

# HISTORICAL OVERVIEW OF GOVERNMENT HEALTH RESEARCH POLICY

*Whilst numerous UK Government initiatives and reports on research have been published over the course of the last century, four major reviews have had a substantial influence on policy in the area of health research, namely: the 'Haldane report' of 1918, the 'Rothschild report' of 1971, the House of Lords report 'Priorities in Medical Research' of 1988 and 'The Culyer Report' of 1994. This paper examines these reports and sets them in their historical context.*

## **A. 'The Haldane Principle.'**

The Haldane Principle is often cited to affirm that “*day-to-day decisions on the scientific merits of different strategies, programmes and projects are taken by the Research Councils without Government involvement*”.<sup>1</sup> Indeed, this is often condensed to “decisions on research should be taken at ‘arms-length’ from Government” or “science should be self-governing.”

Lord Haldane’s report was a wide-ranging report on the *Machinery of Government* from the Ministry of Reconstruction following World War I.<sup>2</sup> Its author, Richard Burdon Haldane, 1<sup>st</sup> Viscount Haldane, should not be confused with his brother, John Scott Haldane, an accomplished physiologist, or his nephew, J.B.S Haldane, a famous geneticist and evolutionary biologist. Lord Haldane was one of the most influential figures in British politics in the early 20<sup>th</sup> century, serving as War Minister from 1905 to 1912 and Lord Chancellor from 1912 to 1915.

Although the Haldane Report considered the relationship between Government and research, this was not its main purpose. The terms of reference for Haldane’s *Machinery of Government* Committee were: “To

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<sup>1</sup> Quinquennial Review of the grant-awarding Research Councils. Stage two Report by the Review Team. Office of Science and Technology. 2001.

<sup>2</sup> Report of the *Machinery of Government* Committee, Ministry of Reconstruction, Cmd 9230, 1918. (The ‘Haldane Report’).

*enquire into the responsibilities of the various Departments of the central executive of Government, and to advise in which manner the exercise and distribution by the Government of its functions should be improved*".<sup>3</sup> In discharging these terms of reference, Lord Haldane's Committee considered: finance; national defence and external affairs; production (including agriculture, forestry, fisheries, transport and commerce); employment; supplies; education; health; justice; and research. Lord Haldane proposed a key principle in his report that was eventually to transform the structure of Government, far beyond any specific reference to research. It was "*that the business of the various Departments of Government should be distributed as far as possible according to the class of service [rather than the class of person] with which they are concerned*".<sup>4</sup>

In seeking to apply this principle to the different activities of Government, Haldane proposed four other principles, only one of which was focused on research. Here, Haldane proposed that: "*Further provision is needed in the sphere of civil government for the continuous acquisition of knowledge and the prosecution of research, in order to furnish a proper basis for policy*".<sup>5</sup> Far from believing that research should be remote from Government, Haldane believed that research should play a key role in Government, and *vice versa*. His report contained two proposals regarding Government Departments and research. The first of these was "*that in all Departments better provision should be made for enquiry, research, and reflection before policy is defined and put into operation*".<sup>6</sup> The report later expanded on this, specifically proposing that "*many Departments must retain under their own control a distinctive organisation for the prosecution of specific forms of research*".<sup>7</sup> This is consistent with the current arrangements, where Government Departments, including the Department of Health, commission research to address their needs.

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<sup>3</sup> Haldane Report. Para 2, page 4.

<sup>4</sup> Haldane Report. Para 55, page 16.

<sup>5</sup> Haldane Report. Para. 56, page 16.

<sup>6</sup> Haldane Report. Para. 14, page 6.

<sup>7</sup> Haldane Report. Para. 57, page 32.

Haldane's second proposal regarding research was *"that for some purposes, the necessary research and enquiry should be carried out or supervised by a Department of Government specifically charged with these duties, but working in the closest collaboration with the administrative Departments concerned with its activities"*.<sup>8</sup> The report later expanded on this to say: *"As regards the methods to be adopted for conducting enquiry and research in any branch of knowledge, so far as it is determined that the work should be carried out under the supervision of a general organisation, and not under that of an administrative Department, we think that a form of organisation on the lines already laid down for Scientific and Industry Research will prove most suitable."*<sup>9</sup>

The Department of Scientific and Industrial Research, which Haldane used here as his model, was *"a Department working under the direction of the Lord President"*<sup>10</sup> and answerable to a Ministerial Committee. Haldane went on to explain that *"the responsibility of the expenditure of the funds at the disposal of the Department rests with the Lord President, to whom all proposals for expenditure are referred for sanction"*.<sup>11</sup> His report stated his view that one of the advantages of this arrangement for this particular type of research was that, *"It places responsibility to Parliament in the hands of a Minister who is in normal times free from any serious pressure of administrative duties, and is immune from any suspicion of being biased by administrative considerations against the application of the results of research"*.<sup>12</sup> Crucially, even for this kind of "research for general use", Haldane did not propose that decisions about it should be taken at arms-length from Government. In fact, he proposed that these decisions should specifically be the responsibility of a Government Department, only not an "Administrative Department" that had policy responsibility for the area of research in question. This, indeed, is consistent with the current arrangements, where DTI/OSI is responsible for research for general use. Moreover, it is clear from this that the establishment

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<sup>8</sup> Haldane Report. Para. 14, page 6.

<sup>9</sup> Haldane Report. Para. 66, page 34.

<sup>10</sup> Haldane Report. Para. 45, page 29.

<sup>11</sup> Haldane Report. Para. 46, page 30.

<sup>12</sup> Haldane Report. Para. 67, page 34.

of Research Councils to conduct research at “arms-length from Government” was a step beyond that recommended by Haldane.

The Haldane report also specifically examined in more detail the work of the predecessor to the Medical Research Council. This was the Medical Research Committee, constituted under regulations from the National Insurance Act of 1911. This Act created the ‘Medical Research Fund,’ to which one penny was allocated for each person insured in the UK. Haldane noted that *“the work of the Committee has never been confined to the investigation of questions suggested by the current administration of the National Health Insurance Act, but the widest view has been taken of the objects of the Fund, from which expenditure has been made at one time or another in nearly all varied branches of medical practice and theory.”*<sup>13</sup>

Indeed, he reported that the Minister responsible for Health Insurance *“never sought to control their work, or to suggest to them that they should follow one line of enquiry rather than another.”*<sup>14</sup>

Despite this, the work of Committee was certainly not at arms-length from Government. The first members of the Committee, appointed in 1913, were *“to frame schemes of research, and to submit them for the approval of the Minister, which must be obtained before any money can be expended on a scheme,”*<sup>15</sup> and consisted of *“a member of the House of Lords, two members of the House of Commons [our emphasis] and six men of science appointed by the Minister.”*<sup>16</sup> More significantly, Haldane’s evaluation of the Medical Research Committee was restricted to the years spanning World War I. He stated that members of the Committee *“devoted almost the whole of their energies to the investigation of problems arising out of war conditions, and referred to them by administrative Departments, including the Admiralty, War Office, Air Ministry, Home Office and Ministry of Munitions, for the purpose of concentrating the whole of the scientific forces available in the country upon the search for a solution.”*

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<sup>13</sup> Haldane Report. Para. 39, page 28.

<sup>14</sup> Haldane Report. Para. 42, page 29.

<sup>15</sup> Haldane Report. Para. 37, page 28.

<sup>16</sup> Haldane Report. Para. 38, page 28.

On the governance of research, Haldane concluded that *“It may, therefore, not be premature to anticipate that the distinctive character of the organisation of Intelligence and Research for general use ; the proper scope of such an organisation ; and its potential relations with analogous organisations throughout the Empire, could thenceforth all be maintained by a Minister specifically appointed on the ground of his suitability to preside over a separate Department of Intelligence and Research, which would no longer act under a Committee of Privy Council, and would take its place among the most important Departments of Government.”*<sup>17</sup> Above all else, Haldane’s vision was that research should be an integral part of the *Machinery of Government*. Moreover, Haldane’s assessment of the Medical Research Committee as an entity devoted to *“problems arising out of war conditions”* illustrates a process whereby the Government of the day referred its problems to the ‘MRC’ in a search for solutions.

## **B. ‘The Rothschild Report.’**

Over the next 50 years or so, increasing levels of dissatisfaction were being expressed about the nature of publicly-funded research, especially in the area of health. The establishment of the National Health Service in 1948 had introduced a Minister of Health with specific powers and responsibilities to pursue a programme of research to support the needs of the NHS<sup>18</sup>. The Department of Health and Social Service (DHSS) had started to commission substantial amounts of research in the 1960s.<sup>19</sup> Tensions subsequently developed as the demarcation of responsibilities between MRC research and Ministry research became decreasingly apparent<sup>20</sup>. Despite repeated attempts by the Department of Health to influence priority setting within the MRC, researchers were still largely engaged in ‘curiosity-led’ investigations.

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<sup>17</sup> Haldane Report. Para. 74, page 35.

<sup>18</sup> National Health Service Act (1946)

<sup>19</sup> M. Kogan and M. Henkel. In *Government and Research*, Page 6. Heinemann, London (1983). (“Kogan and Henkel (1983)”)

<sup>20</sup> G. McLachlan (ed.). *Five years After. A Review of Health Care Research management after Rothschild*. Oxford, Oxford University Press (1978), page 17.

The 1970 White Paper on *The Reorganisation of Central Government* had recommended that at a high level in the policy-making system, there should be 'a small multi-disciplinary central policy review staff in the Cabinet Office'. This recommendation was implemented in 1971. The Central Policy Review Staff (CPRS) was set up within in the Cabinet Office and was intended to define Government strategy and develop it to take account of changing circumstances. The CPRS was also intended to provide a framework within which the Government's policies as a whole might effectively be formulated. The first Director General of the CPRS was appointed in 1971 by the Prime Minister, Edward Heath. He was the Labour peer Lord Victor Rothschild, 3<sup>rd</sup> Baron Rothschild, an eminent biologist who had also served as Chairman of both the Agricultural Research Council and Shell Research. Under Rothschild's leadership, the CPRS studied fundamental aspects of Government policy, often crossing departmental boundaries, and drawing attention to the consequences of an action or inaction across the field of Government.

Lord Rothschild's report *The Organisation and Management of Government R&D*<sup>21</sup> was published as an annex to the Green Paper *A Framework for Government Research and Development*<sup>22</sup>. Rothschild's remit was to examine the most effective arrangements for organising and supporting pure and applied scientific research and post-graduate training. With regard to the allocation of research resource under the arrangements originally laid down by Haldane, Rothschild contended that "*the country's needs are not so trivial as to be left to the mercies of a form of scientific roulette*"<sup>23</sup> and that "*However distinguished, intelligent 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 those needs are met.*"<sup>24</sup> Rothschild was uncompromising in his challenge to the decision-making processes for applied

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<sup>21</sup> Report of *The organisation and management of Government R&D*, in *Cabinet Office, A framework for Government Research and Development*, London, HMSO, November 1971 (The "Rothschild Report")

<sup>22</sup> Cabinet Office. *Green Paper. A framework for Government Research and Development*, London, HMSO, November 1971

<sup>23</sup> Rothschild Report. Para. 6, page 3.

<sup>24</sup> Rothschild Report. Para. 8, page 4.

research at the Research Councils. He wrote that some believed that *“eminent scientists, mathematicians and engineers should have an opportunity to express an overall view on the nation’s R&D to those ultimately in charge. But such an overall view, whether greatly desired or even ordered, is of questionable value.”*<sup>25</sup>

Most significantly, Rothschild differentiated between ‘pure’ and ‘applied’ research, stating *“the Government should, therefore, reject the view that there is no logical division between pure and applied research, a view that may be intended to protect the Research Councils from the imaginary ravages of applied R&D users.”*<sup>26</sup> He believed that *“applied R&D, that is R&D 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.”*<sup>27</sup> Basic research, on the other hand, had no such customer-contractor basis in his view.

The Rothschild report set out a clear system for the commissioning of applied research. Government Departments were to act as the informed customer and the Research Councils would be the contractor. In their roles as customers, Departments would employ Chief Scientists to make those informed decisions on what applied research was to be commissioned. The corresponding partner, or contractor, in the Research Councils was to be the Controller R&D, who would *“commission work at Universities or other extramural organisations when his ‘in-house’ organisation has not got the facilities or expertise needed to implement the customer’s requirements.”*<sup>28</sup> Rothschild believed that the Research Councils should appoint the Controller R&D, typically the Chief Executive. He also believed that Departments should be free, where they felt necessary, to commission research from bodies other than the Research Councils. In addition, Rothschild held that the Controller R&D should not be able to refuse work, without reasons accepted by the commissioning Department.

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<sup>25</sup> Rothschild Report. Para. 5, page 2.

<sup>26</sup> Rothschild Report. Para. 25, page 10.

<sup>27</sup> Rothschild Report. Para. 6, page 3.

<sup>28</sup> Rothschild Report. Para. 13, page 6.

The Government welcomed the recommendation of Lord Rothschild that applied research and development should be commissioned by the Government in accordance with a customer-contractor principle and duly re-allocated a substantial portion of the Research Councils' funding to their corresponding Government Departments. In the 1972 White Paper *A Framework for Government Research and Development*, the Government provided for the appointment of a Chief Scientist and support staff to act in the role of customer at the Department of Health.<sup>29</sup> Furthermore, some £5million of funding, originally earmarked for the MRC, was re-allocated to the Department.

However, from the outset, the Department of Health struggled with its role as an informed customer and ultimately lacked the authority and experience to implement the customer-contractor principle for health research, most especially in biomedicine. A detailed analysis by Kogan and Henkel concluded that the Rothschild formula “*failed to note how in those areas of policy where data are diffuse, and analyses most likely to be strongly influenced by value preferences, problems must be identified collaboratively between policy-maker and scientist. It failed to acknowledge that policy-makers have to work hard to identify problems, to specify research that might help solve them, and to receive and use the results of research.*”<sup>30</sup> The sheer scale of research activity and coordination required between the Department and MRC meant that the relationship reverted from the commissioning of specific pieces of work to the funding of broader research programmes, based on an annual assessment by the Department of ‘the burden of disease’.<sup>31</sup> These more global arrangements critically contravened the original concepts of Rothschild, who had specifically prohibited such open-ended agreements between the customer and the contractor.

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<sup>29</sup> Cabinet Office. White Paper. *A Framework for Government Research and Development*. (1972), Cmnd 5406, London HMSO

<sup>30</sup> Kogan and Henkel (1983). Page 9.

<sup>31</sup> Kogan and Henkel (1983). Page 65.

In 1981, a decade after the Rothschild report was first published, the funds that had been re-allocated to the Department to support its role as customer, were officially transferred back to the MRC. Concomitantly, a concordat under which the MRC would liaise closely with the Department to fulfil its research needs was established. This, however, also failed to achieve the desired balance of short-term and long-term objectives in both science and health.

### **C. 'Priorities in Medical Research.'**

In 1988, the House of Lords Select Committee on Science and Technology issued a report entitled *Priorities in Medical Research*, based on an enquiry into medical research that paid particular reference to the needs of the NHS.<sup>32</sup> The report stated that *"In priorities for medical research two crucial if negative truths stand out. First, priorities do not announce themselves, either in theory or practice; and secondly, it is by no means obvious what the needs of the National Health Service are."*<sup>33</sup> The committee lamented upon the fact that *"The Chief Scientist's Office in the DHSS may be adequate for the Department's internal purposes but it has certainly not proved capable of supplying the informed customer for health research envisaged by Lord Rothschild."*<sup>34</sup>

The Committee's overall assessment was that, in contrast to Rothschild, the scientific community should be instrumental in defining health research priorities. The report stated that *"the accepted wisdom of biomedical research is that the science-led approach should be dominant. The Committee take the same view. Better results will be achieved by supporting good ideas and advances in science as they arise, than by concentrating on recognised problems regardless of whether promising leads are in prospect."* The Committee went on to recommend *"that the main focus of public policy in medical research should be the establishment of strong infrastructure for*

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<sup>32</sup> House of Lords Select Committee on Science and Technology *Priorities in Medical Research: Volume I-Report* (1988), London, HMSO. ("Priorities in Medical Research") Para 4.3, page 31.

<sup>33</sup> *Priorities in Medical Research*. Para 3.3, page 26.

<sup>34</sup> *Priorities in Medical Research*. Para 4.3, page 31.

*research in well-founded laboratories and the supply of a strongly motivated and well trained research community.*<sup>35</sup>

Despite the Committee's deliberations, the true fraction of clinical advances arising from basic research remained unknown. Indeed, to this day, an extremely limited evidence base has produced wildly varying estimates of the proportion of healthcare improvements that can be attributed to basic research, ranging from 61%<sup>36</sup> to 2%.<sup>37</sup> Highlighting the uncertainty in such attributions, the Committee also recognised the importance of balancing scientific input with the needs of NHS, stating that *"a wholly science-led approach cannot be effective. Some decisions about priorities have to be taken, particularly when good scientific ideas outnumber the funds available to pursue them. The NHS has changing needs and the priorities must reflect them."*<sup>38</sup> The report later expanded on this notion stating that *"The NHS exists to promote the improvement of the nation's health; medical research has an important role to play in achieving that end; the NHS should therefore play its part in supporting medical research. The means by which it should do so include an integrated research programme. There is no lack of push from medical researchers in the United Kingdom; what is missing is enough pull from the NHS."*<sup>39</sup>

To address this lack of 'pull' from the NHS, the Committee proposed the establishment of a National Health Research Authority (NHRA), which would establish health research priorities based on National Health Service needs, and fulfil key roles in capacity building, commissioning and formal liaison with funding bodies, including the MRC. The report envisaged the DHSS retaining its own research programme to instruct policy-making based on Ministerial need, so that health research would take place under the patronage of three bodies: DHSS, MRC and NHRA.

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<sup>35</sup> *Priorities in Medical Research*. Para 3.12, page 27.

<sup>36</sup> Comroe JH, Dripps RD. Scientific basis for the support of biomedical science. *Science* 192: 105-11 (1976)

<sup>37</sup> Grant J, Green, L & Mason B. HERG Research Report No. 30 August 2003

<sup>38</sup> *Priorities in Medical Research*. Para 3.13, page 27.

<sup>39</sup> *Priorities in Medical Research*. Para 3.27, page 29.

The House of Lords recommendations were generally welcomed by the research community and in 1991 the NHS R&D programme came into existence. Unlike the framework envisaged in *Priorities in Medical Research*, however, the NHS R&D and DHSS programmes were maintained under one management structure. The NHS R&D programme was thus to develop a research programme meeting the priority needs of both the DHSS and the NHS under a single Director of Research and Development.

#### **D. 'The Culyer Report.'**

Despite the introduction of the NHS R&D programme, the perceived imbalance between investigator-led research and problem-led research continued into the 1990s. Tensions were growing in the medical community about the level of support for clinical research: as the *British Medical Journal* put it, "*Many clinical academics are totally disillusioned by the University Funding Council and its research ratings, which award brownie points mainly for laboratory based research. Clinicians are looking to the DH's new research and development strategy to re-establish the importance of research programmes related to clinical work...But we must be wary of too much centralised direction. The track record of targeted research is not all that impressive.*"<sup>40</sup> "*Although the NHS R&D strategy receives praise for its systematic approach to priorities and for its emphasis on getting research into practice, many policies in the NHS adversely affect the environment of research (e.g. pressures to keep costs down in the internal market, shorter length of stay)... Clinical research suffers from the lack of coordination between the NHS and other funders. Two thirds of the NHS's current spending supports work sponsored by others, work which relates to the R&D strategy loosely if at all.*"<sup>41</sup>

In 1994, Sir Michael Peckham, the first Director of R&D at the Department of Health, set up a task force to address these issues. The group was led by

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<sup>40</sup> *The health of the nation's research and development. Time for some action.* BMJ 307.pp78-9(1993)

<sup>41</sup> *Welcoming the Culyer Report.* BMJ 309 pp751-2 (1994)

Professor Anthony Culyer, Pro-Vice-Chancellor at the University of York, and was asked to “*set out principles, and in some cases criteria, for initiating, prioritising, funding, commissioning and accounting for NHS expenditure on R&D in NHS settings.*”<sup>42</sup> The Culyer Report, entitled *Supporting Research in the NHS*, stated that the new NHS R&D strategy had “*opened vistas for R&D into areas of direct interest to the NHS such as assessment, purchasing, clinical effectiveness and outcomes. NHS providers recognised that in the patient market R&D could enhance their reputations and help to attract high quality staff, patients and funding.*”<sup>43</sup> However, the report also recognised continuing problems in the system. In an effort to improve the linkage with other research funders, it was recommended that the Director of R&D should chair a national forum bringing together bodies involved in research in the NHS. The concordat between the Department and the MRC was to be reviewed, particularly in light of what Culyer saw as the seemingly unlimited claim of the MRC on NHS service support.<sup>44</sup> With regard to the provision of funding for NHS R&D, the task force proposed a single ‘levy’ to replace existing multiple sources of funding: “*We recommend that, with effect from 1995-6, a single explicit funding stream should replace the current diverse funding mechanisms...R&D is for the common good of the NHS....Hence we recommend that this funding stream should be conceived as a levy on all health care purchasers’ allocations and determined annually.*”<sup>45</sup>

The following year, as proposed by Culyer, a new national forum of funders was established to advise the Director of R&D and Government. In addition, the recommendation for a levy system to support NHS R&D was accepted and introduced by the Government. In the financial year 1996, the previously diffuse funding streams for research were merged and NHS Trusts declared a combined budget for NHS R&D of some £334million. Nevertheless, despite overall improvements in NHS R&D brought about by the levy, criticisms continued over the levels of flexibility and transparency in the system. In 1997,

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<sup>42</sup> *Supporting Research and Development in the NHS. A report to the Minister of Health by a Research and Development Task Force Chaired by Professor Anthony Culyer* (1994) London, HMSO (“The Culyer Report”) para 1.5, page 13.

<sup>43</sup> The Culyer Report, para 2.3, page 17.

<sup>44</sup> The Culyer Report, para 3.17, page 34.

<sup>45</sup> The Culyer Report, paras 11-12, page 10.

a new concordat between the Department of Health and the MRC sought to address their changing relationship brought about by these new funding mechanisms. But as the UK moved towards the beginning of the 21<sup>st</sup> century, a rigorous, integrated arrangement for the balanced allocation of resources across health research, one that could appropriately marry the needs of the NHS with the promises offered by basic science, remained elusive.

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