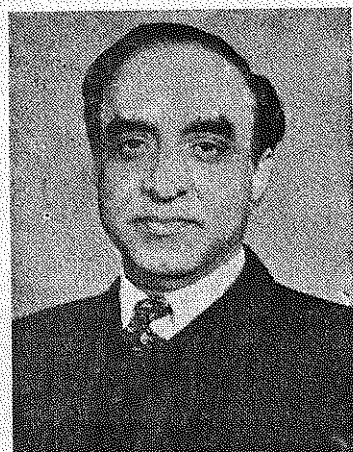


A NEW STRATEGY FOR MEDICAL RESEARCH

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As early as 1911, the Government of India had set up the Indian Research Fund Association (IRFA) with the specific objective of sponsoring and coordinating medical research in the country. After the attainment of independence, several important changes were made both in the organisation and in the activities of the IRFA. The name of the organisation was changed in 1949 to "Indian Council of Medical Research" (ICMR) and the scope of its functions was considerably expanded. The ICMR was duly registered as a Society under the Registration of Societies Act XXXI of 1860 and constituted as an autonomous organisation to function as the apex-body for the planning, organisation, implementation and coordination of medical research in the country.



While the ICMR has had some significant achievements to its credit in the past, the current state of Public Health in our country calls for great intensification and reorientation of medical research efforts. There is a clear need for a new strategy with regard to the promotion and direction of medical research and for initiating new steps for strengthening and enlarging our infrastructure for medical research.

ORIENTATION OF RESEARCH

If the Indian Council of Medical Research should fulfill its legitimate role in the current national context, it will have to identify priorities in the field of medical research, in the context of our national needs, and to deliberately orient and direct medical research efforts into fields of immediate practical relevance and importance. Such orientation need *not* act to the detriment of so-called fundamental or basic research. Indeed, research into many of our pressing

national problems will generate a great deal of basic and fundamental work, and is more likely to advance the frontiers of knowledge than repetitive and imitative research on borrowed ideas and on problems not related to our needs.

Having identified such areas of high priority, it will be the duty of the Council to formulate, on a national basis, research projects designed to provide practical and feasible solutions to such national problems. The Council will also have to identify individuals and institutions which have the requisite expertise and facilities for participating in these projects and provide them such additional inputs as they need to execute these projects.

This approach need not curb individual initiative and need not deter individual scientists from obtaining the Council's support for their research proposals. But if the Council has a clear appreciation of priority, its research programme will not be a mere assemblage of disjointed individuals proposals but will reflect careful centralized planning based on the felt-needs of the country and will be designed to provide practical solutions to identified problems - solutions which would be capable of application. Basic research on fundamental aspects will have to be supported atleast to a limited extent, because it is through such support that we can improve the quality of even applied research and create an infrastructure of well-trained personnel.

HIGH PRIORITY AREAS

In recent years new major hazards to public health have arisen. Malaria, which we had almost eradicate, has shown disturbing evidence of resurgence. The problem of leprosy now presents new dimensions with the finding that several strains of lepra bacilli are providing resistant to the drug DDS, which has been our sheet-anchor against this disease so far. The vaccine against cholera, on which we had so heavily depended, has been now proved to be ineffective, emphasizing the immediate need for a new effective prophalaxis against this major disease. While florid forms of fillaraisis (elephantiasis) have shown some decline, the overall prevalence of the disease continues unabated and we have yet to acquire insight into the immunological mechanisms which govern the clinical manifestation of this disease.

In the field of research on fertility control, there is need to inject a new sense of urgency, so that results of practical value which can find immediate application in the field are made available rapidly. In this area more than any other, the tempo of research must be considerably intensified and time-bound programmes with practical specific objectives must be formulated. Aspects of practical importance to our country, such as synthesis of oral contraceptives from Indian yams, determination of actual dose-schedule of oral contraceptives in undernourished women and study on the problem of interrelationship between nutrition and fertility must receive attention.

Malnutrition continues to be a major factor affecting public health. There are indications that some of the developmental programmes which have been initiated, like the construction of huge water reservoirs industrialisation, and urbanisation may have introduced new dimensions to the malnutrition problem among poor communities. Also while considerable emphasis has so far been laid on major nutrients like proteins, there is now increasing evidence that deficiency of trace-elements which are normally required in minute quantities in our diets may also be important, in our context. Correction of these deficiencies can be affected at relatively little cost and hence their identification becomes important.

Again, programmes of agricultural development which are currently being undertaken, require to be supported and reinforced by appropriate biomedical research. Thus, the development of high nutritive strains of foodgrains, the identification of strains of foodgrains resistant to mycotoxins in food, and the development of programmes for improving health of agricultural labour, offer fruitful fields for collaboration between ICMR and the ICAR.

There is also urgent need for researches on health delivery systems most appropriate and effective in our conditions. It is regrettable that today, actual first-hand experience gained from operations under field conditions, on which decisions on appropriate system of health delivery can be based, are not available.

The current position regarding drug testing and drug toxicology and investigations of bio-availability of drugs is most unsatisfactory. Setting up of atleast a few centres in the country which could undertake this task seems to be an immediate necessity.

The above are only a few examples, and by no means an exhaustive list of high priority research areas calling for immediate attention.

After identification of these and other areas of immediate national importance, the Council has proceeded to formulate concrete, specific time-bound research programmes by bringing together leading experts in the concerned fields. In the formulation of these programmes the major consideration has been that while basic research should not be neglected, the main thrust must be towards discovering practical and feasible solutions to the major health problems facing the country. It was felt that such practically-oriented research will also throw up a host of basic problems which could provide a great deal of intellectual challenge and could not only yield results of immediate practical value but also help extend the frontiers of knowledge.

CREATION OF A CADRE OF RESEARCH SCIENTISTS

It must be confessed that over the years we have not succeeded in building a cadre of medical research personnel, commensurate to our national requirements. Only a very small proportion of those who received support from ICMR have opted for medical research. The

not inconsiderable investments in the ad-hoc schemes have not resulted in the creation of an infrastructure for medical research either in the form of institutional facilities or trained personnel. Obviously our funding policies require review.

In the past, much of the ICMR support for so-called research in medical colleges went to raw medical graduates wanting to do their postgraduate degrees (M.D. or M.S.). To these candidates, the ICMR grant provided financial support during their post-graduate course and the research undertaken was an incidental operation usually of poor quality and largely ending up in dissertations in partial fulfilment of the requirement for the post-graduate degrees. The candidates received no training—either in biostatistics, or the methodology of research or even with respect to laboratory techniques directly involved in their research work. These latter were often performed by a “technician” or “laboratory assistant” also supported by the ICMR grant, the technician being usually either a matriculate or a graduate with no prospect of further advancement in research career. It is no wonder that under the circumstances, the large number of ad-hoc schemes supported by ICMR over the years failed to generate an expanding corps of well-trained research workers.

In recognition of these errors, the Council has now decided that research fellowships will be granted to applicants not only on the basis of their academic record but also on the basis of the scientific merits of the research programmes. The selected fellows will be given training in biostatistics and on techniques relevant to their research in the appropriate national institutes under the control of the Council. No technician or laboratory assistant will be offered as assistance to research fellows in order to avoid the previous practice of “research by proxy” and in order to ensure that the young research fellow, at least in the initial stages of his career, works with his own hands. The Council also proposes to provide research associateships on fairly attractive terms to post-graduate candidates. Every effort will be made through these and other means to create a reasonably good corps of medical research personnel in the country.

Facilities for research will be deliberately created at appropriate centres and scientists from the ICMR cadre will be posted to these centres in order to generate research interests in the concerned institutions.

Our national institutes have generally done well though even here, there would seem to be considerable scope for improvement in some areas. It will be the Council's policy in future to build “bridges” between the national institutes and the medical colleges so that the institutes do not function in isolation and the medical colleges are also gradually brought in into the mainstream of medical research. Institutional adjustment for this purpose are being worked out.

To a great extent the current pattern of medical education in our country both at the undergraduate and postgraduate levels is not conducive to the development of interest in a research career on the part of our medical graduates. Talented medical graduates prefer teaching or clinical assignments, and rarely opt for research. The improvement of conditions of service

in ICMR may mitigate this to some extent. Bringing the ICMR scales of pay on par with those obtaining in the Central Health Service and other sister research organisations will also help. In future, young biomedical scientists recruited by the ICMR will be offered special training in biostatistics in one of the regional statistical bureaux of the Council. They will also be trained in the techniques and research methodologies related to the research programmes at the appropriate permanent institutions of the Council where the expertise and facilities for such training exist.

PROMOTION OF RESEARCH IN MEDICAL COLLEGES

We have over a hundred medical colleges in the country. It is reasonable to expect that these medical colleges would be the logical centres of medical research activity in the country. It is, however, regrettable that, apart from a few exceptions, the medical colleges in the country, by and large, do not make any significant contribution to medical research today. Indeed the psychological climate, the attitudes and facilities so essential for medical research, just do not obtain in most of our medical colleges. As long as this situation continues, medical education will continue to be divorced from the main-stream of medical research, and the vast material for medical research that in fact does exist in our teaching hospitals will continue to remain untapped. We cannot expect to build a durable base for medical research in the country by confining our research programmes largely to the national institutions and a few pretigious all India post-graduate medical centres, in isolation from the bulk of our medical colleges. The Council has to play an important role in mobilising, energising and enthusing the large body of medical colleges into joining the main-stream of medical research.

The Council has already initiated some important steps in this regard. The Council is in the process of finalising a list of all young and talented medical men functioning in our medical colleges, with full information which would indicate their potential. The Council has also addressed individually the Principals of all medical colleges in the country suggesting that they constitute "research councils" in the colleges with a view to promote inter-disciplinary resarch on problems of local interest. The Council will give them such technical help, including statistical help and guidance in the formulation and execution of their research programmes.

STATE MEDICAL RESEARCH COMMITTEES

Closely linked with the above question is the current situation with regard to State Medical Research Committees and their relationship to the ICMR. The Public Accounts Committee of the Parliament had drawn attention to this matter and had emphasized the need on the part of the ICMR to establish close linkage with the State Medical Research Committees.

At present medical research committees exist only in some states and in only two of these are the ICMR represented. The Council recently convened a meeting of the Directors of Medical Services, to discuss ways and means of promoting medical research in the states. State Medical Research Advisory Committees will be set up where they do not already exist. The Council

has also decided to extend these State Medical Research Committees such help and guidance which they may need in the matter of formulation, scrutiny, implementation and evaluation of research programmes.

It was also decided at the meeting that apart from research schemes solely financed by the ICMR or the State Research Committees, there could be research projects of regional importance and national interest which could be jointly supported by the ICMR and the State Medical Research Committees on a matching grant basis. The Council has addressed proposals on these lines to the State Directors of Medical Services and will follow up this programme.

The enlisting of State Medical Research Committees in the above manner will not only help to expand the scope and range of activities of the ICMR but it will also facilitate a proper dispersal of financial support by the Council to medical research efforts in different parts of the country. It should also be possible to bring more and more medical colleges into the mainstream of medical research activities through establishing and energising such State Medical Research Committees and operating through them.

In order to help the State Medical Research Committees and the medical colleges, the Council has initiated a programme of decentralisation of its statistical bureau. Three regional ICMR statistical units in Madras, Bombay and Calcutta are proposed to be set up. The nucleus for such a set up in Madras and Bombay has already been provided and the State Research Committees and the medical colleges have been informed that they could approach these statistical units for statistical help in designing projects and evaluating and treating results.

The Council also proposes to organise regional courses in Biostatistics for the benefit of research workers in the medical colleges.

COLLABORATION WITH OTHER SCIENTIFIC AGENCIES

There are several areas of research where the interests of scientific research agencies overlap. It will be to the mutual advantage of the concerned agencies to establish machinery for coordinated action in such overlapping areas. Unfortunately, so far, there has not been much formal or informal collaboration between the agencies with respect to these borderline areas.

There are several biomedical problems related to programmes of agricultural development in which the ICMR is deeply interested. Thus research on the nutritive value of high yielding varieties of foodgrains, pesticides, residues in foodgrains, the problem of fungal contamination in foodstuffs, the propagation of plants of medical value etc. are areas of concern to ICMR and in these areas the cooperation of the ICAR will be most useful. In recognition of this, the Council has sought to establish a jointly Advisory Committee composed of ICMR and ICAR representatives which could look into such problems of common interest and coordinate research efforts in these areas. Similarly there are areas of overlapping interest con-

cerning CSIR and ICMR, and ICSSR and ICMR. It is proposed to constitute joint advisory committees to cover such areas as well. These efforts are expected to greatly facilitate research efforts in these related areas and to contribute to a mutually reinforcing participation between ICMR on one and the other scientific agencies on the other.

CONCLUSION

The main objective of the proposed new policy is to ensure that the Indian Council of Medical Research will be able to really "deliver the goods" in the years ahead. Placed as we are in a situation, when there are competing claims on our meagre resources, investment in medical research can only be justified if medical research efforts are addressed to the actual problems confronting us.

The results of medical research may not be dramatic or spectacular. Even so, if we continue to accord low priority to medical research we will be doing so at our own peril. The impression that what needs to be done in the public health fields is better implementation and application of knowledge that already exists, and not research is a completely erroneous one.

The Indian Council of Medical Research is today keenly alive to its national responsibility and has reoriented its policy and pattern of functioning to suit our national needs. It is to be hoped that the current hesitations inhibiting reasonable investment in medical research will be removed and that atleast in future, the ICMR will be enabled to play its legitimate role.