The role of the hospital consultant in general practitioner prescribing

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Summary
A questionnaire was designed and posted to 600 general medical practitioners in the West Midlands. The results indicated that the prescribers were reassured by the hospital consultant although independence was maintained in prescribing decisions. The hospital medical team was recognized for its expertise rather than the consultant alone. A table was constructed from the results to show the therapy areas in which doctors prefer to refer their patients. Consultant's influence in prescribing is most likely where communication between GP and consultant is optimal.

The generalized influence of the consultant as implied by the Greenfield report remains unproven. Any influence is much more specific and may depend upon therapy area, the consultant specialty, and the standing of the hospital medical team. The innovativeness of the prescriber which was also considered may also have an influence as to how the consultant's recommendations will be accepted.

Introduction
The general aim of the work was to follow up previous studies on the influence of the hospital consultant on the prescribing of new drugs. The study was also designed to consider the 'risk' in prescribing new products in different therapeutic areas. In 1980 we published a paper which looked at the usage of drug information in general practice. One of the sources most used as a means for evaluating a new drug was found to be the consultant[1].

Since the publication of that paper we carried out a pilot study which suggested that the influence of the hospital consultant on the prescribing habits of general practitioners was substantially *less* than had been anticipated[2]. When the Greenfield report made the statement that the hospital consultant has a 'great influence on the prescribing of GPs'[3] we decided to begin a research programme which would examine the obvious discrepancies and the factors involved more deeply.

Methods
A questionnaire was designed to assess the GP's view of consultants' influence on their prescribing. Respondents were asked to consider the Greenfield Report assertion that the consultant had a great influence. They were also asked to agree or disagree with statements concerning their role and the role of the consultant in treating patients.

An ancilliary question asked the responder whether or not referral was limited to one consultant per speciality. Space was provided in several places for brief reasons or details to be included.

The opportunity was taken to update and reconsider a 'risk' table produced by Williamson[4]. In this he had suggested that some new products could be prescribed after receiving only industrial information while other new products needed much more information. From this a league table of risk factors was produced.

In the present study a list of nine general therapy areas such as psychiatry, subdivided into a number of specific divisions such as psychoses, was presented to the GP. Each responder was asked to say if generally he *always*, *often*, *rarely* or *never* referred patients to a consultant in that specific therapy area.

A major part of the questionnaire consisted of a list of 21 new products. Each GP was asked to state if he had *never heard of*, *heard of but not prescribed*, *prescribed on his own initiative* or *prescribed only after the introduction of the product by a consultant.*

Questionnaires were sent to 600 general medical practitioners in the West Midlands Region in July 1986. There was a 40% (240) response on a single mailing. Responders and non responders were tested using easily accessible data such as practice size, age, sex and qualifications and no significant differences were noted. Questions were grouped into those which related to the GPs' impression of the influence of the consultant generally and those which focused on the prescribing of specific drug products particularly following patient referral.

Results
Not all questions were answered by all responders, which means that the percentages are sometimes based on smaller numbers than the original 240 questionnaires. For this reason the actual number of responders in each category has been added in parentheses.

Twenty-three percent (54) of the sample felt that the consultant had no influence on their prescribing. Thirty-two percent (75) said the influence was great and agreed with the Greenfield report while the remaining 44% (103) said there was a great influence sometimes. Specific questions asked prescribers to state their measure of agreement or disagreement with six given statements:

(1) *The consultant has more time to study his specific area of therapy therefore he is the best person to advise on new drugs used in that specialty*
Overall 81% (189) agreed or strongly agreed with the statement.

(2) *As I am primarily responsible for my patients I make the decisions as to whether a new medicinal product should be given if recommended by a consultant or not*
Sixty-one percent (142) agreed or strongly agreed with the statement.

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(3) *I would never ignore the recommendations of a hospital consultant*
Overall, 49% (114) of respondents agreed or strongly agreed. Forty-one percent disagreed or strongly disagreed showing a degree of independence.
(4) *The consultant's role is to aid diagnosis in difficult cases but it is my role to prescribe an appropriate treatment*
Overall 49% (113) agreed or strongly agreed.
(5) *Only when the prescription is written by a consultant rather than by a member of his/her firm do I accept and prescribe the product*
Only 16% (36) agreed or strongly agreed with 75% (169) disagreeing or strongly disagreeing. The remainder were unsure.
(6) *When a patient comes to me with a recommendation for a new product from a consultant, this reassures me in the use of that product*
Fifty-four percent (124) agreed or strongly agreed.

The next section of the questionnaire looked specifically at therapy areas. The doctors were asked to say whether they referred their patients *always*, *often*, *rarely* or *never* in each of a selection of therapy areas.

It can be assumed that those areas which receive the most *always* and *often* responses will be those for which the GP feels most difficulty with, in terms of expertise or available facilities. A table of the therapy areas has been constructed along the lines of that of Williamson (Table 1). The construction has been made possible by scoring each *always* with 6 points, each *often* 4 points, each *rarely* as 2 points and each *never* as 0 points. This helps to weight the differences acceptably. Table 1 has been divided at naturally occurring break points where large differences within the scores were noted.

Table 1. Referral rate and therapy areas

Score	*Therapy areas*
High referral	
1038	Psychoses
1016	Infertility
868	Arrythmias
788	Child psychiatry
744	General endocrinology
702	Acute GI tract
696	Chronic GI tract
Medium referral	
610	Arthritis
606	General cardiology
576	Angina
572	Respiratory illness
562	General GI tract
538	General rheumatology
532	General chest
524	Genito/urinary infections
522	General dermatology
516	General psychiatry
512	Skin infections
504	Hypertension
Low referral	
436	Anxiety states
408	Skin infections
390	Non seasonal allergy
Very low referral	
276	Family planning
274	Seasonal allergy

In 1982 we published a paper which showed that GPs, like any other large group of individuals, can be divided into types[5]. We showed that it was possible to divide GPs into three groups using general characteristics only. The three groups comprised those who were more likely to prescribe a new drug early in its market life, those who follow these 'innovators' and those who prescribed the products significantly later than their colleagues, if at all. We called these three groups early, middle and late prescribers.

In order to confirm this we again divided doctors into three groups, this time based on characteristics obtained from DocPAL Systems Limited. For six years DocPAL has sent questionnaires to all GPs in the UK. Data has been gathered and updated on over 70% of GPs. The company exists to aid the pharmaceutical industry target their advertising and also to rationalize the mailings sent to GPs. Some of the characteristics obtained by DocPAL, such as number of partners, age, medical interests, etc. were the same as those previously identified by us as being important to characterize the doctors prescribing. Using the DocPAL divisions we again tested the hypothesis that the groups characterized by us as 'early' and 'late' would prescribe new drugs differently. This was done by including 20 new drugs on the questionnaire and asking the prescribers if they had *never heard of*, *heard of but not prescribed*, *prescribed*, or *had the product introduced to them by a consultant*. We explained briefly what we meant by these statements at the beginning of the question.

The results for each of the drugs were tested using the χ^2 test followed by the proportions test. Significant differences were noted with five products when treated individually. These were, Lodine (Etodolac), Erymax (Erythromycin), Gamanil (Lofepramine), Colven (Mebeverine Hydrochloride), and Innovace (Enalapril Maleate). The other products did not show significant differences although the tendency appeared to bear out our hypothesis. The next stage of the study was to test the total responses to all the products. The results from this are shown as Table 2.

The χ^2 analysis gives a result of 25.6 with 6 d.f. which is significant at the $P<0.01$ level. The differences were mainly made up from the early prescriber group and the late prescriber group *prescribed* category, with the *never heard of* category also showing a difference. The *prescribed* category was analysed separately using the proportions test. The result was 9.6 which is statistically significant. This shows that significantly more of the responders in the 'early prescriber' group prescribed the new products as compared to those responders in the 'late prescriber' group.

Table 2. Total responses to all products

	Never heard of	*Heard of but not prescribed*	*Prescribed*	*Introduced by consultant*	*Total*
Early prescribers	718	346	263	94	1421
Middle 1/3 prescribers	850	360	235	112	1557
Late prescribers	1073	399	245	115	1832
Total	2641	1105	743	321	4810

The hypothesis that doctors can be divided into early and late prescribers is again confirmed. Further research is being undertaken to clarify implications of these findings.

Discussion

The doctors are reassured by the consultant generally agreeing that he has more time and is the best person to advise on new products in his specialty (statement (1)). When the response to statements (1) and (6) are compared, the lower percentage agreement in (6) could indicate that this reassurance in the consultant is not necessarily maintained into a general reassurance for the product recommended.

The majority of prescribers maintain their independence from the consultant (statement (2)) by making the final decision as to whether or not to prescribe the product. Although just under 50% (114) said they would never ignore the recommendation of a hospital consultant (statement (3)) 61% (142) affirmed their independence (statement (2)) and 41% (94) disagreed that they would never ignore a consultant's recommendation (statement (3)). Under 50% (113) thought that it was the GP's role to prescribe an appropriate treatment based on the consultant's diagnosis (statement (4)).

As only 16% (36) agreed that they would insist on the prescription being written by the consultant personally the conclusion must be that the hospital recommended treatment is the most important aspect of this form of influence on prescribing.

From many of the additional details added by responders which were analysed manually, the majority of responding GPs were not limited to one consultant per specialty. Referral is frequently influenced by the length of waiting lists or by the personality likely to have most empathy for a particular patient, which suggests that a balance is struck to meet the patient needs where possible.

The information provided by the specific questions (1) to (6) which prescribers were asked tends to confirm that the hospital medical team is recognized for its expertise rather than the consultant alone. It may be that in more populous areas of the country, with greater movement of professional personnel than in the past, fewer GPs know consultants personally. Whether true or not the respondents have firmly shown that following a referral they will not automatically accept a consultant's recommendation and reserve their own professional responsibility for their patient.

The referral scores shown in Table 1 imply that the potential for the consultants' influence is greater for those areas of therapy with high referral rates and conversely for those areas of therapy with low referral rates. In practice it could be that the therapy areas of medium referral present a greater opportunity for GPs to adopt the use of a new product, initially recommended by a consultant for one patient, for other patients. The process might be described as 'learning by demonstration'. It is to be noted that the scoring method used has still recorded some level of referral in the 'very low referral' category - family planning and seasonal allergy. However, the possibility for consultant influence in the low referral therapy areas is *per se* self limiting. The influence of the consultant between these graded therapy areas requires further investigation as the results are still inconclusive.

The five new drugs, out of the 20 listed on the questionnaire which resulted in statistically significant different levels of prescribing between 'early' and 'late' prescribers are in the medium or high referral therapy areas shown in Table 1. This appears to support the obvious concept that the consultants' influence on prescribing is most likely where communication between GP and consultant is optimal. The generalized influence of the consultant as implied by the Greenfield report remains unproven. Any influence is much more specific and may depend on the therapy area, the consultant specialty, the standing of the hospital medical team and the GP's endeavour to meet the needs of the individual patient.

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