



Celebrating the Medical Research Council of Canada

A voyage in time

40
1960 - 2000

years

MRCRM



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Cat. No. MR21-19/2000
ISBN 0-662-64885-4



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Foreword

We are pleased to join in the celebrations marking the 40-year legacy of the Medical Research Council of Canada.

Preparatory to a full history of the MRC, we have interviewed MRC personnel past and present, observers of the MRC, and representatives of government and the research community. We have studied those Council records available at the National Archives of Canada, and at the MRC itself. For other perspectives we have examined the medical and national press.

This sketch of the history of the MRC is based on our research, and all views expressed are our own. We intend to publish in two years time a book-length history of the MRC, setting the story in the context of the scientific, social and political changes of the era.

Terrie Romano
Alison Li



The discovery of the hormone called Insulin by Sir Frederick Banting and Charles Best has saved the lives of millions with diabetes – especially children.



Celebrating the Medical Research Council of Canada, 1960-2000

Looking Backward

IN 1938 THE 'DISCOVERER OF INSULIN' SIR FREDERICK BANTING AND C.B. STEWART TRAVELLED THE BREADTH OF CANADA, VISITING MORE THAN 300 MEDICAL RESEARCHERS FROM HALIFAX TO VANCOUVER. IN THE SMALLER CENTRES ESPECIALLY, BANTING WAS HAILED "ALMOST LIKE A MESSIAH", BRINGING INSPIRATION AND HOPE TO STUDENTS AND INVESTIGATORS.

The aim of Banting's pilgrimage was not simply to encourage the aspirations of Canadian medical researchers. As the Chairman of the Medical Research Committee of the National Research Council, Banting travelled at the request of the President of the National Research Council, A.G. McNaughton. This generation of scientific researchers, who had grown up in the era of Prime Minister Wilfrid Laurier's pronouncement that "Canada will fill the twentieth century," tirelessly campaigned for the establishment of scientific research. For them, Canadian achievements in science and medicine — like the almost miraculous discovery of insulin — exemplified the coming of age of the nation.

Banting's trip — in part, excellent public relations, in part, information-gathering — was part of an organized attempt to more firmly establish medical research in Canada. This effort also included soliciting input from virtually any individual or organization that had a stake in the development of medical research. The briefs submitted by researchers, academic institutions, professional groups and government bodies set the Canadian government on the path to more systematic support of medical science.

Banting and Stewart discovered that outside of the University of Toronto and McGill, few institutions provided the facilities, funding, or time away from students necessary for successful laboratory or clinical research. The universities of Western Ontario, Queen's and Alberta had small research establishments. Otherwise the remaining or aspiring Canadian medical researchers had to be extremely dedicated, working as they were, virtually without colleagues or institutional support. Banting optimistically concluded that the state of medical research in Canada was much more extensive than he had expected. Laying the groundwork for the changes that would follow, he emphasized the grave need for more systematic support.

Some seriously broached the idea of creating a Canadian Medical Research Council, along the lines of the MRC in Britain. After much deliberation, Banting and his counsellors concluded that such an institution would be premature in light of the state of Canadian medical research. They decided as an interim step to form an

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“There is great unrest in the medical research laboratories of universities because it is believed that this total sum (\$5,535,000) is inadequate and that the multiplicity of sources makes administration awkward and continuity uncertain.”

— G.H. ETTINGER, QUEEN'S UNIVERSITY

.....

consumed with Canada's war effort. Still, perhaps they would not have envisaged that it would take more than 20 years for their dream of an independent Medical Research Council to be realized.

Associate Committee on Medical Research within the National Research Council. Their first year, the Associate Committee received requests for funding for more than \$120,000 in grants and found that they had less than \$50,000 with which to fund them. With the commencement of the war in 1939, all schemes were put aside as the members of the new Associate Committee, with Banting as chairman, found themselves



Founding the Medical Research Council of Canada

BY THE LATE 1950S, THERE WAS A GROWING AWARENESS OF THE GRAVE NEED FOR RESEARCH FUNDING. CANADIAN MEDICAL SCHOOL DEANS JOINTLY PASSED A RESOLUTION IN THE ASSOCIATION OF CANADIAN MEDICAL COLLEGES WHICH DESCRIBED THE FEDERAL SUPPORT OF MEDICAL RESEARCH AS “ALARMINGLY INADEQUATE” AND URGED PRIME MINISTER JOHN DIEFFENBAKER TO REMEDY THIS SITUATION BY INCREASING FUNDS BY AT LEAST \$500,000.

Resources were stretched very thin because the scale of research in Canada had suddenly expanded. Scientific programmes in Canadian universities had grown dramatically in the post-war period. To some extent, there were simply more researchers. Two new medical schools had been established at the University of Ottawa and the University of British Columbia. The medical programme at the University of Saskatchewan had also been expanded to a four-year programme. The nature of research itself was also changing, requiring more expensive equipment and more extensive facilities. In 1958, the Privy Council named the Special Committee to Review the Extramural Support of Medical Research under the chairmanship of R.F. Farquharson, a member of the Canadian Society for Clinical Investigation. Farquharson had a broad mandate to review how the government supported research,

and whether government provided adequate funds for medical researchers.

The opinions of researchers and other interested parties across Canada were systematically solicited. The Farquharson Committee also conferred with research administrators from the United States, the United Kingdom, Australia and Sweden. At the heart of their discussions was the issue of how to nurture young Canadian medical scientists and to support the work of established researchers. How could government provide for medical science? How would government support fit into the landscape of research funding, alongside other government ministries, private philanthropy and the work of voluntary organizations?

Drawing on the examples of the United Kingdom and the United States, there were some discussions about whether or not to establish institutional laboratories for this new Council, like those of the British Medical Research Council, or the U.S. National Institutes of Health. Echoing their predecessors twenty years before, the committee concluded that because Canadian resources were more limited and more broadly dispersed, it would make more sense to focus efforts at research centres in universities across the country. They recommended that the government was wise to continue to channel its resources through the universities and



teaching hospitals rather than to establish central laboratories. Medical research, they argued, had to be closely tied to medical education in order to develop fully: this association was necessary for the recruitment and training of new investigators as well as for stimulating teaching. The emphasis on federal support for research in universities, rather than say in industrial, or national laboratories, has become a fundamental difference in the support of research in Canada in comparison with the United States and the United Kingdom.

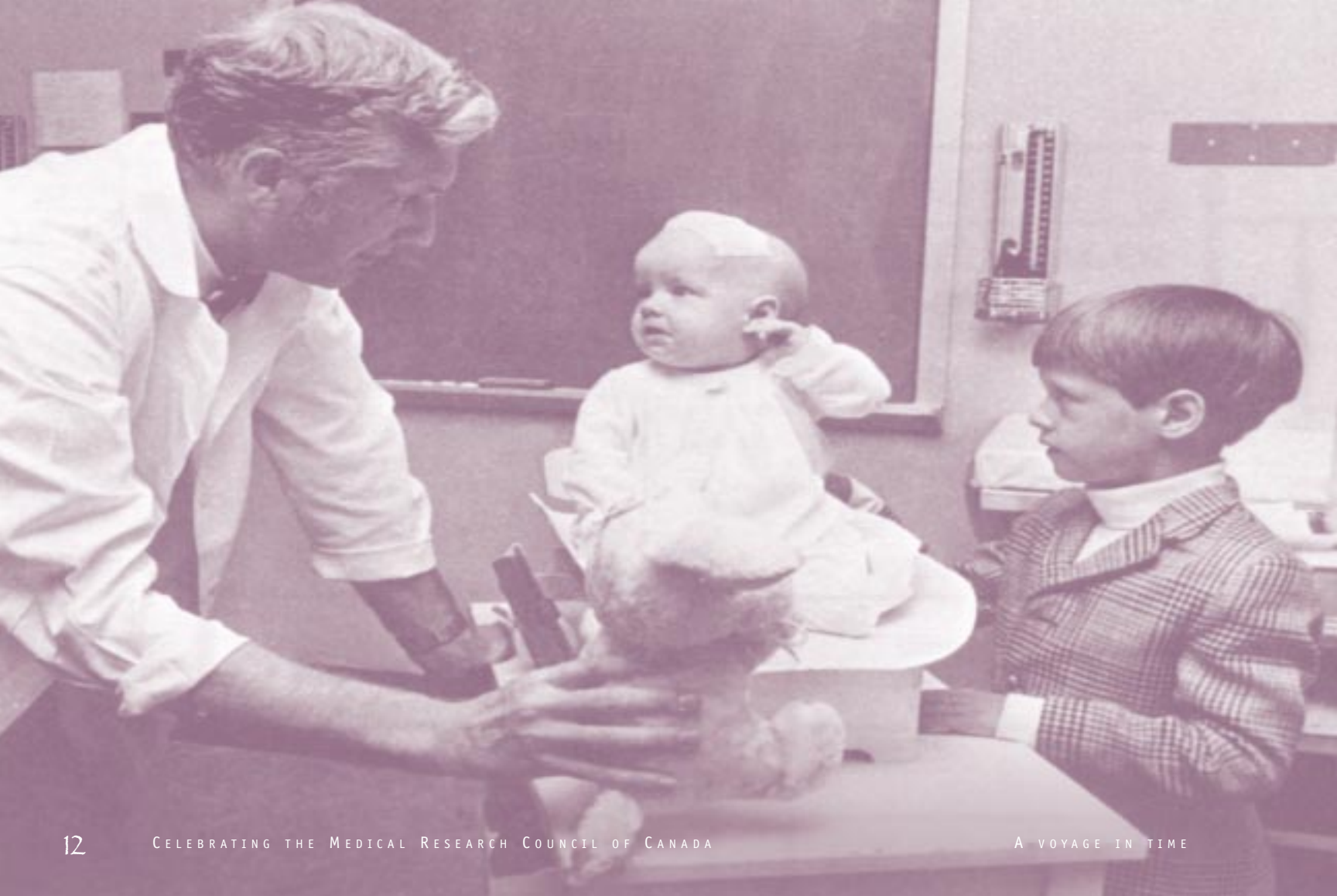
The committee found that funding was totally insufficient. As well as serious inadequacies in the provisions of grants and fellowships, and the salaries for scientific staff, there was a need for major investment to provide more fluid funds within medical schools, and for the construction of research facilities. In particular, researchers desperately needed both stability and flexibility of resources. They needed more money, longer grants, and the freedom to reallocate funds while pursuing research objectives. In short, they wanted enough money to give them an expectation of continuity, and the freedom to pursue longer-term goals.

Looking to redress these problems, the Farquharson Committee recommended the creation of an independent Medical Research Council.

“1959 is now the time to take the final step and establish an independent Medical Research Council. This opinion is shared by virtually all medical research workers in Canada, and those consulted in other countries.”

— REPORT TO THE HONOURABLE GORDON CHURCHILL, CHAIRMAN, THE COMMITTEE OF THE PRIVY COUNCIL ON SCIENTIFIC AND INDUSTRIAL RESEARCH, BY THE SPECIAL COMMITTEE APPOINTED TO REVIEW EXTRAMURAL SUPPORT OF MEDICAL RESEARCH BY THE GOVERNMENT OF CANADA, NOVEMBER 12, 1959.

After twenty years, Canadian medical research was judged sufficiently mature: Banting’s dream was fulfilled. The establishment of the MRC in 1960 demonstrated the coming-of-age of Canadian medical research; it was a statement that Canadians could compete among the best in the world.



Defining Medical Research

MOST INTERESTING WERE DISCUSSIONS OF HOW THE “MEDICAL RESEARCH” IN “MEDICAL RESEARCH COUNCIL” MIGHT BE DEFINED. WAS IT TO BE THOUGHT OF IN TERMS OF EXPERIMENTAL, BIOMEDICAL SCIENCE ALONE? HOW MUCH SUPPORT SHOULD BE GIVEN TO CLINICAL STUDIES? WERE BROADER ISSUES OF “HEALTH” MORE IMPORTANT THAN THOSE STRICTLY RELATED TO “MEDICINE”? WERE THERE EPIDEMIOLOGICAL OR EVEN SOCIOLOGICAL INVESTIGATIONS THAT COULD CONTRIBUTE TO OUR UNDERSTANDING OF MEDICINE, AND WOULD THESE FIT UNDER THE RUBRIC OF “MEDICAL RESEARCH”? THE ANSWERS WERE TO FORM THE OBJECTIVES OF THE NEW COUNCIL.

Such discussions about the meaning of medical research were also the result of inherent conflicts between the Canadian public’s expectations of medical researchers and the hopes of medical researchers themselves. The initial impetus for the formation of its precursors — the Associate Committees on Medical Research of the National Research Council — came from the need to investigate very practical health issues: tuberculosis in the 1920s, and the proliferation of unconventional cancer cures in the late 1930s. The public expected, and was perhaps encouraged to believe, that supporting Canadian medical research would quickly produce more Canadian ‘cures.’ In the wake of insulin, and in the 1950s, the still-recent discovery of antibiotics, public expectations were large. In the sense that the founding of the Medical Research

Council resulted from the economic expansion and optimism of the post-war era, it was a child of the 1950s.

Both in the late 1930s and again in the early 1960s, the internal mandate of the associate committees and the nascent Medical Research Council shifted to emphasize the support of fundamental biomedical research. The medical mandarins had a more sophisticated understanding of the nature of problems like tuberculosis or cancer and chose to concentrate on the realizable project of creating a research infrastructure for Canadians. The leaders of the era saw their role as advancing the development of Canadian medical science within an international community and fostering the careers of young Canadian investigators in order to forestall the ‘brain drain’ abroad. The framers of the MRC concluded that because resources were limited, efforts should be focussed on medical science more strictly defined, with a preference given to “basic” research.



The general public, though, may not have truly appreciated these short-term objectives of the MRC nor the justification for them. MRC leaders found themselves buffeted by the demands of the biomedical research community, the demands of the public in general, and the demands of their political masters. Thus, from the earliest years, there have been tensions swirling about the interpretation of the MRC's mandate.



Meeting of MRC Advisory Committee on
Medical Research November 1957

PHOTO COURTESY OF DOROTHY WRIGHT

The Early Years

WHEN THE MEDICAL RESEARCH COUNCIL FIRST EMERGED FROM THE NATIONAL RESEARCH COUNCIL, IT WAS NOT CLEAR THAT IT WOULD BECOME THE PRIMARY AGENCY FOR FEDERAL SUPPORT OF MEDICAL RESEARCH. THE ASSOCIATE COMMITTEE ON MEDICAL RESEARCH HAD CONTRIBUTED ONLY 1.5 MILLION DOLLARS, WHILE THE DEPARTMENTS OF NATIONAL HEALTH AND WELFARE AND THE DEFENCE RESEARCH BOARD CONTRIBUTED 2.5 MILLION FEDERAL DOLLARS DIRECTED TO MEDICAL RESEARCHERS. IT WAS FAR FROM A FOREGONE CONCLUSION THAT THE MRC WOULD EMERGE AS THE LEADING GOVERNMENT AGENCY FOR MEDICAL RESEARCH; INDEED, TENSIONS THAT EMERGED IN THE 1970S WERE DUE IN PART TO THE ATTEMPT OF THE MINISTRY OF HEALTH TO WREST BACK CONTROL OF THE MEDICAL RESEARCH AGENDA FROM THE MRC.



Ray Farquharson —
1960 - 1965

The work of the new MRC began under the able leadership of Ray Farquharson. Farquharson was a charismatic figure, and a successful researcher in his own right. An inspiring and enthusiastic promoter of medical research, he was also an effective operator within the federal bureaucracy. Before his death in 1965, Farquharson oversaw the first major expansion of the MRC budget for grants and awards, which more than doubled between 1963 and 1965 from \$4 million to \$9 million dollars.

The new Medical Research Council continued to operate under the auspices of the National Research Council until 1968 when the official Act creating the MRC was passed. The Council then answered to the Minister of National Health and Welfare. The first president of the Council was Malcolm Brown — often described admiringly as a man who demanded, and received, perfection. Brown steered the Council through an important period of change. He turned the focus of the Council to include more of what he called “applied” research. In addition Brown attempted to move the mandate of the MRC towards public health research, which would align it more closely with the policy direction of the Department of Health and Welfare.

“Most important of all is the great expansion of medical research which follows in the wake of every advance. Each new discovery leads to further discovery; each advance in treatment throws new light on the fundamental nature of the affected disorder, demanding further investigation. Every new treatment whether successful or not is potentially dangerous, creating new problems.”

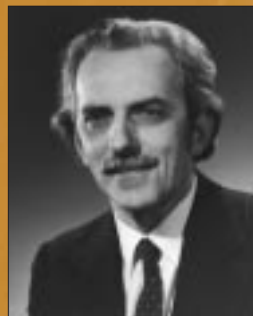
— RAY FARQUIHARSON



Malcolm Brown —
1960 - 1965



René Simard –
1978 – 1981



Pierre Bois –
1981 – 1991

Years of Consolidation and Expansion

BROWN FACED SEVERAL CHALLENGES. AFTER THE STEEP RISES IN FUNDING OF THE LATE 1960S, FUNDING PLATEAUED IN REAL TERMS DURING THE 1970S. IN THE ERA OF OFFICIAL BILINGUALISM, BROWN ALSO HAD TO MANOEUVRE THROUGH A TRANSFORMED FEDERAL BUREAUCRACY.

René Simard found a government more supportive of medical research, and during his presidency, the MRC gained important increases in funding, above the level of inflation. He made it a priority to work with the government to identify research areas of national concern.

Pierre Bois steered the Council through the 1980s dealing successfully with the challenge of reconciling the interests of the governmental authorities, the aspirations of the researchers, the need to answer the problems of public health and the need for contributing to the advance of knowledge. In the early 80s he succeeded in obtaining a \$50 million increase to the base budget.

Activities and Accomplishments

IN ITS 40 YEARS OF OPERATION, THE MEDICAL RESEARCH COUNCIL OF CANADA HAS BUILT A REPUTATION FOR FAIR-DEALING AND PROBITY WITHIN THE MEDICAL RESEARCH COMMUNITY. ITS PEER-REVIEW SYSTEM IS WIDELY ADMIRERD, AND ITS ACTIONS SEEN AS ETHICAL AND CONSIDERED, EVEN AMONG THOSE WHO DISAGREE WITH THE DECISIONS TAKEN.

At the centre of the MRC's activities have been the hundreds of medical researchers across the country who've volunteered their time to serve on its many committees and to referee applications. The peer-review system is the lynch-pin of the Council's granting programme. It has also been a valuable tool that the Council can offer to voluntary organizations, such as the National Cancer Institute and the Heart Association, whose support of research in particular fields complements the Council's own work.

Over the years, the MRC provided guidance on issues like the ethics of research and protocols for the care of experimental animals. This aspect of the MRC's activities offers a window into the day-to-day dilemmas of research scientists, particularly those that experiment on live subjects, including humans.

The face of medical research, and thus the work of the council, has changed dramatically over the past forty years. In the early years,

the small group of administrators worked closely with a small community of researchers and everyone seemed to know everyone. Grants were easier to come by. In subsequent decades, the scale of the Canadian research enterprise grew tremendously. Experimentation became more and more specialized and research became the work of larger and larger teams of workers from different disciplines.

One of the biggest stories in the postwar era was the spread of medical research across the country. The MRC fostered this development; even in the early years funding was spread across the country. In another sense the Council has been, since its beginnings, self-consciously a national organization. Even before the era of official bilingualism, the MRC included members of French and English research communities. The MRC also facilitated the rapid expansion of medical research in francophone Canada, which was begun by men like Jacques Genest and Pierre Bois, who forged bridges between the University of Montreal and McGill.

In the last several decades, the landscape of medical research has become increasingly diverse, involving not only the traditional locus of research — the university medical school — but also



Dr. Jacques Genest

hospitals, research institutes and private industry. Funds for medical research in Canada now originate within a complex network of federal and provincial government bodies in addition to the MRC, from not-for-profit foundations, and from the private sector, including pharmaceutical firms and new high-tech biotechnology companies.

In Canadian medical research, the discovery of insulin has cast a long shadow: even well into the 1960s a large proportion of Canadian medical researchers concentrated on endocrinological research. It is a tribute to the success of the MRC that it nurtured this strength: evident for example in the Canadian discoveries of “prolactin” — by Henry Friesen, and “calcitonin” — by Harold Copp. While building on established Canadian strengths, the MRC fostered the expansion of the number of researchers and their areas of expertise. For example, when Michael Smith was awarded the Nobel Prize for developing site-directed mutagenesis, a revolutionary technique in genetic engineering, the MRC was justifiably proud of the role it played in his career. Perhaps the largest tribute to the success of the MRC in its 40 years of operation is that today it is impossible, as even a glance at current grant-holders amply illustrates, to briefly list Canadian researchers, or to summarize either their fields of expertise or many successes.



Dr. Henry Friesen –
1992 – 2000



Dr. Douglas Harold
Copp

Years of Profound Changes

OVER ITS FOUR DECADES, THE MEDICAL RESEARCH COUNCIL HAS HAD TO FACE CONTINUING CHANGES IN THE POLITICAL AND SOCIAL ENVIRONMENT. THESE CHANGES HAVE BROUGHT IT SIGNIFICANT NEW CHALLENGES. FUNDING LEVELS REFLECTED, IN PART, THE CHANGING LEVELS OF GOVERNMENT INTEREST IN PROMOTING BIOMEDICAL RESEARCH PER SE. FUNDING ALSO REFLECTED POLITICAL AND ECONOMIC REALITIES. THE ESTABLISHMENT OF THE MRC LED TO INITIAL OPTIMISM WITHIN THE MEDICAL RESEARCH COMMUNITY, WHICH WAS QUICKLY EXTINGUISHED WITH THE SLOW GROWTH OF FUNDING IN THE EARLIEST YEARS. IN THE MID-TO LATE-1960S, THE MRC PROFITED FROM ITS ASSOCIATION WITH HEALTH, AND THE INCREASING GOVERNMENT INTEREST IN HEALTH, AS A RESULT OF THE ESTABLISHMENT OF THE CANADIAN GOVERNMENT-FUNDED HEALTHCARE SYSTEM. THIS WAS REFLECTED IN AN MRC BUDGET THAT MORE THAN TRIPLED IN REAL TERMS DURING THE 1960S. THE MRC HAD SUCCESSFULLY CONVINCED POLITICIANS AND THE PUBLIC THAT CANADIANS SHOULD, AND COULD, DO MEDICAL RESEARCH.

In the 1970s, the political climate was indifferent, if not hostile, to the aims of the MRC. In that period, the government stressed public health and preventative measures like the ParticipAction campaign, rather than science-based medicine. These reflected, in part, a general pessimism about science in the public at large. Nonetheless, politicians could claim correctly that funding for the

Council was steadily increasing, even though the rapid inflation of that era meant that the relative value of the money was eroding (as the MRC equally validly contended). It was no longer politically feasible to simply advocate cutting support to medical researchers in Canada.

Partly in response to such trends, Robert Gaudry, then Chairman of the Science Council of Canada, attempted to expand the definition of biomedical research to more firmly embed it in a mosaic of activities including improved living conditions, health education, a healthcare system, and provisions for active leisure, to make it part of a move toward a more healthy nation. In 1979, despite an environment of fiscal restraint, the government increased the budget of the MRC by 17%. In the early 1980s, the arguments of researchers bore further fruit, and funding was greatly increased. Although the recession of the late 1980s led to retrenchment, funding never actually dipped, as it did in the early 90s, when cutting the national debt was the main focus of the government. In large part in response to successful lobbying by researchers, which produced almost uniformly sympathetic newspaper coverage, funding levels have most recently almost entirely recovered. The public response to this latest funding crisis demonstrates one of the largest, though least concrete of the MRC's accomplishments: Canadians have come to expect that they do medical research.



Looking Forward

Perhaps one important measure of success of an organization is its resilience and ability to adapt to changing environments. As we entered the closing decade of the century, the MRC, under the leadership of Henry Friesen, began a Strategic Planning initiative to revisit the issue that the initial framers of the MRC had debated back in 1960: what constitutes “medical research” and what should the work of the Medical Research Council be? Broad consultations were carried out in 1992-93 and at its conclusion, the Council chose to redefine its scope of activities to extend beyond biomedicine to include broader issues of health. It also recognized the new ties between academic research and industry with new initiatives to partner with industry and to link university investigators with venture capital. Like all the deliberations and pivotal moments of previous decades, this one was not without controversy and concern. Some of the MRC’s traditional constituents, the biomedical scientists, were concerned that an attempt to broaden the scope of MRC support would only further dilute limited resources. Others were concerned that furthering ties between university and industry would compromise academic freedoms.

Finally, in a dramatic final step along the path set in 1992, the MRC voted to merge itself into a newly created Canadian Institutes

for Health Research. In the CIHR, research support would be organized along very different lines than before, in order to facilitate cross-fertilization between researchers in different disciplines. In these Institutes, biomedical scientists would be working alongside clinical scientists, epidemiologists, social scientists and humanists, all bringing their particular expertise to bear on understanding and improving the health of Canadians.




Celebrating the MRC

How do we evaluate the accomplishments of an organization such as the MRC? To begin, the MRC provided the funds for a researcher who stated, "I was very much a Canadian and I did not want to go to the United States." Lest we accuse it of fostering insularity, it also provided money for others who needed to go abroad, to the United States or elsewhere, to expand their horizons. A simple tally of dollars and awards tells us about the scale of its work. A list of grant recipients would give us some sense of the scale of activity, but it would be misleading. Through their support of award holders, MRC has also provided support for their technicians, their universities, and the companies that produced the equipment researchers used. A listing of success stories gives us the highlights of research activity. But none of these can really present the depth of influence of the Council's work: the scholarship that allowed a student to choose medical science rather than another profession; the fellowship that allowed a Ph.D. to gain research experience in a new environment; the grant that allowed a scientist to establish a research group in Canada rather than pursuing opportunities abroad; the guidance and cooperation that allowed voluntary associations to develop their granting programmes in a fair and objective manner; the strategic committees that studied and evaluated developments in particular fields; the stimulus to teaching that occurs when a

researcher enters the classroom; the creation of work for not only the researchers themselves but for the students and technical staff in their laboratories; the creation of research infrastructure; the contributions to the economy through employment and development of products.

More intangibly, the MRC has demonstrated to Canadians that through their own efforts, they can participate in shaping a healthier future for all.





Portraits used in this publication were exclusively provided by the Canadian Medical Hall of Fame, and are the work of renowned Canadian artist Irma Coucill.