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Funding Research in the NHS

A.J. Culyer

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FUNDING RESEARCH IN THE NHS

by

A J Culyer

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The Author

A.J. Culyer is Professor of Economics in the Department of Economics and Related Studies, University of York.

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ABSTRACT

This paper is the text of the 1994 Francis Fraser Lecture given at the Royal College of Physicians on 2 June 1994. It presents the outcome of the consultation exercise conducted by the Taskforce on R&D in the NHS chaired by Professor Culyer and identifies the principal problems currently confronting the conduct of R&D in the NHS, including both R&D supported by other sponsors that is dependent on NHS resources and a flow of suitable patients. The main points addressed include:

- the fact that some arrangements for the funding of research (eg. non-SIFTR, and R&D support for London Postgraduate hospitals) are temporary;

- that SIFTR is a general hospital subsidy, more related to undergraduate numbers than R&D activity, which is not quality assessed and which appears to be poorly targeted on R&D activity within teaching hospitals, and which is not available to support non-teaching institutions or community-based care;

- the pressures of the internal market for patient services which threatens the funding of research currently met through prices;

- that there is evidence of non-cooperation in R&D projects from some fund-holding GPs;

- that referrals are increasingly local and increasingly difficult to obtain for major research centres;

- that service support for non-MRC research is not always available;

- that there is inadequate coordination at the top level between different funders of R&D and an inadequate mechanism for identifying and prioritising the service needs of R&D;

- that much R&D in trusts is not evaluated or supported by explicit mechanisms;

- and that the reform of the NHSE is seen as a threat to the valuable work of Regional Directors of R&D.

I INTRODUCTION

In February this year, at a time when the consultation exercise undertaken by the Taskforce on R&D in the NHS was almost complete, I was invited to meet the House of Lords Select Committee on Science and Technology to brief them on our activity (one of those invitations one dare not decline!).

At that meeting I got the distinct impression that they regarded me as the sort of fool who steps in where angels fear to tread. The fact that their Lordships had previously also so dared, notably in their 1988 Report *Priorities in Medical Research* (HL Paper 54-I), is presumably because they are members of a sufficiently senior celestial order. In their own report they cited nine major enquiries touching on medical and health services research since 1986, and you will all be aware of the flood of more recent documents from Funding Councils, the Office of Science and Technology, the Department for Education, the CVCP, and so on and so forth. In any event, how, they asked me, did I suppose that I with my team, and an active period for work of only about three months, might be able to come up with solutions to some vexed problems that would be acceptable simultaneously to the research community, the NHS Executive, the great charities, industry, and our political leadership? How, indeed, was a question that I had often asked myself, without coming to any satisfactory answer other than that I was confident that the Taskforce membership, that of its three Support Groups chaired by members, and that of the team of officials who helped us, contained a formidable battery of talent, interest and expertise which, if they could be held together, might just produce - if not a winning - at least an acceptable set of conclusions. Whether that is true remains to be seen, of course and you will doubtless all be delivering your learned judgments on us in the

near future, when the Report is published.

The Taskforce was established by Dr Mawhinney in November last year. Its terms of reference are contained in Box 1. It was supported by three groups, each chaired by a member, to prepare material for the Taskforce itself covering three fields or interest groups: Researchers and Sponsors, Research and the Internal Market, and Financial Management Information Systems. The Report was delivered to the Minister by the target date of 30 April. It is now under consideration and I hope very much that it will be published without further delay. I trust you will understand that at the moment I cannot share with you the details of our recommendations. But there is much that I can share which I hope will be interesting.

The members of the Taskforce all came to it, of course, with their own preconceptions of what was wrong with the current arrangements and we all suspected that our first term of reference, which required us to "take stock" of the current situation with regard to the conduct and support of R&D in the NHS and to "establish the nature and extent of any problems", would yield a host of powerfully expressed opinions which would chime with many of our own. This proved to be the case. It might be as well to review some of the principal problems that gave rise to the Taskforce. Some of these had been voiced by individuals. In particular, many concerns had been expressed by members of the House of Lords Select Committee. One concern was with the problems experienced by large-scale MRC trials, particularly in obtaining the necessary service support but also in a large number of other respects, such as the absence of incentives for DGHs not in receipt of R&D infrastructure support to participate, and likewise for primary care providers, and the lack of focus of

BOX 1

TERMS OF REFERENCE FOR NHS TASKFORCE

Taking into account the NHS reforms and the Functions & Manpower Review; and building on existing work, the Taskforce is asked to:

(i) take stock of the current situation ..., establish the nature and extent of any problems, and, ... consider whether it is appropriate to make recommendations; and, if it is:

(ii) review the ways in which the NHS currently funds its own R&D and supports that funded by others;

(iii) Review the ways in which the NHS mechanisms ... promote and/or hinder the aims of the NHS R&D Strategy ...;

(iv) Advise on alternative funding and support mechanisms, ..., recognising that any new system will have to operate within existing resources.

SIFTR. This latter point had been a common complaint from many sources. Many clinicians had complained about the threat to implicit research posed by increasing market pressures on Trusts. Many researchers had complained that the operation of the patient care market was leading to difficulties in the recruitment of referred patients for research. These concerns were shared by us and, as you will see, were borne out by the evidence we collected. I was and am convinced that they are real problems and, moreover, that they are unlikely to go away unless they are addressed head on. We were agreed, however, that the first task was that of a more thorough diagnosis and that this would entail a systematic trawl of opinion. I shall tell you about that in a moment. Let me first outline some significant contextual factors that affected the scope and direction of our work (Box 2).

Our scope covered all R&D in the NHS, and not just biomedical or clinical research. Moreover, we were concerned with both the NHS's own portfolio of R&D and that sponsored by others such as the MRC, industry and medical charities in as much as it used NHS resources. So we were concerned with NHS R&D and R&D in the NHS - a subtle but important distinction, to which I shall return in a moment. We were not enjoined, however, to rewrite the NHS R&D Strategy. Although funding lies at the centre of our concerns, it was not our only concern, for the "support" of R&D is not only a matter of money. A major constraint was that we were not charged with considering the overall adequacy of funding for R&D. Indeed, our terms of reference explicitly constrained us to develop any new systems "within available resources", which we took to mean the best estimate of the current overall public finance commitment. Establishing what this is was one task that did indeed defeat us. But, independently of that, we did not consider, nor make judgments about, the appropriateness of the overall funding of medical and health R&D, either in the NHS or in general.

BOX 2

CONTEXT, SCOPE, CONSTRAINTS

- all R&D in NHS is considered, not just biomedical or clinical
- NHS R&D and R&D in the NHS (especially service support)
- funding can't be considered in isolation
- overall funding adequacy NOT in terms of reference
- need for (greater) public accountability
- Dangers of excessive decentralisation of R&D strategy-setting and prioritising

The context of our work also imposed constraints. First, we took it as axiomatic that there is a legitimate demand for accountability in the use of public funds in R&D - as in any other sphere of publicly financed activity. The issue for us was not in any way to challenge that axiom but to try to devise means of improving public accountability while at the same time avoiding the dead hand of bureaucracy and not involving members of the research community in pettifogging and time-consuming application, monitoring and compliance procedures. There is clearly a balance to be struck here. The danger with unaccountability is that it will cause public funding to dry up over time, for ministers cannot be expected to answer for the use of public funds over which there is no control or means of establishing whether they are being well-spent. The converse danger is that innovation and the free spirit of enquiry will be suffocated and that the time of researchers would be so preoccupied with accountability procedures that the opportunity cost - good research not done - becomes intolerable and one winds up with a system that is so devoted to monitoring and accounting for everything in sight that there is nothing left to account for! Like all of you, I am made aware on a daily basis of the time of my own and of my own best researchers that is gobbled up by the contemporary - and often both misguided and misconceived - attempts to secure an often spurious accountability for our teaching and research (I think, with some feeling, particularly the former). Despite this, however, we felt that the R&D sector urgently needed protection through *increasing* accountability in some respects while, at the same time, it also needed streamlining, better coordination and a simplification of procedures.

Another significant contemporary contextual factor in the NHS is the strong tendency to push everything as far as possible away from the centre towards the periphery; in particular, to focus as many purchasing activities as possible on health care purchasers. We recognised that

the statutory duties of health care purchasers require them to identify local needs and to arrange for them to be met in the most cost-effective ways, the identification of which might require R&D. That said, it seemed to us that health care purchasers are still struggling with developing their competencies to undertake these two tasks. To add to them the task of demanding and purchasing R&D as well seemed to us not only completely unrealistic under present circumstances but probably inappropriate even if Health Authorities were to become (as I trust they will) much more competent in their primary functions. The reasons for this are mainly four. They are obvious, but worth restating. The first is that the fruits of R&D are usually what I as an economist naturally call a "public good". That is, their benefits accrue much more widely than to those who fund or carry out the activity. Concentrating the R&D purchasing function on individual local purchasers, or even consortia of purchasers, would inevitably mean that benefits would be underestimated and hence R&D activity would suffer an inherent bias towards underfunding. The second reason is that the skills required to turn what seems to be a research question into a question that is actually *researchable*, to *commission* researchable projects competently, to *evaluate* protocols, to *appraise* the competence of bidders for R&D projects, and to *assess* outcomes, are all very scarce. By and large, they are skills embodied in those who actually do research. Moreover, they are not spread evenly around the country. It seemed to us that a proliferation of R&D purchasers could not hope to be competent, even with the best will in the world, and that incompetence coupled with high opportunity cost in terms of lost R&D, was to ensure the worst of all possible worlds. Third, it seemed to us that embodying both health care and R&D purchasing in the same organisation would pose a terrible dilemma for local decision takers: the imperative of buying more health care in the short term to meet manifest excess demands in the here and now would almost surely overwhelm the longer term desideratum of improved

future health and health care thanks to the outcome of successful R&D. Fourth, nearly all high quality research has an international dimension, sometimes through international collaboration in the work, sometimes through international reviewing processes, nearly always through internationally recognised forms of reporting and publication. Local purchasers did not seem to be on quite the right networks. Yet, all that said, it seems plain that NHS R&D, and R&D that uses NHS resources, need to take better account of the needs for R&D as perceived by health care purchasers. So they need to be given a significant voice - but without wrecking the system on the rocks and whirlpools I have just described.

So here were some Scyllas and Charybdises that we had to avoid. Navigating round them does not require fudge and compromise, but serious thought and a judicious balancing of legitimate claims in the context of what is practicable.

I have already mentioned that there is a distinction to be drawn between R&D in the NHS and NHS R&D. NHS R&D has been defined by the Central R&D Committee as in Box 3. You will see that its first element is to do with the health of the nation - not necessarily a short term consideration, of course, but fairly utilitarian for all that. Nor does this definition exclude, for example, methodological research, though I think that we may take it that the view would be that the NHS's own programme of R&D will not sponsor topics that seem to fall better under the auspices of HEFCE or the research councils. The Taskforce took this definition as authoritative, given its source.

With all that as background, let me turn to the diagnosis. I think that what I have said so far probably describes the general frame of mind which members brought with them to the work

BOX 3

DEFINITION OF NHS R&D

All R&D whose direct costs are met with NHS funds should:

- be designed to provide new knowledge needed to improve ... the health of the nation
- be designed so that findings will be of value ... outside the particular locality or context of the project i.e. be generalisable
- follow a clear, well-defined protocol
- have had the protocol peer-reviewed
- have obtained the approval of the Local Research Ethics Committee
- have clearly defined arrangements for project management
- report findings so that they are open to critical examination and accessible to all who could benefit from them - this will normally involve publication

of the Taskforce. To make a finer diagnosis, however, required further information, and for that we engaged in an extensive consultation exercise in which many of you here will have participated.

II THE DIAGNOSIS

In December last year we wrote to over 900 bodies and individuals with an invitation to write an open-ended statement of their views. We received over 200 replies. In addition unsolicited advice was received from several individuals and I met with several key representatives from the universities, the NHS Executive, the MRC and medical charities. It is convenient to summarise the fruits of this consultation under the following heads: information, procedures and coordination; funding and service support for R&D; and costing and accountability.

Information, procedures and coordination

Some of the highlights on this topic are in Box 4. The NHS R&D Strategy won a lot of praise from respondents: the presence of the Director of R&D at the "top table" in the Executive was seen as giving R&D an effective voice at the centre; the Regional Directors of R&D were widely seen as being an effective force for local coordination and support; the development of a clear set of R&D priorities with a strong emphasis on quality and relevance was widely welcomed, as was its emphasis on dissemination and the possibilities it held out for the further development of empirically- and knowledge-based practice in the NHS. Many complained, as was perhaps to be expected, that R&D was insufficiently funded. Many felt

BOX 4

INFORMATION, PROCEDURES, COORDINATION

- good points of NHS R&D Strategy (DRD, RDRDs, clear national priorities, better dissemination)
- but general underfunding
- insufficient coordination between policies of major funders and to secure sufficient service support
- shift of setting to community and Cinderella status of R&D in the latter
- dangers in purchaser-provider split (threatens "knock-for-knock", ECRs drying up, purchasers reluctant to pay for R&D out of patient care funds, GP fundholders charging for data, FMR threatens good work of RDRDs, short-termism)
- temporary arrangements (SHAs, non-SIFTR)
- disagreement about WHO should set R&D priorities
- threats to serendipity, curiosity-driven and small-scale R&D
- bureaucracy/poor information
- bias to medical R&D in acute hospitals

that there was insufficient coordination of activity and plans as between major sponsors, including industry, so as to avoid duplication and ensure that the NHS resources, including patients, needed for R&D were available to researchers. The shift from secondary to primary care was seen as posing special difficulties for R&D since most funding tended to go to major institutions and also because of the still relatively weak research base in community-based health and social care.

Nearly all respondents voiced concerns about the effects of the NHS reforms. The purchaser-provider split and increasingly explicit contracting was seen as a threat to traditional "knock-for-knock" arrangements between universities and teaching hospitals; Extra-Contractual Referrals were becoming an unreliable source of patients for research as the case for making them became more thoroughly scrutinised and the budgets set aside for them were strictly limited; pressure to reduce waiting lists meant that patients were often being discharged too quickly for thorough research to be undertaken; more generally, purchasers were becoming reluctant to pay for care whose cost was inflated by R&D elements and were tending to discourage referrals to research centres; there were stories of GP Fundholders actually seeking to charge for information about their patients; the Functions and Manpower Review of management structure in the NHS was seen as potentially weakening regional networking with the local research community by undermining the authority and disposable funds of Regional Directors of R&D. There were considerable fears expressed that the market for patient care encouraged a short-term attitude at the expense of research. Moreover, purchasers were in the business of purchasing care and seemed to give R&D a low priority, so the science base was under threat. In addition, a number of temporary measures with significance for R&D had been introduced which needed to be replaced with some more permanent arrangement:

notably the arrangements for London Postgraduate hospitals and the non-SIFTR element of institutional support. We were reminded that the NHS has been looked on with envy by researchers from other countries, in providing an unmatched testbed for R&D uncluttered by financial bureaucracy and still, for the most part, with effective communications and collaboration between the major research centres and clinical practitioners. This was a feature all felt should be cherished and nurtured.

There was disagreement between respondents on the roles to be played by various parties in setting the R&D agenda. Some (especially purchasers) felt that purchasers should be the primary demanders and funders of R&D and should therefore take on its purchasing themselves in addition to the purchasing of patient care; others (especially members of the Executive and the Central R&D Committee) felt that R&D prioritising and purchasing should be fairly well centralised; yet others (especially the universities) felt that university researchers should determine the research priorities. However, everyone who expressed an opinion on it thought that the priorities of the NHS and the other major R&D funders should be better coordinated. Many were concerned that more explicit funding arrangements for R&D would drive out serendipitous research and stifle innovation and small-scale experimentation. Many pointed out to us that the explicit R&D programmes of the NHS and the Department of Health were but a small proportion of the total resource put into NHS R&D, the rest being "implicit". Some of this was of good quality, undertaken by clinical scientists, laboratory staff, doctors, nurses, radiographers and others. Such work was often the precursor of more substantial R&D done under the auspices of a formal external funder. However, there was also recognition that some R&D supported under current implicit arrangements was of poor quality and did not meet the Strategy's definition. There was widespread agreement that the

commissioning process should be done at a level higher than that of service purchaser.

There were complaints about the bureaucracy of obtaining approval and funding for research. Ethics Committees were felt not to work well for multi-centre research. The R&D programme of the NHS was seen as demanding a breathlessly short time for preparing bids and many felt they had inadequate information about what the priorities were, where they could seek funding, and how best their proposals should be couched. Some claimed to see a persistent bias towards medical at the expense of health services research.

Funding and service support

Box 5 contains the main points arising under this head. Academic institutions, NHS Trusts and GPs supporting research emphasised the importance of maintaining (and in the case of general practice and community care, building up) a sound R&D structure in centres of excellence. The needs were various but mostly complementary: critical masses of researchers both for intellectual stimulation and to permit career training, appropriate multi-disciplinary skill-mixes, laboratory facilities, ring-fenced research beds, good interaction between the natural science base in the universities and medical sciences, the interdependence between research and teaching. These environments took years to create. Hitherto, such infrastructures were supported by the Higher Education Funding Council, the charities, industry and (last but not least in importance) the NHS. The main ingredients of NHS support were SIFTR and non-SIFTR, which provided stability. However, the distribution of SIFTR was determined mainly by undergraduate numbers rather than research activity which was particularly hard

BOX 5

FUNDING & SERVICE SUPPORT

- need to support centres of excellence and build new ones (esp. in primary/community care)
- dissatisfaction with SIFTR (not well-targeted on institutions, within institutions not protected for R&D)
- costs of R&D inpatient care prices prejudiced research centres in patient care market
- need for core funding

on institutions of research excellence that had few undergraduates, it tended to be treated as a generalised subsidy for hospital activity, and it was poorly accounted for. As a result, some felt that SIFTR in their institutions insufficiently supported R&D and it was also felt that prices in contracts for patient care would rise if SIFTR were to become more selectively targeted, because it was effectively subsidising patient care. In general the difficulty of identifying and monitoring whatever it was that SIFTR was purchasing, was widely acknowledged. The general pattern seemed to be one of confusion. While many agreed that SIFTR supported a teaching and research infrastructure that would otherwise give rise to higher unit patient costs, there was reluctance to use part of the funding to finance the variable costs of trials. Moreover, there was no mechanism for funding excess service costs in ordinary district general trusts, general practice or community care generally.

Quite apart from higher patient care costs due to research, there was the question of the entire cost of new or experimental treatments. Some felt that purchasers should pay for these; others that they should be a charge on research funders. Another commonly mentioned problem was that patients involved in research projects would sometimes, as the result of more thorough working up, expose medical conditions that would not otherwise have been identified but which would be treated, giving rise to unanticipated additional expenditures on patient care.

We received many suggestions for reform. It was widely felt that the research infrastructure in general practice and community health care generally needed core funding based on university departments and networks of research-oriented community-based practices. Many emphasised the need for flexibility, so that research funding would follow the trend towards

a community basis for treatment. All seemed agreed on the need for any research group to be able to bid for funding on equal terms and to be assessed according to open and common standards. Most wanted to see the teaching and research components of SIFTR separated. Several offered detailed methods both for doing this and for allocating the two components. Some voiced the view that infrastructure support for R&D should be phased out altogether, with all non-marginal costs being met out of project or programme grants.

Costing and accountability

Box 6 contains the main points arising under this head. There was widespread support for the development of a more accurate and standardised method of costing R&D, provided that it did not become extravagantly bogged down in trivial detail and provided that it did not suffocate local discretion. Some took the view that better and more visible accounting would encourage service purchasers to invest in R&D. The National Project Register was seen as one way of establishing an initial baseline of R&D activity and expenditure. Of those who commented on it, there was general agreement that NHS expenditure on both R&D and service support should be properly accountable.

But it was not just a question of financial accountability. Sir Michael Thompson's review of research in the London Postgraduate SHAs was seen as a potential model for quality assurance in R&D in the NHS as a whole. Many thought that the Funding Council model might be usefully adapted for use in the NHS, with infrastructure funding following appropriate quality-adjusted volume measures such as research active staff after routine periodic reviews.

BOX 6

COSTING & ACCOUNTABILITY

- more accurate & standardised costing of R&D needed
- but not at cost of heavy bureaucracy
- extend National Register to include costs
- move towards HEFCE methods of funding R
- support for peer-review, but .....

There was widespread support for peer review, though its costliness was recognised, and its intensity had to be commensurate with the scale of the proposed work.

Expenditure flows

The consultation process was not designed to yield information on the flow of research funds. In the event, it proved impossible to identify with any precision the flow of public and private funding for R&D and our Report contains no estimate. The major funder of R&D in the NHS is industry, in excess of £1,000m in 1992-93. The combined NHS and DH programmes are believed to have amounted to about £316m. The extent of internal funding for R&D undertaken within providers on their own account is unknown, though it is believed to be large in real terms, taking account, for example, of clinical staff time devoted to research. The quality of such research is largely unmonitored and therefore unknown. The service support via each of the R of SIFTR and the funding of the London Special Health Authorities is widely thought to have lain between £100m and £120m. It seems to be impossible to identify at all precisely the element of SIFTR that actually supports research or the research uses to which the R of SIFTR is put. Regression solutions to this problem are bedevilled by a host of problems including the jointness of teaching and research, and the appropriate handling of the problems of case-mix and case complexity. But, in any case, such analyses cannot really answer our fundamental questions. What they can shed some light on, though never precisely pin down because of the complexity and variability of the "product", is what the cost of research activity appears to be, and even what its minimum cost appears to be. But what such analyses cannot answer is the question of what SIFTR funds actually go on research, nor the even more fundamental question of what the appropriate level of

infrastuctural support ought to be. My own view is that the former question can only be resolved via more or less explicit bargaining procedures in a managed market for R&D, for then institutions would be forced both to specify their needs more precisely and comprehensively and to cost them out. The more fundamental question is a policy matter, which is not for technicians or potential beneficiaries to determine but the Director of R&D and, ultimately, ministers. One implication is that there is no "technical fix" to the problem of identifying this element of the current funding stream such that it can be taken out without damage to the other functions that it may be supporting and distributed in a different way or combined with other streams for distribution. A particularly thorny problem to which this gives rise is the determination of the consequences for individual institutions of any change in the SIFTR arrangements. It might be solved were SIFTR to be completely abolished and replaced, as far as teaching is concerned, by a system of contracting and, in respect of research, by new arrangements of a sort I shall mention in a moment. However, the redesign of SIFTR in its entirety was not in our terms of reference. We do not comment on it, though I personally suspect that comprehensive redesign might be necessary as the removal of the R element from SIFTR will expose the T element and any inadequacies that its size, distribution and its method of determination may have.

III THE TREATMENT

Let me share with you some of the principles that informed our discussions and which underlie the Report. First our values regarding R&D, which are listed in Box 7.

BOX 7

VALUES

1 R&D is a main way of improving health and the quality of care

2 R&D are keystones of a knowledge-based, evaluative culture in the NHS

3 R must be conducted ethically, to high standards, and with full knowledge and consent of patients and other participants

4 R should generally follow explicit priorities

5 Wide participation in identifying R needs & priorities; all health care disciplines & service settings should be included

6 Priorities should not preclude backing a new idea or a strong proposal

7 Funding & service support should neither subsidise nor be subsidised by other activities

8 NHS should be able to show how public money is spent in R&D and what it buys

9 Sustain excellence, not just perpetuate institutional patterns

10 Doing, commissioning, managing R and using its findings are skilled activities

Values

We spent a good deal of time talking about our values, revisited them several times in the context of specific problems we were trying to resolve, and finally came up with the list here. I do not think that there is anything very remarkable or revolutionary about these. They touch in part on issues that I have already raised. Nor are they complete. Of the first, it might be said both that R&D is one - and only one - plank in the battle against disease, and that research does not have always to have a utilitarian justification, even if the utility is interpreted in so high-flown a way as "health". After all, new knowledge might also be justifiably sought for its own sake or because it serves utilitarian ends that are not to do with health. Nonetheless, we felt that NHS R&D and NHS support for R&D funded by others ought probably to have a utilitarian justification in terms of health, sooner or later.

The second is a fundamental plank of the current R&D strategy and is essential if needs are to be identified and met in a cost-effective way. Let me just pause here to remind you that the true meaning of cost-effectiveness is no narrow accountant's definition. Minimising the opportunity cost of any worthwhile activity is a highly moral pursuit. Inefficient use of resources in health care means that, from available resources, less health gain accrues than is actually possible. So, if you think that the main job of the NHS is to promote health, and if you think that this is a highly ethical pursuit, I think that you are committed, as logicians, to the high ethicality of cost-effectiveness.

The third is standard and, I trust, unexceptional. The fourth is a good principle, both for the NHS R&D strategy and for all of you in the research community. It is not, however, as care-

fully done as it might be. There is, of course, some research (both theoretical and empirical) that is serendipitous and speculative. But I conjecture that *all* research proceeds better when it is explicitly targeted on an objective or on the development or testing of a hypothesis that has a context that is regarded as important (which may not be narrow or terribly specific). Moreover, having a research strategy - and I mean particularly a research strategy at individual institutional levels - is probably the only way in which one can systematically develop links between the science base and medical research or between medicine and the evaluative sciences; the only way in which one can avoid the ad hoc accumulation of projects stitched together to maintain a flow of funds to support one's post docs and research fellows; the only way in which an institution can develop a systematic and cost-effective internal policy for supporting research and researchers through such means as sabbaticals, research terms, pump-priming activity, information dissemination about funding opportunities and applications procedures, the setting aside of research beds, and so on; and the only way in which it can develop helpful staff development and training programmes, especially for those large numbers of researchers on short fixed term contracts. Being explicit about what one is trying to accomplish and choosing priorities that best support the objectives seem to me to characterise best practice - though we all know that it is hardly universally in evidence.

The fifth (wide participation) refers back to a principle that I have already discussed. The sixth seems essential, given the market for health care, for the danger is that lack of clarity here means that R&D by NHS staff will be the loser. The seventh reminds us not to lose sight of the risk of crowding out some good things through an oversight in the design of R&D arrangements. The eighth is my accountability point, on which I should not further bore you. The ninth (sustaining excellence) is a principle that threatens. It admits the possibility that

more selectively targeted R&D resources might cause some to lose, especially those who fail to adjust quickly so as to gear themselves up for new regimes. It also implies that any system of funding for R&D should be open to all, especially new teams and centres, and especially, perhaps, those who want to do more research in primary and community care, which have for too long been the Cinderallas of R&D in England. It implies also a need to allow for time for adjustment and short to medium term stability over a well-managed transition phase. The tenth refers to my earlier point about the scarceness of R&D resources both for the doing of R&D and for collaborating in the procedures that enable it to happen.

Funding desiderata

Our main objectives in devising new funding mechanisms to support NHS R&D and NHS service support for other R&D are shown in Box 8.

The first of these recognises the excellent coordinating, networking and support that have been established in the old NHS regions. These have been excellent at their best. We felt they should be preserved and more widely applied. Apart from advice and general support, and the development of regional research strategies, initiatives have included the establishment of institutes to support R&D and training, fellowships, "effectiveness" reporting, and various types of specific support for R&D such as support for research posts in universities.

The second desideratum seeks to maximise quality and the cost-effectiveness of R&D. It is explicitly selective, and implies more selectivity than the current R of SIFTR or the support for the London Postgraduate hospitals. The forms in which funding might come to R&D

BOX 8

FUNDING DESIDERATA

1 Build on existing coordinating functions and R&D information and networking systems

2 Target resources more accurately on individuals, teams and institutions most likely to deliver relevant R&D of excellence and value for money

3 Establish contracting arrangements akin to those for health services

4 Provide incentives for institutions to plan and manage their R&D portfolios

5 Encourage research staff training and development

6 Open doors to R&D in primary/community care settings

7 Avoid crowding out serendipitous and curiosity-driven re search

8 Improve flows of referrals

9 Fund approved service costs of R&D whoever the primary R&D funder is

centres ought to vary according to circumstance, scale and need. For example, there could be project support, programme support, and infrastructure support (the latter presumably for the largest institutions with a major commitment to R&D or with plans for such a major commitment).

The third desideratum aims at greater explicitness (and hence accountability). It also tries to ringfence R&D funds so that there is a greater assurance that funding going to institutions supports the purposes for which it was intended. However, by "contracts" we meant "formal understandings" rather than legal documents, whose nature and detail ought to vary a good deal according to the amount of money involved, the length of the period of time for which it was granted, and the various interests of the contracting parties. We should not seek to "contractualise" everything, nor to hold everyone to detailed account for everything that could possibly count as R&D. To do so would create appalling public and private bureaucracies and prejudice the creative spirit of invention. The idea would be to create a system of managed - and manageable - competition that enables an articulate demand for R&D to be voiced, with the appropriate voices articulating it, for thoughtful and costed supply responses to be forth-coming, and a well-informed, open and streamlined structure in which all this may happen. It is also necessary to protect R&D from the pressures of the managed market in health care and to set up a framework that work consistently and harmoniously alongside it. Such a framework would also assist in achieving the next two desiderata: better institutional management of R&D and of the staff engaged in it.

The sixth desideratum needs to be stated explicitly for, although it may be that some forms of support (for example, of infrastructure) may not be possible for independent contractors

such as GPs, there is undoubtedly a need to make funding more easily accessible for R&D in primary and community care, especially as these settings increasingly become the focus of clinical activity rather than the acute institutions.

Although the funding of serendipitous and curiosity-driven research must be largely a matter for the Funding Council, some charities, and some industry, it ought also to form a part at least of the service support for R&D provided by the NHS. There therefore needs to be a mechanism through which judgments about where to provide such support and on what scale can be made by people well-qualified to make them.

The question of referrals, especially perhaps of Extra Contractual Referrals, also needs enshrining as a desideratum as experience is teaching us that financial systems can prejudice good research that depends on referrals. Ensuring adequate patient flows for approved projects, like many other aspects of medical and health R&D is almost certainly not done in a formulaic way or by dogmatic insistence that *only* the health care purchaser should pay or *only* the R&D funder.

Finally, it is of great importance that service costs of good research are appropriately estimated, agreed by providers, and funded, irrespective of the source of funding for the substantive R&D in question. Present arrangements substantially protect MRC research that depends on NHS service support, but afford no such guarantees to others, nor do the present arrangements enable systematic judgments to be made at the margin as to which projects (by whomever funded) are most deserving of service support, given that choices have to made.

Meeting *all* these desiderata of a funding system was, of course, a tall order!

IV FINAL REMARKS

There are those who are impatient with principles at any time. I am myself impatient with these impatient people, for unprincipled action and the unprincipled design of systems to support activities as important as R&D in health and health care are at best unlikely to deliver what we would all probably agree to be needed and at worst simply enshrine and protect bad practice, vested interests, and mediocrity. Nonetheless, I have considerable sympathy with those of you who would ask the "so what?" question: so, given your fine principles, what do they imply and will your practical and substantive recommendations really deliver them?

I am reminded of one of my favourite quotations from the greatest of Cambridge economists, Alfred Marshall:

"Enthusiasm for the ideal in faith, in hope, and in charity is the best of human possessions; and the world owes very much to those who have been thrown off their balance by it. But, on the other hand, a responsible ... (analyst) ... must accept mankind as he finds them; and must base his estimates on that which is practicable. He must nourish the ideal in his heart: but his actions, his conversation, and even his thought must be occupied mainly with the actual: he must resist every temptation to make a short cut to the ideal. For indeed a traveller in a difficult country, who makes for his ultimate goal by a straight course, is likely to waste his strength and perhaps to meet disaster."

So I hope, in the Marshallian spirit, that we will not be seen to have been thrown off balance, nor naive in taking a direct course without regard for the self interest of relevant players, nor reckless and irresponsible by prejudicing that which is good in R&D; rather that it will be strengthened so that the actual better approximates the ideal we nourish in our hearts. Let me just say one final thing. We will be recommending many changes from the present arrangements. These recommendations will have to be the subject of much further discussion and consultation both broad-brush and in detail. Moreover, it will be essential to arrange for an adequate period of time for people to adapt to the new arrangements without serious destabilisation of existing R&D and of established and successful teams. Further discussion, consultation and adequate arrangements for the transition are central recommendations of the Taskforce. I hope the setting out of our *principles* will help provide a context for the discussion of our recommendations that is to come. But of one thing I am quite sure. Those who will be in a position to make the most of any new system will be those who comprehend best what is being sought through it and who are able to gear themselves up internally to take full advantage of it. Those who are most likely to succeed will not only gear up effectively to exploit the new arrangements we propose but also demonstrate consistency with the White Paper "Realising our Potential", for example, by dove-tailing their own internal research strategies to match key research areas at the national level as they emerge from the Forward Look and Technology Foresight exercises, through the strengthening of old and the development of new partnerships, and through clearer emphases on potential improvements to the quality of life through better health and even wealth creation. I expect our recommendations to cause considerable internal changes within institutions, changes both of procedure and of culture. Adjusting to these will take time for all of us, hence the need for a transition period from the old arrangements to the new. But those who wait for the new to come fully on

stream are unlikely to be among the winners from it and may be left at the starting gate. If, as I hope, the Taskforce's Report sets the framework for the organisation and funding of NHS R&D and R&D in the NHS for the coming years, then none of us should be slow to gear up in ways appropriate to exploit it.