

## Prescribing new drugs: qualitative study of influences on consultants and general practitioners

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### Abstract

**Objective** To explore consultants' and general practitioners' perceptions of the factors that influence their decisions to introduce new drugs into their clinical practice.

**Design** Qualitative study using semistructured interviews. Monitoring of hospital and general practice prescribing data for eight new drugs.

**Setting** Teaching hospital and nearby general hospital plus general practices in Birmingham.

**Participants** 38 consultants and 56 general practitioners who regularly referred to the teaching hospital.

**Main outcome measures** Reasons for prescribing a new drug; sources of information used for new drugs; extent of contact between consultants and general practitioners; and amount of study drugs used in hospitals and by general practitioners.

**Results** Consultants usually prescribed new drugs only in their specialty, used few new drugs, and used scientific evidence to inform their decisions. General practitioners generally prescribed more new drugs and for a wider range of conditions, but their approach varied considerably both between general practitioners and between drugs for the same general practitioner. Drug company representatives were an important source of information for general practitioners. Prescribing data were consistent with statements made by respondents.

**Conclusions** The factors influencing the introduction of new drugs, particularly in primary care, are more multiple and complex than suggested by early theories of drug innovation. Early experience of using a new drug seems to strongly influence future use.

### Introduction

The process of adopting a drug and differences between specialists and general practitioners seem to be influenced by the organisation and culture of healthcare provision in individual countries.<sup>1-3</sup> In the United Kingdom, the type of drug and the perceived risk influence adoption by general practitioners.<sup>4</sup> Those who prescribe "early" have larger list sizes than later prescribers and rely more on commercial sources of information.<sup>5</sup> Information from the pharmaceutical industry contributes greatly to awareness of a new drug, whereas professional sources such as consultants

are used more to evaluate new drugs.<sup>6,7</sup> Taylor and Bond reported on the important role of hospital consultants in therapeutic innovation by general practitioners.<sup>8</sup>

The above studies were quantitative, and since their publication major changes have occurred in the NHS and pressure on drug budgets has increased. This paper describes part of a study designed to explore what influences the introduction of new drugs in a defined medical community.

### Participants and methods

The study was conducted in a large teaching hospital in Birmingham and a district general hospital in an adjoining district. We approached all 99 general practitioners who regularly referred to the teaching hospital; some also used the district hospital. We interviewed 38 consultants and 56 general practitioners who agreed to participate about their use of new drugs and monitored their prescribing of specific drugs to relate actual prescribing to interview data.

### Interviews

We interviewed consultants at the hospitals between August 1995 and April 1997 (except for one in December 1997) and general practitioners at their surgery between October 1995 and January 1997. The themes covered in the interviews included influences on decisions to use a new drug and attitudes to therapeutic innovation (see *BMJ's* website for more details). Interviews usually lasted 30-45 minutes and were audiotaped and transcribed.

The transcripts were read independently by MIJ and SMG and analysed by selecting and reorganising responses according to themes.<sup>9</sup> We then compared themes from the consultant and general practitioner interviews.<sup>10</sup>

### Drugs

Participants were asked to discuss any new drugs that they had prescribed in the past two years. They were also asked to discuss any drugs they had prescribed from a list of eight new drugs that were introduced just before or during the study.

### Prescribing data

We collected prescribing data for the study drugs from January 1995 to September 1997 from both hospital pharmacies; the data could not be attributed to



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## Main themes from interviews with consultants

### Use of new drugs

*Usually prescribe new drugs only in their specialty*

"We should all be very, very conservative about using drugs in fields when one is not an expert."

### Information about new drugs

*First hear from variety of sources*

"Drug adverts, glossy adverts in the *BMJ* or the *Lancet* or something like that..."

"I think that yes, you first hear through the reps."

"I can't remember when I first heard the word

losartan but it must be about 3 years ago."

*Drug representatives are important source of information*

"Normally I would get the most information about the drug from the company representative... it's quite useful to pick their brains and to identify any appropriate publications that you might want them to get hold of for you."

*Described a gradual build up of information*

"An increasing number of papers and presentations showing that it was useful in a number of patients and an improvement on the existing treatment."

*Influenced primarily by scientific literature and meetings in own specialty*

"There was one particular paper in the *Lancet*... that was certainly seminal. When I read a paper in the *Lancet* about the drug, that it's not just quackery, respected people here are actually saying this drug works, so therefore it's worth having a go."

*Take advice from colleagues outside their specialty*

"If it's a drug that is outside my field then I really wouldn't prescribe it until I had talked to the people working in the field..."

*Have a good relationship with drug representatives*

"They are useful to us in sponsoring medical education whether it's buying books for the department, allowing us to have lunchtime meetings and show films to juniors and occasionally giving me sponsorship to go to things... which the NHS won't pay for."

### Attitudes to innovation

*Cost relative to existing treatments was a consideration but was not a major issue*

"But I think most doctors in hospital, or indeed general practice, I have to say don't really take that much notice of the cost because you have got to have something that helps your patient."

*Give GPs minimum information when requesting them to prescribe a new drug for a patient*

"I expect a GP to know, if he does not know about it I would expect him to find out more about it really."

individual consultants. The Prescription Pricing Authority provided prescribing analysis and cost (PACT) data for each general practitioner for the same period. A detailed analysis of one of the study drugs is reported elsewhere.<sup>11</sup>

## Results

Issues arising from the interviews could be organised into three main themes: use of new drugs, attitudes to innovation, and source of information. There were noticeable differences between consultants and general practitioners for all three themes. The boxes give examples of the main findings.

### Use of new drugs

Most consultants, except for geriatricians, had used new drugs only within their own specialty. Consultants had prescribed few new drugs, and many had to think back over the past 2-3 years for a drug they had prescribed. For some doctors "new drugs" were up to 6 years old as they had not introduced any further drugs since then, or were a new indication for an established drug.

The consultants' perception of using a new drug varied. Some consultants did not consider they had used a drug when they had prescribed it only a few times. Two consultants had been involved in clinical trials on a study drug.

Some general practitioners could not think of any new drugs they had prescribed in the past two years but were able to recall having prescribed one or more of the study drugs when shown the list. Some general practitioners did not consider they had prescribed a drug if it had been initiated by a consultant.

The general practitioners had prescribed for a much wider range of conditions than consultants and, in addition to the study drugs, had recently prescribed famciclovir, valaciclovir, acarbose, terbinafine, finasteride, tramadol, sumatriptan, nizatidine, and mometasone, as well as new antibiotics, angiotensin converting enzyme inhibitors, hormone replacement therapy, and statins. By the end of the study, the prescribing data showed that most general practitioners (86%) had prescribed between five and seven of the study drugs.

### Information about new drugs

Consultants heard about new drugs in various ways and were often aware of drugs before their launch. Occasionally consultants learnt about new drugs from colleagues involved in clinical trials, and this could be particularly influential.

The general practitioners usually had no knowledge of any of the study drugs before their launch. They generally heard of most new drugs through drug marketing, often advertisements, mail shots, or visits by the representatives, and many recalled seeing advertisements, although they could not always remember where.<sup>12</sup> General practitioners were often vague about which journals they read and how often, and qualified this with statements such as "look at [not read]," "sometimes," "when I have time," "I read the bits I'm interested in," or "over coffee."

Most consultants said that they saw the representatives from companies who produced drugs within their specialty and had a good relationship with them. Several consultants had used drug company sponsorship to fund their activities. Only a few general practitioners said that they did not see representatives; in some practices the representatives saw general practitioners as a group rather than individually. The general practitioners generally described the representatives as helpful and keeping them up to date.

For both consultants and general practitioners, drug company representatives were an important source of information. Specialists often asked the representatives to provide them with information from the scientific literature, but for general practitioners, drug company material was often the only source of information used before prescribing. The most popular source of independent information was the

### Main themes from interviews with general practitioners

#### Use of new drugs

*Prescribe a wide range of new drugs*

"Finasteride is certainly one I have started using in the relatively recent past. There are probably others, yes tramadol ... Losartan and nefazodone ... I have just thought of one patient I have put on venlafaxine."

*Continued use of new drug depends on early experience in few patients*

"I initiated it [nefazodone] in about three patients and none of those three patients liked it so I stopped using it."

"[The locum put one patient on citalopram] ... the patient had been feeling so well, [which] merited its use more extensively ..."

#### Information about new drugs

*Usually first hear about new drugs from advertisements*

"Most new drugs, its adverts followed up by reps coming to your door."

*Main sources of information about new drugs are commercial*

"I had the literature on that, the rep gave me the literature, so after reading that I tried it"

"Drug reps are an important source of information to me. I think you tend to remember things better when someone comes and talks to you about them rather than just reading about it."

*Most see drug representatives regularly*

"What we decided was that we would see one a week, they provide us with some lunch ... and the staff got a bit of a bonus ... occasionally I'll see the odd one that I quite like."

*Drug and Therapeutics Bulletin is most used source of independent information*

"I always read that."

*Decision to initiate a new drug often results from a gradual build up of knowledge*

"I think that is probably where it [lansoprazole] first came into my prescribing repertoire [teaching hospital], but it is quite widely publicised in the journals and I have had the rep in once or twice about it, and we get a visit about once a year from the pharmaceutical adviser ... and he sort of makes the point that it is cheaper than omeprazole and that perhaps we ought to consider it."

*Contact with consultants is limited and mainly through letters*

"Just communication by post, the letters that you get from them. Yes, you do get to know one or two of them more than others, so that you keep referring to them."

#### Attitude to innovation

*Willingness to use new drug varies with perceived risk and special interests*

"I felt more comfortable with [lansoprazole] than with the anginal-hypertensive group. I didn't feel I was going to kill anybody by getting the dose wrong."

*Often conservative and tend to prescribe drugs with which they are familiar*

"Also, I've gone back to Losec now ... it's just that once your pen is used to writing it then you tend to write it."

*Follow consultant's example on using new drugs*

"[consultant] quite likes it [Flixotide] and he has transferred patients to it with some good results, so I have tended to start using it."

*Drug and Therapeutics Bulletin*, which was highly regarded by most general practitioners, even though

some felt it was sometimes too negative about the advantages of new drugs. Continuing education meetings were not often a source of information about new drugs for general practitioners.

#### Attitudes to innovation

In general, a new class of drug was looked on positively because it was a possible option for patients in whom existing treatments were unsatisfactory.

Willingness to prescribe a new drug varied with the perceived risk of the drug for both specialists and general practitioners, although to a much greater extent for general practitioners. It also depended on the availability of effective alternatives. In a wider context, consultants said they were more willing to try a new drug if currently available treatments were unsatisfactory because they did not work or were unacceptable to patients. General practitioners sometimes used a tentative "try it and see if it works" approach to a new drug. They also soon stopped using a drug that was not effective in the first few patients or had unacceptable side effects. Seeing consultants use a drug was important for many general practitioners because this gave the drug acceptability. Specialists in the care of elderly people described themselves as somewhere between other specialists and general practitioners in their approach.

The main factors that influenced innovation were perceived effectiveness, side effect profile, interactions with other drugs, and dose. The ability of once daily regimens to improve compliance was important, especially for elderly people and young children. Although cost was mentioned by many doctors, it was generally secondary to other factors. Increasing pressure on drug budgets was making general practitioners more reluctant to prescribe new drugs.

### Discussion

Our study has increased the understanding of what doctors mean when they say they have or have not used new drugs. The general candour with which both consultants and general practitioners admitted to the influence of the pharmaceutical industry on their use of new drugs suggests that distortions due to favourable self presentation are limited.<sup>13</sup> In addition, the prescribing data broadly confirmed the statements made by respondents about their use of the study drugs.

#### Factors affecting decisions

Most decisions to use new drugs were based on a combination of factors, and these factors varied between consultants and general practitioners. Consultants generally introduced fewer drugs than general practitioners and usually only within their specialty. Decisions were based mainly on evidence from the literature and scientific meetings

General practitioners' decisions were more varied and idiosyncratic, and they often relied on drug company information. Their references to journal articles were often vague and did not suggest a critical appraisal process. This finding is consistent with other studies<sup>14-17</sup> and suggestions that evidence based medicine may not be widely accepted by general practitioners.<sup>16, 18</sup> General practitioners were influenced by

### What is already known on this topic

UK studies show that use of new drugs by general practitioners is influenced by consultants, the nature of the drug, and perceived risk

### What this study adds

Consultants generally introduced fewer drugs than general practitioners, usually within their specialty

Decisions were said to be based mainly on the evidence from the scientific literature and meetings

General practitioners prescribed more new drugs and the basis of decisions was more varied

Doctors' interpretations of using a new drug were not consistent

hospital prescribing and sometimes followed the consultants' lead in their use of new drugs.<sup>11</sup>

The differences in approach between the two professional groups support previous work on why general practitioners and consultants change their clinical behaviour.<sup>14 19 20</sup> They show that the way in which evidence is interpreted and used differs despite the current emphasis on evidence based medicine.

#### Improving prescribing behaviour

We found that progression from first use to regular use is an important step in the drug innovation process. Early experience of using a new drug seems to strongly influence future use. This highlights the need for a systematic evaluation of clinicians' early experience of any new drug. Prescribing behaviour might be improved by a better understanding of pharmaceutical company activity.<sup>21</sup>

Primary care groups have been introduced since our data were collected in 1995-7. These groups have changed the way prescribing information is given to general practitioners, which is now coordinated by the general practitioner prescribing lead in conjunction with a pharmaceutical adviser.<sup>22</sup> The introduction of new drugs into hospitals is usually managed by drug and therapeutics committees.<sup>23</sup> Evidence given to these committees and information from specialists could be made available to primary care groups to support general practitioners. The guidance issued by the National Institute for Clinical Excellence could also contribute to decisions on new drugs.<sup>24</sup>

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### One hundred years ago

#### The Siege of Mafeking from a medical point of view

All through the siege every lady in Mafeking engaged in nursing the sick worked under conditions such as I hope no woman will ever have to live or work under again. Ill-fed (but with the best we could give them), hard worked, in constant danger of shell and bullet, their true British pluck came out. No order given was disobeyed month after month in the terrible heat, and when we were constantly being disappointed by rumours of relief close at hand no murmur was ever heard. Every day women unaccustomed to such work or to the sights incident on war

braced themselves together, and held bleeding and mangled limbs whilst myself or my colleagues operated. I am afraid the public has heard very little of those ladies who did the really hard and dangerous work in attending the sick and wounded during the siege. Like all true nurses they are satisfied with the thanks of their grateful patients, and prefer not to see themselves figuring as heroines in the daily prints. W. A. Hayes, principal medical officer during the siege.

(*BMJ* 1901;i:28)