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Skill Mix In Primary Care

A Study of the Interface between the General Practitioner and other members of the Primary Health Care Team

Executive Summary

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PREFACE

This is a summary of a Department of Health funded project entitled "The Interface between General Practitioners and other members of the Primary Health Care Team". The project started in September 1994; data collection commenced in January 1995 and was completed in December 1995. Coding, data preparation and analyses were undertaken in January-March 1996. An extension to the project was granted for the purposes of follow-up visits and dissemination.

The Research Team comprises Roy Carr-Hill, Paul Dixon, Sue Jenkins-Clarke and Mike Pringle. Barbara Duncan was employed as a Research Fellow from January 1995 until March 1996. In total there were five research nurses who undertook data collection at the sites on a rota basis; Elizabeth Allen, Jill Carley, Christine Dowell, Ann Richards and Bridget Smith.

ACKNOWLEDGEMENTS:

We would like to thank the members of our Advisory Group - their observations and comments throughout the project have been most helpful and constructive. The Advisory Group members were: Professor Martin Roland, Mr Nicholas Mays, Mrs Maureen Rillands, Dr. Jim Parle and Professor Jane Robinson.

In addition to thanking the above research nurses who worked long hours at each site (and, since the location of most of the sites was far from their home bases - necessitating overnight accommodation) and where they learnt the art of being unobtrusive in high profile situations, we would like to thank three students from Sheffield Hallam University, Alison Cadman, Dale Lord and Paul Fagg and also Diane Wilson, who took part in coding and data preparation. Dale Lord also supervised students from York University who undertook some of the coding. Thanks also to Vanessa Waby and Sal Wilson for their patience in arranging and re-arranging several versions of the report.

The project could not have been undertaken without the help and co-operation of all the community nurses, practice managers, secretarial and clerical staff and GPs at the sites we visited. To them we are most grateful; without exception they welcomed us into their premises, allowed us to document details of their working lives for two weeks and suffered the consequent disruption with equanimity. Lastly, our thanks go to the patients who completed questionnaires, either on surgery premises or in their own homes - the information that they so willingly provided has proved to be a most valuable insight into this enquiry.

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1. INTRODUCTION

The Medical Manpower Standing Advisory Committee made its first report "Planning the Medical Workforce" to the Secretary of State in December 1992; recommending that research should be undertaken to quantify the manpower effects of skill mix initiatives. These issues are being raised against a background of changing roles under the GP Contract, manpower shortages and boundary definitions and enhanced roles for nursing staff as well as shifts at the primary/secondary interface and by other initiatives such as the growth in day surgery and early discharge from hospital. Given the acknowledged complexity, this initial research has focused on **the interface between the general practitioner (GP) and other members of the Primary Health Care Team (PHCT).**

Detailed data are needed on the work patterns of the doctors and nurses in the PHCT, on the extent of referral between members of the team, and on the acceptability and appropriateness of delegation from the GP to other members of the PHCT. Hence the broad aim of this enquiry; to propose ways of examining the constraints upon, and the opportunities for, spreading workload more effectively and efficiently amongst members of the PHCT.

The objectives of this study were:

- to document the current pattern of activities and interactions between the GP and other members of the PHCT.

- to assess the potential for some of the GP's activities to be performed by other members of staff in terms of the mix of skills required.

- to examine the attitude of GPs towards delegation, of the practice managers and nurses to taking on other responsibilities, and of everyone's attitude towards team management.

- to document the outcomes for patients and their views of the different working arrangements of the PHCT.

- to estimate the costs of delegation in practices of varying size and configuration in order to make a preliminary assessment of cost-effectiveness.

2. METHODS

The study was carried out in ten general practices throughout the north of England and the Midlands. Large and small practices, based on the number of partners, were selected with a range of "skill mixes" - as defined by the ratios of Practice Nurses : GPs.

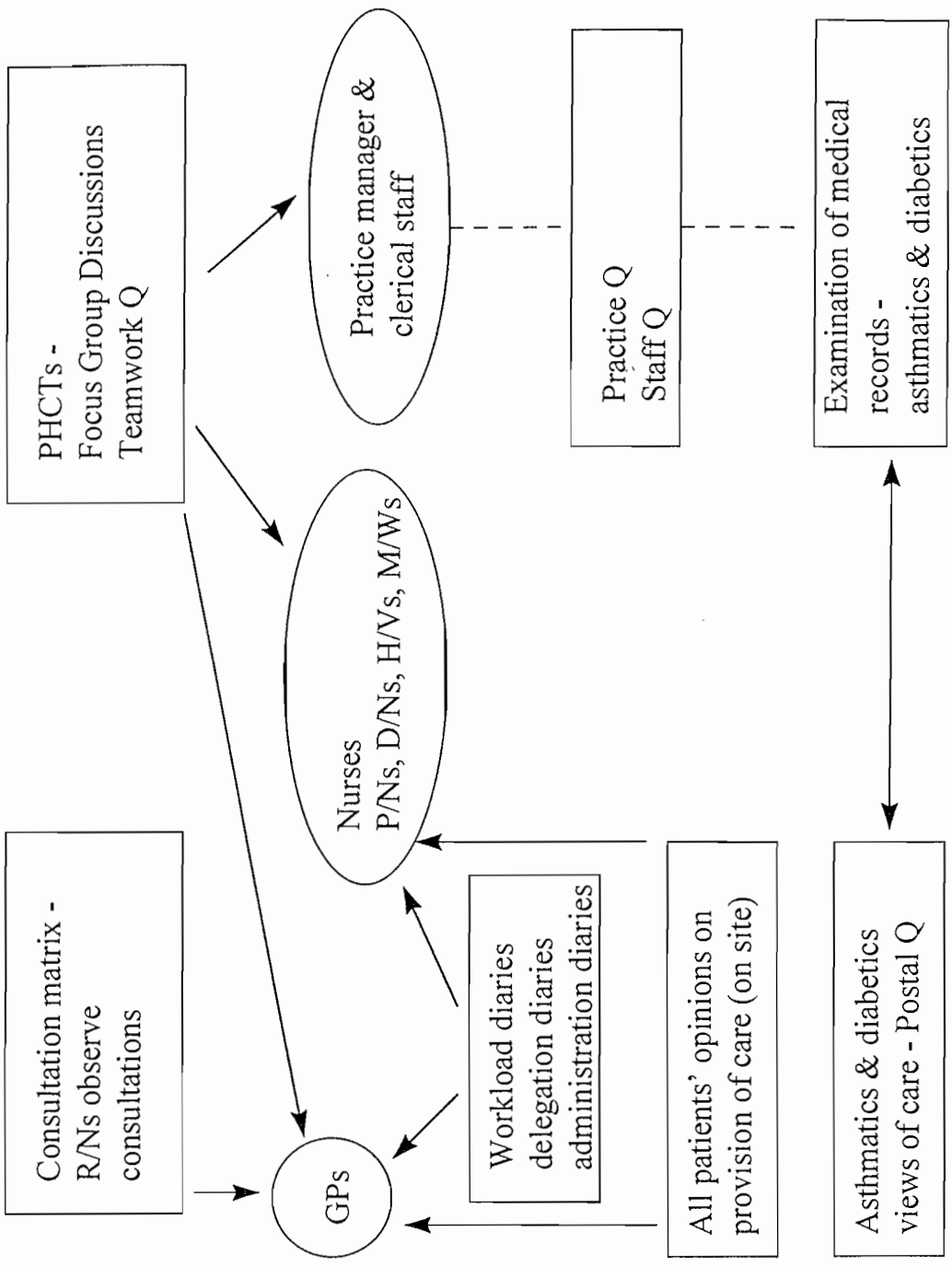
Data were collected using ten instruments:
(see Figure 1)

- workload activity was assessed using diaries, with GPs and nursing staff (practice nurses, district nurses, health visitors and midwives) recording their activities every 30 minutes throughout the day for a two-week period (workload diaries) and GPs and practice nurses recording activities considered appropriate for delegation for one week (delegation diaries).

- GP consultations were observed on a rota basis recording activities every 30 seconds and ascertaining whether there was any "delegatable" element in those consultations (the consultation matrix).

- interactions between members of the PHCT were monitored in two different ways: firstly, in addition to the consultation above, the potential for delegation was assessed through focus group discussions with all members of the PHCT and secondly, all members of the PHCT completed a questionnaire designed to assess teamworking (the teamwork questionnaire).

Figure 1 Flow of data and instruments



- outcomes were also assessed in two ways; firstly, to assess aspects of shared care, two patient groups, asthmatics and diabetics, were monitored through medical records and through postal questionnaires and secondly, patients attending the main surgery (whether GP or nurse) over the two-week period were invited to completed a questionnaire to ascertain their views on the working arrangements of the PHCT (patient satisfaction questionnaire).

Data collection took place at the first pilot site in January 1995 and at the last site in December 1995. Three full-time research nurses were assigned to each practice, the only exception being one small practice which only required two full-time personnel. Most staff responded positively to the research team, adjusting to any disruption and giving freely of their time.

Data

A considerable quantity of data have been collected on the activities of the PHCT:

- **836** consultations have been observed by our research nurses
- **51** GPs have completed workload and delegation diaries
- **77** nurses have completed workload and delegation diaries
- **c.2000** patients have completed a questionnaire on their general attitudes to the practice
- for each practice, we have collected data on the structure and management of the practice
- for each professional member of the team, we have basic demographic data and their views about team working (**n 208**)

- for all[1] patients registered as asthmatics (**n 1,100**) and diabetics (**n 280**) with the practices, information has been extracted from the records to accompany responses to a self-completed questionnaire.

Qualitative data were also obtained from focus group discussions (**n 20**).

Approach to Analysis

The analysis in the report is oriented towards (a) quantifying the effects of delegation/referral on GP workload and (b) identifying the organisational characteristics which enable or impede the development of appropriate delegation/referral between members of the PHCT. The first step is to examine the workload of the GP and the extent to which variations in workload can be associated with characteristics of the GP or the patients consulting with them, for if variations are totally *idiosyncratic*, then no change can be *planned*. For the same reason, it is important to examine the different patterns of activity for the different kinds of nurse to see whether there is any characteristic pattern for each type of nurse and whether there is any systematic relation between these patterns.

The second step is to examine the patterns of delegation and/or referral between the different members of the PHCT, against the background of the associations between the patterns of activity considered above and taking into account GPs' and nurses' views about how the team works.

Finally, we use the data collected from patients on their views about continuity of care and seeing another doctor or nurse if sooner, and their satisfaction with the practice. For those registered as asthmatics or diabetics, more detailed data on outcomes were collected - to assess whether variations in the patterns of delegation or referral were related to patient satisfaction.

1 With the exception of the largest practice where a sample was taken.

3. RESULTS

Workload activity

The results are presented here as key findings in relation to the five main objectives of the project. Thus:

Objective 1

to document the current patterns of activities and interactions between the GP and other members of the PHCT;

- completing diaries similar to the Doctors and Dentists Review Body Diaries (DDRB) seems to have been reliable.

  the similarity with DDRB results in the comparison week endorsed the 'typicality' of the sample:

  there was little difference found between diaries completed with and without guidance from the research nurses.

- average lengths of consultations varied between 5 and 11 minutes.

  GPs in a practice tended to have quite a small range probably because of common appointment intervals.

- the internal structure of the consultation varied between GPs and between practices.

  consultations were observed and recorded by research nurses using a matrix of categories identified at the first workshop held in December 1994 prior to the start of data collection.

- variations in length and patterns were not idiosyncratic.

  systematic variation was found according to the number of topics considered in the consultation, age of GP and/or length of time they had been in general practice, and that consultations involving female GPs and female patients tended to take on average one minute longer.

- the three main groups of nurses worked in different ways in the practices and may have interpreted the task of diary completion in different ways:

  for example, there were three practices where practice nurses undertook almost as much treatment as district nurses and three other practices where practice nurses did remarkably little treatment. In contrast, there were only two practices where health visitors did substantially more health education than practice nurses.

- based on their responses, about a fifth of practice nurses' work and a tenth of district nurses' work was initiated by GPs.

  the extent to which they received referrals may have affected their attitudes to the practice:

  however, no distinction was made between initial and repeat visits of patients who had been referred.

Objective 2

to assess potential for some of the GPs' activities to be performed by other members of the staff in terms of the mix of skills required;

- there was no simple relation between levels of current and potential delegation:

this may in part be because reported "current delegation" was "at the margin" in the sense that topics which are already being delegated were not reported as either current or potential delegation.

- when prompted by research nurses, GPs identified more potential delegation than when completing diaries themselves:

  however, unprompted, older GPs identified more potential for delegation and their estimates were closer to the prompted estimates.

- 39% of consultations had a delegatable element and 17% were delegatable in their entirety; however, these estimates did not take account of:

  the time taken to devise protocols for managing the delegated consultations or part-consultation;

  the danger of duplication if other members of the PHCT saw the same patient, and the difficulty of organising flexible pathways through care;

  that the triage function of GP has to be carried out by someone.

- about two-thirds of the potential for delegation was reported to be to members of the existing team and one third to an enhanced team:

  there was no specific "wish list" of delegatees; given an open choice, GPs usually nominated a nurse practitioner.

- procedures and advice-giving were more likely to be delegated than consultations involving specific conditions or symptoms;

- topic areas with most potential for delegation were infectious and parasitic diseases and ear problems, and those with least were digestive disorders:

  the categories were assigned post-hoc and hence this does not imply that there was a potential for triage.

- according to GPs' delegation diaries, they were already delegating about a tenth of their consultations:

  "current" delegation referred to those parts of the current presenting problem which were being "passed on"; if entire episodes were already being delegated, then these were not included; also however much they were currently delegating, GPs could always identify a potential for further delegation.

Objective 3

to examine the attitude of GPs towards delegation, of the practice managers and nurses to taking on other responsibilities, and of everyone's attitudes towards team management;

- in the focus group discussions, GPs identified three possible objections to delegation:

  complexity of the consultation,

  willingness of patients, and

  impact on other team members.

- nurses had similar reservations about complexity of the consultations and the attitudes of the patient.

- comparisons of responses to the teamwork questionnaire and patterns of delegation suggested that belonging to a "happy" team and the potential for enhanced delegation may be contradictory.

- smaller practices were more participative (information shared and communicated) and innovative (development and implementation of new ideas) and larger practices had more shared objectives (perception of value of team objectives, possibility of their achievement and the extent to which they are understood and shared by other members of the team) and task orientation (the ability of the team to be reflective, constructively self critical, co-operative and performance orientated).

- the concept and reality of a "typical" PHCT differed from one practice to another because GPs and community nursing staff work together in different ways - as demonstrated by the focus group discussions and responses to the teamwork questionnaire.

Objective 4

to document the outcomes for patients and their views of the different working arrangements of the PHCT;

Because of the small size of the sample, only large differences would have been detected.

However, it is important to record that:

- for both sub-samples of asthmatic and diabetic patients, variations in working arrangements and responsibilities for care had no demonstrable difference in patient outcomes.

- for all patients, there was no clear relationship between characteristics of the practices and patients' views of continuity or being seen by different professionals.

At the same time, there are important messages from the overall findings. Thus:

- a substantial minority did not see who they wanted to see on that particular visit;

- overall nearly two thirds of patients preferred continuity and this varied with age, education and gender of patient. Older patients and female patients prefer continuity and also those who had left school early and those with education beyond preferred school leaving age.

- about 45% would have preferred to have seen a doctor other than their GP if sooner or a nurse rather than any GP if sooner.

- between 65% and 70% were very satisfied with three major aspects of their visit to the GP; comparative figures for nurses were 77% to 82%.

  these aspects were length of consultation, explanation and skills.

  these values increased according to age of the patients.

- patient satisfaction with the three aspects above was positively correlated with the recorded percentage of time spent by GPs on these aspects:

  these findings are important because the results of patient satisfaction questionnaires are often treated as of little value.

Objective 5

to estimate the costs of delegation in practices of varying size and configuration in order to make a preliminary assessment of cost-effectiveness;

- difficulty of estimating cost saving because of indivisibility of consultations and the need to take account of other costs is acknowledged:

  these estimates were percentages of GP consultation time, not all GP working time;

  there would be costs of setting up and running a triage or another pre-selection process and an effective delegation system;

  there was no information about how GPs would organise the time thus "saved".

- with all these caveats, if the potential for time-saving from GPs includes part and full consultations then 23% of GPs' consultation time could be saved; however:

  estimates of time saved if whole consultations could be delegated were 11% of GPs' consultation time:

  given that the project was focused upon the GPs' views of what was delegatable, then this finding may be a relatively conservative estimate.

4. THE WAY AHEAD

This analysis and summary offers some insight into skill mix in primary care and its implications. In all of the practices, delegation and teamworking represent an acceptable mode for delivering primary medical care today. This acceptability was reinforced by the lack of any evidence in the study that the mix of personnel affected outcomes of care in patients with chronic conditions.

At the beginning of this project, a pragmatic view was taken of "skill mix" for the purposes of sampling. In the absence of other information, we hypothesed that there might be structural characteristics of the PHCT which would be associated with the pattern of delegation/referrals

within the practice and the extent to which the Primary Health Care Team would work together. Given the rapid growth in numbers of practice nurses, the presumption was that the ratio of practice nurses to GPs would be a powerful marker of the potential for activities to be devolved from the GP to other members of the PHCT. Indeed the practices were explicitly chosen to represent differences in current skill mix and therefore to avoid a bias from over-representation of rich skill mix practices (as might be expected if non-stratified recruitment were used).

It was already clear in our preliminary analyses that our initial categorisation into "rich" and "weak" skill mix practices was not sufficient to distinguish between the practices: indeed, none of the "structural" characteristics seemed to be associated with variations in the patterns of activity or of delegation. However, the most important message from these analyses is that, whilst there are large variations between practices which are not obviously associated with any structural characteristics of the practices, these variations are not idiosyncratic. GPs behave differently because they are dealing with different kinds of patients and partly because of the length of time they have worked with the practice team; nurses act differently because they are working in different contexts. The influence of career profiles and case-mix on ways of working are perhaps to be expected: but the importance of features of the practice organisation suggests that there are "working styles" which develop in practice teams which are important to identify and monitor.

A considerable amount and range of data about the patterns of activities and the process of delegation/referral between members of the PHCT has been collected in this project. There is no straightforward association between structural characteristics of the practices and either the pattern of activities or the process of delegation referral between members of the PHCT. In fact in this sample of practices, there was substantial variation in the extent to which clinical and administrative tasks were distributed among team members and the extent to which current work was thought to be amenable to delegation. At a crude level of analysis, of course, this does suggest that there may be considerable current potential for those not currently delegating many activities to re-distribute workload from doctors.

The demonstration that GP signatures to individual patient consultations are not idiosyncratic and that they can be accounted for is crucial. On one level, the fact that the lengths of consultations vary systematically is important both for workload planning and because this affects patient satisfaction. On another level, the variation in amounts and proportions of total consultation time spent on different aspects of the consultation may have serious implications: for example, GPs spending less time on diagnosis may 'discover' less morbidity in the sense that there is less opportunity for the patient to report symptoms. In turn, this may lead to inappropriate patterns of care and treatment. Although outside the remit of this study, it is clearly important to establish the extent to which these variations might have any negative impacts of this kind.

Independently of any potential negative outcomes, it may be seen as important to reduce - or at least to understand the reasons for - these pronounced signatures or variations. The pattern of association we have found between characteristics of the GP, of the patients and the "style" of consultation would then constitute a useful starting point for discussing these issues - and for the design of a component of a training programme.

Nevertheless, the data collected in this series of case studies suggest that there is some scope for safely and acceptably transferring some work away from (expensive) GPs towards (less expensive) nurses and other clinical workers. Indeed it appears that effective team working, as well as co-operation and collaboration with other team members does help to address the quality of patient care and patient satisfaction.

At the heart of the recent White Paper on Primary Care (1996) - *Choice and Opportunity* - lies the concept of flexibility. Central to this concept is the organisation of service provision and the mix of skills and resources needed to provide high quality care in the community. Indeed, Pringle (1996) suggests that this White Paper presents the opportunity ..." to sanction and evaluate experiments in primary care". The study described here is therefore timely; we have demonstrated, albeit on a small scale, that there are substantial differences in the workload patterns of both GPs and nurses, and in the extent of delegation, without any demonstrable impact upon care outcomes, although these findings must be considered as provisional given the

size of the study. What has been established without doubt is that members of the teams in these 'ordinary' 'typical' practices were looking for ways to use the skills of their members to maximise advantages. Whilst it would be too optimistic to herald a cultural revolution in primary care delivery so that resources are optimally directed to meeting community needs, it is clear that those working in primary care are beginning to ask these questions. The results of this study provide one possible approach to searching for the answers..

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