order to enhance its effectiveness.

Research and Evaluation:—

Grants totalling over \$200,000 have been made for projects undertaken by researchers in university departments and the Royal Australian College of General Practitioners in association with the Foundation.

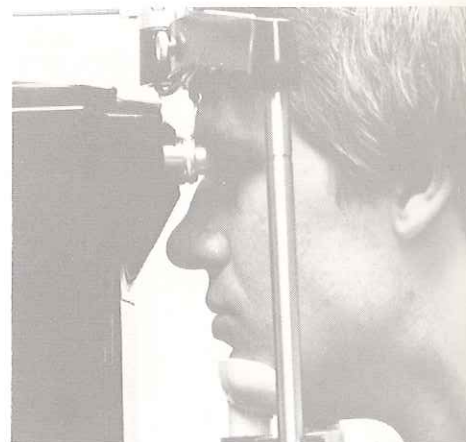
Education:—

Final year medical students have, for many years, attended the Shepherd Foundation for tuition in medical computing and interpretation of AMHT results.

The Shepherd Foundation Trust has also provided assistance and grants for educational seminars and publications by the Royal Australian College of General Practitioners and other academic bodies. Health education in the community has been given high priority which is reflected in the recently launched WELLCARE programme.

Computer Innovations:—

The Shepherd Foundation has been responsible for a number of innovations. Notable among these have been the computerised evaluation of responses to a psychiatric questionnaire (MMPI); the design and construction of a microprocessor controlled mobile audiometry laboratory; design of a desk computer for a general practitioner surgery using the problem-oriented medical record; design of a computer produced summary letter advising referring doctors of the possible significance of abnormalities in the automated multiphasic health testing report; and the design and production of an automated laboratory quality control system which has enabled the Shepherd Foundation laboratory to be ranked consistently high in the world-wide Wellcome Group Quality Control Programme.





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Prevention and Early Detection of Disease: —

The disease prevention programme operated by the Shepherd Foundation in Melbourne is based on testing for specific diseases determined by risk-factor analysis and test sensitivity. In order to take full advantage of modern technology and computers, the preventive and predictive medicine aspects of each disease for which the patient is examined, must be carefully defined, e.g. the disease must have public health significance, there must be a clear benefit to the patient as a result of early case detection and an acceptable diagnostic procedure must be available for the early detection of the disease. Evaluation research has shown that all these goals have been achieved.

In a recent survey, in co-operation with the Royal Australian College of General Practitioners and Monash University Department of Social Work, on randomly selected Shepherd Foundation patients, the following conditions were detected unexpectedly:

Conditions	No. of new cases per 1,000 patients	Conditions	No. of new cases per 1,000 patients
Anxiety/Depression	26	Other Coronary Risk Factors	60
Alcoholism	7	Heart Failure	12
Cancer	2	Hypertension	46
Breast Lump, Dysplasia	107	Lung Disease	48
Gynaecological condition	45	Liver Disease	15
Thyroid Disease	12	Pyelonephritis, Urinary Infection	41
Hyperlipidaemia, Cholesterol	194	Arthritis, Rheumatism	14
Gout, Hyperuricaemia	10	Glaucoma	5
Diabetes	7	Visual Defects	17
Anaemia	24	Impaired Hearing	50
Coronary Heart Disease	31	Other conditions	55

Detection of Health Hazards: —

Surveys of doctors have demonstrated that a significant proportion of patients have health hazards identified following referral to the Foundation Centre. Because of the quantitative nature of the outcomes of health hazards detected by the Foundation, the doctors were better able to induce patients to remove these by changes in habits, such as smoking, drugs, alcohol, obesity, lack of exercise. In some instances, industrial and occupational health hazards were also identified.

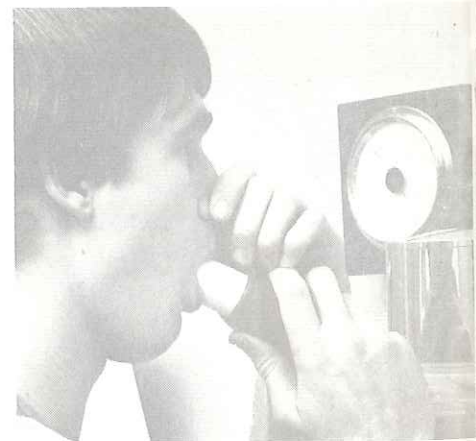
Improved Medical Record Data Base: —

There is an urgent need for improved medical records and data communication in primary health care. In most general practice clinics today, a patient's clinical record is little more than a partly chronological, incomplete and disjointed account of symptoms, signs, investigations, diagnosis, drugs and progress remarks.

It is relatively easy to enter data into such a record system, but great difficulties are encountered when retrieval is attempted. The Shepherd Foundation computerised report has provided doctors with a comprehensive account of history, medical problems and other relevant data, and a list of test results designed to check every system.

Personality and Psychiatric Assessment: —

It is a matter of concern to many in the field of mental and psychological health that the diagnostic process requires a





disproportionate amount of professional time. The Shepherd Foundation history contains many questions directed at personal, psychological, neurotic, sexual, drug and alcohol problems.

Significant advances have been made in the application of computer technology in the problems of mental health. In 1975, the Shepherd Foundation introduced the use of the computer to score and analyse personality and psychiatric tests. The service has enabled general practitioners and psychiatrists to test patients in their own surgeries. Test responses are mailed anonymously to the Shepherd Foundation Centre where they are computer analysed and the results are then mailed back to the doctor.

Cardiovascular Risk Assessment:—

The major risk factors relating to heart attacks, strokes and other cardiovascular diseases, are associated with behaviour and habits which often give pleasure or result in increased income. It is, therefore, unlikely that people will accept advice about changing such behaviour and habits without evidence of risk that applies specifically to each individual. Epidemiological research has enabled the Shepherd Foundation Centre to use computer techniques to calculate the probability of major cardiovascular diseases occurring in a given individual in the next eight years.

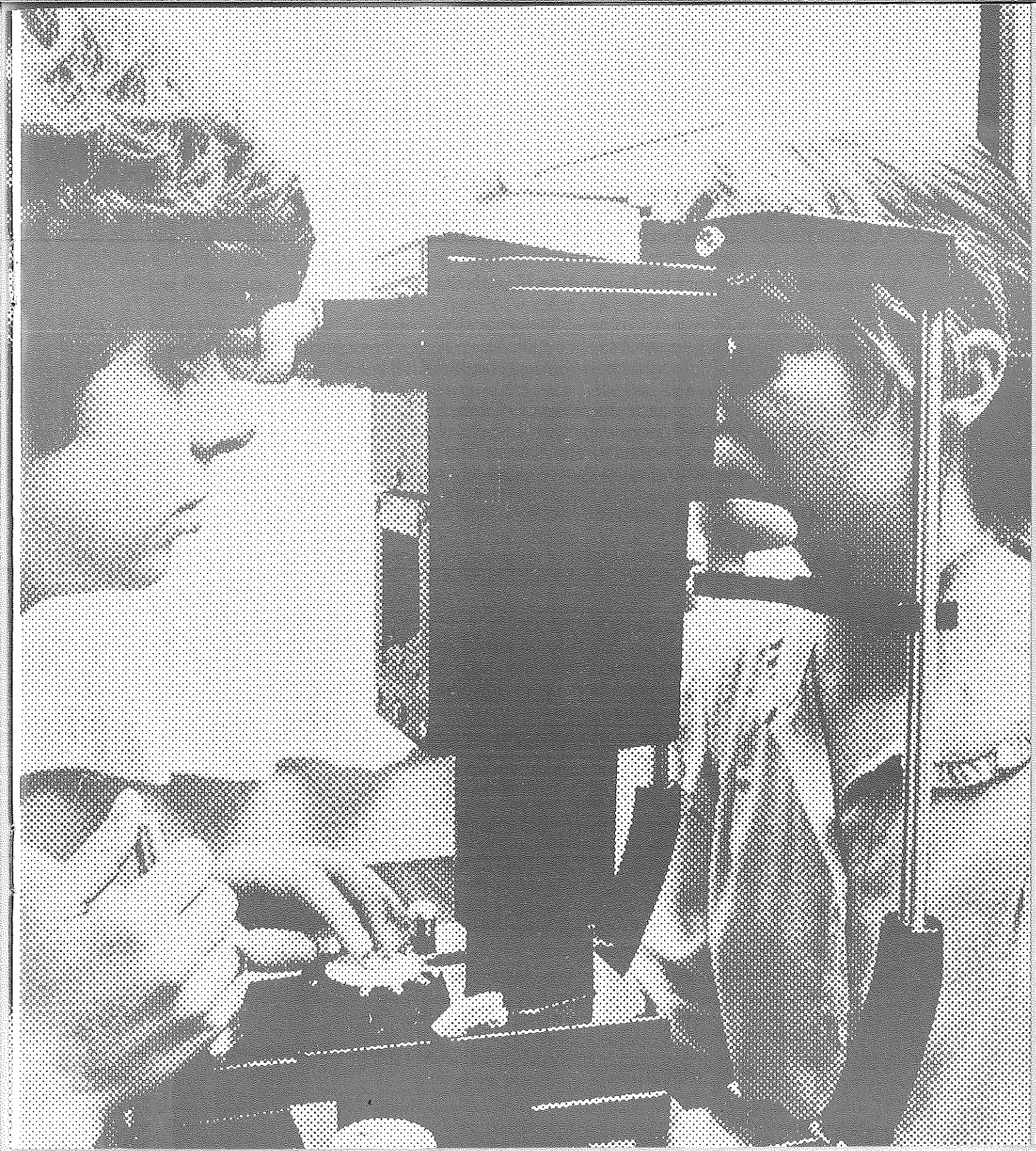
The new system also identifies the factors which must be modified in order to reduce the probability of attacks in high risk individuals and it provides the doctor with a method of monitoring progress of his patient.

Studies carried out in conjunction with the Health Commission of Victoria have shown that a randomly selected population in Melbourne had over twice the expected risk of coronary heart disease in 13% of males and 19% of females. It is the aim of the Shepherd Foundation to identify these people and alert their doctors to the risk factors which need correction.

Benefits Demonstrated by Our Research:—

Evaluation studies involving a large number of general practitioners have demonstrated that significant diseases which were unexpected by the doctors are detected in 36% of all cases. Doctors also reported additional useful information relevant to a previously known diagnosis in 31% of cases and other benefits in 25% of cases. Patients were significantly reassured in 83% of cases while disadvantages were reported in only 5% of cases.

Studies have also shown that a high proportion of patients have made lifestyle and behaviour modifications after attending the Shepherd Foundation Centre. One study by a general practitioner using Shepherd Foundation reports to motivate patients towards lifestyle changes, demonstrated a 10% improvement in life expectancy, a 12% improvement in cholesterol levels as well as improvements in blood pressure, weight, exercise activity level and aerobic capacity by up to 22%.



Health Insurance Benefits:—

Patients attending the Shepherd Foundation Centre have always received health insurance rebates. The Department of Health has co-operated by examining audited accounts and establishing appropriate non-profit fees for a medical service which is not available from private practitioners.

Over 1,800 doctors refer patients to the Shepherd Foundation on a regular basis. Only referred patients are accepted to ensure that abnormalities and diseases detected by the Shepherd Foundation are treated by the patient's own doctor.

A Reference Laboratory for Australian Health Statistics:—

The Shepherd Foundation health records of 140,000 patients have provided a unique opportunity to obtain statistics and bio-medical information on a large Australian population sample. As a result of these studies, it is now possible to compare individual test results with those from people of the exact same age and sex. Research on carbohydrate tolerance has enabled a more precise diagnosis of diabetes.

Large studies have defined geographic distributions of abnormal test results which may have environmental significance. The records of menstrual flow, menstrual pain and other gynaecological problems have provided new information about the menstrual pattern in various age groups, and studies have demonstrated a relationship of menstrual pain and blood loss with smoking, alcohol, anxiety and other factors.

The standard height and weight tables of Australian males and females have been revised following studies at the Shepherd Foundation.

Quality Control of Laboratory Results:—

The standard of accuracy of leading laboratories is tested by participation in quality assurance programmes. The Wellcome Group Quality Control Programme conducted both nationally and internationally between over 1,300 laboratories has consistently ranked the Shepherd Foundation among the top laboratories. This is largely a result of quality control computer programmes developed by the Shepherd Foundation staff.

Computer Assistance in Medicine:—

The staff of the Shepherd Foundation have designed and produced several unique computer applications in medicine. Among these is a computer programme which analyses the questionnaire responses and test results of patients to produce a computer report which suggests possible diagnosis and treatments to be considered by the referring doctor.

New Hearing Conservation Service:—

The Shepherd Foundation now provides a Hearing Conservation Service. This new service was introduced after the Victorian Government made hearing tests compulsory in noisy industries. The Shepherd Foundation provided a unique mobile acoustic laboratory which incorporates a computer system entirely designed and built by the Shepherd Foundation staff. The acoustic laboratory is

soundproofed so that it is possible to test workers on site in even the noisiest factories.

New WELLCARE Project:—

The need for health promotion in the Victorian community has long been recognised by the Shepherd Foundation Trustees. The many patients requiring instruction in lifestyle modification techniques encouraged the Trustees to launch a health promotion project which they have called WELLCARE. Instruction in stress management, aerobic dancing, weight control and how to stop smoking is provided by trained staff. A moderate fee is charged to cover expenses only.

New Premises:—

The Trustees have, over the last few years, become concerned about the parking available at 6 Bowen Crescent, South Melbourne. So when the lease on the old building expired, it was decided to move to new premises at 161 Fitzroy Street, St. Kilda, where ample parking is available. The entire clinic is situated on the ground floor. This has resulted in improved efficiency and patient comfort is even greater than before.

Donations and Grants:—

The Shepherd Foundation has provided financial support, facilities, materials and/or data for the following research projects:—

- Blood lipid analysis—M. Traill.
- Evaluation of Automated Multiphasic Health Testing—I. Rowe, L. Larsen.
- Geographic distribution of biometric variables—Professor J. Gibson.
- Immunological association with Papanicolaou Smear—M. Drake.
- Menstruation and pre-menstrual tension—Professor C. Wood.
- Multiphasic Screening and personalised education—C. Taylor.
- Personality characteristics—Professor L. Opit.
- Mammography—P. Holojad, E. Balaam, I. Rowe.
- North-west suburbs survey—L. Larsen, I. Rowe.
- Hypertension studies—J. Mathews.
- Computerisation of teaching practice records—Professor N Carson.
- Microscopic Haematuria—J. Wheelahan.
- Carbohydrate tolerance reference limits—L. Larsen, M. Wilson.
- Computerised records for general practice—L. Larsen, P. Day.
- Blood ceramide and atherosclerosis—Professor J. Polya, P. Parsons.
- Screening of Dentists—R. Newbury.
- Evaluation of achilles tendon reflex for thyroid screening—E. Goodman.
- Automation of quality control—G. Nicol, R. Williams, L. Larsen.

Special Grants to the Royal Australian College of General Practitioners:—

Education Grants	— \$ 6,125
Australian Family Physician	— \$ 9,750
Victoria Faculty Newsletter	— \$31,660
	<u>\$47,535</u>

Grants to Monash University Community Practice

— \$15,389

Published Articles

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Trustees:

Mr. Ian W. Anderson, LL.M., Chairman.
 Mr. Ernest W. Barr, BA.
 Dr. Donald G. Duffy, MD BS, FRACP.
 Surgeon Captain A. Stewart Ferguson, VRD, MBBS, FRACGP, FRSH.
 Mr. Eric M. Huggard, FCA.
 Dr. Leif H. Larsen, MBBS, FRACGP, Medical Director.
 Dr. Ian L. Rowe, MBBS, FRACGP

Panel of Consultants:

General Practice and Primary Medical Care	Dr. B. S. Alderson, Dr. N. A. Andersen, Dr. C. Bridges-Webb, Dr. A. S. Ferguson, Dr. I. L. Rowe, Dr. C. A. Scaife, Dr. G. R. Walpole.	Radiology	Dr. D. C. McGuire.
Medicine	Professor A. Doyle, Dr. D. G. Duffy.	Ophthalmology	Professor G. Crock, Dr. R. Lowe.
Cardiology	Dr. H. B. Kay, Dr. P. Habersberger.	Clinical Pathology	Dr. M. A. Traill.
Endocrinology	Professor H. Pincus Taft, Dr. H. Burger.	Cancer Detection	Mr. A. Ackland, Dr. C. Minty.
Psychiatry	Dr. W. Orchard, Dr. A. Stoller, Dr. A. Sinclair.	Gynaecology	Professor C. Wood, Dr. K. Churches.
Psychology	Dr. L. Borland.	Cytology	Dr. A. Bodey.
		ENT	Mr. R. P. Freeman.
		Rheumatology	Dr. M. Ingpen.
		Anthropometry	Dr. J. Towns, Mr. D. Bowden.
		Bio-Statistics	Dr. G. Rogerson, Mr. R. B. Williams.

Executives:

Mr. B. S. Aarons, Systems Engineer, Dr. E. Balaam, Assistant Medical Director,
 Mr. K. L. Fletcher, Executive Officer, Mrs. P. M. Grant, Health Testing Supervisor,
 Mr. G. R. Nicol, Laboratory Director.



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