

Five Years After

*A review of Health Care
Research Management
after Rothschild*

INCLUDING AN ESSAY BY THOMAS P. WHITEHEAD

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GORDON McLACHLAN

Introduction

The Trust has a long history of pioneering in health services research including the development of a literature on the subject through its publication policy. It sought consistently over the years prior to 1962 to underline the case for substantial public financing of such research, and has taken a close interest in what has happened since that year, which marked the entry of the then Ministry of Health in a major way into the field. It has continued since to look closely at the field and has published several books (1) seeking to have the details of such research as well as its aims and mechanisms, more widely known, and to raise important issues in a field, the financing of which is now virtually a government monopoly. Following the conference at Hertford College, Oxford in 1974, reported in *Positions, Directions and Movements* it has convened a running seminar in which a group of directors of health services research units, with whom the Trust has had some connection, have discussed matters of principle and mutual interest concerning the promotion and direction as well as the logistics of such research. From time to time in the discussion of certain relevant problems, these seminars have been attended as well by others in the field, including civil servants from the DHSS.

This monograph which is the result of the work of the group, is composed of Professor Whitehead's essay which was commissioned as part of the review of the history since the White Paper, and an essay discussing one or two questions which the group feel need an airing. Both essays accordingly complement one another and should be regarded as of the lineage of the Trust's interest in research. The whole publication is also complementary to Sir Andrew Watt Kay's 1977 Rock Carling monograph *Research in Medicine: Problems and Prospects*, which raises some fundamental issues which are of special importance since Sir Andrew, who is Regius Professor of Surgery at the University of Glasgow, is not only a distinguished clinician but has been the Chief

Scientist of the Scottish Home and Health Department since the White Paper proposals were implemented in Scotland.

While the questions explored by the group have been concerned with the development of ideas, the discussions have inevitably reflected the anxieties of the directors with general principle, particularly those of concern to them as 'contractors', in the essential 'Rothschild' sense (2). Most of these surface in one way or another in the group's observations but an important instance when the group took immediate action concerned the long-debated question of security of tenure of researchers on short-term contracts, and it seemed important to raise with the authorities the possibility of a career structure for members of units undertaking 'rolling' programmes or project research. It is evident that many researchers engaged in such activities prefer to pursue a career in research rather than engage in a modicum of research as an adjunct to teaching. A special study was sponsored by the Trust on this rather complex issue, for it touches on principles rooted in quite different but strongly-held beliefs about the desirability or otherwise of tenure for researchers, as well as appointment procedures for university staff, etc. In the event the study indicated that while the total cost of health services research funded by the DHSS was very large, the number of researchers from various disciplines who might qualify for selection for appointment, say for illustration, to a 'corps' of researchers funded by the DHSS but who would have to be appointed through some procedure agreed with the Universities in principle, was relatively small—perhaps not more than fifty in all disciplines. The matter has been explored through both DHSS and university channels and it is understood that while a procedure has still to be worked out in detail, there is now general agreement in principle about how the arrangements can be made satisfactory to both sides.

There has, however, been continuous disquiet about the

overall arrangements in respect of the funding, approving and monitoring of research and it was decided to probe these questions more deeply. The time was thought specially propitious because it was envisaged that there would be a change of Chief Scientist in the spring of 1978 (3). The fact that Sir Douglas Black, on his election as President of the Royal College of Physicians, has retired earlier merely makes the need for review more urgent.

The observations of the group are set out in 'Reviewing the framework of government-financed research in health care' and apart from the issues raised in both essays, the question must be asked whether the time is not ripe for a complete review of the situation, since the Rothschild '*dicta*' was first applied to government policy on questions of health. It may indeed be important to question whether there is an analogy with what is considered 'government-supported research' in the abstract, for health, with its enormous ramifications from basic research to the caring functions of the large-scale organizations which are the health authorities, does present perhaps some unique problems which do not necessarily apply in other sectors in which government-financed research is important.

It is certainly the case that the problem is one not just of whether certain responsibilities such as for the transferred funds should be within the DHSS or MRC, but more fundamentally one of structures and mechanisms to deploy the scientific approach to what is essentially required.

The history of the Medical Research Council in terms of achievements surely provides a guide to what is possible by the application of scientific discipline. It is arguable that if the Rothschild thesis is applied to the performance of the MRC in its chosen fields it would show it to be a success in certain essential matters such as disciplined review, monitoring and publication, all key elements in successful research and all of

which seem lamentably lacking in the DHSS approach post-Rothschild. The whole question of research in health and its application to practice has a long history going back to the 1920s when there was a *concordat* (4) between the MRC and the Ministry of Health about their relative spheres of interest. Health has to be taken as a whole and one might well conclude that while the MRC has been successful in pursuing the objectives it chose and for which it had many plaudits, there has been some slowness on the part of the Ministry and its successor, the DHSS, to develop specific aims in relation to research and its control and to pursue them with the scale and energy required. It is one thing to criticize the MRC for a reluctance to commission research in the area of service application as distinct from the basic variety, but is it sensible to ignore the lessons of its operational success and the real difficulties and severe handicaps involved in the DHSS operating directly without adequate apparatus and safeguards in commissioning research geared to modern needs and concerned with application and service? There is clearly enough evidence to indicate that some close attention must be given urgently to the arrangements necessary for this very important segment of research into health care. After all, the funds involved are not insignificant as the last report (for 1976-77) shows a total of 'R and D' expenditure of some £26,000,000 (5).

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II

**BEFORE AND AFTER
THE ROTHSCHILD REPORT**

THOMAS P. WHITEHEAD

Before and After the Rothschild Report

Introduction

The Rothschild Report was published in 1971 as a Government Green Paper. It was written by the head of a group of individuals newly appointed by the Prime Minister (Mr Edward Heath) to advise the Cabinet on certain policies. It was written in a style which was probably unique for an official Government document. Lord Rothschild attacked several well-established traditions in scientific research and was specific about how they should be changed in terms of organization and finance. The Report produced strong reactions and counter reactions from scientists and others.

The following is an account of the events leading up to and following the publication of the Report; it describes the interaction between changes in organizations and the individuals leading those organizations.

Some who have read preliminary manuscripts have criticized my emphasis on personalities. I defend such emphasis; personalities can still dominate British institutions, and rightly so. They were concerned with medical research at a time when there were profound changes in the social and economic structure of life in the UK.

The title of the Government Department concerned with Health has changed over the years. For simplicity I have used the term Department of Health in the early account and later used the initials DHSS to indicate the Department of Health and Social Security.

Similarly, certain individuals have changed their title during the course of the account and I apologize for any inaccuracies.

Although this work was sponsored by the Nuffield Provincial Hospitals Trust, the views expressed are my own.

I wish to record my gratitude to the many who helped in the preparation of this essay.

The Research Councils

During the past fifty years in the UK, the Research Councils have played an essential and leading role in the organization of scientific research. Such a major role involved the selection and financing of research projects particularly in the universities and also the setting up of special research units. Thus, they were able to formulate the policy and strategy.

The following is a list of the Research Councils at the present time:

- Agriculture Research Council
- Natural Environment Research Council
- Medical Research Council
- Science Research Council
- Social Sciences Research Council

Particularly following the Second World War, the Research Councils have been the envy of scientists in many other countries not only because of their scientific record but because of their organizational traditions.

First, although they were in receipt of public funds they were independent of the appropriate Government Departments. For example, the Natural Environmental Research Council was not dependent on the Department of the Environment for its funds or the Medical Research Council on the Department of Health. Research council funds were part of the science 'vote', provided through the Department of Education and Science. Previously they received money via the Privy Council, but always they were independent agencies and much freedom was given by successive Governments whatever their political persuasion.

A second significant feature was their similar administrative structures. Those employed by the Councils would include

administrators and scientists. Some would be solely involved in scientific administration, others would be involved in scientific research as members of university staff or in the specially staffed research units situated in various parts of the UK. The most senior full-time official of the council was usually called the Secretary, who was also the Executive and Accounting Officer. The Council held its authority by Privy Council Charter.

The members of Council who were research scientists were usually university professors regarded as eminent in their field of work. They would number about eight and were in the majority. They usually served for four years whilst still retaining their university appointments. It tended to be a self-propagating system. The resigning Council was responsible for the nomination of new members. Although the Department of Education and Science had over-riding control, rarely was such control exercised.

The Councils have, from time to time, varied the committee structure which supported them but, in general, it was a structure based upon groups of eminent scientists assembled together in committees responsible for a variety of activities. These appointments were the responsibility of the parent Council with one or two minor exceptions.

The Research Councils in the four decades prior to 1970, shared a common approach, not only in administration, but also in attitude. Such an attitude was undoubtedly successful, particularly when judged in terms of scientific achievement. In the main there was a policy of waiting for scientists to approach the appropriate Council for financial support for their ideas. There was a competitive approach; those who most impressed Council, or their appropriate subcommittees, with their research programmes received support; others would be unsuccessful. There was a deliberate and calculated policy to support scientists with a proven record. Commonly, the most

eminent scientists were in basic research and therefore they tended to win in open competition against others.

The term basic research is worthy of comment, later it becomes an important term of discussion. The term is difficult to define, particularly when it is used to contrast with the term applied research.

Many examples of basic research can be found in medical research but particularly in molecular biology. A molecular biologist may be concerned with how bacteria, when they divide, transmit all the appropriate activities of their survival to their 'off-springs'. It is a fascinating basic problem with considerable intellectual and scientific challenge but no obviously immediate benefit to mankind.

An example of applied research would be 'how can the diagnosis of cancer of the colon be improved by determining certain proteins in the serum of patients suspected of having the disease?'

The two examples given illustrate the problem by extreme examples. Using simple criteria, basic research may not be of immediate and obvious practical importance whereas applied research is identifiable in its objectives in terms of the possible improvement of the lot of mankind.

The characterization of research in this way is made even more difficult because a subject of basic research may become, almost overnight, a very applied programme. Applied research is frequently dependent on basic research for its techniques and approaches to solving problems. There are many examples which could be quoted. Equally, applied research may give pertinent pointers to basic and intellectually stimulating research problems.

Suffice it to state that basic research generally attracts the better scientists, and is risky in terms of a practical outcome. Applied research is thought to be less exciting to the better

scientific intellect, and considered dull and the outcome more predictable.

It would be wrong to presume that the Research Councils prior to 1970, solely supported basic research, many of their activities were applied. They appointed both basic and clinical scientists to their Councils.

The attitude of the Research Councils could be correctly described as elitist. They did not avoid accountability in their use of public funds but they certainly did not yield to political pressures. They had a proud record of scientific achievement, they could be judged on the scientific publications emanating from the work they financed and many of the scientists they supported were held in high esteem in national and international science.

The economy of the country was expanding after the Second World War. The role of science in that economy was important and exciting. The cost of the Research Councils was significant but did not appear to be an issue either in Parliament or the Treasury.

However, certain events occurred in the 1950s which could be described by those involved in the Research Councils as small 'clouds on the horizon'. For the purposes of this paper it is most convenient to describe those involving the Medical Research Council although similar events probably involved other councils.

The Medical Research Council and the Department of Health pre 1970.

The Secretary of the Medical Research Council from 1949 to 1968 was Sir Harold Himsworth. Prior to his appointment he was Professor of Medicine at University College Hospital London; he was a physician and a scientist of considerable

distinction. He was a formidable person both in debate and in the pursuit of any activity which he regarded as being for the public good. Without apology to anyone he supported and progressed the scientific and organizational traditions of the Medical Research Council which he held as sacrosanct. He was particularly interested in the promotion of both basic and clinical research.

The Second Secretary of the Medical Research Council was Dr R. H. L. Cohen who was a staff member of the MRC from 1948.

Sir George Godber was appointed as Chief Medical Officer (CMO) to the Department of Health in 1960. He was a distinguished holder of that office for thirteen years. He was completely devoted to the public service, particularly the National Health Service.

The CMO heads a team of doctors within the Department who, like himself, are all civil servants advising administrative civil servants at various levels of seniority and on a wide variety of subjects. In practice Departmental decisions were usually joint decisions between doctors and administrators. In addition the CMO could exert his independence by direct access to the Secretary of State.

As CMO he attended meetings of the Medical Research Council, not as a member but as an assessor. It is difficult to define the role of an assessor but this meant that he did not have full membership and he was excluded from certain items of business. This designation as an assessor rather than as a full member was known to be a source of irritation in the Department of Health. At meetings of the Medical Research Council Sir George frequently spoke about the problems facing the Department of Health and how they could be answered by research methods. Thus his attendance at the Medical Research Council meetings was more than a mere duty.

Although Sir George was a considerable admirer of the Medical Research Council and what it had achieved, he was, on occasions, forthright in his criticism of the Council and its approach. Such occasions occurred when he felt that insufficient attention was being given by the Council to certain socially important medical problems. Such criticism and the ensuing conflict was conducted in the most friendly and open manner.

Particularly during the time Sir Harold and Sir George sat together in the Council, Sir Harold was showing considerable devotion to the use of research funds in molecular biology. In scientific terms this was an outstandingly successful promotion of basic research. Sir George was equally devoted to the possible role of applied research in such major Departmental problems as mental disease, care of the elderly, virus diseases, sexually transmitted diseases, screening for cancer and nutrition. While the MRC carried out important clinical research in these areas, it was felt that the epidemiological and social aspects were somewhat neglected and he began to attract Departmental funds to carry out research activities on such problems. An early instance was the commissioning of work on the study of research methods in screening populations for certain disease states.

Departmental research was given a stimulus when in 1962 Sir George recruited Dr Cohen, who, it has been noted, had considerable experience with the MRC, to head the Department's research effort and, assisted by Dr Max Wilson, they began to build up the activity.

During the next nine years this programme took shape and there were more successes than failures. There is no doubt that certain medical research workers looked upon the Department's research activities as those practised by 'second-class scientific citizens'.

On some occasions approaches were made to the Council to try and stimulate them to work on particular problems which

the Department felt were its proper province. Such problems included coronary care, cervical cytological screening, and breast cancer screening. The Council frequently showed doubts about the relevance of research to meet the objectives, usually as the result of the advice of a Working Party of experts.

There is no doubt that such reservations, however well based in scientific terms, led to increased friction between the Council and the Department. This was not unique to medicine. Other Government Departments were involved in growing unhappiness with their particular Research Councils' performances in terms of what were considered as practical objectives.

The role of the Medical Research Councils in applied research

Probably the most significant first attempt to assess the role of the Research Councils in applied research was by an enquiry from the Cabinet Office in late 1950s to each of the Councils.

Some believe it to have been inspired by Lord (then Sir Solly) Zuckerman and it asked the Research Councils to assess their activities and, in summary, to classify them according to whether they were basic or applied.

Lord Zuckerman was scientific advisor to the Prime Minister; his office and a small staff were situated in the Cabinet Office. Lord Zuckerman had trained in medicine and his scientific career was distinguished in anatomy. At the time he held the Chair of Anatomy at the University of Birmingham Medical School. His advisory role in the Cabinet Office was based not only upon his undoubted scientific distinction and personality but also upon his success in solving practical

problems during the Second World War. He was, and has always remained, a keen supporter of basic research and admired its achievements. He has also played an integral role in its stimulation and support in the UK. However, his 'political' success was in practical solutions of everyday problems by the use of scientific methods. In addition he was scientific advisor to a political office.

Lord Zuckerman became increasingly aware during this time as advisor to the Cabinet Office that politicians of all persuasions and many civil servants were becoming unhappy at the Research Council's expenditure on basic science at the expense, in their opinion, of solving practical problems. The concept of 'accountability', that is the reason for using Government funds and their cost benefit, meant that Treasury officials began to question the science 'vote', its exponential increase and its practical achievements in terms of the economy. Such enquiries, probably manifest in Cabinet Office memos, would eventually result in questions to Lord Zuckerman. Hence the attempt to survey the position in the late 1950s so that some assessment of the role of the Research Councils in practical objectives could be made.

All such enquiries, then and since, showed that the Research Councils were performing more applied research than many realized but their deliberate policy of supporting basic research and their parallel policy of allowing scientists to choose which scientific problems were best studied, led to further disquiet.

In the early 1960s there was a review of the role of the Research Councils in Government sponsored research. It was conducted by Lord Trend (then Mr Burke St John Trend) and the report was published in 1960. The Trend Report did not recommend any alteration to the role of the MRC. The most important recommendation of that report was that the Department of Scientific and Industrial Research be dissolved

and its function be redistributed between a Science Research Council and a new Government Department of Technology.

It is known that successive Ministers of Health in the Labour Government of 1966–1970 were critical of the role of the Medical Research Council in terms of what they regarded as lack of applied research. These included Kenneth Robinson and Richard Crossman.

In 1968 Sir Harold Himsworth retired and he was replaced by Sir John (then Dr John) Gray, who had previously replaced Dr Cohen as the Second Secretary at the Medical Research Council when he moved to the Department of Health.

Sir John Gray had been a Professor of Physiology at University College Hospital. He brought a somewhat different approach from Sir Harold to the MRC. He was obviously firmly convinced of the role of the Medical Research Council but he clearly recognized that, just as so many other aspects of life in the UK were being subjected to change, it was certain that the Medical Research Council could not be insulated from such changes. In addition, it was clear that the exponential growth in Research Council funds would have to slow down.

Soon after Sir John's appointment he became an active member of an informal group of Heads of Research Councils. They were openly formed to produce a common front in order to preserve the Councils' individual identities.

On frequent occasions and in various places information leaked that the Cabinet Office was becoming active in demanding some action regarding Research Council funding. It came in the form of a report which was eventually called the Osmond Report.

The Osmond Report

Mr Paul Osmond was a Deputy Secretary in the Civil Service Department and members of his committee were mostly civil

servants. The choice of Chairman and the composition of the Committee certainly indicated that the Civil Service Department played a leading role in the setting up of the Committee. There was obvious support from the politicians of Sir Harold Wilson's Government but when the Committee reported early in 1970 that Government was in its final days.

The Osmond Committee concerned itself solely with the organization of agricultural research. It was an opportune time to make such a study since the Secretary of the Agricultural Research Council was about to retire. The Osmond Report, available in May 1970, suggested that the Agricultural Research Council should not have a separate existence under the Department of Education and Science but should be incorporated in the Ministry of Agriculture, Fisheries and Food. The latter would then be responsible for all Government agricultural research.

The contents of the report were not shown to the other Research Councils. The unions concerned with the employees of the Agricultural Research Council were the first to see it. Then it was shown to the Agricultural Research Council itself and probably to certain members of the Advisory Council on Science and Technology, a Cabinet Committee of scientists under Lord Zuckerman's Chairmanship.

Details of the report gradually 'leaked' to all the Research Councils. Some members of Lord Zuckerman's Committee, several of whom were associated with the Research Councils, regarded the loss of independence of the Agricultural Research Council as a small price to pay in defending the other Councils. The Heads of Research Councils Committee regarded this as the 'thin end of the wedge' and immediately prepared a common front stating that they regarded the Osmond Report as a threat to the existence of them all. The matter died with the announcement of the General Election of 1970.

Mr Edward Heath's Government came to power in June

1970. The Osmond Report was quickly picked up by the new Government and placed before a Cabinet meeting in September 1970. Mrs Margaret Thatcher had been appointed as Secretary of State to the Department of Education and Science and she had, at very short notice, to prepare a defence of the Research Councils' approach. She was, of course, defending her own Department and its field of influence but also she was a scientist who understood the background to the fears that the Osmond Report could mean the beginning of the end of independence of the Research Council system.

She convinced the Cabinet to set up a committee of scientists with Research Council backgrounds, so that they could express their approach to the changing circumstances of research in the United Kingdom and the attacks being made upon them. The Council for Scientific Policy took on the task.

Sir Frederick Dainton took on the Chairmanship of the Committee. It met in residence every other week, all day Friday and Saturday. They drew heavily on the advice of the Heads of Research Councils and this is known to have put considerable strain on the individuals concerned. They were set up in November 1970, they completed their report by March 1971.

The Dainton Report suggested some changes but in general defended the Research Councils' position in terms of independence from Government Departments. Mr Edward Heath now had two reports available to him: one suggesting that at least one Research Council, the Agricultural Research Council, should cease to be independent but responsible to the MAFF, with a possible implication that others should follow the same fate; on the other hand, the Dainton Report defended the Research Councils' role.

The Rothschild Report

In the autumn of 1970 the Prime Minister had appointed Lord Rothschild as an advisor to him in the Cabinet Office, he recruited a group of other advisors collectively known as the Central Policy Review Staff.

Lord Rothschild was asked by the Prime Minister to look at these two reports and comment on them and he accepted the task. Lord Rothschild had considerable experience of research organization. He had been Chairman of the Agricultural Research Council from 1948–58 and Director of Research to the Shell Organization from 1965–70. He had forthright ideas on the subject of the financing and organization of research. He supplemented this with consultations with Research Council and Government Department officials involved in research organization.

The contacts Lord Rothschild made were not concerned solely with obtaining opinions on the principles on which Government research should be sponsored and achieved; they were concerned with identifying the proportion of the Research Council's funds which could be described as being used in applied research, because he was convinced that such endeavours should be under the direct control of the appropriate Government Department.

It was estimated by the DHSS that approximately 25 per cent of the Medical Research Council's funds were spent on applied research.

Lord Rothschild was convinced that, unless the appropriate Government department controlled such applied research funds, then they would not be able, in his view, to influence research policy. The various 'old-boy' agreements had not worked in the past and were unlikely to work in the future unless they included the spur of financial involvement and control.

The Rothschild report was published in November 1971 as part of a Green Paper, i.e. for discussion prior to the production of a White Paper which, if approved by Parliament, would be accepted as Government policy.

The title of the document was 'A Framework for Government Research and Development'. It contained both Lord Rothschild's Report and the Dainton Report, thus furthering the impression of 'polarity' between the two views. The true polarity was between the Dainton and the unpublished Osmond Report. The Rothschild Report was something of a compromise.

As a preface to both reports there was a short memorandum from the Government which made several pertinent points.

The Government endorsed the customer-contractor principle in Government sponsored research as outlined in the Rothschild Report. Subject to this principle the Research Councils should continue under the Department of Education and Science. Such principles were not for discussion but the rest of the document was meant to be for discussion.

The Rothschild Report was short, in all 25 pages. It has been said that the document was a personal memorandum to the Prime Minister and not necessarily for publication; the Prime Minister decided to publish the document as a Green Paper.

With very few words wasted in the original report it is not easy to summarize the recommendations in less than 25 pages. At the risk of oversimplification the following is a summary of the recommendations.

Applied research with a practical application as its objective must be done on a customer-contractor basis. The customer says what he wants, the contractor does it (if he can); and the customer pays.

This concept was at the very heart of Lord Rothschild's philosophy and, as stated previously, was already accepted as Government policy. Some of the comments made in the

Report concerning this principle are worthy of consideration, particularly in the light of events which occurred several years later.

The Report tried to avoid semantic discussions but was involved in such discussions by page 3. Inevitably the problem of defining basic research was encountered and resulted in the statement that 'the end-product of basic research was an increase in knowledge by the discovery of rational correlation and principles'. A frequently quoted comment on basic research contained in the Report is worthy of full quotation.

... it also sometimes said, in justification of basic research, that chance observations made during such work, and their subsequent study may be just as important as those made during applied research and development. While there is some truth in this contention, the country's needs are not so trivial as to be left to the mercies of a form of scientific roulette, with many more than the conventional 37 numbers on which the ball may land.

The Report stated that, although applied research and development required a customer-contractor philosophy, there was no analogous customer-contractor arrangement in basic research, in fact such an approach was inappropriate.

The need for basic research and the arrangements for its sponsorship by the Research Councils was accepted. The report concentrated on attacking what was regarded as the unsatisfactory arrangements surrounding applied research and development. It stated that the Research Councils

were autonomous in respect of their (research) programmes, an unsatisfactory situation in some cases According to the Department of Education and Science an appreciable part of the work of the Medical Research

Council; and a major part of the work of the Agricultural Research Council and the Natural Environment Council is 'applied'. But this work has no customer to commission it. This is wrong. However distinguished and practical scientists may be they cannot be so well qualified to decide what the needs of the nation are, and their priorities, as those responsible for ensuring that the needs are met. That is why applied research and development must have a customer . . .

The Report both in the title and in the text associated development with applied research. An oversimplified example of the difference between research and development is, for example, research could be carried out to design an invalid vehicle for use by the disabled and eventually an 'ideal' vehicle designed. The manufacture of such a vehicle and its supply to disabled people would be the development stage essential for complete fulfilment of the primary objective. In many applied research programmes there is no such clear-cut distinction between the research and development stages of programme. This led Lord Rothschild to comment as follows:

Difficulties are sometimes raised about making a clear-cut distinction between research and development and the familiar continuous research and development spectrum argument is advanced in support of these alleged difficulties. There are two ways of dealing with this question, whether the problem is a real one or not; first by recognizing that a development programme almost invariably costs at least ten times as much as the research component of the same programme; secondly by accepting that development should very rarely be started until and unless there is better than a 90 per cent chance that the objective of the research and development programme will be realized.

Central to the Rothschild Report is the theme of an identifiable customer. Despite the clarity of explanation of various complex ideas in many sections of the Report, there was a confusion in the definitions of the 'customer'. Such confusion was confirmed by Lord Rothschild's lecture to the Royal Society of Arts, which took place shortly after the publication of the Report.

It is worth quoting directly from paragraph 9 of the Report. This section is particularly important because Lord Rothschild did not use examples from medical research to illustrate his hypothesis, he used examples from defence and environment.

Paragraph 9 of the Report begins

The customer (client, user or representative) may be direct, for example the Vice-Chief of the Naval Staff who require a new or improved torpedo; or indirect, in that he represents, sometimes in an oblique way, the user of the product, process or method of operation which constitutes the end product of an applied research and development programme. An example is road research and development sponsored by the Department of the Environment on behalf of the motorist (at any rate in part).

Another important section of the Report was concerned with the customer organization in the concept of customer-contractor research. Although the Report, in terms of medical research, was vague as to who was the customer, it was specific about the role of the Chief Scientist in the customer organization.

Each Government Department appropriate to a Research Council should have a Chief Scientist and he should be unequivocally identified with 'the customer organization for all departmental research and development'. The Report then makes a comment on the organization surrounding the Chief

Scientist which has considerable importance, particularly in retrospect.

Government Departments are composed of 'divisions'. Lord Rothschild proposed that the Chief Scientist should have representatives within such 'divisions' as an integral part of his organization. The possible conflict of a civil servant being a member of the Chief Scientist's organization and also a member of a division of the Department was commented upon in the Report in the following way.

This implies that a member of the Chief Scientist's organization may have two bosses, the head of the division and the Chief Scientist. There is nothing organizationally abnormal or unusual about such a system; indeed there are precedents for this within government at the present time.

The Report did not give examples.

The foregoing paragraph indicates that the Chief Scientist's Departmental organization should be permeating throughout the Department, sensitive to political pressure, responding to administrative problems, capable of stimulating research programmes. How big should it be? The Report's paragraph 32 is worthy of quotation.

A Chief Scientist's organization does not just consist of a Chief Scientist and, for example some Advisory Council which may well not be necessary. A Chief Scientist's organization is, as the phrase indicates, an organization. In the Ministry of Defence, where there is more technical expertise than in several other Departments, which might be held to imply a need for a relatively small Chief Scientist's organization, the Chief Scientific Advisor's organization in fact consists of more than 50 people.

The Report in section 12 identifies a second organization or

individual in the customer-contractor concept. That is the 'Controller of Research and Development'.

The first sentence of section 12 of the Report states that 'The Controller of research and development should be the chief executive of the research and development function, the combination providing a research and development function for the customer'. Later in the Report it is suggested that the Secretaries of the appropriate Research Councils would be the Controllers of Research and Development in respect of research carried out under contract for a Government Department by the Council.

Section 30 of the Report contained the 'teeth' which Lord Rothschild had earlier promised to include in his recommendations. The Government Departments should place research contracts with the Research Councils. The Research Council should not have the right to reject such contracts without good reasons agreed with the Government Department. The latter should 'themselves ensure that they get what they want from the Research Councils. If they do not they should go elsewhere'.

The Report then went on to give, for each of the Research Councils, their total budget and the proportion by which their budgets should be reduced and made available to Government Departments for applied research. It was obvious that some, if not all of the money would be used by the appropriate Councils but under the strict conditions of the customer-contractor basis of sponsoring research.

The Medical Research Council's total estimated expenditure for 1971-1972 was £22.4 million. It was suggested that £5.6 million should be transferred and placed under the control of the Department of Health.

This represented the 25 per cent calculation which the DHSS had made of the applied research carried out by the Medical Research Council.

Both in earlier discussions with the DHSS and later in the Report, Lord Rothschild believed that the transferred funds should have been £11.2 million and not £5.6 million. The DHSS regarded the smaller sum as more appropriate.

An Appendix to the Report contains the following statement.

The cooperation between the Department of Health and the Medical Research Council has, so far, been inadequate and the changes in financing (detailed in the above paragraph) are intended to rectify this deficiency. Although the Department of Health have direct responsibility in the field of public health they have no share as of right in Medical Research Council decisions and cannot be certain of always being consulted about the Medical Research Council's work.

Earlier in the Report it had been recommended that the Chief Medical Officer of the Department of Health and the Chief Scientist, when appointed, should be full members of the Medical Research Council. In addition, appointments to the Council should be subject to approval by the Secretary of State for Health including the appointment of the Secretary.

With respect to later sections of this document, it is of interest to quote the Rothschild Report on the subject of accountability.

In the Government memorandum which preceded the Report, the word is used in the following sentence '... all Ministers were reviewing the functions of their Departments, placing emphasis on ensuring that wherever possible at all levels, responsibility and accountability were clearly defined and allocated'.

On the first page of the Report, Lord Rothschild asks the following question in respect of Government Research. 'Is

there adequate machinery, at the centre, critically to evaluate the overall research and development scene?' His answer is that 'it is doubtful whether any central body can or should try critically to evaluate Government research and development as a whole. Nevertheless, some focal point, i.e. the Chief Scientific Advisor is necessary at the centre not only to satisfy the general desire for such focal points but also to co-ordinate trans-departmental and trans-national subjects involving research and development'. The use of the term Chief Scientific Advisor is not clearly understood but it was thought to imply a Cabinet Office appointment.

Lord Rothschild specifically deals with accountability on page 4 of his report. He uses the word in its normal sense, i.e. 'someone who is accountable and not necessarily an Accounting Officer'. He firmly places accountability with the customer, who should be responsible for deciding that a research programme is required, how much should be spent on the programme, both capital and revenue expenditure, and also decide priorities between programmes. In making such decisions the customer may have to consult others (e.g. the Chief Scientist) but accountability rests with the customer.

Accountability is mentioned again in Chapter II page 9 of the Report. The whole paragraph is worthy of quoting.

No system for the administration and prosecution of applied research and development will work efficiently and successfully without a continuing dialogue between the customer, the Chief Scientist, the Controller of research and development and those concerned with the actual prosecution of research and development. In an efficient and successful organization all those concerned act and behave as a team in spite of formal accountabilities. Without the accountabilities however both efficiency and the probability of success are reduced.

A surprising feature of the Report is that, although in Table II it shows that the Government Departments spend over £500 million on research and development and the total Research Council's budget is an additional £109 million, there is no comment on Table II in the text of the Report and there is no statement on how accountability is measured in the expenditure by Government Departments of £500 million a year.

The Dainton Report, published at the same time, defended the Research Council system using much gentler language resulting from the consensus of views in their Committee.

The Report proposed one change in the Research Council system. It was suggested that a Board of Research Councils be set up and its function would be to ensure that the requirements of Government Departments for scientific support from Research Councils were being properly met on a service or contract basis where appropriate. The Board would consist of a Chairman, the Secretaries of the Research Councils, the President of the Royal Society, a university Vice-Chancellor, independent members, members from the most relevant Government organizations and from the University Grants Commission and *assessors* from other Government Departments.

The Rothschild Report produced a storm of protest, the Dainton Report almost went unnoticed. The protests were made in the lay and scientific press. The rather abrasive language of the Rothschild Report produced an aggressive response from many scientists.

It must be remembered that it was a Government Green Paper and therefore a discussion document prior to a White Paper which could become Government policy. It was published in November 1971. Comments were invited by January 14th 1972.

Both the Council members and staff of the Medical Research Council were surprised at the severity of Lord

Rothschild's attack on their activities. Others regarded some aspects of the Report as victories. The Report had been emphatic about the continuation of the MRC, the percentage of its total budget recommended for transfer to the Department of Health was less than that of other Councils. The paper was a discussion paper and therefore changes could be recommended before publication of the White Paper.

Certain Council members shared such views, others considered resignation.

The White Paper on Government Research and Development

During the last few weeks of 1971 and the first two weeks of 1972 there was considerable activity concerning the Rothschild Report. The Government received more than 400 documents commenting on the Report. There was a House of Lords debate. During this period several meetings of the Parliamentary Committee on Science and Technology resulted in the publication of four reports. The press, radio and television had also shown considerable interest.

The White Paper was published in July 1972. It was written in language normally associated with Government publications. As forecast, it emphasized the use of the customer-contractor principle in Government research and development, ensured the preservation of the Research Councils and accepted the Dainton Report suggestion of a Board to advise the Department of Education and Science on the priorities in its science 'vote'.

The importance of research development in achieving Government Department objectives was emphasized in the White Paper. It was specific about how this should be accomplished in seven Ministries including the DHSS who

were proposing to spend in 1972-73, approximately £13 million of research and development in health and personal social services.

A Chief Scientist should be appointed. He will be helped by a team of scientists who will work part-time in the Department. They will have widely varying experience in the medical and social sciences which are relevant to the Department's needs in health and personal social services. Their main task will be to help identify areas for which research is required, to ensure that research requirements are stated clearly and to review the balance of the Department's research and development programme. In addition, they will act as a link between the Department and the scientific community so as to develop discussions and partnership between the two.

There is a long tradition of working with the Medical Research Council and increasingly close cooperation with the recently founded Social Sciences Research Council. These links will be developed and full use will be made of both Research Councils as departmental contractors. In the past the advice of independent scientists has been sought on objectives and priorities for research and development, and the appointment of a Chief Scientist and the strengthening of the Department's scientific skills will enable these arrangements to be strengthened.

The role of scientists in Government was emphasized in detail in the White Paper. It involved a plea for more use of scientists in the administration and management of Government departments.

The final section of the White Paper accepted two recommendations in the Green Paper.

Firstly that the Chief Medical Officer and Chief Scientist in

the DHSS should be full members of the Medical Research Council and not be designated assessors.

Secondly, that 25 per cent of the Medical Research Council's 1973-74 budget should be transferred to the Department for use under the customer-contractor principle. At that time in 1972-73 this was almost £6 million—it is now a greater sum (over £8m.). There were two important provisions, that the bulk of this money should be used by the Medical Research Council acting as contractors and no money should be transferred until the Chief Scientist's organization had been established.

Following the publication of the White Paper and its acceptance by both major political parties in the House there was a period of re-adjustment by the Medical Research Council and by the DHSS.

Departmental members of the Medical Research Council became full members of that Council by alteration of the Privy Council Charter. They were four in number. The Chief Medical Officer and the Chief Scientist from the DHSS, the Chief Medical Officer from Scotland and the medical head of the newly formed Health and Safety Executive. Although there were some objections, on the grounds that such membership of the Council destroyed its independence from Government Departments, the changes were accepted.

The Council and its staff then settled down to make the White Paper work; they set up a special section of the Council's staff concerned with contracts from the DHSS. They also launched themselves into a radical re-organization of their committee sub-structure. DHSS representatives became an integral part of that structure. The negotiations between the MRC and the DHSS were conducted with complete cooperation from both sides.

Whatever the pros and cons of the publication of the Rothschild Report there is no doubt that it gave a jolt of

realism to Medical Research Council discussions. The relevance of proposed research programmes in terms of social need became important factors at all levels of Council deliberations.

The rest of this paper is concerned with what happened at the Department of Health following the publication of the White Paper.

Research in the Department of Health from 1971

There were two major tasks for the DHSS following the acceptance of the White Paper.

The first was concerned with how to deal with an extra £5.9 million of research funds with a research organization of less than ten individuals. They immediately went into discussion with the Medical Research Council and established the only possible compromise, the use of broad commissions. This was contrary to Lord Rothschild's original views that a broad commission, for example, 'a contract to work on cancer' was not acceptable in applied research. However it was a pragmatic solution to a difficult political problem.

The second major task was to appoint a Chief Scientist and establish his organization.

Dr Cohen was appointed Chief Scientist in 1972 and he immediately began the task of establishing the Department's formal Rothschild organization. It was obvious that his appointment was a short-term one as he was already of retiring age. However, his background knowledge, established during the previous ten years of working within the Department, gave him a unique authority firmly based upon his devotion to Departmental research.

There was still a Conservative Government in power and the Secretary of State for Health was Sir Keith Joseph. He was an

admirer of management theory provided by management consultants. At that very time a number of individuals from the McKinsey management consultancy organization were working in the Department. A member of the McKinsey organization was chosen to advise Dr Cohen on his new research organization. It is difficult to be certain what his advice was or how much of the new organization was the result of Departmental compromises but by the end of 1973 a new organization was proposed.

A list of the proposed committees and their inter-relationships would appear dull in prospect but in retrospect when, some two years later, two of the major committees had been disbanded, the philosophy behind their conception is important.

The most senior of the research committees proposed was the Chief Scientist's Research Committee. It was responsible to the Planning Committee (later the Management Board) of the DHSS, a group of senior officers which deals with the departments' work as a whole and chaired by the Permanent Secretary. The latter committee is small, composed of very senior members and deals with broad policy in research and many other matters.

The Chief Scientist's Research Committee was set up to advise the Chief Scientist and he was Chairman. This committee was meant to be the centre of the Chief Scientist's organization. Its setting up contrasts with Rothschild's comment on page 12 of his report. 'A Chief Scientist's organization does not just consist of Chief Scientist and for example, some Advisory Committee which may not be necessary.'

At the next level of committee structure several committees were established. For example, the Health Services Research Board and the Panel for Medical Research were both to be chaired by the Chief Scientist, a decision that appeared strange

and at variance with the unbiased role of a Chairman in most committee structures within the public sector. The Chief Scientist was also Chairman of a committee involved in social services research.

There were attempts at this stage to encompass all research endeavour in the Department within the Chief Scientist's organization but they were unsuccessful. Two specific areas of research were involved, the Supplies Division of the Department and the Operational Research Division, which had developed so quickly under Sir Keith Joseph's influence. Both Divisions resisted the take-over and still largely remain outside the Chief Scientist's Organization. There were also a number of experimental computer projects being financed by the Department in various sectors of the NHS. These were firmly in control of a separate Division.

Dr Cohen began to recruit members to these committees and used the principle of the MRC of filling advisory committees with eminent workers in the field. Thus, he recruited from the universities, MRC units and the NHS. He appeared deliberately to choose outspoken critics of the Rothschild policy to serve on the Panel of Medical Research. He must have been sure that, given time on such committees, members would be as convinced as he was concerning the Department's important role in research. Similarly, with the Health Service Research Board, he particularly recruited from the area of social medicine.

Thus by 1973 a Departmental Research organization had been established at least for some areas of research expenditure and the committee members had also been recruited. The research organization was meant to be identified with the customer in Lord Rothschild's concept.

One further aspect of research organization within the Department is worthy of comment at this time. As stated previously, prior to the White Paper Dr Cohen had led the

Department's research organization and he had Mr J. Cornish an administrator, helping him in his endeavours. There appears to have been little interference from others in the Department. This allowed freedom of action and an *ad hoc* approach which was exploited to the full. At that time Dr Cohen's rank in the Department was Deputy Chief Medical Officer. The Research Division was under his direct control. The publication of the White Paper, and the possible escalation of research funds by a further £5.9 million a year meant that other administrators had to be concerned with the use of such funds. In addition, Dr Cohen had a new title and some new responsibilities.

It is important to restate that only the administrative branch of the Civil Service can control funds or theoretically decide policy although in practice many decisions were joint decisions between administrative and medical staff. At this time the administrative branch became more active in Dr Cohen's work and an Under-Secretary was associated with the Chief Scientist's post.

Appointment of Sir Douglas Black

Dr Cohen retired in February 1973 and it was obvious that the appointment of a new Chief Scientist was a vital stage in the progression of the Rothschild concept.

The Department went to the centre of the Medical Research Council's organization. They chose Sir Douglas Black and it is said that Sir George Godber persuaded him to take the post.

Sir Douglas was an eminent Professor of Medicine in the University of Manchester, thus he was an established academic figure with a first-class research record. There was no element of recruiting a 'second-class' scientist to fill the Departmental post, a fear expressed by some critics of the

Rothschild Report. Also, Sir Douglas was completely identified with the Medical Research Council, he was a member of their Council and had served on various MRC committees over many years. Thus, he was not normally identified with Departmental research and his appointment gave assurance that all was working out well between the MRC and the Department in the immediate post-Rothschild era.

During the two years following Sir Douglas' appointment he experienced conditions which were vastly different from those of his predecessor and certain problems developed, none experienced in such acute form by Dr Cohen. Some must have been made more acute by Sir Douglas's place in the hierarchy of the Department.

It was deliberate policy and the wish of Sir Douglas to act in an advisory capacity. This suited his approach to his task and his personality and background. In this advisory capacity he had a staff of one secretary and a personal assistant.

Sir Douglas's understanding of the Department's methods and approach was helped by his close association with an Under-Secretary from the administrative branch of the Department. However, such help was frustrated by the nomadic existence of the career civil servant. In four years Sir Douglas had four different Under-Secretaries to advise him.

Perhaps the most decisive change in personnel that occurred during the first year of Sir Douglas's appointment was the retirement of Sir George Godber. The principal officers who had been closely concerned with the Department's research activities since 1962 were no longer in office.

Sir George Godber was replaced by Sir Henry Yellowlees who had been Deputy Chief Medical Officer under Sir George for several years.

Sir Henry had been closely associated with the Medical Research Council in planning the new Clinical Research Centre and Hospital at Northwick Park in North London. This

was a joint MRC-Department of Health venture. He succeeded Sir George in August 1973; Sir Douglas had just been appointed Chief Scientist. This meant that Sir Henry could leave the research organization of the Department to Sir Douglas. Even attendance at the meetings of the Medical Research Council were less pressing if Sir Douglas was also there to represent the Department. Sir Henry must have been forced to concentrate on the day to day problems of the NHS even more intensely than Sir George Godber. The Secretary of State was Mrs Barbara Castle. She was in conflict with the doctors in the NHS, a running battle which persisted throughout her term of office at the DHSS and in which Sir Henry must have been embroiled. In addition, the NHS was running into considerable financial difficulties at a time when it was going through a radical re-organization. It was a frustrating reorganization process which, in retrospect, was probably unwise. Additionally, the various trade unions in the NHS were extremely active and, with the sympathy of the Secretary of State, they were militantly campaigning for the complete withdrawal of private beds from the NHS. The doctors, some of whom had interests in maintaining the private beds, were obviously opposed to such dictatorship by unions which represented ancillary workers such as porters and cleaners in the hospitals. There is no doubt that this era was probably the most difficult ever experienced by the Department. Civil servants were desperately overworked and Sir Henry was in the very midst of activities trying to 'steady the boat' in spite of the many political battles around him.

This must have given him little time to think about, never mind promote, research endeavours in his Department. The organization of the Department at this time is worthy of re-stating.

The Department was divided into Divisions but Sir Douglas was not a member of any. The medical staff was under the

control of four Deputy Chief Medical Officers, responsible to Sir Henry. Each Deputy CMO had divisions allocated to him and of particular interest was that under the control of a Deputy Chief Medical Officer, Professor John Reid.

Prior to Professor Reid's appointment in 1972 he was Medical Officer of Health for Buckinghamshire. He was research orientated, hence his title of Professor which had been bestowed upon him for his original work in public health. He was in medical administrative charge of two vital areas of Department Research. The Research Division of the medical staff (PE 4) was headed by Dr Max Wilson, along with ten or so medical officers of various grades and a small section associated with the Supplies Division, a division of the Department with important and expansive research activities. Sir Douglas had informal 'functional' links with task groups and their counterparts in the nursing Division and social work service as well as with the administrators and he could call in the help of a large number of experts appointed as advisors to him.

It is clear however that Sir Douglas had no real research organization and a lack of given authority in administrative terms, this was in complete opposition to Lord Rothschild's concepts.

In summary, by the end of 1974 Sir Douglas Black attempted to foster research activity in the Department of Health from the following position.

He had a staff of two individuals

He had no executive power in terms of the use and disposal of research funds.

Those Medical Officers in the DHSS who were responsible for research administration were responsible to another individual.

He had a research committee structure set up by his predecessor.

He was attempting to promote research in a Departmental atmosphere that was concerned with the solving of day-to-day problems of how to maintain the service.

The undoubted academic distinction of Sir Douglas, and his outstanding contributions to medical research were no counter to such pressures. Those however who know Sir Douglas will appreciate that he was not daunted by such odds and he persisted in trying to make Dr Cohen's planned research organization work, but all was not well.

The Kogan Report

The next significant event was the publication, within the Department, of the Kogan Report in July 1975.

This Report was prepared by Professor Maurice Kogan and Dr N. Korman of the Department of Government and Social Administration at Brunel University. It is not clear who commissioned their investigation into DHSS research activity but they made several recommendations regarding DHSS research and development organization. Subsequently the Panel of Medical Research and the Health Service Research Board were disbanded and a new wave of customer-contractor endeavour was started.

The Kogan Report did not mention the Rothschild Report but it starkly highlighted the difference between the Green Paper and what had happened. For example they stated the principles on which the Chief Scientist's Organization had been set up.

The most obvious one was an independent input so that the CSO must be a separate body within the DHSS not integrated with any of the Departmental Divisions. The scientific input provided by external advisors was, and

must be seen to be, free from Departmental pressure or management.

The Kogan Report criticized such independence which was a key principle stressed by Dr Cohen in his recruitment of the Panel of Medical Research.

It also described the CSO as over-elaborate and commented upon the difficulty of establishing a role for external advisors particularly if they were academically orientated as distinct from service orientated.

As a result of discussions with those who had been concerned with Departmental research from 1972-75 they commented that

From the medical science viewpoint it was thought that the Department was lacking staff who had sufficient research experience, who were neither researchers or practitioners, but administrators and overall the Department was not sufficiently strong scientifically to generate its own projects.

A further sentence in the Kogan Report is of considerable interest in the light of a re-reading of the Rothschild Report.

The CSO is not seen to be sufficiently strong to avoid being overwhelmed by the rest of the Department; its sphere is both new and relatively small, and the long-term nature of research means that the scientific input can get lost among the more immediate pressures of administration.

The formation of Research Liaison Groups

The Kogan Report recommended that the Health Service Research Board and the Panel of Medical Research should

both be disbanded. The Chief Scientist's Research Committee should continue and should be supported by Research Liaison Groups (RLGs). This policy was accepted.

The theory behind the formation of RLGs was a model of simplicity and research organizational theory. It went back to Rothschild's basic concept. In applied research the customer says what he wants; the contractor does it and the customer pays.

The Research Liaison Groups unequivocally identified the customer as those civil service administrators who were responsible for the executive and financial decisions on which the Department was operating from day to day. All that was needed was to interface the administrators in the various Division of the DHSS with Sir Douglas Black and the Research Division. Thus was born a number of Research Liaison Groups.

The Research Liaison Group concept was not an original proposal of the McKinsey organization or of the Kogan Report but had grown out of discussions between Dr Cohen, Dr Max Wilson and Mr John Cornish. It was meant to be at the 'grass roots' of the customer organization at the DHSS. As stated above, the philosophy seemed to be that the staff responsible for developing policy, led by the lay administrators in charge of the various branches of the DHSS were really the customers, they had to make decisions about how to organize services and spend the money under the general guidance of their political masters. Thus an administrator, usually an Assistant Secretary, was appointed Chairman. This was an adventurous approach; few if any of them, had any research background or had been involved in the scientific process of stating an objective which was to be subjected to different experimental approaches.

More than ten such Research Liaison Groups were formed. In addition to the Chairman many other administrators

attended, with professional 'policy staff' colleagues and perhaps one or two members of the Research Divisions and a small number of outside experts in research and the field of study; most members of the CSRC were involved in the RLG's in this way and the outsiders recruited specially took the status of advisors to the Chief Scientist. Even in the largest liaison group external advisors were originally only three in number although the numbers have since grown to around five or six in most RLG's.

Some of the Research Liaison Groups have prospered but in general they have not been successful and probably for the following reasons.

The lay administrative membership was unrealistic in terms of providing fruitful research discussions and ideas. Research was not their way of life. They had other problems, they were trying to maintain the health and personal social services working under extremely difficult conditions. Many knew that they would be 'moving on' to other Departments or other Divisions in the normal processes of career development within relatively short periods. The political pressures on them increased steadily each month. This almost certainly led them to indecisiveness—if they strongly argued a research programme on blindness, would the deafness 'lobby' begin pressure for increased attention? Another important factor in indecision was the bewildering number of possible subjects in which a Research Liaison Group could be involved. One Research Liaison Group alone listed more than twenty subjects in which its Division was interested. Ranging from domestic and catering services to pathological laboratories, from pharmaceutical services to the detection of congenital disease in the unborn baby. With a limited budget and personnel who were hard worked on routine duties it was unlikely that research ideas would receive the attention necessary.

Retrospect and Prospects

Despite the failure of the Department to establish a stable research organization the expenditure on research activities increased. The 1976 Annual Research Reports of the DHSS records an annual expenditure of £24 million. The DHSS Research Reports are extremely brief but what is described does appear to be very important applied work in the fields of health services and social services research. In addition, there are considerable sums of money spent on research within the Supplies, Computer and Operational Research Divisions. Most of the research activity appears to be based upon the customer–contractor philosophy.

However, the concepts so clearly stated in the Rothschild Report are not obvious:

Attempts to establish an adequate customer organization appear to have failed.

There is no Chief Scientist's organization set up in the way the Rothschild Report suggested.

Accountability appears, at least to those outside the Department, to be less apparent in certain research areas, than in the early days of the Research Councils.

All the main characters in this narrative have retired. Sir Harold Himsworth, Lord Zuckerman, Dr R. H. L. Cohen, Sir George Godber, Dr Max Wilson (who retired early from his post at the DHSS in 1976), Sir John Gray, and Lord Rothschild. Sir Douglas Black, who was elected President of the Royal College of Physicians in 1977, has also retired from the post of Chief Scientist.

It is of considerable interest to quote from one letter from the correspondence columns of *The Times* published in January 1972 at the height of the Rothschild Report debate. It was written by Professor Fred Hoyle of Cambridge.

The key lies not so much in the precise value of the budgeting fraction to be channelled outside the Department of Education and Science as to whether the ministries and departments who are to control these fractions really will acquire the necessary customer-contractor expertise. Directing wisely sums of the order of £10 million per annum is a difficult matter. The men responsible for the direction will need to satisfy a formidable range of requirements. They will need to command the confidence of the customer and the respect of the scientist, and they will need to be capable of resisting unprofitable political pressures—particularly pressures which tend to disturb reasonable continuity. These men will need to be of very high calibre indeed.

The scientific world is uneasy because it feels that there are more ways of going wrong than right in the selection of these key individuals. The customer will lose instead of gaining if all that turns out is the setting up of more bureaucratic machines.

If the Rothschild Report is to be implemented, the next stage for those concerned in its implementation should be to demonstrate that this critical issue is capable of resolution.

Those comments are still valid after some four years of attempting to apply the principles to DHSS research.

A new Chief Scientist has now been appointed but an effective Chief Scientist's organization has to be created. For those who must make the decisions to effect this a re-reading of the 1971 Rothschild Green Paper would be a useful starting point.

During the era when Dr Cohen was in charge of Departmental research activities several DHSS research units were established but some have not been in existence long

enough for an assessment of their success to be made. What is clear is that many of them have not found the customer-contractor concept workable. They have not been fed with ideas by the Department, they have, in the main, been self generating in their research work. This has certainly been encouraged by Sir Douglas and he has established good relationships with the Directors concerned.

A group of Directors of DHSS Research Units meet regularly at the Nuffield Provincial Hospitals Trust Headquarters, on occasions with DHSS officials. The increasing anxiety expressed at these meetings concerning the direction and promotion of Departmental research and the obvious failure of the development of the customer-contractor approach to their work prompted the writing of this document to record recent history.

All those concerned at such meetings are devoted to the task of promoting DHSS research and their devotion has prompted the question, where has it gone wrong, how can it be put right?

III

**REVIEWING THE FRAMEWORK
OF GOVERNMENT-FINANCED
RESEARCH IN MEDICAL CARE**

**THE REPORT OF A
NUFFIELD WORKING PARTY**

**This essay is essentially complementary
to that preceding by Professor Whitehead
'Before and after the Rothschild report'.**

Reviewing the framework of Government-financed research in health care

A major activity in a major setting

The NHS is an enormous entity measured in either financial or manpower terms. Its gross expenditure is currently over £6,000 million per annum and well over half of the one million employees of the NHS directly serve the patient and account for 70 per cent of the total cost of health services. Representing 4 per cent of the whole national work force they are not civil servants directly employed by the government but a number of Health Authorities, although the influence of the central government is prime. The importance, therefore, of the place of the NHS in the economy and society, and in the management of both, now and in the future, is immense, not only because of its size and because health services affect everyone in the community at some time or another, but because its administration presents classic problems in society of differentiation of professional roles and susceptibilities and of the delegation of responsibilities from central to peripheral authorities. Research is a necessary part of any organization which is live and responsive to social and economic pressure. The Haldane Report dealing with the machinery of government put the case for research as long ago as 1918 as 'the duty of investigation and thought as preliminary to action' (1). Wherever one looks there is a need to add to the store of knowledge, for ideas and policies need constant stimulation and the assumption in the Haldane Report is still valid that the possession of 'exact knowledge of the subject matter' would not 'hinder free devolution but would facilitate it'. This is a challenging premise for a Health Service, the main financing of which comes from a single central source but where there is already much local operating independence, and where most is promised because of the realization that there are certain limitations to what central government administration can contribute, apart from finance, to an essentially locally-

operated service. What can be looked for from central government is a 'positive policy for the development of scientific knowledge' once the direction of development 'through an aggregate of technical advances' (1) is demonstrated to be inadequate. It is not, however, clear that there is as yet any strategy for the development of such a policy in the health field. The major research efforts in health are funded by Government through the Medical Research Council in the case of basic and fundamental research, and through the DHSS in various applied and health service research sectors. The amounts involved are fairly large: in 1976 the MRC budget was £48 million (2). The 1976-77 DHSS Research Report (3) shows a total of £26 million of which £8 million consists of transferred funds from the MRC and £5 million is broadly for health services research. There is an austere brevity about the most recent report of the DHSS and there is an ominous ring about the announcement in the DHSS Report for 1976 (3) that in future research will be covered in the Department's annual report and not separately. Professor Whitehead's study does however indicate in some detail how the present system has come to operate and compares the arrangements with those which might have been expected following the White Paper (4).

Reviewing some assumptions with special reference to health

Until now, whatever successes have been achieved, and, since there are but few publications—and no sign of a policy for the future—to indicate the degree of success of research or otherwise, whatever tactical advances may have been made, it

is evident that much of health services research and development support has been relatively unplanned. There is always a strong case for a more positive policy designed for the development of the base of knowledge as well as for problem-solving. That, however, presupposes a smooth-running machinery capable of looking not only at propositions and programmes but also existing concepts, relating these to the total effort in health and adapting them to changing circumstances and needs. The reality is, however, somewhat different and not exactly calculated to give confidence.

Research in most fields originates with simple observation and analysis, often with the purpose of achieving obvious and immediate goals, such as the improvement or development of a product or process. As the simpler problems are solved and replaced by more complex ones, research has to encompass a wider sweep and there has to be a better analysis of interacting factors. The total organization to embrace this has to be capable of responding to these complex questions. Research methods in this process extend from the 'applied' to the 'basic', and lead to the reorganization of a body of knowledge which can be applied to the solution of problems. Research based upon observation of the natural world where the most obvious targets lie, has preceded research in the social sciences. Until recently research in the natural sciences attracted resources in aid of the highest intellectual efforts deployed in such research; one or more generations of leaders of basic research in that field have come and gone and sometimes analysed and published their experience (5, 6). Some of these believe that the rules they deduced apply to the social as to the natural sciences, even if the former present the more difficult areas of study, invariably being concerned with systems devised by man rather than with natural phenomena. While it would be folly to accept rules derived from the development of natural science without a testing analysis of their applicability to the social

sciences, it is feasible that they could suggest where to look for the seeds of policy, and in today's world it would be foolish to neglect to use them so. Although the Rothschild report and its acceptance by government appeared to catalyse a species of thinking about public research policy, there is, as is evident from Professor Whitehead's essay, some confusion about its meaning and its implementation in the health field. It might accordingly be desirable to restate certain hypotheses in relation to health services research and development generally, and particularly its organization and framework.

There is first a need on the part of those concerned with policy to realize that if scientists are to discharge their responsibilities to society even where their motivation is curiosity or the obligation to acquire knowledge as a teaching base, to think in terms of encouraging and stimulating intrinsic interests. This requires an understanding on the part of those sponsoring or commissioning research and concerned with policy, of what motivates researchers. Another important element in the customer-contractor relationship is to identify the fields of experience relevant to the maintenance and improvement of health. This is precedent to devising the most suitable organization to reconcile the objectives and the resources available.

This puts a premium on the organization of research in order to attain the maximum return from the dedication and efforts of researchers and the application of lessons from research. This, after all, is what the White Paper aimed at achieving. In all fields of study, the major premise of the thesis that research bodies bloom best when freed from direct administrative control of government, derives from the presumption that research efforts are more likely to be successful if free of day-to-day expediency, not least because it could ensure adherence to a long-term strategy which can put expediency in perspective. While it is prudent to assume that government

must have a major role in health services research and development and has to decide how results of research can be applied in areas where it has executive responsibility, it is nevertheless also realistic to recognize in today's conditions certain grey areas which might not get any attention unless special provision is made. Thus, the pressures for project research in a customer-contractor orientated world may obliterate the need for a stronger, longer-term basic research effort of a grander design and of a more specific character than allowed for in applying the relatively small Rothschild 'surcharge' to, say, units receiving support for projects or programmes. Indeed, particularly in the broad spectrum of health services research which presents certain unique problems of its own because of its comparative youth and the limitations of what it can achieve in the short term, the subtle relationships between 'clients' and 'contractors' and the elements for growth of both groups need to be understood better. It is of course a relatively new field of activity, and there are indications that the rumblings of discontent and the criticism of the DHSS operation hitherto may have arisen from the lack of a central focus within the research organization in the DHSS. As a result, there are critical breaks in continuity in the organization of the Research Liaison Groups in the DHSS concerned with approving and funding research, and a lack of appreciation there too, of the elements needed for maintaining strong research units capable of a good record of work, and so undertaking longer-term research.

The Health Service Research Unit and its elements and relationships

Research workers concerned with health services research fall broadly into three groups—those working in University

Departments of Community Medicine, Social Sciences and Management, those in Health Services Research Units which vary in size and in the number of disciplines concerned, and those individuals—administrators, nurses and clinicians who carry out research as part of their job or as an additional interest.

It is the group consisting of the health services research units which occupies a leading role within this framework in that its composition and operational context make it the group most likely to be able to undertake the major strategic studies necessary for a health service that is concerned with change for improvement.

The Health Services Research Unit can be based upon any of the fields and disciplines concerned with health but for ease of illustration a unit based on community medicine might exemplify the problems best since it spans both clinical and non-medical interests. Such a unit will probably be involved in three major types of research. Firstly, in studies of the aetiology of disease leading to ideas on prevention, cure or alleviation; secondly, in studies of the operational functioning of individual services; and thirdly, in the establishment of appropriate methods of monitoring and evaluation of diseases and services.

The *first* group of studies are those that rely on the basically epidemiological design and being concerned with the aetiology of disease are directly relevant to medical practice as well as to the organization of services. The results of such studies are generally applicable to more than the geographical district in which a research unit is located. The investigations invariably carry more profound messages to clinicians and administrators than is generally realized.

The *second* area of concern for health services research is the operational functioning of individual services. Health policies such as early discharge and screening under scrutiny are

usually of national importance. A unit containing scarce research resources would hardly be sensible to undertake studies of this type unless the findings can be generalized and are not exclusive to its own health district. To undertake organizational studies that have national relevance, the close co-operation of those involved in health care services and administration is essential. Such co-operation is unlikely to be forthcoming unless the research in question can be seen to be relevant to the particular locality and the research workers to be independent of external direction or political pressure.

The *third* area of activity, the monitoring and evaluation of diseases and services is becoming increasingly important. Studies in this group, again, rely on a basically epidemiological approach and raise the same problems of relationships and balance discussed above. One of the problems of this type of work, however, is that constructive relationships rarely seem to exist between those doing the research and those responsible for delivering and running the service and this problem is intensified in the reorganized health system with its four levels of organization and its accent on planning.

The mechanism of support of the units is thus probably central to the effective development of health services research. Research has of course to be related to the operational aspects of the health services now and in the future. This means a close association with the administrator as implementer of research. It necessitates the identification of what research has to be carried out and in order to achieve the maximum effect, how to involve research workers in decision-making about policy, priorities and resource allocation, all of which are the responsibility of health authorities which have little or no experience of research, its commissioning, limitations, and applications (and under the present arrangements no chance of learning). This is why the efficacy of the arrangements at the DHSS are specially important to the

health service researcher whose finance comes from the centre but whose raw material is gleaned from the operating processes.

Some of the problems of setting up an effective Chief Scientist's Organization within the DHSS which are evident from Professor Whitehead's essay may have arisen through misunderstandings or misconceptions—or even conflicting conceptions—of how researchers should relate to the planning process. Planning is necessarily an iterative and cyclical process which in general outline follows a fairly well-recognized pattern. The main steps of the process include:

(i) an analysis of the current situation, the perspective of which depends at any point of time on the state of the service, current resource constraints, as well as an assessment of political and social values, and professional and other pressures;

(ii) a formulation of objectives and priorities;

(iii) an examination, evaluation, and choice of alternative means towards chosen ends;

(iv) the development and subsequent steps for the implementation of an operational plan, including monitoring; and

(v) the *post-hoc* evaluation of the effectiveness of the plan and its implementation, which leads to a new situation, and the closure of the planning cycle.

Evaluative (i.e. scientific) contributions to this process occur at every step; the scientific input to planning is not limited to any specific sector of the cycle. If the scientific participation is barred at any one of these points, it is likely to be crippled at the others.

The difficulties of reconciling the requirements of an effective planning system with accountability for the distribution of centrally-provided financial resources, are easy enough to understand. The fact that the DHSS is administratively

separate from the NHS makes the system more sluggish in responsiveness. Even within the Department's framework the integration of policies and effort is by no means automatic—indeed, sometimes non-existent—and the existence of a parallel mechanism centred on the Chief Medical Officer, part-advisory, part-executive, but necessarily interested in the results of research, raises further difficulties in defining the role of the Chief Scientist as conceived from the Rothschild thesis.

These problems are difficult but cannot be avoided, and R & D activities will never be effective until these questions of role are settled. The proper functioning of Health Services Research Units in the field depends vitally upon their working relationships with a Chief Scientist's Organization whose orientations have been reasonably well defined.

In theory, as part of any structure the CSO ought to have an advisory function at all levels of planning on the presumption that it has to provide the necessary scientific input. But in relation to the contractors, the CSO's role in respect of R & D must however also be *executive* in order to develop the necessary relationships to secure the research results on which the ultimate advisory role depends. There would seem to be an avoidance of these two responsibilities in the definition of the Chief Scientist's role as 'advisory with respect to research policy'. Such a definition excludes the Chief Scientist from his true advisory role in relation to policy on health generally, deprives him of the technical mechanism for fulfilling it, creates the necessity for a patchwork of ineffective secondary mechanisms for handling research (the RLGs), destroys accountability for the quality of research, and removes the basis for determining an appropriate balance of activities or any real hope that results will in fact be applied effectively.

In an area where the subject matter is of such political and practical importance, government influence upon direction and context of research is bound to be powerful; but

experience, especially in the last few years, has demonstrated the imperative need for a comprehensive policy in the health sector embracing not only how units and researchers are motivated and what they will respond to, but also some concepts about the development of the frontiers of knowledge about health, its determinants and the organization of health services. Even if there is acceptance of the thesis that such knowledge can be accumulated empirically, some means are still necessary to allow for its interpretation for public policy, as well as for the continuance of its planned growth through research development.

Some recent interventions: 'Rothschild' and 'Dainton'

Part of the problem in considering any kind of research dealing with medical care the the future of research in it, is first of all to recognize the inadequacies of the linguistics and the complexities of concepts (some of them alternatives, some inconsistent) involved in common use. What has been discussed above are issues of a fairly general character, but the history of the last few years indicates a certain amount of confusion in application on the health scene.

This is very evident if one delves into the basic documents already referred to in Professor Whitehead's review, such as the 'Rothschild' (7) and 'Dainton' (8) reports. These were important publications not least for the fact that, although each had the best of social and scientific objectives, they actually brought confusion into an already confused situation, and the debate which followed their publication seemed to ignore some of the considerations which brought them about, especially since it seems evident that Rothschild was a compromise in the polarization between the proposals of the 'Osmond' (9) report and the alarm it caused in the scientific

community which culminated in 'Dainton'. There was consequently a failure to challenge the suggestion that there is a close analogy between medical (and health services) research, and the kind of research, say, for which the Ministry of Agriculture, Fisheries and Food is responsible. Nor was the White Paper very clear about the position of 'in-house' research which is a specially notable feature of the Ministry of Defence, and which significantly there includes provision of practical experiments, such as the testing of weaponry, radar, fire control systems, etc.

Both 'Rothschild' and 'Dainton' are thus at fault in over-generalizations covering the field of science, for in the field of medical care, experience shows obvious dangers in generalizing from the particular. The concepts 'basic' as against 'applied' and 'strategic' against 'tactical' research are easy enough to grasp and demonstrate by simple examples in the health care field, but in fact such a classification is by no means the whole story; and consequently the dichotomy which this tends to produce and which is strengthened by the concept of customer-contractor relations used by Rothschild suggests the offer of administrative alternatives which give a false picture because they tend to be too complex for easy classification. There is as yet insufficient understanding of the relationship between the natural and social sciences, and that the latter have a 'basic' as well as an 'applied' element. This misunderstanding is particularly dangerous when planning with its many ramifications is involved, and decisions are taken on the basis of scanty 'intelligence'.

It is not without significance that much of the correspondence which appeared in *The Times*, *Nature*, etc. immediately after 'Rothschild' and which set the tone of the attack that in the event was easily repulsed by theorists of government, erupted from medical scientists. This is almost certainly due to their confidence that the Medical Research Council has had a

wonderful run of success over the last fifty years. Indeed, it is probably not without exaggeration to claim it has been the envy of many scientists throughout the world. Yet if one takes health care as a whole and its research requirements as seen by those responsible for health policies, the system has not been infallible; and while the Council has an enviable record, it has been successful only within the limits which it has taken for its area of interest. Whatever the reason, its narrowness was a cause of some criticism. Indeed, it can hardly be gainsaid that the Council's entry into the area of health services research in the 1950s and 1960s was cautious and the Council's record in health services research shows activity on a miniscule scale. The slightness of effort is only explicable if it is assumed that the concordat between the Council and the DHSS as to areas of action (begun in the Ministry of Health days) was never properly reviewed and may well have been the cause of the Council's efforts in the applied field being so limited. It is also true that compared to basic research health service research was for long in the novelty stage, which hardly commends it to the scientific mind.

There is thus some credibility to the criticism that there was a failure to tackle the application of research results to practice, and that there has been a relative neglect of research in the applied clinical field. It is almost undeniable, given the attention being paid to the research sector of the economy by the late 1960s, that some review of the total field of health care research was desirable if the arrangements for medical care monitoring and assessment in the widest sense were to cover those issues with which the basic scientist with his strong discipline is unlikely to tangle, but which ought rightly to be dealt with scientifically in society. The problem therefore went well beyond an examination of the constitution of the MRC and its relevance to health services. A better definition of the fields in which it can best operate is only part of the problem of

research in the health field generally and which will have to be tackled at some time; but preferably in the context of a review of health research generally.

The special place of health care research

The complexity of the issues forces a claim for a special consideration of health care research and its place in research policy; for with the range of disciplines involved there is no doubt that it presents peculiar difficulties in the range of activities which should be subjected to scientific appraisal. It is from the social medicine sector prominent in health services research that has come the comment that the technological improvements which have been a special feature affecting the practice of medicine over the last few years are now recognized as having not been as effective in their struggle against disease, and consequently the improvement of health generally, as has generally been assumed. These comments have accepted that there have been many technological achievements in measurement and control rather than with the eradication, or with certain exceptions even, the modification of disease. The observation that they have contributed little to the improvement of mortality, although agreeing that morbidity is a different story has had an effect. It is indeed understandable that there is abroad a disappointment (10) with the total picture of achievement.

Yet it is nonetheless undeniable that the optimism which infects medical practitioners about the advances in the technology of medicine is still the greatest influence in attitudes through the ever-increasing cost of diagnostic and therapeutic practices. The new scepticism, however, has its reaction by bringing in its wake many operational problems, principally those concerned with the deployment of scarce

resources and the hard decisions involved in choosing priorities for technical development.

Thus, despite the attraction and excitement associated with the promise of advances in acute medicine, current policy has taken special note of the imbalance of resources which go into acute medicine as distinct from the 'maintenance' medicine of geriatrics, mental illness and mental handicap. This has its echoes in research sponsorship and one suspects that it is the recent acceptance of the need for greater resources to go into the unfashionable sector of care which has strengthened the case for client-contractor concepts in health services research support, for the clients with priority will be those identified with the priorities established as public policy. Indeed, looking at the complete picture of health care and relating it to what resources have in fact been allocated to it, gives a clue to the simple attraction to those concerned with policies and their implementation of the changes proposed as a result of the 'Rothschild' intervention; and equally from the point of view of the medical scientific establishment, to the uneasiness on the part of many of the defendants of the *status quo ante* in which acute medicine has for long been king.

The need for accountability

On the other hand, considering the optimism of the times about a brighter future for research of the applied sort, it seems evident the Rothschild approach should have been kept under close review. It is never realistic to state a policy and sit back. Indeed, given the present disquiet, it is likely that at some stage there is bound eventually to be pressures for closer and regular assessment of the performance of the organizations concerned with research. This particularly applies to the Health Departments since they have certain public accountability

requirements already. Not only that but their research programmes are certainly of more than private Departmental interest and concern, in that they inevitably raise questions of policy, the basis of which can hardly avoid being examined and challenged publicly.

The present performance by the Department of Health and its policies cannot effectively be judged from its annual Research and Development Reports (11), although *Portfolio for Health* (12) published in 1971 and followed up by the second volume in 1973 (13), promised much more material for judgement. It is quite clear, however, from the more recent reports that even allowing for the swift build-up of resources for the programme in the last few years and ignoring such criticisms as were made at the Hertford College Meeting in 1974 (14), the Department of Health has seemed to be lacking a definable policy on which judgement can be formed by external critics with an established record in research.

While it is perhaps the mark of any Department of State concerned with a multiplicity of pressing issues that it is bound to be subjected to such criticism—and particularly so at this time—there ought to be more openness about the rationale of approach in research, especially so since there is as yet neither a tradition nor even a sound mechanism for scientific criticism directed towards the evaluation of health services research. Neither is there at the heart of the matter any evidence of a general staff operation centrally, with continuity to assess what the results have been, to consider what is best required and to redirect operations to achieve goals.

It is doubtful, of course, in a democracy if any Department of State can ever have a Master Plan in operation governing day-to-day actions, and satisfactory to everybody. But research aspirations do not have the natural controls operating which apply in service performance; and whatever the means

of finance and selection of topics, any positive policy must include in the arrangements the fostering and encouragement of an active research community as 'contractors'. Given too the peculiar relationships between the Health Authorities and the DHSS, while it is easy to see that the Department will always want research for its own policies, if it is the main source of funds can it be made to operate within the machinery of government in any way like an independent Research Council for other, less direct functions? There is need to look at both basic and strategic concepts about medical care, including the roles of the State and of public institutions, questions about diagnosis and therapy, and in the present mood of scepticism what in fact is the value of a good deal of current practice. Such questions raise delicate and profound issues which while probably best dealt with by independent action, will always need answers—and for research on which funding based on independent judgement is required.

An illustration of this is in the whole question of screening where it has become evident that there are procedures, often set in hand with the minimum amount of scientific basis which are accepted in diagnosis and subsequent therapy without too much scientific evidence, largely because of the emotive appeal for action designed to improve health through better diagnosis and therapy (15). Indeed, there are some rather doubtful elements, which have acquired an unwarranted scientific status, in the pool of existing knowledge on which practice is based. One of the tasks for the immediate future in an increasingly sophisticated health service, is to try and sort out the true from the false and evaluate the effectiveness of practice (16). This is undoubtedly a difficult process for there will definitely be resistance at local level. This kind of investigation and evaluation is a form of research which does not easily fit into the categories of 'applied' or 'basic'. It also possibly poses a need for a sponsoring body seen to be

unbiased and with continuity; and above all with funds for direction.

There is, however, a further dimension now to the whole question, because of the claim of the social scientists that they have a special contribution towards the solving of health problems. This has been given special recognition by the deliberate entry of the Social Science Research Council to the field of health care research and development (16). This follows the conclusion on the Council's part that there is potential in the work of the social scientist to extend the understanding of health and health policy and thereby improve standards of care; also that many of the gaps in health policy and health policy research could be filled by social scientists. The Council's initial commitment to the effort is small compared to the resources available to the Health Departments and for which social scientists are already competitors in multi-disciplined approaches, but the conclusion hardly confirms satisfaction with the existing health research framework.

Some current considerations

There can be little doubt that the position needs careful analysis and the time is probably now, especially since the appointment of a new Chief Scientist gives some opportunity for a review of the function and operation of a Chief Scientist's Organization.

It would seem as it is presently constituted the Chief Scientist's Organization is an inheritance from a time when the balance of responsibility and accountability for its monitoring function and for setting out the implications of research results was not established. It is indeed still a matter for debate. The question must be asked now whether the organization as it has

existed is capable of carrying out these functions, or alternatively of dealing with the complexities involved, or whether indeed the present overall arrangements for research management in the DHSS can ever carry out the functions suggested by the White Paper.

Historically, in all fields of research it has been necessary to develop a compromise between the requirements of specific projects likely to involve the immediate application of results, and long-term and background research. The latter should probably best be planned on the basis of scientific judgement of the quality and promise of research likely to develop knowledge in a particular field.

The stark question is whether it is possible for the Chief Scientist's Organization as it at present appears to be constituted to effect such a compromise in terms of both strategy and tactics; that is whether the role of Chief Scientist *qua* adviser solely is likely to be effective. On present evidence, the answer must be in the negative.

Some faults and questions

It is desirable to look at the apparent faults of the present arrangements and to ask some important questions, especially relating to RLGs as they presently exist.

The *first* is whether the present mechanism is adequate to appraise grants for research. If bad research is supported and commissioned there is a danger of the application of Gresham's Law in research. In this the position and function of the Scientific Advisers to the RLGs needs some consideration. Can a scientific adviser who is a major contractor to the RLG he advises be unbiassed? The analogy of the Rothschild examples would seem to suggest the Chief Scientist's Organi-

zation should extend to them if they are to take a key role in their continuity and work.

This is also important in the *second* and *third* questions which are really linked, viz. what are the means for monitoring the progress and quality of research and what is the policy with regard to accountability, including the accountability of the Chief Scientist's Organization, particularly for scientific reviews before, during and after the research? If one compares the size of the Chief Scientist's Organization of the DHSS with those of other Departments, one is immediately struck by a scepticism about its adequacy for efficient functioning, since it is virtually a one-man show. Yet, a key issue in this is the question of evaluation, both of method and pay-off. In scientific terms this can only be determined by a process of monitoring and assessment inherent in reviews of approach and methods, as well as the publication of results, by the written word. Publication policy, through scientific journals or books, is a key part of any research policy, unless there exist special prior *ad hoc* arrangements for scientific criticism of the particular results, which presumably are implicitly available in testing the processes of the Defence arrangements.

Because of the character of health services research, and accepting it is in an early stage of development and consists not infrequently of a mix of disciplines, it is never too easy to know where papers on particular projects should be published. One result is that it is not too clear whether the results embodied in papers geared to presentation, say, in economic, sociological or other journals dealing with a single discipline are ever subjected to scrutiny with a view to their *applicability*. This makes it all the more important in the absence of high quality journals concerned with the results of health services research for there to be some mechanism to monitor the sponsoring and quality of research designed for some application of or relevance to policy. The question then is whether the present

arrangements lend themselves to such monitoring and scrutiny. Not enough is known of course of the current practice. It may be of the greatest importance in terms of accountability that at an early stage research applications, including the methods to be adopted, should be subjected to close review by people who probably should not be 'customers' in the Rothschild sense. One of the criticisms of the RLGs and their make-up is whether their composition discourages critical scientific comment in that they would seem to be constituted to act as judge and jury as well as clients.

A *fourth* question is what is lost by the lack of continuity of membership of RLGs? The element of continuity is lacking in that their composition may change frequently because the requirements of staffing development within the DHSS precludes as a rule the continuity of administrative personnel, necessary as a major element in any sustained programme of deliberate research, whether it is initiated either in response to particular demands, or by reason of the researchers themselves identifying the need for basic research in the subject. A major constituent of success in this is the need for a continuing sympathetic response by the financiers and sponsors, preferably over a fairly lengthy period. It is the element of continuity which has been specially lacking hitherto and it is for consideration whether in fact the present arrangements can ever provide this important element. Nor is this the only reason for the requirement for continuity. Immediately one thinks of basic research in this area, one has to consider again whether the mechanism can possibly lend itself to the necessary preceding analyses to conceptual speculation, and to subsequent monitoring.

The *fifth* question relates to the customer-contractor principle and whether it is sensible that the customer should be almost exclusively the Department or whether there are other considerations which apply. Thus, there are no Regional or

Area interests represented in the RLGs and even if there were to be some minor changes to bring in such interests, the whole research management mechanism being based on the DHSS is unlikely to have in the forefront of its consideration the need for research as perceived in the front-line in Regions, Areas, and Districts where ultimately the results must be applied. It is notable in this connection that the SSRC has appointed an Area Administrator to their Executive Panel; but one wonders whether that would be sufficient in itself for the commission of research at the operational level. It is certainly no substitute for the means of instituting research by the health authorities.

The *sixth* question is related to this, inasmuch as it seems that the RLGs in existence do not cover all the areas of research probably needed. It is not clear what other mechanisms are used in surveying the overall scene. There is an overlap of interests between the existing RLGs, which also deal with issues of different genus, for example *patient* groups, e.g. the elderly, mentally ill, alcoholics, etc. and *facilities*, e.g. the health services groups, and the *staff*, e.g. the nursing group. It may be significant in surveying the RLG system that in a period when as rarely before in the past fifty years, health is being recognized as holistic, the separate ways in which they seem to operate are a rejection of such a belief.

Finally, and this is relative to the major central question, how can the present system in which there is only a small Chief Scientist's Organization, possibly have an overview of the health system generally, as well as those interests covered by the transferred funds from the MRC? Yet, such an overview is necessary because there is indeed not such a distinction between basic and applied research as has sometimes been made out. The present phase of health services research particularly could in theory be considered one of creating knowledge and experimenting with possible developments. To follow this up adequately requires a special organization in

itself. Without it, it is difficult to feel confident of reaching the necessary compromise between theory and practice in research.

Where is the intelligence mechanism? A glance at history

The Trust experience may provide some guidance. It was early apparent that in health services research there is a continuing need to understand and clarify the objectives. It is for this reason that in the '60s the Trust deliberately concentrated on an 'intelligence' function in fulfilling its purpose of improvement of health services (which is implicit within the Haldane thesis). In the succeeding period, the validity of this policy was demonstrated in a number of fields—computers, maternity care, screening, and operational research, for example. In the case of government policy in regard to *computers* there seemed to the Trust's advisers, to be little or no tie-up with information policy and the danger signals about the Departmental programme were flown in 1968 (17)—and ignored; yet much trouble could have been avoided later (18) if these had been noted by those responsible for spending the large funds devoted to the computer programme. Similarly, as a result of the study of prescriptive screening, a recommendation was made that the means for developing advice to the Health Departments should be extended and the Central Health Services Council's Committee on Screening carried on from that of the Trust. A study of the 'in-house' *operational research* of the DHSS showed it to be a major activity with a relatively slight output in terms of published papers. Given what appears to be the extent of the operational research in-house activity at the DHSS, which has been the subject of some comment already (19), this seems a situation open to question if the Unit exists for its contributions to policy and strategic

decisions. It is a fair question to ask what the procedure is for testing the validity of such conclusions. Yet without an 'intelligence' monitor how can such questions be raised? It is for these reasons that the case for an independent body is strengthened—and not only because the need for conceptual analysis can be identified.

When therefore the Rothschild proposals burst upon the scene, there was great interest on the part of the Trust to discover how the reforms being suggested would provide for the necessary compromise between strategy and tactical and political needs. For all the stress on customer-contractor relations it is believed that Rothschild himself held the view that nothing in his proposals would inhibit the support of long term strategic research and the encouragement of units to engage in such ventures. Unfortunately this important issue was not much debated at the time, and nothing has happened since to give substance to the ideal.

During the period when the Departments of Health were constructing the mechanism which would give effect to the Government White Paper on Research and Development, the Trust began the series which resulted in the *Portfolio for Health* publications. During the early stages it was understood that the Chief Scientist's Organization was looked upon as being likely to perform a Research Council role, specifically by means of the Chief Scientist's Research Committee and the Health Services Research Board; although it was noted with misgiving even then, that the Chief Scientist's role was to be advisory and he was apparently to operate without much in the way of scientific and administrative staff.

The proposition that the Chief Scientist's Organization should act a Research Council role has never however been developed to the logical conclusion. It may be relevant that the holder of the first appointment as Chief Scientist (Dr R. H. L. Cohen) albeit for a short time, was the Deputy Chief Medical

Officer who had been responsible over a dozen or so years for developing the Department's research effort; and it might be that misleadingly, the continuity involved in that executive role was taken for granted for the future. Further it appears that this error in assumption has been compounded in that the Research Liaison Groups which seem to have assumed the management of health services research commissioned by the DHSS, may in the thinking of the Department have also assumed a Research Council role for which, because they are part of the Departmental mechanism, it is doubtful whether they can ever effectively be either organized or equipped.

In this, the question must be asked whether the present organization, sparse as it is, can possibly create and utilize a strong *ongoing* 'intelligence' network both to identify the areas of health services needing research and development, and to consider how the results can best be applied in practice. Without wishing to enter the debate on the categorization of basic and applied, or strategic and tactical research, it would seem to be important to consider whether the system, as it exists, can positively achieve results at a reasonable level of efficiency.

What are the principles?

It is perhaps reasonable to speculate on the principles and hypotheses on which any new-look organization should be based. First, it would seem essential to create a core organization to ensure continuity in approach to questions of research relating to its conceptual rationale, to its support, to its monitoring, and to its quality; and to establish continuous links with researchers in the field. This is after all how the present Research Councils work. Ideally it would seem that the constitution of a Council modelled on the Medical Research

Council in its approach to requiring high standards of approach, of method and of discussion would be desirable. This would ensure that the operating authorities in the health services too would have a fair share of research activities devoted to their problems, and the several lines of accountability could be clearly drawn. There is ample precedence for the creation of such a central body and the potential for opening up new approaches is great. Thus, the SSRC's albeit modest entry into the socio-medical field has resulted immediately in the production of a conceptual analysis of what are the priorities for attack in the strategic sense (16). The question is what could be achieved through the much larger resources deployed in the DHSS activity in this field if an identifiable organization with continuity was geared to the challenges of medical care. It is likely that without a reasonable mechanism for exploring the issues and the policies to be adopted, it will only be possible to continue what regrettably has been the practice hitherto, mainly to respond to urgent questions of the moment without looking at the complete perspectives of health in our time. Since the Health Departments are virtually in a monopoly position with regard to Health Services R & D, the whole approach to this field is in fact largely conditioned by Departmental attitudes.

Certainly it is unlikely that the Research Council activity as regards policy and strategy for health can effectively be carried out inside the DHSS, although the Department should have much to contribute to the directions any separated body should take. There is indeed probably a case for designing some intelligence mechanism perhaps within one of the Councils on which all the Research Councils concerned with health and the Health Departments could draw, for 'intelligence' is a constituent element in the stimulation and evaluation of long-term and background research activity. This suggests again the need for an independent body as part of

the actual machinery of Government action. This itself of course is not an alternative to the need of a considerable organization within the Department to conceive and commission and manage its own co-ordinated activities for its own ends. There are the two separate requirements for which a compromise in administration must be found.

Retrospectively one can hazard that while basic research in the *biomedical* field may have for a time got out of balance with applied, the accident of the timing of Rothschild (and its lack of precision about the White Paper and interests in the closely allied social sciences) has meant that applied research in the social welfare (to include medical care) sector has got out of balance with basic research; and the lack of the means for conceptual thinking which is so much of the character of a separate body, makes it doubtful if there can be in the present circumstances satisfactory arrangements covering public policies as well as specific health care issues.

The need for recognition of policy research

It is relevant that the recent pressures for there to be a British Institute similar to the Brookings Institution in Washington derive from the fact that in terms of public policy over a whole range of issues there are few bodies which perform the roles of many researchers identified with the Brookings Institution. Hitherto most of what has been carried out is associated with the work of Foundations and privately-funded research groups. It is clear in the future, opportunity for outside groups concerned in such matters is likely to be limited by the immense cost of such research over the lengthy period necessary for fruition. Yet there is likely to be little argument about the need for a continuous survey of the total health

scene, at both philosophical and operational levels. There does not appear to be at present any official machinery at Departmental level or in the NHS for so doing; but even if such machinery did exist within the bureaucracy of health services there is increasing evidence of the need for independent critical views on many specific matters of material and philosophical interest to the population in general. Indeed it could be argued that independent bodies constantly and critically surveying the particular field of activity are part of democracy and come to constitute the independent institutional memory and sometimes even the institutional conscience of society as we know it today. Such independence becomes the more quintessential at this point of time when the future is distorted by the anxieties of many individuals, professions and institutions concerned with health services about the quality of care as well as its availability and organization which is reflected in public attitudes; indeed if the depreciation, due to inflation, of the material resources of the privately funded bodies continues, there will have to be developed some means of sponsoring in some practical form the concept of independent critical views of policies and their results. The existence of independent agencies providing checks and balances is desirable. In the event consideration will have to be given to the setting up of independent institutions financed out of public funds on the model of the MRC as an assurance against the possible tyrannies which can arise from political, professional, and administrative opportunism and convenience, as well as from the unduly short-term considerations which so often lead to *ad hoc* action without tackling long-term problems.

If it is not politically practicable however to create a separate organization concerned with finding contractors for customers or for marrying customers and contractors on a proper scientific base, it would seem imperative to consider how the general principles can be applied within the Department itself

before morale in the 'contracting' field evaporates to an alarming level.

The Chief Scientist's Organization in the DHSS in the future

The hypothesis to the suggestions which follow is that the Chief Scientist's Organization should have the responsibility and authority to supervise and co-ordinate the deployment and allocation of all resources for research in aid of the services for which the Secretary of State for Social Security is responsible. This will involve some kind of organization using a group of scientists, which will enable the Chief Scientist to assemble the scientific evidence that is required by the DHSS as a basis for its policy-making and planning function. It is also assumed that the Chief Scientist's Organization has in all of this a crucial 'intelligence' function in relation to all research at home and abroad relating to health.

A major aim of the Chief Scientist's Organization will thus be in the direction of advising where research may be of help in the assessment of priorities and the development of policy, and not least in this about the limitations of research in assisting these functions. Among the most important aspects in the development of the relationship with those responsible for policy will be the education of the politician and administrator in regard to the relevance and opportunities for research, as well as of the scientist in the perspectives and problems of the politician and administrator.

To perform such functions effectively, the organization developed will require to be in such a form to allow for the development of a research strategy to embrace long-term policy as well as the 'customer' and 'contractor' requirements stressed in the White Paper. This will involve planning for the deployment of research resources both inside and outside the

DHSS, including the establishment and development of a research capability through research units at universities, in selected Regional and Area Authorities of the NHS, or elsewhere. Such an organization must provide for the supervision of their activities as well as those of the Research Liaison Groups and other 'customers'.

This responsibility should be comprehensive and should thus cover all 'in-house' activities as well as the directly supported external units. It will entail being concerned with the arrangements for the training, employment and development of the cadre of scientific manpower necessary for carrying out this research.

In essence, it will thus involve the responsibility for controlling (e.g. in-house), negotiating (e.g. with the MRC) and contracting (e.g. with Research Units or *ad hoc* Research Groups) for the deployment of resources for the research programmes and projects necessary for meeting the advisory commitment, as well as for supervising and monitoring the quality and applicability of supported research.

The Chief Scientist's Organization should also carry a shared (even if it has to be delegated) responsibility for research carried out by and for the NHS Authorities (as distinguished from the DHSS) and for work involving DHSS, NHS and research contractors jointly. These activities should include:

- (a) responsibility for ensuring that decentralized research funds are deployed to support scientifically sound projects;
- (b) supervising the deployment of earmarked research funds deployed through Health Authorities, and
- (c) arranging for appropriate supervision of R & D activities which might involve major service modifications.

We have doubts about the mode of operation, relevance and effectiveness of the Research Liaison Groups with a health service that is concerned at the moment mainly with issues of

rationalization rather than expansion, and their constitution is likely to obscure the public accountability and visibility necessary for any publicly supported research. Above all, the RLG system is not suited to the formation of a much-needed comprehensive strategy. A system of assessment and control along the lines of that already successfully developed by the MRC is necessary. This implies three things:

(a) the assessment of the validity of research must be made by scientists, and administrators should be aware of the scientific limitations of research;

(b) any research must be assessed in relation to total policy; and

(c) in view of the trend of developments in the health services towards the fixing of priorities, the interrelationship between the constituent services is crucial.

Arising from the research function, an important role of the Chief Scientist's Organization is to participate in and advise upon DHSS policy making and planning. To this end it should:

(a) advise on research necessary on issues likely to influence health which are amenable to intervention through public policies;

(b) co-ordinate where it does not actually make arrangements for scientifically-based evaluations of the performance of the NHS and its components, including the relevant associated bodies such as the Health Education Council, and any other services related to health which are the responsibility of the Secretary of State for Health; and

(c) arrange for scientifically-based advice to be available on health matters, the management of which depends upon the actions of other government departments.

The Chief Scientist should also be responsible for the liaison between Research Councils (including the appropriate EEC bodies) on matters concerned with research and health. He

should co-ordinate as necessary the application of research results to medical practice in the widest context.

These suggestions are based on the considered view that the present research position is highly vulnerable to criticism and that the remedy for this is a strong, well-defined and constituted body with an over-view of health research, a proposition which pre-supposes an executive role for the Chief Scientist. It is not suggested that arrangements to meet requirements as set out should be introduced in haste and in a manner which would strain credibility. Indeed, it would be prudent to allow time to analyse and draw upon the operational experience of the MRC and to test thoroughly the concepts of the aims, scope and methods of working of the new organization before decisions are taken on the revision of the existing structure. For this purpose there is a need to see in advance how any new structure would match up to the requirements for initiatives, control and supervision necessary for health services research. These features could be tested against a selection of current or prospective projects and related to what are seen as priority issues.

Summary

The size of the public sector dealing with health and public policies related to health makes it desirable for there to be a balanced policy and strategy covering the financing and development of units, programmes, and projects in health services research. In order to exercise the necessary direction and control there is a case for there to be an overall body concerned with the health system as a whole, rather than a range of individual customers or client groups activating units or groups. In this way one could look for a strategy for long-term development into which tactical considerations

concerned with short-term or important *ad hoc* questions can be fitted. Above all, an independent body can probably best provide the continuity which a research system of client-contractors needs and part of which has to embrace long-term research. Clearly, this is more than a substitute for the organism which has grown up in response to Departmental needs, but the case for such a body is strong if health services research is to be encouraged to bloom. If such a proposal is too radical it will still be necessary to reform the existing organization within the DHSS. Any organization in this field, wherever sited, must show itself capable of developing a status equal to that won by the MRC over many years. Given the nature of the subject, if it remains within the DHSS, the nature of the work suggests the organization should be multi-disciplined scientifically and have both executive and advisory functions. Ideally it would seem that the Chief Scientist would be its Chief Executive, analogous to the position of the Secretary of the Medical Research Council. Such arrangements as are made must allow for focusing on the real problems of the operating health authorities and ensure a good relationship with research units and groups in university settings.

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