The evolution of a local R&D strategy: the experience of a service in the UK National Health Service (NHS)

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Increasing concern about the state of health-related research in the UK in the 80s and early 90s, led to an influential parliamentary review. The consequence of this was to strengthen health research through a programme that was fully integrated into the management structure of the NHS. No country had ever attempted such an ambitious approach (Black, 1997). In 1994 a far-reaching review, recommended further, revolutionary changes to the management of R&D in the UK National Health Service (Culyer, 1994). Many of these were implemented in 1997 with the result that every UK health service at regional and local level has developed an infrastructure, and management arrangements for R&D activity. In most local areas, hospitals with significant involvement in R&D have been eligible to bid to the UK Department of Health for NHS R&D Support funds.

In Nottingham, three Hospital Trusts and a community based service made bids to the Department of Health and received grants to support R&D. This paper focuses on one of the hospital Trusts - the mental health service in Nottingham. Our experience will be of particular interest as the first bid that the mental health service made was spectacularly unsuccessful. The organisation was forced to consider dis-investment in its existing research infrastructure and a potential negative impact on the provision of patient care. This led to a wide-ranging consultation and evaluation of research and research-related activity. A range of approaches and tools were deployed to develop the strategy and to ensure its successful implementation and evolution. The strategy reflected a balanced approach, taking into account historical and organisational research strengths, while recognising the need to build capacity and capability, enhance foresight capability and strengthen the knowledge base. The ability to contribute to, and influence policy and practice has been a key driver of the strategy.

The result was a successful bid and the evolution of an R&D strategy that has been flexible in its response to policy changes, changing local circumstances and wider socio-economic trends and technical innovations. Furthermore, R&D performance, measured through outputs, impacts and income, has continually improved and increased.

1. Introduction

The UK Department of Health and the National Health Service (NHS) spend nearly £500 million per year on research. This represents a small proportion of the UK health R&D spend. Recent estimates set the total of health research spending at £4 billion (Harrison and New, 2001),

although much of this is invested in commercial research. In the late 1980s, the UK Government, reacting to general public concern about the state of public-funded health-related research set-up a Parliamentary Review (House of Lords, 1988). The Parliamentary Review argued that the NHS, like industry, 'should ensure that the fruits of research are systematically transferred into service'. A further criticism was that the NHS had no coherent mechanism for articulating the research needs of the health service, and no way of meeting those needs. The Review advised the Department of Health to develop a national R&D strategy. As a result, the UK developed and implemented a national R&D strategy for its health service: one of the first in the world.

By 1991, the Department of Health had responded with the appointment of its first national Director of Research and Development and an internal review of NHS-based research: 'Taking Research Seriously' (DoH, 1990) – which highlighted, again, that the NHS needed to improve its commitment to and management of R&D. Finally, 'Research for Health' (Peckham, 1991) was disseminated. Essentially, a National R&D strategy, it's three key aims were to ensure that NHS decision-making would become more research-based, to improve the capacity for R&D and finally to improve the relationship of the NHS with the science base as a whole (Baker and Kirk, 1996). A detailed plan for the support of NHS R&D was published in 1994 (Culyer, 1994). This report has defined NHS R&D ever since. It represented a major shift towards a more managed R&D environment, and one that was more integrated with the core business of the NHS – patient care.

The Culyer report (as it became known) provided a clear definition of NHS R&D, set out rigorous standards for research project management, put in place structures and processes to ensure accountability, established standards of research governance and established performance management arrangements. The report represented a far-reaching and revolutionary change to the management of R&D in the UK NHS. One of the most fundamental changes that took immediate effect was a levy of all Health Authorities in the UK. This reflected the scale and scope of NHS services in each district of the UK. Behind this also, there was recognition that a great deal of research was being undertaken at the expense of NHS services. A typical example of this was a hospital doctor, who had an honorary contract with the local University, and research sessions that were funded by the NHS through his or her salary costs. The levy was an attempt nationally to clarify who was paying for what; and who the beneficiaries would be. The total amount of the levy was approximately £350 million pounds (Clarke, 1999). In 1996 all NHS organisations were invited to 'declare' their interest in applying for a proportion of the total fund. This was known at the time as the 'Culyer Declaration' and reflected the amount a Trust spends on R&D and the projects it supports. To establish a declaration, each Trust had to take the 1995/96 financial year as a 'snapshot' of R&D activity, and the costs for projects and other R&D activity it had declared would be inflated to 1997/98 prices and totalled to form the major part of the R&D levy in 1997/98. In real terms, the declaration did not change the funds used by the NHS to support research, rather, it simply ensured that these funds were more explicit. If a Trust declared costs for R&D that were larger than its subsidy, its patient care costs would go down, if they were smaller they would increase. The whole exercise was in effect cash-neutral, but performance management 'rich'. However, following the declaration; it was proposed that there would be an open competition for funds in 1998/9.

In Nottingham, all three of the hospitals, and the community health service made declarations in 1997 and all were given approval by the Department of Health to submit detailed bids for NHS R&D Support funds in the following year. There were two types of competition. The first was for 'Portfolio Funding', which was aimed at those organisations that were major hosts and drivers of research. Typical among these were the two general hospitals in Nottingham. They both are teaching hospitals with extensive academic links, coherent research programmes and successful research units funded by the UK Research Councils. The other competition was 'Task-linked funding'. This was aimed at NHS organisations that were fledgling or growing in research terms. As the provider of specialist psychiatric care, the Nottingham Mental Health Service was typical of this type of organisation. The organisation was 'research active' in that individuals attracted a range of external commercial and non-commercial research funding, conducted a range of research projects and published their work in peer-reviewed journals. However, research activity was not centred around coherent programmes of activity, was predominantly

medical (as opposed to multi-disciplinary) and was not supported by a strategy.

In 1997 the organisation submitted a bid for NHS R&D 'Task-linked funding'. The bid was spectacularly unsuccessful. The award was significantly less than the amount that the organisation had competed for. The Department of Health provided this lesser amount for only one year. The funding that the service received through the levy was enough to ensure only that research sessions conducted by Consultant Psychiatrists could continue. There was no extra funding to develop the research infrastructure, build capacity or to encourage a thriving research culture. Following feedback from the first bid, the Department of Health invited another application. If this application was similarly unsuccessful, ultimately, the Nottingham Mental Health Service would be forced to consider disinvesting in clinical services to recycle funds to support R&D activity. In real terms, this meant that as the funds primarily supported Consultant Psychiatrist research sessions, the choice was between reducing their clinical work (i.e. seeing fewer patients) to ensure research was carried out, freezing all research activity or – the worst case scenario – cutting costs by cutting posts. Neither of these choices were tenable, not least because providing patient care is the core business of the NHS and an organisation without research activity is moving away from, rather than towards the 'cutting edge' that is established from the new knowledge that research provide. The third choice – redundancy – was simply not feasible. Nationally, the NHS was, and continues to experience a massive staff recruitment and retention crisis.

Psychiatry is one of the specialisms that is most affected. In Nottingham there had been vacancies for Consultant Psychiatrists that the organisation was struggling to fill. Furthermore, a thriving research culture with strong academic links can be a magnet to attracting high calibre clinicians. To attract high calibre candidates, a major incentive was the offer of 'protected' research sessions – protected time to undertake research, and to work in collaboration with the University Department of Psychiatry. To reduce the research, research sessions or the number of psychiatrists further would clearly be a retrograde and unsustainable step.

2. Developing the strategy

At the time of the bid, the organisation did not have an R&D Manager, nor a defined R&D function. The author was seconded from his role in Quality Assurance to project manage the second application. The project team also consisted of the Head of the University Department of Psychiatry (Professor Peter Jones), and a Finance Account Manager (David Sharp). A project board was established to steer the bidding process. With six months before the deadline for the next competition closing date, the whole process was rigorously project managed. A number of activities were undertaken to gather intelligence for the bid. A survey of research activity within the organisation took place. This consisted of a postal survey that was supported by emailed requests for information, presentations by the project team in a number of forums and articles in the organisations' newsletter. A database was created and all information received from the survey was quality controlled, evaluated and input into the database for future analysis.

Alongside the survey, the project team conducted a consultation with key researchers and research active clinicians within the organisation. Senior management and service team leaders were also consulted. An audit of peer-reviewed publications in the last three years was also conducted. The postal survey asked respondents for such information; but we also audited literature databases to validate the self-reports. We finally followed up individuals with a list of their publications for review.

The final activity we undertook was to consult with key individuals from partner organisations. In particular we consulted with individuals from the University Departments who had a relationship with our organisation. We also consulted with other organisations which had a stake in our services, for example general practitioners, service user groups and the other hospitals in Nottingham.

The data from these activities were analysed in a number of ways. Firstly we looked at the scale and scope of research activities. This included an audit of the number of projects, the specialisation, the number of individuals involved, the range of professions, whether grants were received and the total amount that had been generated, and the number of peer-reviewed publications. Secondly we assessed whether the research could be grouped into coherent themes or areas of activity. Thirdly we reviewed where there appeared to be gaps in the range of research activity that we had captured. Finally we synthesised this process by undertaking a 'SWOT' analysis and a 'STEP' analysis.

The SWOT analysis reviewed the research activities within the organisation, by assessing, as a whole, its strengths and weaknesses, as well as the opportunities that were created by conducting research in such areas and potential threats to that research. Typical of this analysis was a whole range of research that we assessed that was being conducted around the field of suicide, self-harm and risk-taking behaviour. A strength of our research in this field was that we had attracted Research Council funding as well as grants from other funding bodies. A weakness was that much of our research was primarily 'medical' as opposed to multi-disciplinary. There was little nursing or psychological research and no studies were being undertaken by occupational therapists and social workers in this field. This field represented a major research opportunity, particularly as the prevention of suicide and reduction of self-harm were Governmental priorities. We identified that the main threat to this area of research was from other, more mature and research active organisations in the UK. The 'STEP' analysis acted as a tool for horizon scanning.

We reviewed the social, technical, economic and political forces that we considered would have some bearing on the area of research. In the example of research into suicide and risk-taking behaviour, we assessed that there was clearly a social demand to reduce suicide rates, and that this was influenced by social perspectives – for example public and media stereotypes and prejudices. On the technical front, we learned that there was a whole range of emerging health technologies that could be evaluated. Key amongst these was the use of magnetic resonance imaging (MRI), genetics and a continued need to evaluate pharmacological interventions. Therapies such as cognitive behavioural therapy (CBT), family therapy and occupational therapy were all examples of softer health technologies that were amenable to research. On the economic front, we realised that research grant giving organisations were keen to fund research in this field; indeed our organisation had a record of attracting grants for this type of research. Politically, we considered that the Government would be keen to fund this area of research as it clearly linked into national mental health policy. The reduction of suicides of patients known to mental health services has long been a national policy objective. When we had synthesised the data, we reported our findings to the Trust Board, the project board and to everyone who contributed. We concluded that there were five clear themes of research within the organisation. These were: (1) epidemiology and management of severe mental illness, (2) suicide and risk-taking behaviour, (3) care for people with learning disabilities (4) rehabilitation psychiatry, and (5) the interface between primary and secondary care. We argued that the first three themes were our strongest areas of research, and although quite broad, they captured a range of research activities from laboratory-based research through to health technology assessment and health services research. Researchers in these three themes all had strong or growing track records and were attracting grants from key funding organisations. Research outputs were also very high. Most, if not all the research undertaken in these areas, was of a high quality, extremely relevant to services and had the potential, if not already realised, of creating an impact on services. Research in the last two themes (4 and 5) represented 'up and coming' research. Research in these two themes was smaller in scope and scale, attracted fewer grants and relied on the skills of fewer research active individuals with strong track records. We recognised that we needed to incubate these two areas and proposed a number of strategies to do that.

The R&D strategy was built around these five themes, as well as two R&D management objectives. Our long term objective was to evolve these into discrete programmes of work, and ultimately, were we could to further develop them into research units. We are currently at the programme stage of the evolution. The R&D management objectives were included to develop the R&D management infrastructure and to assess the impact of research on practice through all forms of dissemination and diffusion.

A key feature of the strategy included our intention to create a shift in research activity from research that was of poor quality and little relevance to services, to research that was highly relevant and well designed and executed.

The Culyer definition of NHS research was also pivotal to our strategy – we aimed to encourage research that sought new knowledge, that was well designed and the results of which were generalisable to other areas of the NHS (Culyer, 1994). We built Culyers' quality standards for NHS research into the strategy. These were that all research should (1) have a protocol, (2) be ethically approved, (3) be peer reviewed and (4) have well defined project management arrangements. Finally our strategy took into

account the following features of the R&D landscape: (1) building capacity and capability (2) supporting existing researchers (3) involving service users and ensuring that their rights are safe-guarded, (4) developing R&D management and (5) getting research into practice.

(1) *Building capacity and capability*

The strategy set out three tasks to build capacity and capability. As research capability and capacity was limited in non-medical fields, we proposed funding a programme of training for such staff. Coupled with this, we proposed a system of apprenticeships that provided protected time for non-medical staff to build their research skills and contribute to research projects run by experienced researchers who would be their mentors. We provided general research awareness training for staff across the organisation to ensure that a basic level of research awareness existed. Finally we supported research activity by clinicians through a support service, where ad-hoc advice and training was provided.

(2) *Supporting existing researchers*

Our strategy recognised that existing researchers also needed support. We felt this was vital if we were to create a sustainable research culture. A system of research support was proposed, in which those staff would be offered help at all stages of the research process, from designing research studies through to analysing data. The model of an operational research department was influential in our thinking. Consultations for statistical, methodological, and technical advice were proposed, along with technical support for disseminating research studies. It was proposed that we would provide researchers with sabbaticals to deepen their skills and knowledge, and to fund their attendance on specialist workshops or courses.

(3) *Involving service users and ensuring that their rights are safe-guarded*

We highlighted that much research in psychiatry is dependent on service users. We proposed that service users should be involved in the R&D strategy, in most research projects from an early stage and should review all research that is undertaken – as the beneficiaries of the research we felt their views were vital, and their rights should be safeguarded. We also proposed that service users should receive training in research to enable them to undertake these tasks. In April 2002, service users met to brainstorm what they considered to be the research priorities for mental health services. For us, this was a successful outcome for this strategic area.

(4) *Developing R&D management*

The strategy proposed that for R&D to function effectively within the organisation, it would require an R&D management team – to ensure that research was adequately resourced and supported, and to ensure that the governance of research would take place. In the NHS, we argued, R&D management was a new area and we argued that a management team would need to develop its skills to ensure that the strategy was delivered. We proposed that a system of research governance should be in place. Principally, this would be a system of research project notification, project management and evaluation organised through a central R&D office. To ensure that the organisation knew what research was taking place, no research project would be able to take place, unless it had received authorisation from the clinical management, R&D management and finance.

(5) *Getting research into practice*

We proposed to train and support researchers in the skills to enable them to disseminate their research and ensure that it would influence practice, locally and wider afield. We proposed training for researchers to enable them to write papers for publication, audio-visual support to produce posters and slide shows, and advice on diffusion strategies for different audiences. We proposed to provide funds, specifically to enable researchers to present their work at national and international conferences.

3. Evolving the strategy

The proposal for NHS R&D funding was based on the R&D strategy that we developed. The consultation process for the strategy was an iterative process that involved everyone with a stake in mental health R&D. As a consequence the final version of the strategy was a document

that was 'owned' by all stakeholders and that adequately reflected research within the organisation. During the course of developing the strategy, the Government launched a number of policies and initiatives that have since proved to be influential in mental health care. The test of our horizon scanning exercise was that there was very little difference between our strategic intentions and these policies. Our proposal for NHS R&D funding, which was submitted along with a portfolio of evidence, and the R&D strategy was successful. We obtained £1.5M over three years with commendations for the proposal and the strategy.

Over the last three years we successfully implemented our R&D strategy. However both mental health policy and R&D policy has continued to change at national level. Our key research themes remain important and continue to contribute both locally and nationally to the knowledge base. However, we have responded to policy shifts with an evolutionary approach to our strategy. In 2001 the Government introduced legislation to enable the creation of Social Care Trusts – a combination of health and social services. There has also been a growing questioning of bio-medical research within health, and particularly in mental health services. To respond to this, in partnership with the University of Nottingham, School of Social Policy and Sociology, we established a Medical Sociology post whose role has been to scope social research within the organisation and support staff in the development of social and qualitative research. To date this has been a successful innovation.

The UK Government has continued to voice concern about the need to get research into practice. The NHS has seen a shift towards knowledge management – described in the NHS as 'evidence-based practice' (EBP). In Nottingham, we responded to this policy shift by obtaining funds for a project to evaluate EBP and create a supportive framework for clinical staff to make sense of research and introduce research findings and innovations into their practice. The findings from this study have influenced local services, and were presented at the 3rd European Conference on Organisational Knowledge, Learning and Capabilities earlier this year.

Since the strategy was implemented, the organisation has increased its research income, the number of research active professionals, and the number of peer-reviewed publications. However, although it is less measurable, there is a perception that the research culture has matured over the last three years. In the short term, this is a significant contribution to the business of the organisation. However in the long term our challenge is to sustain it. The flexibility of the R&D strategy is crucial in ensuring that this happens.

4. Conclusions

In many ways our experience is a salutary lesson for R&D management both in the public and commercial sectors. A small project team, with the support of senior management and the research community were able to transform the fortune of the organisation through the development of an R&D strategy. The key to a successfully evolving R&D strategy is that it has implementable validity. To obtain implementable validity, R&D managers are encouraged to adopt techniques for gathering and making sense of research activity, and reframing that activity in ways that make sense to the organisation at strategic level, for example, by establishing themes or programmes of activity. However, developing a strategy that is owned by the research community and individual researchers is vital. Ownership is obtained through consultation, debate and negotiation. R&D managers are cautioned, though, against creating a strategy that is too rigid to respond to the changing needs of the organisation or external environment. Reviewing the strategy regularly is as essential a pre-requisite for its evolution, as is monitoring the outputs and performance.

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