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

A new drug must be proved effective and safe before it can be licensed, although serious adverse effects sometimes are not detected until the drug is in clinical use.[1] When deciding to use a new drug, a doctor has to strike a balance between delaying its use (and depriving a patient of the possible benefits) and potentially exposing the patient to side effects. New drugs are generally more expensive than established drugs, but comparative effectiveness or cost effectiveness is not evaluated in licensing decisions in the United Kingdom. Doctors also have to make a judgment about new drugs in the wider context of a health service with a limited budget.

Early studies of what influences clinicians' decisions about new drugs gave inconsistent results. 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.[2–4] In the United Kingdom, the type of drug and the perceived risk influence adoption by general practitioners.[5] Those who prescribe "early" have larger list sizes than later prescribers and rely more on commercial sources of information.[6] 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.[7 8] Taylor and Bond reported on the important role of hospital consultants in therapeutic innovation by general practitioners.[9]

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. The selected general practitioners regularly referred to the teaching hospital and some also used the district hospital. We interviewed consultants and general practitioners about their use of new drugs and monitored their prescribing of specific drugs to relate actual prescribing to interview data.

Consultants

We interviewed 38 consultants. We invited 23 consultants in the teaching hospital, mainly those in medical specialities as they were more likely to prescribe regularly, and 20 (including one senior registrar on behalf of a consultant) agreed to be interviewed. All 13 consultants in medical specialties in the general hospital and five psychiatrists from the corresponding mental health trusts agreed to be interviewed.

General practitioners

General practitioners who regularly referred patients to the teaching hospital (those who had five or more

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Interview schedule

Where did you first hear about the new drug (or drug that you have not prescribed before)?
What prompted you to begin using it?
Was your decision to start using this drug influenced by anything or anyone in particular (colleague, literature, advertising, representative, meeting, etc)?
What other sources of information did you use before starting to prescribe it?
Do you see drug representatives?
Which of the general practice journals on this list do you read or look at?
What do you see as the particular therapeutic value of the drug?
Do you know the approximate cost of the drug?
Have you been involved in any premarketing or postmarketing studies on the drug or in developing protocols or guidelines for use of the drug?
What do you see as the probable future use of the drug (hospital *v* community use, general practitioners' role)?
How important an advance do you think the drug represents?
In general, how important do you think the development of new drugs is to the overall advance of medicine?
In general, how ready are you to begin using new drugs?
In general, what do you think are the main factors that help you decide whether to start prescribing a new drug?
What is the extent of your contact with local general practitioners/consultants?

patients discharged in May 1995) were identified from the hospital discharge notes. We approached all 99 general practitioners identified, and 56 (57%) agreed to participate. Forty one general practitioners were located in 31 practices in the Birmingham Health Authority area and 15 were in nine practices in the adjoining health district.

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. Semistructured interview schedules were developed and piloted before the study started, and we used amended versions for the main study. The themes covered in the interviews included influences on decisions to use a new drug and attitudes to therapeutic innovation (box) . MIJ interviewed all participants, although CPB also took part in the first few interviews. Interviews usually lasted 30-45 minutes and were audiotaped and transcribed. One consultant and four general practitioners refused consent for the interview to be recorded, and recording failed in a further two interviews. Notes were made during and immediately after these interviews.

The transcripts were read independently by MIJ and SMG and analysed by selecting and reorganising responses according to themes.[10] We did not use two of the interviews with general practitioners in further analysis as no useful information about their decisions to use new drugs was obtained. We then compared themes from the consultant and general practitioner interviews.[11] For each individual case, we compared the decisions of each clinician to use a new drug. We also compared the decision making process and other themes emerging from the interviews across the two professional groups.

Drugs

Participants were asked to discuss any new drugs that they had prescribed in the past two years. Early interviews suggested that "new" drugs should include drugs that the doctor had not prescribed before. They were also asked to discuss any drugs they had prescribed from a list of eight new drugs (table 1) 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 individual consultants. The Prescription Pricing Authority provided prescribing analysis and cost (PACT) data for each general practitioner for the same period. Complete prescribing data were available for 50 general practitioners; two refused consent, two changed practice, and two retired during the study. We determined the amount of prescribing of each study drug by each general practitioner over the course of the study. For the purposes of triangulation, we compared prescribing data with what each general practitioner had said in the interview and between general practitioners. We also compared overall general practice and hospital data. A detailed analysis of one of the study drugs is reported elsewhere.[12]

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.

Table 1 Drugs selected for study

Drug	Launch date		BNF group*	Main indication*
Lansoprazole (Zoton)	May 1994	1.3.5	Proton pump inhibitors	Gastric ulcer, reflux oesophagitis
Nicorandil (Ikorel)	Oct 1994	2.6.3	Potassium channel activators	Angina
Losartan (Cozaar)	Feb 1995	2.5.5.2	ACE receptor inhibitors	Hypertension
Venlafaxine (Efexor)	Feb 1995	4.3.3	SSRI and related antidepressants	Depression
Nefazodone (Dutonin)	May 1995	4.3.3	SSRI and related antidepressants	Depression
Citalopram (Cipramil)	June 1995	4.3.3	SSRI and related antidepressants	Depression
Alendronate (Fosamax)	Sep 1995	6.6.2	Bisphosphonates	Osteoporosis
Formoterol (Foradil)	Jan 1996	3.1.1.1	Selective β_2 adrenoceptor stimulants	Asthma

**British National Formulary* No 30, March 1996.
ACE=angiotensin converting enzyme, SSRI= serotonin selective reuptake inhibitors.

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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."

Prescribe few new drugs

"I can think of two of them. One is losartan … and nicorandil."

Information about new drugs

First hear from variety of sources

"Drug adverts, glossy adverts in the *BMJ* or the *Lancet* or something like that… In fact I think they mail-shotted everybody in the world to go to various meetings."

"The [Efexor] rep came … and had an appointment with me. I think that yes, you first hear through the reps"

"At an international meeting about 5 years ago. We knew that the angiotensin receptor was being investigated … 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, because you get the impression that something sounds wonderful until you talk to the specialty and they will say 'well, yes it is a good development, but…'"

Have a good relationship with drug representatives

"Representatives who I have dealings with come and see me on a regular basis provided they have got something new to talk about. So this was an old friend coming with a new product."

"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."

Contact with GPs was limited

"There are 3 or 4 I know quite well, there are a number of others who I sort of bump into maybe once a year and we will say hello to each other, and a fair number who write to me fairly regularly or speak on the phone who I wouldn't recognise their face if we met."

Attitudes to innovation

Main reason for using a new drug was usually failure of existing treatment

"To give it [venlafaxine] a try with my difficult patients, the way things usually happen"

Most specialists were cautious about introducing new drugs but this varied partly with the perceived risk

"I would say I was pretty ready, trying new things appeals to me, most new things I will give a whirl to… I would tend not to use it first line until I had got some experience with it."

"I am average. I am not one of those people who have to use everything new and I am not so conservative that I will only use them when they have been… So I am fairly keen to use things mainly because really we have a lot of areas where we don't have very good drugs."

"There has been no experience of its use among our peers, by ourselves, and therefore when you don't have a feel for something you are very cautious about it … nicorandil was a new type of drug as far as the European population was concerned."

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. It's no good saying we can't spend more than X amount."

Specialists in care of elderly people described their approach as between that of other specialists and GPs

"I'd want to know that there was a body of written evidence to support the use… I'd want to be sure that my colleague in that particular speciality knew of the drug and was happy to use it."

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"

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. For example, one consultant said he had tried a new drug but dismissed this as "not yet part of my prescribing armamentarium." Others did not volunteer the information but said they had used a drug when shown the list: "I did prescribe this [losartan] once for one patient; I mean, we are not talking about usage of a new drug yet."

Two consultants had been involved in clinical trials on a study drug. One had used lansoprazole: "As we told the company … the key thing would be price, because we couldn't see any great advantage one way or the other over its competitor." The other had used formoterol: "It's a useless [delivery] device … the drug is allright."

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. For exam-

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ple, one said "Only Zoton—that's primary prescribing. We have prescribed some losartan and Efexor but that has been hospital orientated." Other general practitioners could not recall whether they had initiated a drug themselves or if it had been at the request of 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. Table 2 shows the total amount of each drug prescribed by each general practitioner.

Information about new drugs

Consultants heard about new drugs in various ways and were often aware of drugs before their launch. This could be through drug company marketing, particularly the representatives, or through their particular interests and awareness of the literature and attendance at scientific meetings: "One hears favourable reports generated in some sort of specialist gossip." 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. The exception was lansoprazole, which several general practitioners reported had been prescribed for their patients during clinical trials at the teaching hospital. 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.[13] 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. Only two consultants said that they did not see representatives. 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 useful in 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, although dose and interactions were sometimes checked in the *British National Formulary* or *Monthly Index of Medical Specialties*. The most popular source of independent information was the *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

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] … one of the greatest achievements or results is the patient responds … the patient had been feeling so well, merited its use more extensively, so … before I saw the drug rep I had already prescribed 4 or 5 patients Cipramil."

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 … I always look to see what every article is and any article that I think might interest me I read."

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. It's just by habit I think."

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."

"If it is an area of medicine that I am comfortable with and … I am particularly interested in, then quite willing, I quite often do. If it is something that I don't feel tremendously competent about then I would be much more likely to wait and see what the others [partners and local consultants] are doing."

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 consultants 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. I suppose what I am saying is that he is using it so I am using it"

Use different approach for each drug

"With antibiotics, analgesics and antidepressants … I would be inclined to prescribe or start using new drugs myself … But an example has been the local neurologists and the use of alfuzosin in benign prostatic hyperplasia, which it wouldn't have occurred to me to initiate had it not been for the fact that people are being sent from the urologists on it."

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Table 2 Total number of defined daily doses of each study drug prescribed by each general practitioner from January 1995 to December 1997

GP No	Lansoprazole	Losartan	Nicorandil	Formoterol	Citalopram	Venlafaxine	Nefazodone	Alendronate	Total*	No of new drugs used
1	618	2 104	90	0	492	233	140	168	3 845	7
2	338	0	60	0	43	286	0	0	727	4
3	168	393	30	0	250	14	98	336	1 289	7
4	480	1 368	45	0	414	259	0	0	2 566	5
5	771	84	0	0	301	0	326	280	1 762	5
6	9 459	312	105	147	2 692	61	38	476	13 289	8
7	317	1 351	195	0	786	651	14	0	3 314	6
8	1 198	672	38	0	0	14	0	0	1 922	4
9	5 728	644	1 005	1120	1 498	155	0	140	10 290	7
10	4 796	1 488	43	0	3 118	434	867	0	10 746	6
11	1 530	3 078	548	0	1 045	408	0	1064	7 673	6
12	672	1 820	30	0	534	574	42	84	3 756	7
13	545	1 085	0	0	2 526	1 197	77	0	5 430	5
14	2 370	1 260	1 595	56	476	56	560	0	6 373	7
15	1 374	1 254	240	0	0	14	3	0	2 885	5
16	1 886	196	45	420	224	73	0	0	2 844	6
17	14 567	359	1 355	252	368	167	44	0	17 112	7
18	5 418	2 891	0	0	0	947	599	0	9 854	4
19	1 342	1 350	15	7	4 880	308	0	392	8 294	7
20	7 595	168	135	0	3 062	56	0	0	11 016	5
21	1 064	1 054	1 898	0	112	84	131	0	4 342	6
22	2 690	672	255	0	28	84	196	764	4 689	7
23	3 050	1 266	880	56	112	1 009	49	952	7 374	8
24	2 536	686	800	0	245	25	166	0	4 458	6
25	833	114	240	0	288	0	10	84	1 569	6
26	4 102	280	310	0	476	14	128	0	5 310	6
27	11 596	6 084	938	0	11 270	1 038	298	168	31 391	7
28	5 359	2 406	695	0	211	550	0	0	9 221	5
29	3 548	614	0	0	146	357	0	0	4 665	4
30	2 812	28	75	28	904	98	42	0	3 987	7
31	3 781	965	1 110	0	355	317	0	1012	7 540	6
32	3 146	392	0	0	0	86	14	0	3 638	4
33	3 190	84	0	0	280	270	119	840	4 783	6
34	1 645	350	120	0	113	58	0	560	2 846	6
35	2 077	1 437	255	0	172	131	0	30	4 102	5
36	760	254	180	0	260	351	0	158	1 963	6
37	196	3 353	410	0	78	0	0	112	4 149	5
38	793	535	0	0	620	157	56	86	2 247	6
39	1 792	2 704	120	0	1 084	1 475	0	28	7 203	6
40	2 894	2 100	1 530	0	441	377	8	0	7 349	6
41	1 466	955	90	0	510	218	130	28	3 397	7
42	726	3 542	585	0	119	1 449	49	0	6 470	6
43	490	2 688	5	28	42	357	0	84	3 694	7
44	5 294	5 578	240	0	728	246	0	0	12 086	5
45	1 512	2 366	90	0	672	480	0	0	5 120	5
46	1 376	1 260	240	0	30	1 493	0	476	4 875	6
47	1 034	334	120	0	356	178	0	84	2 106	6
48	2 959	3 012	105	0	114	528	25	612	7 355	7
49	1 288	1 750	263	0	56	504	0	532	4 393	6
50	1 191	1 870	255	0	1 108	150	30	14	4 618	7
Total*	136 371	70 608	17 380	2114	43 639	17 988	4256	9564	301 919	
Mean defined daily doses/GP	2 727	1 412	348	42	873	360	85	191	6 038	

Some of the totals do not add up because of rounding of defined daily doses.

education meetings were not often a source of information about new drugs for general practitioners. Many consultants and general practitioners described a gradual build up of information before they prescribed a new drug.

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. New types of drug and the first few alternatives within the class were thought important because they offered choice to patients and doctors and possible competition on cost. Any additional drugs are of little further benefit, and β blockers and non-steroidal anti-inflammatory drugs were commonly cited as examples of this.

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

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One general practitioner's reasons for prescribing each of study drugs

This doctor had not prescribed all the study drugs at the time of the interview but had done so by the end of the study.
Lansoprazole—Price: as effective as omeprazole so nothing to lose
Nefazodone and venlafaxine—Reps came and drummed it in. Tried them to see if they work, but on difficult patients who had failed on other drugs
Citalopram—Consultant use: you see patients on it, monitor them, learn side effects and dosage, then initiate in similar patients
Losartan—Information from the rep, then patient came on same day who fitted it perfectly. Have to tread fairly cautiously as hospitals aren't using it
Nicorandil—Not using it because no patients put on it by hospital so you wonder about confidence in it. Hospital prescribing is a major factor
Formoterol—Not yet prescribed it because haven't worked out or felt comfortable with where it fits in treatment schemes: "me too" drug with no advantages
Alendronate—Was about to try it when safety warning was issued so didn't

for general practitioners (box). It also depended on the availability of effective alternatives. Thus psychiatrists were enthusiastic about new antidepressants, whereas the cardiologists were cautious about nicorandil, describing its use as "desperation" and "scraping the bottom of the barrel." One noted that "the track record of new antiarrhythmic drugs is pretty terrible," which made them more wary of all new classes of drugs. 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. The improved regimens of new antiviral drugs were frequently cited as an important advance. Although cost was mentioned by many doctors, it was generally secondary to other factors. Increasing pressure on drug budgets, and particularly the effect of fundholding, was making general practitioners more reluctant to prescribe new drugs. However, for many general practitioners, cost was given as the main reason for using lansoprazole, which was cheaper than omeprazole.

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.[14] 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. Consultants required lower levels of information for drugs outside their specialty and instead relied heavily on the advice of colleagues. This approach was similar to that of general practitioners, who said that use of a new drug by a specialist gave it acceptability.

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[15–18] and suggestions that evidence based medicine may not be widely accepted by general practitioners.[17 19] General practitioners were influenced by hospital prescribing and sometimes followed the consultants' lead in their use of new drugs. This was supported by analysis of the general practitioners' prescribing data.[12]

The prescribing data also showed that general practitioners were inconsistent in their uptake of the study drugs. General practitioners who were early and heavy users of one drug could be low users of another drug. They consider each drug individually and are also influenced by personal and patient related factors. A recent study also found that there are no universal innovators or laggards with respect to the uptake of new drugs.[20]

The differences in approach between the two professional groups support previous work on why general practitioners and consultants change their clinical behaviour.[15 21 22] 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.[23]

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.[24] The introduction of new drugs into hospitals is usually managed by drug and therapeutics committees.[25] Evidence given to these

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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

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.[26]

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