

Thirty years of the MRC - a history

A short general history of the South African Medical Research Council

A dictionary (Collins, 1994) describes research as "systematic investigation to establish facts or principles or to collect information on a subject". In terms of medical research as a mission, this is not the whole meaning.

As described by Professor J. F. Brock (in A History of Scientific Endeavour in South Africa) "Medical research must, to justify the name, be consciously directed towards an end - the alleviation or cure of human illness and its ultimate prevention. It is basically a field of applied research".

It was to comply with the fuller definition that the South African Medical Research Council (MRC) was established in terms of Acts of Parliament (No's 19 of 1969 and 58 of 1991). Its most important functions were defined as "to promote the improvement of the health and the quality of life of the population of the Republic and to perform other such functions as may be assigned to the MRC by or under this Act". Such 'improvement' was to be attained "through research, development and technology transfer".

The affairs of the MRC, subject to the condition implicit in the terms of its establishment, were to be managed by a Board that would determine the Council's policy and objectives. The Board, appointed by the Minister of Health, was to consist of a Chairman; between 12 and 14 members who had distinguished themselves in medical science or a related science; two additional members and a President. The President was himself a Board member appointed to the additional post by the Board. Initially, the posts of President and Chairman ('Chairperson' came later) were combined in one person.

The MRC was funded solely by an annual government grant with no initial provision for the acceptance of funds from other sources, and was to co-ordinate medical research within the country and to determine the distribution of the government funding for such research. A large degree of autonomy appeared to be visualised, but in terms of the legislation, the Minister of Health could exercise direction.

The establishment of the MRC was a landmark in the field of scientific research in South Africa. The first members of the Council were Professor A. J. Brink (President and Chairman), Dr J. J. Theron (Vice-President and Chief Executive Officer), Professor T. H. Bothwell, Dr J. de Beer, Professor C. J. Dreyer, Dr J. H. S. Gear, Professor B. C. Jansen, Professor C. R. Jansen, Professor A. Kipps, Professor H. L. Krige, Professor J. H. Louw, Dr S. Meiring Naud., Professor S. F. Oosthuizen and Major General E. C. Raymond (Secretary, Department of Health).

Initial headquarters of the new group were at Scientia, which was the research centre of the Council for Scientific and Industrial Research (CSIR) near Pretoria. The MRC, however, being an autonomous body, had no formal connection with the CSIR, and submitted its Annual Report to Parliament, as it does still.

Structural levels of research

Of several forms of research, the MRC regarded short-term research as its "major obligation and (was) of the opinion that this will be the most useful way of encouraging research". Grants for short-term research projects could be made for up to three years, although each project was to be reviewed annually.

As a form of long-term research, the establishment of research units depended upon "the existence of a problem of public concern requiring research" as well as upon "the existence of an outstanding man for whom the facilities requested may be regarded as essential for the development of his ideas." (MRC Annual Report 1969/70). A unit was to be "constructed round its director", and was set up for an initial period of seven years, although subsequent review of its progress might result in an extension of the period or in disbandment. It seems that the 'outstanding man' and the 'director' would automatically be white men. Where possible, units were to be housed "within the existing facilities of a particular institution".

Research groups were to "assist in the development of research programmes in an institution" under several circumstances:

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- where a particular field of research needed to be accelerated;
- where the emergence of a 'new subject' had not yet proved suitable for inclusion in the institute's own programme; and,
- where there appeared to be insufficient support for the development of research into a particular subject.

Research groups, most of which would operate within a hospital (and would, in time, be taken over by the hospital as established services), were to be funded for up to five years. As with research units, the establishment of a research group depended on the "merits of the research programme proposed and the presence of an outstanding man to direct it".

Research institutes were to carry out work of a 'permanent nature' and 'of national importance'. Unlike other levels of research, institutes were entirely under the supervision and direction of the MRC. They would be housed, where possible, in specifically designed premises and would be wholly staffed by MRC personnel. The only institute during the first year of the MRC's existence was the National Institute for Nutritional Diseases. In addition, there were 26 research units and groups at hospitals or universities throughout the country, and almost 100 'short-term workers' were engaged on other medical or related research. It was the intention to establish more institutes, as well as a research group for organ transplantation.

1969 - the era of the Hippies

For those who have forgotten the other details of 1969, it's worth recalling that a loaf of white bread cost 8 cents and a toilet roll 4 cents. A pound of choice butter cost 38 cents and very few new cars cost more than R3 300. British troops arrived in Northern Ireland "to restore order", Golda Meir became Prime Minister of Israel, and a four-day arts and music fair near Woodstock in the Catskill Mountains of New York State drew 300 000 young people who condemned the Universal Soldier and sang We Shall Overcome. The United States of America had buried both Martin Luther King and Robert Kennedy in 1968, and having just inaugurated President Richard Nixon, turned its collective eye to the night skies on 20 July 1969. Two crewmen from the rocket Apollo 11, N.A. (Neil) Armstrong and E.E. (Buzz) Aldrin, made that "one giant leap for mankind" when they walked on the surface of the moon. Millions of people throughout the world watched as their TV sets instantly relayed man's first steps on another celestial body.

In South Africa, the introduction of the 'bioscope in a box' had only just been recommended and was to take six years to implement. Any local leap for mankind would take much longer. Then as now, people were both fragile and resilient. "You destroy a community by mass removals" said Dr Oscar Wollheim in Cape Town (Dr Wollheim was one of two Progressive Party coloured representatives in the Cape Provincial Council, elected in 1965). If he was preaching, only the converted heard him. Steve Biko founded the South African Students' Organisation, while a defiant South African Parliament passed the South West Africa Act that increased its power over the territory and set itself on a perilously uncharted road.

Early scientific research in South Africa

Medicine had come a long way too, albeit perhaps around fewer blind corners. Thus, Dr John Harley in 1864 discovered the ova of bilharzia in the urine of a patient from Uitenhage. In 1895 Sir David Bruce of the British Royal Army Medical Corps, working in Zululand, was able to demonstrate the cycle of nagana, a disease of cattle spread by a species of tsetse fly. This led him to associate the disease with human sleeping sickness, caused by a related parasite and transmitted by other tsetse flies. The great German bacteriologist, Robert Koch, was invited to the Cape by the colonial government to investigate the outbreak of rinderpest in Bechuanaland Protectorate and the northern areas. He had already isolated the causative organisms of anthrax, tuberculosis, typhoid and cholera, and had succeeded in developing a preventive inoculation against rinderpest.

Rinderpest, a disease of cattle, had the potential to cause political, economic and human catastrophe, and was instrumental in fomenting the Langeberg War on the Cape Colony's northern border. Threats of the return of the disease led to the formation of the Veterinary Research Institute in 1908 at Onderstepoort, north of Pretoria, by the government of the colonial Transvaal. Significantly, its name embodied the word 'research' and its activities in this sphere were noteworthy from the start. Work done at Onderstepoort certainly led to the establishment, on a formal footing, of local research in human medicine.

The South African Institute for Medical Research (SAIMR) was established in 1912 as a joint venture between the South African government and the Chamber of Mines, represented by the Witwatersrand Native Labour Association. Despite its name, the SAIMR was not founded as an institute purely for research. A great deal of its energies were directed to routine screening and diagnostic work.

Motivation, mining - and research

It has been stated that "One of the compelling reasons for the establishment of the SAIMR was the high incidence of serious illnesses among the Bantu mine workers" (SESA Vol. VII, p. 286a), which suggests a narrow economic rather than a purely humanitarian reason for research. To a large extent, it may be argued, early medical research was established to keep the mines in production, and not merely to protect the population of the Witwatersrand against serious tropical diseases. Mining connections do not detract from the scientific value or the intellectual achievement of the research, but imply a motivational aspect that, through apartheid, inevitably affected not merely research but all aspects of South African life.

Research in which the SAIMR played a leading part demonstrated that pneumococci could be differentiated into at least four groups, and resulted in the subsequent development of pneumococcal vaccine. The transmission cycle of plague was determined, and SAIMR workers identified the two species of anopheles mosquito (*A. gambiae* and *A. funestus*) principally responsible for the transmission of malaria. Widespread use in the 1940s of the then new insecticide, DDT, achieved notable success, but after several decades of quiescence, malaria has again emerged in epidemic form.

Accelerated scientific and industrial development during the Second World War (1939 - 1945) led to intensified research in many fields and, in fact, followed an energetic burst of medical research at the University of Cape Town. In 1944 the South African Prime Minister and Minister of Defence, General Jan Smuts, requested Dr (later Sir) Basil Schonland, first director of the Bernard Price Institute for Geophysical Research at the University of the Witwatersrand, to create the legislative basis for scientific research. Given the ready exchange of information among Allied countries and especially those of the British Commonwealth, Schonland was quickly able to adapt what he regarded as the most suitable features from the legislation governing research in several countries, and the Scientific Research Council Act was promulgated in 1945.

The Act established the principle of overall government control, but left practical administration under the control of a council of nine (later 12) members. Members were appointed by the government on the basis of their "personal prestige and scientific achievements" in universities, the public service and industry. Fully fledged universities at that time were Cape Town, Stellenbosch, the Witwatersrand and Pretoria. As first president of the new council Schonland built, in a little over two years, an organisation "which was the envy of the rest of the Commonwealth". (DSAB Vol. V, p. 690b)

The Council for Scientific and Industrial Research (CSIR)

The CSIR's brief was a broad one, but did not include medicine, although, in practice the CSIR was to render many services to medical research through a co-ordinating committee that worked within the organisation. This Committee for Research in Medical Sciences (CRMS, jocularly known as 'Crumbs') was instrumental in the establishment of several research units and sponsored research programmes in medical schools. A certain amount of research was also undertaken in collaboration with institutes abroad.



The first MRC Board 1969

The role of other organisations, and in particular the CSIR, in the development of medical research was acknowledged in the first Annual Report of the MRC in 1969/70. Prof. A. J. Brink, first President of the MRC, recorded that "Under the aegis of the CSIR much has been achieved to bring scientific medicine in the Republic of South Africa to a remarkably high level".

Meanwhile, in December 1967, there had occurred the world's first human heart transplant, "a remarkable achievement for medical science in South Africa and especially for Professor Chris Barnard, leader of the team who carried out the historic operation." (SESA Vol.V, p. 462b) The operation, the hospital, the medical school, the surgical team and even the patient drew immediate, worldwide attention.

All but drowned in the flood of approbation were murmurs from several quarters that, for the benefit of the greater number of South Africans, research might have been better channelled in other directions. But most people around the world, while perplexed that such an achievement should have occurred in South Africa, continued to shower praise. It came as a surprise on an otherwise uninterruptedly triumphal tour of Britain that an interviewer should put it to a member of the transplant team that the operation had been possible because of South Africa's "reprehensible policy of apartheid". The interviewer's own audience howled him down, but the question was to occur to many people in the future.

Whatever the criticisms, the heart transplant was undoubtedly a major medical achievement and historical landmark and, by its very magnitude, tended to encourage order in the organisation of medical research in the country.

The most notable consequence of this order was, of course, the creation of the MRC which, in its first Annual Report, logged an impressive number of reports from its research units and groups. The topics included amoebiasis, bacterial genetics, bilharzia, cardiac research, cardiovascular pulmonary research, clinical nutrition, dental research, endocrine research, human biochemistry, intermediary metabolism, iodine metabolism, iron and red cell metabolism, nutritional anaemia, oligophrenia, photobiology, pigment metabolism, pneumoconiosis, protein research, renal-metabolic research, reticulo-endothelial cell research, tissue damage and cell metabolism, tuberculosis and viral research

A move from Pretoria to Parow

The Council's own head office was officially inaugurated in September 1971 at Tiervlei, within the Municipality of Parow, on a site donated jointly by the Parow City Council and the Cape Provincial Administration. A number of staff members of the MRC had only recently moved across from the CSIR and were reluctant to move from Pretoria.

Acceptance of the Cape property followed brisk debate on the advisability of moving from Pretoria. The site chosen was close to the Karl Bremer Hospital and adjoined the new Tygerberg Hospital, both institutions used for training by the medical faculty of the University of Stellenbosch. The President of the MRC, Dr A. J. Brink, was Dean of the Faculty of Medicine at Stellenbosch from 1971 to 1983 and was influential in scientific and government circles in Pretoria at the time. Despite vigorous opposition, he was able to obtain a decision to move to the Tiervlei site.

Dr Brink became full-time President of the MRC only in 1984, on resigning his post as Dean. He retired from the MRC at the end of 1988 and was succeeded by Dr Philip van Heerden. Dr Walter Prozesky was appointed as the MRC's Deputy President. The change of leadership after some 20 years provided a suitable occasion on which to review, critically and dispassionately, both the route that had been travelled and the way that lay ahead.

Changed and changing circumstances, including increased economic pressure, urgently demanded new policies and new directions.

There were, at Dr Brink's retirement, no fewer than seven institutes wholly or almost entirely staffed by the MRC and occupying MRC premises across the country. The institutes were: Research Institute for Nutritional Diseases (RIND), Research Institute for Environmental Diseases (RIED), Research Institute for Diseases in a Tropical Environment (RIDTE), Research Institute for Medical Biophysics (RIMB), Tuberculosis Research Institute (TRI), Institute for Biostatistics (IB), and Institute for Biomedical Communication (IBC). This proliferation of institutes was at variance with the early principle of directing the greater portion of research through existing institutions rather than undertaking it within the MRC structures. Another departure was the creation of a subsidiary commercial division, Medical Technologies Ltd. (Medtech), to oversee the generation of additional income.

But even good intentions can get out of hand. Medtech represented steps taken to 'privatise' the MRC's research output, "especially with regard to the development and implementation of research products". The MRC held 100 per cent of the shares in Medtech itself, while as far as most of the subsidiary companies were concerned, it had a holding of around 49 per cent. It was "envisaged that at least 75 per cent of the share capital will be taken up by the private sector". This represented a new and distant departure from the exercise of expertise in medical research.

A change of era

For most of its existence the work of the MRC was conducted, and results achieved, during a period of increasing foreign hostility and internal dissension resulting from the government's official racist policy as encompassed by the term 'apartheid'. International isolation and boycotts mounted, and the President's review of the MRC's situation in 1988 noted that: "Attendance at international congresses overseas has, however, been made more difficult, not as a result of the organisers being unwilling to admit South Africans, but because acquisition of visas has been difficult, especially for countries like Canada and Australia." The same report recorded just three instances of international contact at conference level, with Israel, Taiwan and Chile.

In all spheres of South African life the message was gradually being driven home that human rights could not be doled out on a sliding scale according to gender, colour or any other qualification. It was argued that a council or committee selected on these criteria was worse than merely non-representative: it was almost certainly bound to be skewed in its outlook. Where medical science was concerned, the excellence of research was not questioned, but what has been queried was whether the research conformed more to the ideal of "we wish to know" or to "building a healthy nation" in the broadest sense.

In his report for 1989, the President declared that the MRC "felt the need to review its mission" and, simultaneously, to consider the appropriateness of maintaining its several institutes. The MRC had "to examine whether the manner in which research is practised, supported and managed is still suitable in a changing South Africa.". The President also stated that "The MRC considers collaboration with our neighbouring states and countries further north as vitally important" and he observed that "Africa's diseases do not respect geographical borders."

The 1991 report by the Chairman (Dr F. P. Retief - the board's first independent Chairman) announced the implementation of the new Medical Research Council Act (No. 58 of 1991). The board saw its role as "determining research policy" and ensuring its implementation and continuous evaluation. Managerial responsibilities were to be carried out by the President (Dr Philip van Heerden) and an executive committee appointed by the Board. The new Act separated the roles of President and Chairperson, the Chairperson being appointed by the Minister and the President becoming an employee of the Board.

"The Board's main task is the determination of research priorities in the light of the health needs of southern Africa." It is interesting that the chairman's reference was to southern Africa, not merely South Africa, an indication that vision and research, like diseases, were capable of crossing borders. The institute structure of the MRC's 'own research' programme was acknowledged to be obsolete and was to be replaced by the more flexible approach in which not only 'own' projects, but those of the council's partners in research were to be embodied. The basis of the system was that research was to be conducted wherever "it will be most effectively handled".

Life after apartheid

The decline, if not the actual demise of apartheid, saw an increase in international co-operation. The re-instatement in 1991 of six postdoctoral bursaries of the Fogarty Center of the National Institutes of Health in the USA - a condition being that the bursaries be used for affirmative action - was rightly regarded as 'a major breakthrough'. However, dwindling finance was described by the president as "one of the most critical management questions currently facing the MRC". It was still hoped that Medtech would provide a solution.

Dr Van Heerden retired as President of the MRC at the end of 1992 and Dr Walter Prozesky was appointed to succeed him. The year saw the retrenchment and resignation of some 21 per cent of staff members, and the discontinuation (because of high cost and relatively low priority) of two major programmes: bilharzia field research, based in Nelspruit and Durban, and environmental health research based in Pretoria. In the interests of increased efficiency, rationalisation was also applied to other services. Significantly, Dr F. P. Retief recorded that "A developing country like South Africa needs a truly relevant and vibrant health care system geared towards the needs of all its communities".

In his first President's report (1992), Dr Walter Prozesky declared that the MRC had probably undergone more change in that year than in any other, to keep up with the pace of change in South Africa. Affirmative action was implemented as employment policy and staff composition had begun to move towards resembling the national population. The main thrusts of research during the previous two years were Essential Health Research (directed at the most urgent health problems and operated through national research programmes), Strategic Health Research (building research capacity and operating through universities), and Technology Development and Transfer, or developing contacts with industry for the creation and implementation of health technology.

Perhaps the most dramatic feature of 1992 was the increased communication with scientists and organisations in many other countries. It was predicted that an end to the acute political uncertainty that plagued South Africa would see the full development and implementation of the MRC's research programmes applied in partnership with neighbouring countries.

Change and turbulence continued throughout 1993, Dr Prozesky's first full year as President. The commercial extension of the MRC, Medtech, was finally proven to be financially unviable, and had to be liquidated at a cost to the council of R2,7 million. Indirect loss over the years undoubtedly was much greater. In the prevailing financial climate, characterised by diminished State funding, this was a severe blow, but the failed venture gave way to the more secure system of forming partnerships with existing commercial concerns. The fact that the MRC could survive this financial crisis, which disrupted and damaged its research effort in many spheres, was an indication of the organisation's fundamental soundness, and of the loyalty of its staff.

It was also an indication of a new direction. It was recognised that, in the past, research had too often emphasised the curiosity-driven impulse ("we wish to know") rather than the needs of the greater community.

In terms of a new holistic approach, the focus was to be on the actual health problem rather than on research methodology, and required the integration of financial, administrative and information management systems to allow for intensive project management. The installation of carefully planned computer networks made this approach possible for the first time.

Democracy dawns

The year 1994 saw the 25th anniversary of the creation of the MRC. It was also the year in which all South Africans were entitled to vote for a Government of National Unity. The old political era that was officially dead was the era in which the MRC was founded, the era in which it attained a leading position in the national systems of science and health. It entered the new era as the first Science Council in the country to be governed by a board described as "fully representative" and "restructured", "with 14 new members out of 17". The newly appointed Chairperson was Professor Malegapuru William Makgoba, Deputy Vice-Chancellor of the University of the Witwatersrand.



The MRC Board 31 December 1998

The first quarter century of the MRC was one in which, in most instances, research was able to stay abreast of international achievements. In some fields, including TB, cancer caused by fungal toxins in maize, and the application of satellite geographical information systems, the MRC was able to assume a position of leadership particularly in the African context. Internally, the holistic management system worked well, and tight budgetary control and rationalisation

helped to substantially improve the financial position. The commercial market for research was acknowledged to be small, and it was foreseen that government funding would remain the principal source of income.

Dr Makgoba's first annual report as Chairperson appeared in March 1996 and recalled that, at the very first meeting of the new, transformed Board, he had stated that the time had arrived for a refocusing of effort and for decisions about the type of medical research required in South Africa. The MRC had been given a unique opportunity to restructure and redefine its effort, and Dr Makgoba presented his own strongly held view that "medical research is about basic fundamental issues in disease - not documentation, and that research is about quality, not quantity".

His philosophy implied that the goals of the MRC should be to:

- assume leadership in the planning and execution of health and medical research;
- facilitate and co-ordinate health and medical research;
- serve as the interface for the flow of information among policy makers, health services, industry, funders and research structures; and,
- develop the highest quality of human capacity in health and medical research.

A process of corporate planning was introduced, resulting in a three-year plan that focused on strategy implementation, regular assessments of progress and cyclical revision. A progressive employment policy was introduced, aimed at placing black candidates in 75 per cent of all staff vacancies. Overall, Dr Makgoba was able to report in 1998 that the MRC had "changed from an inward-focused organisation to a client-orientated science, engineering and technology institution (SETI)". This was apparent from the growth in contract income and the formal collaboration with a growing number of major international equity partners. At home, the MRC was increasingly recognised by the public and private sector as an "honest broker to launch large-scale interventions". Through sound financial management the MRC had recovered from the difficulties associated with past policies, and had reached a healthy financial state.

"A national asset" - SETI Review

In November 1997 the MRC was reviewed by an international panel as part of the national review of the country's science and technology system commissioned by the Department of Arts, Culture, Science and Technology (DACST). This was the so-called SETI Review, which reported that during the previous three years the MRC had undergone significant transformation "in line with the national objectives of the new South Africa". The review panel stressed the importance of the MRC remaining an autonomous body "directly accountable to the people of South Africa through the Department of Health". It also recommended a substantial increase in the MRC's budget and the placing of further emphasis on priority-driven research. The need for increased funding and emphasis with regard to capacity development was also stressed, and the finding of the panel was that "The Medical Research Council is a national asset, which is being successfully transformed to discharge its responsibilities and functions".

At the end of 1998 Dr Walter Prozesky retired as President, a position he had held for six years, although his association with the MRC was one of 30 years, having commenced with postgraduate studies in an MRC unit. A farewell function was held to honour Dr Prozesky, at which the then Minister of Health, Dr Nkosazana Zuma, herself a former MRC research scientist, spoke of her respect for Dr Prozesky as a scientist, as President of the MRC, and as a true South African patriot who had worked tirelessly and with commitment for the new South Africa.

Dr Prozesky's successor as President, selected after a lengthy and wide-ranging procedure, was Dr Malegapuru William Makgoba, who had resigned as Chairperson of the Board in May 1998 to make himself available for the new appointment. The new Chairperson, Professor Marian Jacobs, paid tribute in her first annual report (March 1999) to both Dr Prozesky and Dr Makgoba.

Prof. Jacobs set out the revised strategic plan, based in part on the findings of the SETI review, stressing areas for action as:

- strengthening relationships with health planners and policy makers;
- developing detailed plans for periodic, rigorous evaluation of programmes and projects;
- developing a new corporate identity;
- keeping pace with the Department of Health's implementation of Essential National Health Research Plans;
- aiming for a budget to realise strategic intentions;
- expanding capacity development efforts;
- achieving a balance between intramural and extramural research and promoting transdisciplinary research; and,
- focusing on a human rights ethos.

Prof. Jacobs concluded her report: "With the year 2000 only months away, we are mindful of the long road still to be travelled before the nation comes anywhere close to achieving health for all its people. The MRC has an important role to play in striving for the goal of good health, and has defined its role clearly in the context of a respect for human rights, a concern for sustainable science development, and a commitment to the nation's health".

In an interview, Prof. Jacobs mentioned other matters for concern. These included the countrywide under-employment of black women, a situation that is being addressed by the MRC. In earlier years, the range of research was more or less confined to conditions that mostly affected whites - such as coronary heart disease. The MRC, however, has made the global shift from concerning itself just with medical research to concern with national health research. To a large extent, research reflected the policies of the day. There was less contact with the mass of the people in former times, but now the MRC sees itself as an agent of the health sector of the country rather than merely as an offshoot of the Department of Health.

The 30th year of the MRC's existence, on the brink of the new millennium, brought publication of Dr Makgoba's first Presidential report, in which he enumerated some of the council's achievements. He also set out the goals to which the corporate strategy of the MRC is directed. These include the entrenchment of the culture of human rights; transdisciplinary research and knowledge management to create health innovations; the attainment of international status and credibility as a learning organisation; and developing the capacity to address current and future

health challenges while maintaining sustainability and growth. These are to be attained through a process of strategic realignment requiring a marked shift of emphasis in attitude and understanding.

Dr Makgoba dealt forthrightly with the MRC's mission to promote equity and development in its employment policy. Over four years the race profile of employees has changed from 41% black and 59% white to 55% black and 45% white, and the gender profile was currently (March 1999) 33% male and 67% female. Capacity development aims to redress historic imbalance in health research development, the primary focus being to develop researchers where there is little or no capacity, and to train more black researchers. In 1998 there were 1253 applications for 43 vacancies: 59% of the applications were from blacks. The total number of employees is between 400 and 450.

The MRC is a national organisation with offices in Cape Town, Pretoria and Durban and a rural centre at Hlabisa in KwaZulu-Natal. It supports a core of 250 scientists plus 100 technologists operating through 22 units (based at universities, including a quarter at historically disadvantaged institutions), research centres and 15 research programmes which are led by internationally recognised scientists and function as centres of excellence. A total of 500 research projects are undertaken with approximately 100 new projects submitted every year; producing 500 publications, policy briefs and reports annually. The MRC also supports 300 scientists engaged in 300 three-year short-term research projects (self-initiated research), which constitutes a substantial investment in the building of research capacity and the development of science in the region.

Currently, the top research priorities are HIV/AIDS, ethics, tuberculosis, malaria, telemedicine, biotechnology, human genomics, women's health, and a public-health research approach to infectious diseases and crime, violence and injury.

Past and future

by Brian Johnson Barker

A glance at the early records of medical research shows that organisations throughout the world frequently tended to overlook the relationship between research findings and the implementation of health policies. In South Africa this may have been partly attributable to the organisation having been a microcosm of the racialised South African reality and thus serving as a creation of racialised power. Apartheid's erosion of human rights inevitably extended to every sphere of life.

"Suppression of data" in the case of asbestos-related mortality has been prominently referred to in several sources (these include Final Submission to the Truth and Reconciliation Commission: Health and Human Rights Project 1997; *An Ambulance of the Wrong Colour*, Baldwin-Ragaven, de Gruchy & London, UCT Press, 1999). However, as the authors of the Final Submission state (p. 106), "by its nature, suppressed information is difficult of access". The response that information was withheld not "at the request of the mining companies" but "in the best interests of science" is at least on record.

There are still gross inequities or disparities in health between the different population groups as a result of apartheid. Cognisance has been taken of poor access to health care, and of high levels of preventable disease and premature deaths, and new strategies of intervention have been devised and implemented by the Department of Health. The main change is the shift of focus from tertiary curative care to primary preventive care, and the MRC continues to align its research to produce the greatest support within the new framework.

Health research in South Africa has been badly underfunded for many years and, even now, only six per cent of the science vote is allocated to the MRC. This is equivalent to 0,3% of the total health cost in the public sector, and contrasts sadly with the World Health Organisation and World Bank recommended level of 2% in health research. Despite the deficiency, the MRC has a proud record of improving South Africa's health.

The MRC's strategic plan for the years 1999 - 2002 acknowledges the severe but exciting challenge of demonstrating its relevance to stakeholders and society at large. South Africa is in a development phase with emphases on redistribution and equity through economic growth. In a word: transformation, which involves change in the organisation as a whole.

Transformation of the MRC has been described as "an integral part of the national transformation of our society". Although transformation incorporates affirmative action, it will be directed in terms of current legislation, most notably the Employment Equity and Labour Relations Acts. Transformation is seen as "the continuous change and adaptation of the MRC's intrinsic values and processes to its external environment".

The focus of all aspects of research involves human beings, and research is thus informed and guided by a culture of human rights, a vital component of the strategy of transformation.

Simply expressed, these have been described as the basic components of research, always bearing in mind the needs of the greatest number of South Africans.

1. Ask the question: 'How may we improve, or how eradicate?'
2. Gather information to determine whether the question is a relevant one and to discover what is already known about the condition.
3. Formulate a plan of research to provide as many answers as can be obtained.
4. Do the research.
5. Analyse the results and findings.
6. Make the results useable as soon as possible.

Dynamically led, aware of both its importance and its accountability to the people of South Africa, the MRC faces the future with confidence, and in the keen anticipation of meeting and overcoming the challenges that will confront it.

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Symbols and heraldry

Publication in 1971 of the second annual report of the MRC revealed the Council's new heraldic coat of arms (below left), duly registered with the South African Bureau for Heraldry. A protea, one of the most variable flower forms, represented "the national character and scope of the research", Aesculapian staffs symbolised the healing arts and the double helix signified "the two polynucleotide chains of the so-called DNA molecule.". It was heraldically correct down to the scroll and motto, which, being in Latin, was incomprehensible to the majority of South Africans. Translated it means "We wish to know". On its own it tends to convey an impression of the academic ivory tower rather than the broader basis for the Council's existence.



Acquiring new knowledge is indeed a desired and valid process, but is only a stage in the entirety of national medical research, which requires that the knowledge be used for the greatest good.

Neither the arms nor the motto lasted long as a published means of acquainting people with the MRC. In 1988 the MRC adopted a 'new' logo (below right) - which is still in use - "to illustrate its role in medical research and health care in South Africa". The logo was described as depicting "the Aesculapian staff of the healing arts within the double helix of DNA, the genetic material of living cells". The hexagon represented "the role of the exact sciences in medical research", the hexagon being open to depict the interchange between research and community. The motto also changed to become "Shaping a healthy future" and, eventually, the unequivocal "Building a healthy nation".



The change of symbols was more than merely adjusting the artwork. In terms of the strategic realignment set out by Dr Malegapuru Makgoba in his first annual report as President, in 1998/9, the changes were appropriate to an organisation changing from one driven to achieve science output, to an organisation driven to achieve a higher standard of national health. It illustrated the difference, too, between a focus on 'own agenda' and a focus on 'national priorities'. Both components are essential: the ideal is maintenance of an appropriate balance.

A record of medical science, transformation and achievement

In focusing on the acceleration of transformation, the MRC is able to look back proudly on significant achievements during its 30 years. These include:

- developing and sustaining a solid health research infrastructure and a culture of quality research in a developing country;
- successfully integrating public health research with basic and clinical research as a major factor in a dominantly biomedical-oriented environment;
- highlighting the need for health systems research; and,
- establishing a major research centre in a rural environment - Hlabisa - jointly with the universities of Natal and Durban-Westville (the Wellcome Africa Centre for Population Studies and Reproductive Health).

Highlights in the MRC's programme of research include:

- tissue morphogenesis and regeneration by bone morphogenetic proteins;
- the potential role of riminophenazine as multidrug-resistant anti-cancer therapy;
- establishing the link between Hepatitis B and liver cancer;
- establishing the association between mycotoxins and oesophageal cancer;
- tracing the variegate porphyria founder gene defect;
- epidemiological projects that highlighted the inequalities in health status in South Africa;
- genetic work identified familial hypercholesterolaemia in Afrikaners; and,
- development of animal models for research into atherosclerosis and other chronic diseases.

The work of the MRC has made a significant impact on public health. These are some of the recent highlights:

- the MRC's research on smoking has resulted in major policy changes;
- the MRC's early projections on the impact of AIDS contributed to the establishment of the HIV antenatal surveillance system;
- the MRC's epidemiological projects have documented the health transition under way and the importance of developing appropriate interventions for chronic diseases of lifestyle;
- the MRC's assessment of the impact of alcohol on health has led to the development of new substance-abuse surveillance systems and policy changes; and,
- the MRC's ongoing projects have contributed to constant improvements in public health surveillance, especially regarding malaria, TB, HIV and STDs, injuries and death.