

## STATEMENTS AND SPEECHES



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No. 52/18 CANADA'S FEDERAL PROGRAMME FOR HEALTH RESEARCH

An address by the Minister of National Health and Welfare, Mr. Paul Martin, to the 72nd Annual Meeting of the Ontario Medical Association, at Hamilton, Ontario, May 21, 1952.

Federal Aid To Health Research

One of the great stories of our time -- and one that holds rich promise for health progress in the years ahead -- is the story of Canadian achievement in health research. This subject is so extensive that I must confine my talk mainly to what has been accomplished by the people of Canada through their governments.

I would not want anyone to overlook the very impressive and worthwhile contribution made year after year by the great research foundations, provincial governments, private industry, the voluntary health agencies and the universities. Nevertheless, without in any way deprecating what these other agencies and governments have done, I can say that the outstanding feature of medical and public health research in Canada today is the increasing recognition and support it is receiving from the Federal Government.

It is estimated that five years ago Canada's annual expenditures on health research were less than a million dollars. This year, Canada will spend at least \$3,500,000 on health research, of which approximately \$2,000,000 will be provided out of Federal funds. Perhaps the best way to illustrate this increased Federal interest in health research is to choose a particular example.

You may remember that in December 1949, on the advice of my Deputy Minister, Dr. Cameron, and other Canadian health leaders, I asked the support of the Government for a concentrated programme of clinical research into the new "wonder" drugs, ACTH and Cortisone. When I announced our plans to Parliament and to the country, some thought them too ambitious. But they under-estimated the capacity of Canada's medical scientists. ...

The Federal Government has spent approximately \$500,000 on research into the properties of ACTH and Cortisone and thus speeded up this research programme in Canada by several years.

At the Connaught Laboratories in Toronto, a Federally-supported plan to produce ACTH has succeeded so well that limited supplies are now available for clinical use in Canada. I should like here to pay tribute

to the friendly co-operation of the United States' manufacturers of both these drugs who made them immediately available to Canadian scientists and physicians.

### Canadians In Forefront Of Health Research

In the great forward sweep of medical science in recent years, Canada has won an honoured place. Canadian medical scientists have earned an international reputation for their research achievements.

It has been said, and wisely so, that public health is purchaseable. To some degree also in health research, discovery is proportionate to the effort put into it. It is the intention of the Federal Government -- and in this I know that we speak for the conscience of Canada -- to put enough of our national resources at the disposal of our medical scientists so that the frontiers of scientific discovery can constantly be pushed back, and so that as many of our fellow-citizens as possible can be rescued from the thralldom of ill health.

Canada today has come to a point of development where the entire pattern of medical research might usefully be reviewed. A great Canadian medical scientist, Dr. Wilder Penfield, pointed out some time ago that, on a per capita basis, Federal aid to health research in Canada is equal to that in Great Britain or the United States, and that there is no comparable programme in any of the other Commonwealth countries.

Federal aid to health research in Canada might be set out under these four headings:

1. The National Research Council
2. The National Health Programme
3. The Defence Research Board
4. Other Federal health research activities.

I shall give the highlights of these programmes.

### The National Research Council

In the history of health research in Canada, the National Research Council holds a place of special honour. In point of time, the Council's programme was the first major Federal activity in this field, although its expenditures in health research are now somewhat less than those made under the National Health Programme.

Interest in medical research by the National Research Council dates back 15 years to the time when Sir Frederick Banting became a member. Representative medical men were called together by the Council to discuss the whole question of medical research in Canada. An Associate Committee on Medical Research was then formed, with Banting as Chairman, to conduct a comprehensive survey of the research resources of Canadian medical schools. This survey was completed just before the outbreak of the Second World War and a modest programme of grants was begun to encourage fundamental health research.

Following the War, the status of this Medical Research Committee was raised to that of a full-time Division, with Dr. Collip as Director and Dr. G.H. Ettinger -- who prepared such an excellent monograph on medical research for the Massey Commission -- as Associate Director.

Since then, a very substantial programme of research grants has been instituted by the Council. From the beginning the policy has been to support existing research activities and not to centralize or duplicate them in Ottawa. Direct grants are provided to qualified medical personnel to enable them to carry out investigation on approved projects. A number of research fellowships are also available to post-graduate students. There are four consolidated grants to outstanding scientists directing specific research programmes, but most grants are made in smaller amounts to projects carried on in universities from coast to coast. There were no less than 125 such projects last year.

For the current fiscal year, the National Research Council has a medical research budget of more than \$600,000. Of this, \$73,000 is for fundamental research in ACTH and Cortisone, \$115,000 for fellowships, and \$475,000 for consolidated and individual grants.

#### The National Health Programme

Although the National Research Council was the first Federal agency to support health research in Canada, great stimulus to research has been given in recent years through the National Health Programme of Federal grants inaugurated in 1948.

Since the beginning of the National Health Programme, more than 200 individual health research projects have been undertaken totalling Federal expenditures of over \$2,500,000.

Research activity under this Programme is not restricted to the Public Health Research Grant itself, under which \$500,000 is available this year to the provinces for approved projects. Substantial research is also supported under the grants for mental health, tuberculosis, cancer, crippled children, venereal disease, and general public health.

In connection with these projects, valued technical guidance is received from the Research Advisory Committee of the Dominion Council of Health, and from such organizations as the Canadian Tuberculosis Association, the National Cancer Institute, the Medical Advisory Committee of the National Research Council, the Canadian Arthritis and Rheumatism Society, the voluntary societies for crippled children, and from other interested agencies.

Applications for grants, forwarded in each instance by the provinces, are judged on their scientific merit, the ability and integrity of the applicants, and on the priority rating of each project -- when related, at the Federal level, to the total national research pattern. There are few limitations on the size of individual grants, and no provincial quotas. Grants may be made to any university, health department, or research centre in Canada where useful research can be carried out, although every effort is made to stimulate research in all parts of the country.

Besides supporting specific research projects, the National Health Programme has two other important research purposes:

- (a) to train Canadian research workers
- (b) to survey Canada's overall research needs.

(a) Training Research Workers

To overcome Canada's still serious shortage of trained research workers, an increasing proportion of the Professional Training Grant and other grants is being used. Of the 3,600 health workers already given training under the Federal grants, an increasing number are going into research work.

In this connection, it is most encouraging to note the changing status of research in our Canadian universities. In recent years many of our larger institutions have established full-scale medical research departments under the direction of outstanding scientists like Collip, Best, Selyé, Doupe and Dugal.

(b) Surveying Research Needs

In the early stages of the National Health Programme, most health problems investigated were related to laboratory and hospital work. But as the Programme gained momentum, there has been a significant change in the character of the projects submitted. For example, a high proportion of the monies available this year under the Public Health Research Grant will be allocated to field surveys or epidemiological studies.

In other words, our health investigators are not satisfied today with tackling individual problems in a haphazard manner. They want to know our exact health needs and their relative priority. The ten provincial health surveys -- of which several have been made public in recent weeks -- were undertaken as a part of the National Health Programme and financed by Federal grants totalling \$550,000 thus far. These exhaustive studies of the health needs of each province represent, in effect, a thorough stocktaking of Canada's public health resources. Through the surveys, each province has vastly increased its knowledge of its medical and public health needs.

The National Sickness Survey, the results of which are now being analyzed and tabulated, will also provide a great body of useful information for research workers. This research project -- the most comprehensive study of its kind ever undertaken -- is a co-operative venture of the Department of National Health and Welfare, the Bureau of Statistics and all the provincial governments. The Federal Government has already spent more than \$300,000 on this survey, which will indicate the predominant factors in present-day family morbidity and thus give positive directions for future research efforts.

The Defence Research Board

During the last war, Canadian medical scientists, working under the co-ordinated direction of the Armed Forces and the National Research Council, devoted all their efforts to the solution of the critical medical problems of modern warfare. Their contribution, in terms of lives saved and persons restored to useful activity, cannot be measured, but it will not soon be forgotten. The many advances in surgery and in the use of new drugs and techniques are now finding application in peacetime medical practice.

In 1947, to co-ordinate all defence research effort, the Government established the Defence Research Board as an arm of the Department of National Defence, under the able direction of Dr. O.M. Solandt, himself a very distinguished medical research scientist. One of the first acts of the Board was to set up a Medical Research Advisory Committee, under the chairmanship of Dr. R.F. Farquharson.

Recognizing the increasing complexity of modern war, the Defence Research Board in 1948 initiated a programme of grants-in-aid for defence medical research in the universities. This programme has grown to the point where over \$300,000 is being spent each year for this purpose. In time, these studies too will lead to discoveries that -- while they might never be applied in another major war -- will surely serve humanity.

Applications for Defence Research health research grants are considered by one of 16 panels, composed of leading workers in such fields as nutrition, radiation, burns and wounds, and blood and blood substitutes. It is interesting to note that the Chairman of this group of advisory panels, Dr. C.H. Best, speaks of them as advisers to the four defence services -- Army, Navy, Air Force and Civil Defence.

Since civil defence is a responsibility of the Department of National Health and Welfare, I can vouch for the fact that Dr. Best and his panels are giving invaluable assistance to Dr. Charron and the other officers of the Department who are working on the complex medical problems involved in civil defence planning.

Besides its grants programme, the Defence Research Board has initiated a programme of applied research on the medical problems peculiar to the Armed Forces. This is done at the Defence Research Medical Laboratories under the direction of Dr. M.G. Whillans. Problems under investigation include motion sickness, the effects of cold on locomotion, the toxicology of chemical warfare agents, and the development of a variety of ration packs for the Armed Forces. Work is also in progress on problems related to anoxia, on personnel research and human engineering, and clothing development.

Although the Board's medical research programme has from the beginning been closely co-ordinated with those of other government agencies, on the outbreak of hostilities in Korea it was decided that more formal arrangements were required. As a result, a Defence Medical Research Co-ordinating Committee was set up, with Dr. Best as chairman and Dr. Collip as alternate.

The senior medical officers of the Armed Services, the Department of Veterans Affairs, the Department of National Health and Welfare and the National Research Council are represented on this Committee. Its function is to co-ordinate defence medical research in Canada, and to see that all research resources at the disposal of the Government are used to best advantage in solving medical problems of concern to national defence.

#### Other Federal Health Research Activities

I cannot take time here to describe in detail the many fields in which Federal departments, such as Agriculture, National Health and Welfare, and Veterans

Affairs are carrying out health research on their own account. To mention only a few examples, important studies are constantly underway in connection with Federal health responsibilities for the health of Indians and Eskimos, public health engineering and the development of improved standards for foods and drugs.

The Laboratory of Hygiene of the Department of National Health and Welfare is active in the fields of virology, bacteriology and immunology. Many of these studies, such as the immunization of children, are carried out in close collaboration with universities and other outside agencies such as the Connaught Medical Research Laboratories in Toronto and the Institute of Microbiology and Hygiene at the University of Montreal. Useful studies are also undertaken by the Department's own research divisions on socio-economic aspects of health care.

In 1950 the Department of Veterans Affairs organized a programme of clinical research in its hospitals and clinics across the country. In the past two years a good deal of the budget has been devoted to ACTH and Cortisone research. This year, \$350,000 has been set aside for various research projects, including advanced studies in arteriosclerosis.

In addition to providing direct financial support for research activity and carrying on a certain amount of research work on its own account, the Federal Government has an important role as a co-ordinating agency. All Federal grants for research have been developed to meet evident need for them and the greatest care has been taken to avoid duplication of effort and to make the best use of existing facilities. The general approach of Federal fund-granting agencies in this field is to encourage "supported" rather than "directed" research. In other words, the intention is to give maximum Federal support with minimum government interference.

In all this worthwhile activity, the Federal Government works in friendly collaboration with the provincial governments. Canadian universities, too, make their outstanding contribution to research activity. They provide opportunities for independent study, maintain the needed laboratory facilities and keep alive the research instinct through the inspiration of their teaching.

The Federal Government also stimulates research by helping to co-ordinate the efforts of the various voluntary agencies interested in particular health problems. For example, during 1947, as Minister of National Health and Welfare, I presided over national conferences that led to the formation of the National Cancer Institute and the Canadian Arthritis and Rheumatism Society. In addition to their other important activities, these two voluntary groups are supporting large-scale research programmes.

#### Recent Progress In Health Research

Because of the co-ordinated health efforts of government and voluntary agencies, the past century has witnessed unprecedented medical discoveries. In our own time many new drugs, improved surgical techniques and improved therapies have been discovered. Because of the unprecedented advance of medical science in Canada during the thirty years since Banting and Best discovered the use of insulin, many thousands who would have been condemned,

defenseless, to certain death have been brought back to health, and new opportunities for a more active life have been opened to countless others. In no small measure because of the successes of medical research, two decades have been added to human life in this century.

Infections like pneumonia, syphilis, and many others have lost their terror. Smallpox, diphtheria, and probably whooping cough have been effectively brought to bay. Sanitation and pasteurization have all but eliminated typhoid fever. Rickets, once a serious threat to human health, has all but disappeared. Through improved preventive measures and surgical techniques, and through the use of streptomycin and newer drugs, significant progress is being made in bringing tuberculosis under control.

Often, a whole new era in the history of medicine is heralded by some brilliant discovery, such as Pasteur's discovery of the germ causation of disease, or the introduction of antiseptics by Lister, or the development of anesthesia by Long and Morton. Radioactive isotopes provide an exciting new investigation technique for the research worker, and now, thanks in no small measure to the efforts of Canadian scientists like Collip, Long, Selyé, Heard, and Browne, the imagination of health investigators is being captured by the new concept of the body's behaviour emerging from studies of ACTH, Cortisone and their related hormones.

#### Research Seeks New Worlds To Conquer

From time to time it is the way of human nature to complain that there are no more worlds to conquer. But in all humility, how can we know what unimagined realms lie just beyond our reach? And inside each miniature atomic universe -- which is the smallest imaginable particle of our world -- how little do we know about the pattern of its restless energy?

We smile at the complacency of those who in the 19th and preceding centuries looked back with so much smug contempt on the limitations of science before their own day. Let us, too, remember that in another time than this the same tolerant amusement may be the tribute paid to our level of knowledge -- impressive though it seems to us today.

Who knows what research discoveries lie ready to our hand? Who knows how few more segments of medical science might complete our understanding of the laws governing the human body, and answer questions that since the dawn of time mankind has asked despairingly.

Medical discovery, like the accumulation of knowledge of any sort, is a gradual process of adding fact to fact until in time there is a vast complete pyramid -- a monument to the man who sets the capstone, whose name will live forever, but also to each individual who toiled up the long inclines as one of the nameless work-groups who made their contribution to the mass of knowledge that was building.

Over the past half-century, Canada has made tremendous progress in health research. We rightly honour the great leaders whose names we know. But this progress

has only been possible because of the unheralded efforts of hundreds of Canadian research workers who have gone about their work quietly, patiently and with little public recognition.

The support that governments and other agencies have given health research in Canada has been important, certainly, but infinitely more important is the vision, the skill and the integrity of the men and women who have dedicated themselves to health research and to its application in medical practice. Let us honour their memory whenever we single out from the crowd those who have brought to completion programmes that have taken shape in a thousand minds and hearts.

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