

# The South African Medical Research Council

## REVIEW OF THE ORGANISATION AND ITS FIRST 5 YEARS

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### SUMMARY

The statutory function of control over all matters concerning medical, dental and related biological and physical research, as contained in the Act of the South African Medical Research Council No. 19 of 1969, are set out.

The various research activities, administrative procedures and policies, are outlined. Special attention is drawn to the 2 institutes, viz. the National Research Institute for Occupational Diseases (NRIOD) and the National Research Institute for Nutritional Diseases (NRIND), to the 25 research units and groups, and the increasing number of individual project researchers.

Allocation of funds is based on the policy that research is supported where it can best be pursued.

*S. Afr. Med. J.*, 48, 1325 (1974).

### ORGANISATION

The South African Medical Research Council (MRC) was established in 1969 as a corporate body. It is controlled by a Council consisting of a President, a Vice-President and 12 other members. In terms of its Act (No. 19 of 1969),<sup>1</sup> all members of Council are appointed in their personal capacities and are distinguished in some branch of medical science or related fields.

The Council's statutory functions are to take charge of all matters affecting research which may be assigned to it by the responsible Minister. The Council also advises the Minister on all questions of research in the field of medical sciences affecting public health, as well as on the correct co-ordination and employment of scientific research to this end.

The Head Office of the MRC is situated in Tiervlei, Parow, and the Council further has 2 fully-fledged institutes of its own, viz. the National Research Institute for Nutritional Diseases (NRIND) presently situated in Pretoria but moving to Parow during this year, and the National Research Institute for Occupational Diseases (NRIOD) in Johannesburg. The Council also has its own National Bio-statistical Centre in Parow, the Tuberculosis Research Unit at Onderstepoort and the Bilharzia Field Research Unit in Nelspruit.

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In addition to the above, the MRC has various other research units and groups all over the country which are run in collaboration with universities and other institutions. They include the following:

#### University of Pretoria:

Photobiology Research Unit

Microbial Genetics Research Unit

Neuro- and Electrophysiology Research Unit

#### University of the Witwatersrand:

Dental Research Unit

Iron and Red Cell Metabolism Research Unit

Research Group for Organ Transplantation

#### SA Institute for Medical Research, Johannesburg:

Bilharzia Research Unit

Human Biochemistry Research Unit

#### University of Natal:

Research Group for Pre-clinical Chemistry

Amoebiasis Research Unit

#### University of Potchefstroom:

Research Unit for the Design of Catecholaminergic Drugs

Snail Research Unit

#### University of the Orange Free State:

Research Unit for Experimental Embryology

#### University of Stellenbosch:

Research Group for the Diffuse Obstructive Pulmonary Syndrome

Research Group for Clinical Cytology

Iodine Metabolism Research Unit

Molecular and Cellular Cardiology Research Unit

Tissue Damage and Cell Metabolism Research Group

#### University of Cape Town:

Endocrine Research Group

Porphyria and Renal Metabolic Research Group

Liver Research Group

Virus Research Unit

Protein Research Unit

### METHODS OF SUPPORTING RESEARCH

Increasing emphasis is being placed upon research in which an individual researcher is supported for an approved project, with a commitment from the MRC for a period of 3 years, but subject to annual review. More than 100 such short-term research workers are engaged in a wide range of medical or related research projects all over the Republic of South Africa.

Research is further supported on the basis of:

**Units:** This is a concept of research on a long-term basis but in a narrow field and largely dependent upon an outstanding leader in this field.

**Groups:** According to this concept, research is carried out by a group of researchers of more or less equal standing, but dependent upon each other in a field which is considered to be in a developmental stage and which would become a service to patients within a hospital, or a new discipline within a university setting, in the course of about 5 years.

**Institutes:** When medical research is of a format considered to be of national importance, and has assumed such proportions that it cannot be accommodated within existing facilities, the MRC may establish an institute for research in this field. Two such institutes are at present under the auspices of the MRC, viz. the NRIOD and the NRIND mentioned above. These institutes have their own buildings and a permanent MRC staff establishment.

### Finance

The Council's major source of funds is an annual grant voted by Parliament, to whom it is responsible through the Minister of Health, and to whom it must submit an annual report.

### MEDICAL RESEARCH IN THE RSA BEFORE 1969

Until the creation of the Medical Research Council, which started functioning officially on 1 July 1969, medical research in the Republic of South Africa was mainly administered by the CSIRs department for university research. This was the case over a period of almost 25 years, during which the CSIR contributed significantly towards the organisation and administration of medical research.

Since medical research in the RSA did not develop as rapidly as research in the pure sciences, the creation of a separate organisation solely for medical research was not justified before 1969. It was only in the late '60s that it became apparent that the development of this aspect was such that a separate statutory organisation for medical research could be justified, and on the recommendations of the Mönning Commission, the MRC was constituted by Act No. 19 of 1969.

### OBJECTIVES AND PRIORITIES OF THE MRC IN 1974

According to its statutory objectives, the MRC is required to assist in the promotion of health of all peoples in the Republic of South Africa. For this purpose it must initiate and support research, provide co-ordination and minimise unnecessary and expensive duplication in research. It should also promote co-operation of medical researchers inside and outside the country. Furthermore, it may collate and disseminate scientific information and at the same time fulfil an educational role in respect of medical researchers. It is important that individual initiative, which is of fundamental importance for the advancement of science, be promoted and encouraged.

In order to achieve these broad objectives as effectively as possible, the MRC, since its establishment in 1969 and with the means at its disposal, has adopted a realistic and practical approach by not creating a large centralised laboratory complex but by extending and strengthening the existing facilities at universities, teaching hospitals and other institutions all over the country. By so doing, most of the researchers have been able to remain in close contact with academic environments which are stimulating for research in a particular way.

Council further decided to divide the field of medical research into 3 functional categories, in order to assess as accurately as possible where the greatest needs lay and to allocate priorities accordingly. These categories are basic research, clinical research and research in the field of public health. Clinical and public health research presently have a high priority because they provide the best fulfilment of Council's broad objectives. Basic medical research will be supported by Council in areas where the facilities, personnel and expertise are available.

### ADVISORY COMMITTEES AND FUNCTIONING

In order to achieve its important co-ordinating and assessing function in respect of research and applications for research funds and facilities, various committees have been formed, consisting not only of Council members, but of scientists from all over the country who have excelled in their specific fields and who are therefore able to provide expert advice. These Council committees consider the merit and viability of projects, evaluate the progress continually and indicate which projects should be terminated or receive further support. This is done on the grounds of information gathered by personal contact and in terms of the broad objects of the Council. These committees also express their views on the ideal geographical situation of the Council's research institutes, units and groups. To illustrate this, Council was advised that the National Research Institute for Nutritional Diseases, presently at Scientiae in Pretoria, should, ideally, be in close proximity with clinical teaching facilities. Later this year the NRIND will move into its new building close to the new Tygerberg, Groote Schuur and Red Cross War Memorial Children's Hospitals in the Cape. In the same way, an investigation is presently being undertaken to assess in which clinical academic environment the Tuberculosis Research Unit (presently at Onderstepoort) should best be situated.

Despite its relatively short existence, Council has good reason to be proud of its achievements in stimulating, training and providing financial support to promising young research workers. In this way Council has awarded 2 student research bursaries to medical students, one of whom has already advanced to the stage of being invited to present his research results at an international scientific meeting in Europe. Post-M.B. Ch.B. bursaries have also been awarded. The annual applications to the Council for financial support show that young researchers are applying in increasing numbers. In so far as it is able, and in line with its objectives and priorities, the Council is

anxious to support the younger researcher who is well equipped with enthusiasm, enterprise and originality.

In relation to information dispersal, Council arranges for the collating and disseminating of information through its monthly newsletter, through scientific meetings which it presents, and through the circulation of reports of its researchers returned from overseas visits. It may be mentioned that the MRC, apart from the numerous conferences and symposia which it has supported financially, has arranged and presented 6 scientific meetings, attended by 700 scientists, of whom almost 100 were from overseas. Council is also actively working with the CSIR in connexion with a computerised, international information retrieval system through which its researchers will be able to obtain the latest research literature speedily and comprehensively.

It can be said with confidence that the Council has fulfilled its current obligations, but it is clear that the need for funds for medical research has increased to such an extent that the MRC cannot satisfy all these demands from its Parliamentary grant alone. However, donations from the private sector are most valued sources of additional funds for medical research. The MRC recently received a considerable legacy, enabling it to replace an American Research Fellowship which was temporarily discontinued with one of similarly generous financial support.

Some institutions, for instance in the pharmaceutical industry, support medical research independently. Council acknowledges such donations to research, but offers, in addition, to assist such bodies in allocating and administering their research funds. It is particularly well equipped to do this in view of its organised method of merit assessment. This type of co-operation already exists between the MRC and the Anglo American Corporation, the Society of Round Tables and the National Cancer Association. In view of its national character and the fact that the expertise of specialists in all fields from all over the country is used, the MRC is well suited to offer advice in regard to medical research which aims at the improvement of the health of the peoples of the whole country.

## PRIORITIES

The MRC is faced with the problem that the funds from the Parliamentary grant are only able to satisfy approximately 60% of the requests presented to it. Competition for research funds is keen, and the MRC demands that the projects should be of the highest merit, but Council must still not ignore any research of national importance. It may be necessary, for instance, to have to weigh the relative importance of research in heart diseases, tuberculosis and porphyria against tropical diseases around the country's borders. Council is understandably anxious to support research which can be best pursued in the Republic of South Africa rather than that which may equally well be done overseas. In the field of cancer research it would be unwise for South Africa to compete with the USA on most aspects of the work, although there are some problems that can best be investigated by research workers in South Africa.

## CO-OPERATION BETWEEN RESEARCHERS

Apart from the scientific meetings which the MRC supports and organises with a view to advancing scientific co-operation, Council's various committees are in constant contact with its researchers through personal visits to the various research institutions. In this way it is possible to keep research workers informed on what research is already being done elsewhere in the Republic of South Africa, to enable them to contact their colleagues there to establish liaison and to avoid repetition or duplication of effort. It is Council's policy to bring people with the same interests together in so-called 'project groups', and Council facilitates co-operation by arranging for and sponsoring visits between scientists.

Council's policy in connexion with support to the various universities can be described in two words, viz. individual merit. Council does not make proportional awards or block grants to universities. The total grant made to a university is dependent on the sum of the individual applications which achieve the Council's high standard of merit. Factors which may be taken into account in assessing an application include: the nature of the research project; the ability and experience of the applicant; the facilities at his disposal in his institution; the time he will be able to devote to the project and the opinion of his peers expressed either in the form of a list of publications in reputable journals or a confidential report by a referee.

## GEOGRAPHICAL PATHOLOGY

Geographical pathology is one of the fascinating aspects of research in South Africa. The country is one of great climatic and physical contrasts. The socio-economic conditions are widely divergent and the cultural background and the traditions of different groups of people vary greatly. As a consequence, nutritional problems, including malnutrition, under- and overnutrition, are common and differ according to the customs and habits in different areas. The elucidation of the role of food-borne toxins and the occurrence of liver and oesophageal cancer, with areas of high incidence in this country, is being actively investigated. Climatic conditions no doubt influence the geographical distribution of many of the parasitic and infectious diseases. There are areas in which bilharzia is endemic and large areas in which it is absent. Malaria, trypanosomiasis, trachoma and many other infectious conditions have a specific geographical distribution. A spectrum of disease differs greatly in the different ethnic groups. Whereas coronary heart disease with myocardial infarction has an extremely high incidence in the White population of South Africa, it is practically non-existent in the Black population. There is an extremely high incidence of idiopathic cardiomyopathy in the Black people, and this hardly exists in the White people. In the same fashion one can find striking differences in the incidence of such conditions as peptic ulceration, cholelithiasis, renal calculi, metabolic diseases such as porphyria and diabetes mellitus, chronic pancreatitis and idiopathic

thrombocytopenia, and many others, among the different ethnic groups.

Thus there exist in South Africa abundant and excellent opportunities for comparative studies of disease patterns. While Council does not attempt to direct the work of the researchers or to dictate what should be done, it is fundamental to the policy of the MRC to encourage and support medical research that can best be done in this country, ensuring that investigations in depth are undertaken by experienced scientists with all the sophisticated facilities that are available.

In South Africa we find close to each other highly sophisticated facilities, well-trained scientists and circum-

stances in which great ethnical and geographical differences can be observed in diseases. This creates superb possibilities for comparative studies of disease patterns. These studies can be investigated in depth at laboratory level. Furthermore, South Africa is richly endowed with a large variety of animals and in particular with subhuman primates. These factors create a great potential for clinical and experimental research.

#### REFERENCE

1. *Government Gazette of the Republic of South Africa*, vol. 45, No. 2319, 26 March 1969.