

Research capacity in UK primary care

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SUMMARY

Background. Moves towards a 'primary care-led' National Health Service (NHS) and towards evidence-based care have focused attention upon the need for evaluative research relating to the structure, delivery, and outcome of primary health care in the United Kingdom (UK). This paper describes work carried out to inform the Department of Health Committee on Research and Development (R&D) in Primary Care (Mant Committee).

Aim. To describe the extent and nature of current research capacity in primary care in the UK and to identify future needs and priorities.

Method. Funding data were requested from NHS National Programmes, NHS Executive Regional Offices, the Department of Health (DoH), Scottish Office, Medical Research Council, and some charities. A postal survey was sent to relevant academic departments, and appropriate academic journals were reviewed from 1992 to 1996. In addition, interviews were conducted with academic and professional leaders in primary care.

Results. Overall, total annual primary care R&D spend by the NHS and the DoH was found to be 7% of the total spend, although annual primary care R&D spend differs according to funding source. Journals relating to primary care do not, with some notable exceptions (e.g. *British Journal of General Practice*, *Family Practice*), have high academic status, and research into primary care by academic departments is, with perhaps the exception of general practice, on a small scale. The research base of most primary care professions is minimal, and significant barriers were identified that will need addressing if research capacity is to be expanded.

Conclusion. There are strong arguments for the development of primary care research in a 'primary care-led' NHS in the UK. However, dashes for growth or attempts to expand capacity from the present infrastructure must be avoided in favour of endeavours to foster a sustainable, long-term

research infrastructure capable of responding meaningfully to identified needs.

Keywords: funding, research and development; primary care.

Introduction

MOVES towards a 'primary care-led' National Health Service (NHS) and evidence-based care have focused attention upon the need for evaluative research relating to the structure, delivery, and outcome of primary health care. Two major reports on research in primary care have been published: the Medical Research Council's (MRC's) Primary Care Topic Review¹ and the report by the Department of Health (DoH) on Research and Development.² The former outlines the content of research that is needed in primary care, whereas the latter focuses on mechanisms needed to deliver high quality primary care research in the United Kingdom (UK).

This paper presents the findings of the research capacity subgroup of the DoH Working Group,³ chaired by MR, whose role was to describe the current state of primary care research in the UK along with current problems in its delivery. This paper includes additional data to that included in the published report. The subgroup had three aims: first, to describe the extent and nature of current research and development (R&D) in primary care; secondly, to describe funding sources for current research; and thirdly, to identify mismatches between existing capacity and current and future needs for research in primary care, and to consider how these mismatches might be addressed.

Method

Primary care can be defined in a number of ways; for example, nature of discipline, funding source, location of work. A broad definition of primary care (Box 1) was used to identify the major primary and community-oriented disciplines where research needs have had low priority in the past. Primary care research was defined as research related directly to the work of primary care practitioners where at least one principal investigator is a primary care professional (research *by* primary care staff), where research relating to the work of primary care professionals is carried out by others (research *on* primary care), or research where patient recruitment and data collection is principally carried out by primary care professions (research *through* primary care).

Details of R&D funding were requested from each NHS Executive Regional Office in England, from the DoH, Scottish Office, MRC, and major charities. In addition, funding details were sought for the NHS in relation to the National Programmes of Research based around cancer, cardiovascular disease, health technology assessment, mental health, methods of implementing R&D, mother and child health, physical and complex disabilities, and the primary-secondary care interface.

An electronic search of all projects contained on the Culyer declaration database was carried out by the DoH using the search strategy 'primary care', 'primary health', 'community', 'GP', 'general practice'. The Culyer database contained details of declared net R&D costs for each of the 431 trusts in England. The database formed part of the R&D Task Force (Culyer) Report published in 1994,⁴ which concluded that little was known about the extent, nature, and cost of NHS R&D, nor about

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General practitioners
Practice nurses
Health visitors
Midwives, district nurses, and school nurses
General dental practitioners, community dentists
Community optometrists
Community pharmacists
Professions allied to medicine, insofar as their work was community based (including physiotherapy, speech therapy, podiatry, school nurses, dieticians, occupational therapists)

Box 1. Professional groups considered within the scope of the enquiry.

the quality, relevance, and effectiveness of such R&D.⁵ The Task Force recommended a national integrated strategic framework for funding R&D within the NHS, reflecting annual NHS priorities and responsibilities, financed by a single funding scheme created through a central levy on all health authorities in England.

On the basis of titles of research projects supplied by funders, projects were classified as relating principally to secondary care, relating principally to primary care, or other (including epidemiology, health needs assessment, methodology, and prescribing not relating specifically to primary care). Details of the way in which this classification was applied by two observers (SC and MR) are available from the authors.

A postal questionnaire was sent to academic departments involved in undergraduate and postgraduate teaching of the disciplines included in Box 1, to ascertain numbers of staff engaged in primary care research (Table 1). We also hand-searched key peer-reviewed academic journals (Box 2) between 1992 and 1996 for each profession. The search strategy was pragmatic rather than systematic in order to describe the nature of primary care research being published and to describe the extent of multi-disciplinary collaboration and methodologies used.

Forty-seven semi-structured interviews were carried out with academic and professional leaders from each discipline, and a further 16 contacted by telephone (Table 2), to describe mismatches between existing and potential capacity and problems in developing research in primary care. Interviewees were identified by nomination by members of the subgroup or subgroup secretariat, or on the recommendation of interviewees or professional organisations. Individuals were not chosen as representatives of their profession but as individuals capable of offering opinions about issues pertinent to research capacity in their profession. Interviews were transcribed and content analysed to identify key themes.

Results

Funding for UK primary care research

The results show that the annual primary care R&D spend differs significantly according to source (Table 3). While approximately one-fifth of total NHS Executive regional offices of R&D and NHS programmes' annual expenditure relate to primary care, funding for primary care projects returned by the 431 NHS trusts in the Culyer declaration was less than 5% of total spend. Overall, we estimated the total annual primary care spend in England and Wales was approximately 7% of total NHS and DoH R&D spend (£31 million per annum). These data must be treated with some caution. Some data were based on estimates and need to be seen in the light of changing accounting systems in recent years and difficulties in defining primary care research. The proportion of annual NHS R&D spend allocated to primary care in Scotland was found to be 6% of total project spend (£1 million per annum).

Where it was possible to distinguish between funding for different primary care professional groups, it was clear that the

Table 1. Details of academic departments that were sent postal questionnaires and the response rate.

Academic department	Response rate
Chiropody	14/14
Dentistry	10/15
Dietetics	8/8
General practice	27/31
Nursing and midwifery	19/33
Occupational therapy	22/27
Optometry	5/6
Pharmacy	14/18
Physiotherapy	24/25
Speech and language therapy	13/15

British Journal of General Practice
British Pharmaceutical Journal
International Journal of Pharmacy Practice
Journal of Social and Administrative Pharmacy
British Dental Journal
Community Dental Health
Community Dentistry and Oral Epidemiology
Journal of Advanced Nursing
Midwifery, Ophthalmic and Physiological Optics
British Journal of Optometry and Dispensing
British Journal of Human Nutrition
Journal of British Podiatric Medicine
British Journal of Occupational Therapy

Box 2. List of journals hand-searched for primary care research.

Table 2. Numbers of interview and telephone contacts with academic departments.

Department	Telephone contact	Interviews
Dentistry	16	16
Optometry	–	7
Nursing/midwifery	–	8
Pharmacy	–	5
General practice	–	2
Speech therapy	–	1
Occupational therapy	–	3
Physiotherapy	–	3
Dietetics	–	1
Chiropody	–	1

- Emphasis on the relevance of research to daily practice
- Better mechanisms to disseminate and integrate research findings
- Raised profile of primary care as a priority for funding
- Increased research skills base of primary care
- Increased collaboration with non-clinical researchers
- Research collaboration between professionals
- Protected time to undertake research or training
- Formal career structures for researchers/academic staff
- Training in research methods for primary care practitioners
- Enhanced infrastructure, especially research leaders.

Box 3. Needs identified for developing high quality primary care research.

majority of funding was for general practice research. For example, 76% of primary care grants in the NHS Executive programmes were for general practice research. For other primary care disciplines, grants were often very small, sometimes for only a few hundred pounds.

Data provided by the MRC also related to the years 1992 to 1996. We estimated that the MRC funded £3 800 000 of primary care research per annum during this period, of which one-half related to the MRC general practice framework. This represented

Table 3. Estimated NHS and DoH R&D expenditure on primary care (£).

	Primary care spend	Total spend	Percentage primary care
NHSE national programmes ^a	3 771 000	17 783 622	21%
DoH centrally commissioned programme ^a	2 600 000	26 000 000	10%
NHSE regional offices ^a (excluding training)	11 889 000	54 050 258	22%
Culyer declaration	12 758 000	334 000 000	4%
Total estimated annual expenditure	31 018 000	431 833 880	7%

^aAnnual estimates were calculated as the average yearly spend from 1992 to 1996.

4.6% of project and programme grant (excluding unit) funding during this period. Data from the Wellcome Trust for 1995/6 suggested that 0.1% of project grant income related to primary care research. Data were not available for European funding, though we were aware of a small number of large grants held by primary care (general practice) researchers.

Literature survey

There are relatively few peer-reviewed journals for primary care listed in *Index Medicus*, and many primary care journals do not have high academic status. Journals chosen for hand-searching were those peer-reviewed journals where we believed that examples of primary care research were most likely to be found; the exercise was not intended as a systematic review of the literature (Box 2). Data were collected on 844 journal articles (330 general practice, 162 dentistry, 132 pharmacy, 104 nursing, 97 optometry, and 19 midwifery). Few research papers were found for the other professional groups. Descriptive methodologies predominated, particularly surveys, but qualitative methods characterised nursing research. While research in general practice, optometry, and midwifery showed quantitative analytic methodology, only the former demonstrated examples of a full range of methodological techniques.

The lead author of most of the research published in the selected journals was university affiliated (range = 61–78% between disciplines), demonstrating the impact of academic-based research. General practice and optometry had the highest proportion of articles (21% and 20%) where the lead author was a primary care practitioner without identified academic affiliation. Fifty-four per cent of general practice articles acknowledged a funding source compared with 40% from other disciplines, indicating a substantial number without external funding. This may indicate a high rate of internal (e.g. Higher Education Funding Council [HEFC]) funding, small amounts of funding, or, alternatively, difficulties in obtaining external funding. The most frequently acknowledged funding sources were the NHS or DoH. Twenty-five (6%) papers acknowledged a commercial funding source.

Academic base

A total of 156 (81%) academic departments responded to a questionnaire about academic staffing relating to primary care research. One hundred and twenty-three (79%) reported some activity relating to primary care, but, with the exception of departments of general practice, this was generally a very small proportion of overall activity. Assessment of the quality of this activity is hampered as primary care is not a separate category in the HEFC's research assessment exercise, and submission for, for example, optometry or dentistry departments are returned alongside secondary care research.

Although we did not survey departments outside the professional disciplines listed in Box 1, we are aware of, and included,

a number of other academic units carrying out research relating to primary care; for example, the National Primary Care R&D Centre, based at the universities of Manchester, York, and Salford, and the Social Policy Research Unit at the University of York.

Interviews with primary care professionals and researchers

The interviews highlighted some key generic themes that were identified as barriers to research across professional groups. While consistent themes focused upon the need to enhance research infrastructure and the importance of changing cultural and organisational perspectives, many interviewees also stressed the fact that many primary care practitioners lack the research skills/training and protected time to bid for or undertake research. As one dentist stated, 'there is a feeling that you have to be an academic to do research ... The system is set up to deliver primary care, not to do research.' This message was echoed by a representative of nursing: 'nurses have little time to do research; they have less time for the luxury of writing'.

Many of those interviewed, particularly outside general practice, emphasised that bids for funding from primary care are 'turned down with monotonous regularity' (occupational therapist) by funding institutions. 'Money attracts money. This is important. It is very difficult to break into the system' (nursing). As such, the importance of collaborating with researchers with proven track records was widely acknowledged.

The needs identified to deliver high quality primary care research were related to these barriers. The most frequently reported needs are listed in Box 3.

The semi-structured interviews highlighted the fact that the research capacity of different primary care disciplines is at very different stages of development, but that, especially outside academic practice, capacity is characterised by the commitment of small numbers of enthusiasts. This finding is in line with previous surveys.⁴ Although research is most developed in general practice, there are still only 0.0062 academic general practice posts per NHS general practitioner compared with 0.45 specialist academic posts per NHS consultant.⁵ In some other disciplines, especially professions allied to medicine, a primary care research base is virtually non-existent. Although a survey of research networks fell outside the remit of this group, we were aware that, in a number of parts of the country, research networks have been established to increase the involvement of primary care practitioners (again, usually general practitioners) in research. Examples include the Northern Research Network and Wessex Research Network. Although few primary care practitioners were involved in research, there is considerable enthusiasm for such involvement: of 3800 general practitioners surveyed in South Thames in 1996, 700 (18%) expressed an interest in joining a research network.

Discussion

The results of the enquiries presented here highlight three core themes. First, there is a significant mismatch between the declared policy objective of a primary care (evidence-based) led NHS and the research capacity and infrastructure required to respond to this initiative. Secondly, compared with secondary care, there is a paucity of research and research capacity in primary care. Thirdly, within primary care there exist major differences in stages of research development between disciplines, with general practice research characterised by a wider range of research methodologies, numbers of researchers, and a higher proportion of NHS R&D funding than other primary care disciplines. Research in professions allied to medicine was particularly poorly developed. These findings do not necessarily argue for the development of a substantial research capacity by each group of primary care professionals. While there are research questions in all disciplines, some disciplines are better prepared to address them than others. For some disciplines, the solutions may be developing a research capacity of their own, but collaborative links with other disciplines will be very important, especially for smaller professional groups or those with little or no research infrastructure. Importantly, each profession must be helped to nurture a research infrastructure best suited to address its own research needs.

The different stages of development of professions is further evidenced by reference to the categorisation of primary care research employed in this survey — ‘by’ primary care staff, ‘on’ primary care, or ‘through’ primary care. This categorisation is both a means of defining primary care research but also facilitates identification of substantive differences between professions and professionals in primary care. For example, more research within general practice and dentistry involves research by primary care staff, whereas research in nursing and midwifery is predominantly research on these professions but carried out by others.

However, all professional groups were clear that there were important research questions to address, and that appropriate mechanisms are needed to be found to address these; for example, by ensuring that funding systems do not, and are not perceived to, look unfavourably on bids from primary care. A number of mechanisms are proposed in the DoH report to which this study contributed.²

Most primary care practitioners lack the skills required to submit high quality research proposals, and suffer from infrequent, and often absent, collaborative ties with non-clinical disciplines such as the social sciences. Enthusiastic researchers also often feel isolated and lack local peer or collaborative links, either with their own or other primary care professions. Most primary care professions and professionals cannot demonstrate the track record in research that is a fundamental requirement for most funding bodies and that has been formalised further under the new funding arrangements. Because of the low level of activity and limited expertise within primary care research, it will not be possible to produce large amounts of high quality research in the short term; initial investment will need to be concentrated on training and the development of a research infrastructure. Addressing the barriers to primary care research will require a strategy based upon sustainable expansion in research capacity rather than short-term unsustainable initiatives. In particular, there is a need to strengthen the university base and address disincentives to academic careers. The DoH has established the National Primary Care R&D Centre based at the universities of Manchester, Salford, and York. The Centre places a high priority on collaboration between health service researchers, social scientists, and primary care practitioners, and the development of a highly trained workforce for the future. However, concentrating funding in such a centre can only play a minor part in the long-

term interests of developing a primary care research infrastructure and must be accompanied by a sustained policy drive to implement the recommendations outlined in the Mant Report.²

Not all primary care professionals wish to do research, and none of the professionals or researchers interviewed in this study argued that all primary care practitioners should be involved in research. However, many argued that all primary care practitioners should be ‘users’ of research, and that a research-oriented culture would promote the development of evidence-based practice.

There are strong arguments for the development of primary care research in a ‘primary care-led NHS’. The profile of primary care has increased in recent years, as evidenced, for example, by access to Culyer funding and increasing funding from regional offices of NHS Executive. However, responding to declared need will be dependent upon building and fostering a sustainable long-term research infrastructure capable of responding meaningfully. Dashes for growth or attempts to expand capacity from present infrastructure must be avoided.

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