Characteristics of general practitioners who frequently see drug industry representatives: national cross sectional study

Chris Watkins, Laurence Moore, Ian Harvey, Patricia Carthy, Elizabeth Robinson, Richard Brawn

Backwell and Nailsea Medical Group, Backwell, Bristol BS48 3HA
Chris Watkins *general practitioner*

Cardiff University School of Social Sciences, Cardiff CF10 3WT
Laurence Moore *senior research fellow*

School of Medicine, Health Policy and Practice, University of East Anglia, Norwich, NR4 7TJ
Ian Harvey *professor of epidemiology and public health*

Research and Development Support Unit, Salisbury NHS Health Care Trust, Salisbury SP2 8BJ
Patricia Carthy *research associate*

Bloomsbury Surgery, London WC1N 1PB
Elizabeth Robinson *general practitioner*

Graduate School of Education, Bristol BS8 1JA
Richard Brawn *lecturer in education*

Correspondence to:
C Watkins
chris.watkins@Bristol.ac.uk

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Variation in prescribing costs between general practitioners is well documented.[1] We previously found that frequent general practitioner contact with drug industry representatives was strongly and independently associated with higher prescribing costs.[2] This paper describes the attitudes and behaviour of general practitioners who report seeing drug representatives frequently.

Participants, methods, and results

We sent a questionnaire to all general practitioners in 200 English practices randomly selected from three groups defined as the bottom, middle, and top fifths of prescribing costs. The questionnaire elicited general practitioners' personal and practice characteristics and their agreement with a series of statements about their prescribing attitudes and behaviour. Full details of the methods have been published.[2]

In all, 1097 of the 1714 general practitioners (64%) responded. We included the responses to each statement in a set of univariable logistic regression models in which the dependent variable was whether the general practitioner reported seeing drug representatives at least once a week. The table shows the statements that were significant ($P<0.05$) in the univariate analysis. We entered these variables into a multivariable logistic regression model together with nine general practitioner and practice variables. This model found that frequent contact with a drug representative was significantly associated with a greater willingness to prescribe new drugs and to agree to patients' requests to prescribe a drug that is not clinically indicated, dissatisfaction with consultations ending in advice only, and receptiveness to drug advertisements and promotional literature from drug companies (table).

Comment

General practitioners who report weekly contact with drug representatives are more likely to express views that will lead to unnecessary prescribing than those who report less frequent contact. Little et al showed that prescribing antibiotics rather than giving advice on self management of sore throat can result in increased workload for general practitioners, through repeat attendance.[4] Using Little et al's data, Marshall calculated that if a general practitioner prescribed antibiotics for sore throat to 100 fewer patients every year, 33 fewer would believe antibiotics were effective, 25 fewer would intend to consult with the problem in the future, and 10 fewer would come back within the next year.[5] If some general practitioners' reluctance to end consultations without prescribing extends to other self limiting conditions, the effect on reattendance rates and thus workload could be substantial. Perhaps this is why general practitioners who see drug representatives most often report experiencing the most consultations when they feel under pressure of time.

When new drugs became available, general practitioners who saw drug representatives at least weekly were more likely, as their first course of action, to prescribe them for a few patients and monitor the results. This conflicts with the advice given by health commissioners to use published sources of evidence such as the *British National Formulary*.

General practitioners who see drug representatives most often tend to be those who are isolated from their colleagues (singlehanded practitioners and those uninvolved in general practitioner training) and to work in deprived areas. For some general practitioners, the frequency of contact must be greater than their need to know more about new drugs. Such visits possibly fulfil a pastoral rather than an educative role.

This cross sectional analysis cannot identify the direction of causality. Indeed, the observed associations may be due both to frequent drug representative contact leading to attitudes and behaviour associated with higher cost prescribing and to drug representatives targeting those general practitioners known to have more responsive attitudes or to be high cost prescribers. More research on the nature of this relationship would help primary care trusts to adopt policies encouraging more cost effective prescribing.

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Contributors: CW and IH were responsible for the conception, design, initiation, and overall coordination of the study. LM analysed and interpreted the data. PC designed and produced the questionnaire and subsequently obtained, analysed, and interpreted the data. ER and RB were involved in designing the study and interpreting the data. CW prepared the manuscript and all investigators contributed to the final version of this paper. CW is the guarantor.

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Odds ratios of general practitioners seeing drug industry representatives at least once a week in univariable and adjusted multivariable logistic regression models

Variable	Response category	Univariable model*		Adjusted mulitvariable model†	
		Odds ratio (95% CI)	P value	Odds ratio (95% CI)	P value
Process of consultation					
When faced with a patient who expects a prescription (which is not clinically indicated) my usual response is to:	Agree readily or reluctantly	1.00		1.00	0.012
	Discuss, but not prescribe	0.63 (0.49 to 0.82)	<0.001	0.63 (0.44 to 0.90)	
I feel that a patient consultation that ends with me giving advice only is:	Very satisfactory	0.51 (0.39 to 0.66)		0.56 (0.38 to 0.82)	0.003
	Unsatisfactory or satisfactory	1.00	<0.001	1.00	
When a new drug becomes available what I do most commonly is:	Seek published findings of effectiveness	0.38 (0.25 to 0.57)	<0.001	0.54 (0.36 to 0.82)	<0.001
	Wait and see what colleagues do	0.33 (0.22 to 0.48)		0.39 (0.24 to 0.65)	
	Use on a few patients and monitor	1.00		1.00	
In what proportion of your consultations do you feel frustrated by having too little time	(Odds ratio per 10 unit increase)	1.05 (1.00 to 1.14)	0.074	1.05 (0.97 to 1.13)	0.212
Sources of information about prescribed drugs					
When I receive written promotional material from drug companies I usually:	Never read it	0.28 (0.20 to 0.38)	<0.001	0.44 (0.27 to 0.72)	0.001
	Read some or all of it	1.00		1.00	
I find myself reading drug adverts in journals:	Rarely or never	0.33 (0.25 to 0.42)	<0.001	0.41 (0.28 to 0.59)	<0.001
	Sometimes or often	1.00		1.00	
When I am uncertain about an aspect of drug treatment, my first action, before I write the prescription is to:	Check in BNF	0.60 (0.46 to 0.77)	<0.001	0.88 (0.59 to 1.31)	0.535
	Other	1.00		1.00	
I follow the advice of hospital consultants in deciding which drugs to use for my patients:	Very often or often	1.00		1.00	
	Sometimes, rarely, or never	0.80 (0.62 to 1.03)	0.078	0.84 (0.57 to 1.23)	0.357
Attitudes towards criticism of prescribing practices					
I avoid questioning colleagues who appear to be prescribing inappropriately:	Strongly disagree or disagree	0.67 (0.51 to 0.87)	0.003	0.77 (0.52 to 1.14)	0.191
	Strongly agree, agree, or neutral	1.00	-	-	-
	Singlehanded general practitioner	2.33 (1.46 to 3.70)	<0.001		
I find criticism of my prescribing habits by my colleagues:	Very useful or useful	0.62 (0.46 to 0.84)	0.002	1.05 (0.67 to 1.63)	0.842
	Very unhelpful, unhelpful, or neutral	1.00		1.00	
General practitioner and practice factors					
Sex	Male			1.00	
	Female			0.58 (0.39 to 0.87)	0.009
Log low income scheme index‡				1.55 (1.06 to 2.28)	0.026
No of general practitioners in practice	1			1.00	
	2-4			0.96 (0.48 to 1.93)	0.007
	⩾5			0.49 (0.24 to 1.00)	
Are you a general practitioner trainer?	No			1.00	
	Yes			0.34 (0.20 to 0.59)	<0.001
Age group (in years)	(<31, 31-35, 36-40, 41-45, 46-50, 51-55, 56- 60, 61-65, >65: odds ratio per age group step)			1.14 (0.97 to 1.34)	0.101
Dispensing status	No			1.00	
	Yes			0.31 (0.11 to 0.87)	0.026
Occupational commitment	Full time			1.00	
	Part time			0.56 (0.33 to 0.96)	0.034
Length of service	<5 years			1.00	
	5-10 years			1.04 (0.50 to 2.14)	0.548
	11-20 years			0.87 (0.51 to 1.48)	
	>20 years			1.36 (0.56 to 3.30)	
Fundholding status	No			1.00	
	Yes			1.01 (0.65 to 1.56)	0.982

*Univariable model for "When a new drug becomes available. . ." based on 916 responses. All other univariable models based on about 1090 responses with some variability (1069-1095) due to item non-response.
†Adjusted multivariable model based on 768 responses. Adjustment was made for all variables in the model.
‡A measure of deprivation based on the proportion of prescribed items that are exempt from prescription charges under the low income scheme.[3]

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Endpiece

The disease called "man"

The earth, said he, has a skin, and this skin has diseases. One of those diseases, for example, is called "man."

Friedrich Nietzsche (1844-1900)

Robert Richardson, medical historian, Chichester