

Direct-to-Consumer Advertising: Physicians' Views of Its Effects on Quality of Care and the Doctor-Patient Relationship

Elizabeth Murray, PhD, MRCP, Bernard Lo, MD, Lance Pollack, PhD, Karen Donelan, ScD, and Ken Lee

Background: The objective of the study was to determine physicians' views of the effects of Direct-to-Consumer Advertising (DTCA) on health service utilization, quality of care, and the doctor-patient relationship.

Methods: Cross-sectional survey of a nationally representative sample of US physicians to determine their perceptions of the effects of patients discussing information from DTCA on time efficiency; requests for specific interventions; health outcomes; and the doctor-patient relationship.

Results: Physicians reported that more than half (56%) of patients who discussed information from DTCA in a visit did so because they wanted a specific intervention, such as a test, change in medication, or specialist referral. The physician deemed 49% of these requests clinically inappropriate. Physicians filled 69% of requests they deemed clinically inappropriate; 39% of physicians perceived DTCA as damaging to the time efficiency of the visit, and 13% saw it as helpful. Thirty-three percent of physicians thought discussing DTCA had improved the doctor-patient relationship; 8% felt it had worsened it. The effect on the relationship was strongly associated with doing what the patient wanted.

Conclusions: DTCA can have good and bad effects on quality of care, the doctor-patient relationship, and health service utilization. The benefits might be maximized, and the harms minimized, by increasing the accuracy of information in advertisements; enhancing physicians' communication and negotiation skills; and encouraging patients to respect physicians' clinical expertise. (J Am Board Fam Pract 2003;16:513-24.)

Compared with other sources of health information for the public, direct-to-consumer advertising of prescription medications (DTCA) is pervasive, persuasive, and passive. Patients are exposed to DTCA without actively seeking it. Unlike much public interest advertising,¹ it uses effective techniques, including a strong emotional appeal to tar-

geted audiences.² The pharmaceutical industry spends more than \$2 billion annually with the goal of promoting consumer desire for products and hence increasing market share.³

Its advantages and disadvantages are controversial.^{3,4} Proponents contend that DTCA provides valuable health information⁵ that helps patients voice health concerns to their physician and increases patients' sense of confidence and control during visits.⁶ Both these effects could improve the doctor-patient relationship. DTCA may also raise awareness of underdiagnosed, treatable conditions such as hyperlipidemia or depression, leading to physician visits for prevention and treatment that would not otherwise occur.⁷ Opponents argue that DTCA contributes to rising drug costs,⁸ encourages inappropriate prescribing,⁹⁻¹¹ and may increase overall health care costs needlessly by leading to requests for tests or referrals that are not clinically indicated. Evidence for these conflicting claims is scanty. Available data are limited by small samples or restricted populations.^{9,12} This is the first population based survey of physicians, and the

Submitted, revised, 24 March 2003.

From the Department of Primary Care and Population Sciences, Royal Free and University College School of Medicine at University College London, United Kingdom (EM), Department of Medicine and Program in Medical Ethics (BL) and Health Survey Research Unit, Center for AIDS Prevention Studies (LP, KL), University of California, San Francisco, and Department of Health Policy and Management, Harvard School of Public Health, Boston, Massachusetts (KD). Address correspondence to Elizabeth Murray, PhD, MRCP, Department of Primary Care and Population Sciences, Royal Free and University College School of Medicine at University College London, Archway Campus, Holborn Union Building, Highgate Hill, London N19 5LW, United Kingdom (e-mail: elizabeth.murray@pcps.ucl.ac.uk).

This project was funded by the Robert Wood Johnson Foundation. EM was a Harkness Fellow in Health Care Policy 2001-02, supported by the Commonwealth Fund.

first to look at physician views on the impact of DTCA on the doctor-patient relationship and the quality of care. Moreover, it is unknown whether the effects of DTCA vary according to socioeconomic or health status, which is important in view of the widespread concern about health disparities.

We used data from 2 nationally representative surveys of US physicians and the US public on DTCA to examine these claims, and to determine the extent to which the effects of DTCA vary with socio-economic and health status. This article uses data from the physician survey to address the effects of DTCA on quality of care, health outcomes, health service utilization, and physicians' perceptions of its effect on the doctor-patient relationship. Our forthcoming article uses the public data set to analyze issues pertaining to the individual and to population health.

Methods

Development of Testable Hypotheses

Our first step was to collate published claims and derive hypotheses that could be tested in at least 1 of our 2 data sets (Figure 1). Not all the claimed benefits or harms of DTCA were amenable to examination with the available data (e.g., "DTCA contributes to a cultural expectation of a 'pill for every ill.'"^{13,14}

Sample

Two thousand physicians were randomly selected from the national list of physicians provided by the Medical Marketing Service, Inc. (MMS). The MMS list is based on the national database of the American Medical Association (AMA), which contains more than 650,000 physicians, and is the most complete list of physicians available in the US. Physicians who currently spent more than 20 hours a week on direct patient care were included in the survey. The sample was stratified by specialty: primary care, medical specialty, or surgical specialty. Primary care included Family Practice, General Practice, Internal Medicine, and Pediatrics. Ob-Gyn was classified as a surgical specialty.

Questionnaire

The questionnaire was developed after literature review and focus group discussions and was pre-tested. It consisted of 3 sections of closed-ended questions and took approximately 12 minutes to

complete. The entire sample received Part 1 of the questionnaire, which elicited general information about views on health information on the Internet and DTCA. Questions examined general views on accuracy and effects of such information, and personal use of the Internet at work. Part 2 was sent to a random 50% of the sample. It asked whether any patient had discussed information derived from DTCA in the past 12 months and, if so, specific inquiries were made about the last time this happened. "Last time" methodology was used to minimize recall bias. Areas explored were the relevance and accuracy of the information, physicians' perceptions of why the patient had brought the information, physicians' responses to the patient, and their views about the impact on health care, health outcomes, and the doctor-patient relationship. The other 50% of the sample received a different Part 2, which asked about respondents' experiences with Internet information. Part 3 was received by the entire sample and obtained demographic and workload information: hours per week spent on face-to-face consultations, other tasks related to patient care, and administrative tasks; numbers of patients seen per week; practice income; proportions of patients on Medicaid, from minority groups, having household incomes of less than \$20,000 per annum, and with no health insurance; geographic setting of practice; age and racial origin of respondent. This was supplemented with information from the MMS database, including specialty, year of graduation from medical school, geographic region (East, South, Midwest, West), whether hospital or office-based, and whether trained in the United States or overseas.

Response Rate

Data collection was undertaken between November 2000 and February 2001. The questionnaire was mailed to the selected physicians with a check for \$35 as a token of appreciation for completing the questionnaire. Up to 3 reminders were sent and additional telephone contact made with non-responders. Of the original 2000 physicians sent the survey, 38 were ineligible because they were deceased, retired, or no longer in practice; 1050 physicians completed the questionnaire (response rate 53%). Of these, 535 received the DTCA version of the questionnaire and 515 the Internet version (Figure 2).

Clinical benefits:

1. That DTCA would encourage patients to attend physicians for preventive health care.**
2. That DTCA would result in increased diagnoses of currently under-diagnosed conditions.**
3. That DTCA would result in improved treatments of currently under-treated conditions.**

Psycho-social benefits:

4. That exposure to personally relevant DTCA would increase the patient's sense of confidence and control during interactions with their physician about a specific condition.**
5. That exposure to personally relevant DTCA would encourage patients to disclose health concerns to their doctor.**

Effect on doctor-patient relationship:

6. That DTCA would enhance the doctor-patient relationship, for example by encouraging patients to voice previously unspoken concerns, or by increasing patient confidence in visits.*, ** (improved communication)
7. That DTCA would damage the doctor-patient relationship, for example if doctors refuse requests generated by DTCA, or feel challenged by the patient discussing information from a drug advertisement.*, ** (worsened communication; unmet expectations)

Effects on health care system:

8. That DTCA contributes to rising drug costs, by promoting newer, more expensive drugs.
9. That DTCA contributes to rising health care costs without commensurate health gains by leading patients to request interventions that may not be clinically indicated, such as tests, referrals to specialists, or change in medication.*

*examined in this paper

** examined in accompanying paper presenting data from public.

Figure 1. Summary of testable hypothesis on the effects of DTCA.

Analysis

Weighting

Data were weighted to represent the national population of physicians on the MMS database who spend 20 or more hours per week on direct patient care using the MMS variables mentioned above.

Outcome Variables

The effect of DTCA on the doctor-patient relationship was tested using physician perceptions of the relationship and whether the doctor had felt that the patient was challenging his or her authority during the discussion. Outcomes pertaining to the

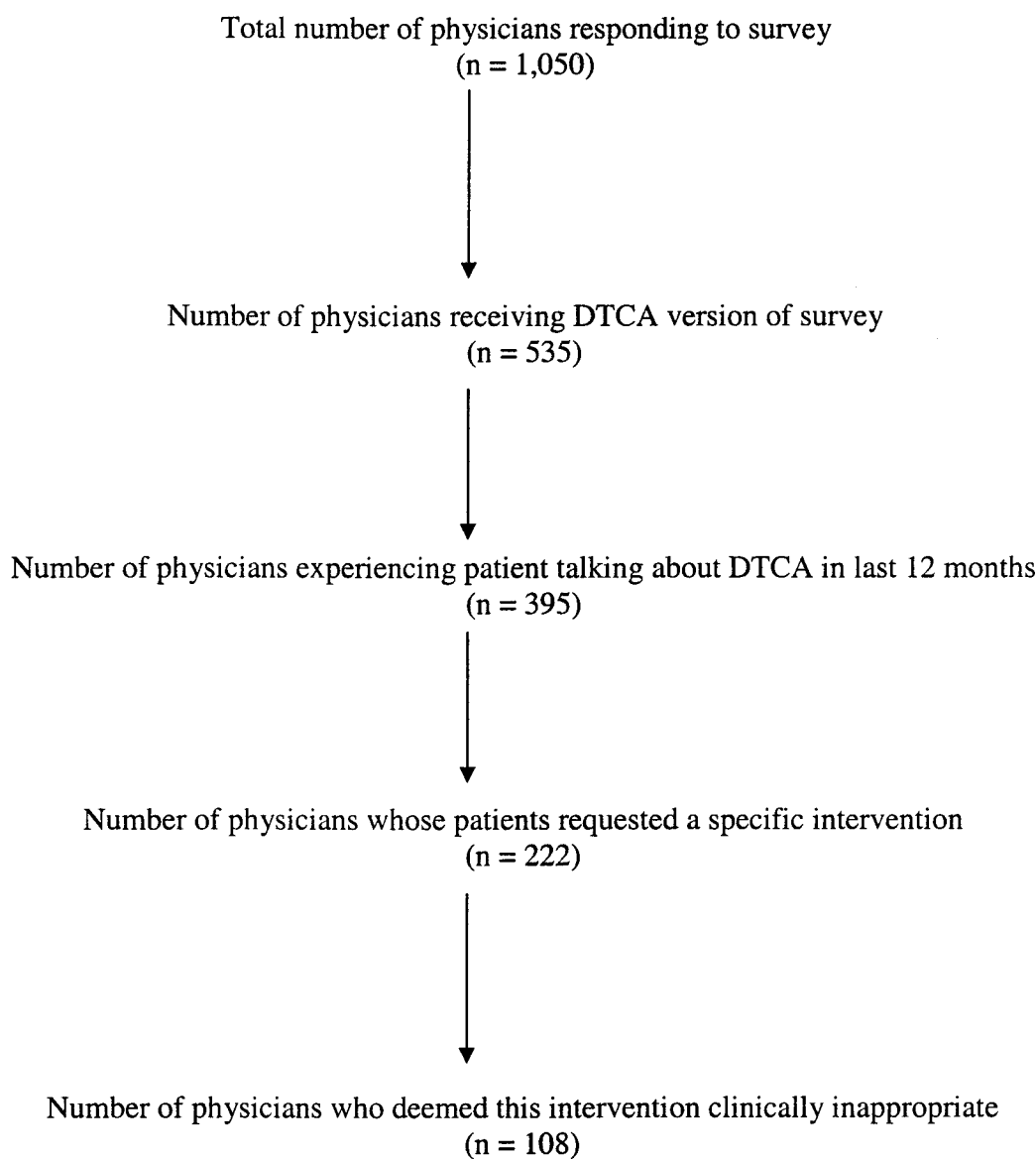


Figure 2.

effect of DTCA on health service utilization were: physicians' perceptions of the effect of DTCA on the time efficiency of the visit; the proportion of patients who made requests for specific interventions as a result of DTCA; the proportion of these requests that the doctor deemed clinically inappropriate; the proportion of appropriate and inappropriate requests filled by the physician; and physicians' perceptions of the effects of DTCA on quality of care and ultimate health outcomes.

Independent Variables

We used 4 categories of independent variables: practice demographics (as a proxy for patient socioeco-

nomic status); pre-existing physician views about DTCA; physician's emotional and cognitive responses to the last time a patient brought information from a DTCA to a visit (whether they perceived the patient as taking responsibility for his/her health or challenging the doctor's professional authority, why the patient discussed the information with them, whether any requests made by the patient were clinically appropriate, whether the request(s) was filled, whether there was enough time to discuss the information, and whether they knew the patient well enough to have good communication); and physicians' perceptions of the accuracy and relevance of the information in the advertisement discussed.

Table 1. Demographic, Workload, and Practice Characteristics of Respondents (n = 1050)

	Unweighted N (%)	Weighted N (%)				
Demographic and practice characteristics						
Age						
<39	222 (22)	198 (20)				
40–49	360 (36)	363 (36)				
50–59	248 (25)	248 (25)				
60+	169 (17)	188 (19)				
Gender						
Female	228 (22)	223 (22)				
Male	808 (78)	812 (78)				
1999 Income from practice						
\$100,000 or less	177 (19)	179 (19)				
\$100,001–\$150,000	298 (31)	297 (31)				
\$151,001–\$200,000	194 (20)	195 (20)				
\$200,001–\$250,000	128 (13)	126 (13)				
\$250,001+	162 (17)	160 (17)				
Geographic setting						
Urban	342 (34)	346 (34)				
Suburban	334 (33)	333 (33)				
Small town	275 (27)	273 (27)				
Rural	67 (7)	66 (7)				
Geographic Region						
East	288 (27)	298 (28)				
South	316 (30)	310 (30)				
Midwest	231 (22)	230 (22)				
West	215 (21)	213 (20)				
Type of medical specialty						
Primary care	404 (39)	406 (39)				
Medical specialty	350 (33)	355 (34)				
Surgical specialty	296 (28)	289 (28)				
Office- or Hospital-based						
Office	942 (90)	937 (89)				
Hospital	108 (10)	113 (11)				
Country of training						
US	946 (90)	937 (89)				
Foreign	104 (10)	113 (11)				
	<div>Unweighted Percentiles</div> <div>25th50th75th</div>					
	<div>Weighted Percentiles</div> <div>25th50th75th</div>					
Respondents' best estimate of the percentage of their patients who were:						
Uninsured	3	5	13	3	5	13
On Medicaid	5	10	25	5	10	25
From a minority group	10	20	40	10	20	40
Had an annual household income of \$20,000 or less	10	15	30	9	15	30
Respondents' best estimate of:						
Number of hours spent per week in face-to-face contact with patients	24	32	40	24	32	40
Number of patients seen per week	50	80	105	50	80	104

Data were weighted to represent the national population of physicians on the MMS database who spend 20 or more hours per week on direct patient care using the MMS variables described in the text.

Univariate relationships were calculated using the χ^2 statistic or Fischer exact test as appropriate. In the absence of a priori hypotheses, multivariate relationships were determined by entering correlates with univariate relationships ($P < .20$) into a stepwise multiple logistic regression to identify the “most important” correlates, where importance is defined solely by statistical criteria. Each analysis went through several iterations, with each new iteration using successively more stringent statistical criteria for inclusion in the model. Each iteration included consideration of a model yielded by a forward stepwise procedure and a model yielded by a backward stepwise procedure. The goal was to identify the most parsimonious model while still achieving adequate fit, which was operationalized as $P > .20$ on the Hosmer-Lemeshow goodness-of-fit test.

Because all data were weighted (except where specified), the appropriate procedures to correct p -values and standard errors were undertaken. We used the SVYTAB procedure in STATA to obtain the Rao and Scott F test p -values¹⁵ and the SVY-LOGIT procedure in STATA to obtain corrected standard errors for parameter estimates.

Results

Characteristics and Representativeness of the Sample

The characteristics of the respondents before and after weighting are presented in Table 1. Weighting made only minimal difference, confirming that respondents were representative of the national population of physicians. From this point on, all data presented are weighted.

General Views of DTCA

Positive and Negative Effects of DTCA

Of all respondents ($n = 1050$), more than half had a negative response to the recent increase in advertising prescription drugs directly to consumers: 52% [95% confidence interval (CI), 49 to 55%] thought it was bad or very bad, 17% (95% CI, 15 to 19%) were neutral, and only 31% (95% CI, 28 to 34%) thought it was good or very good. Despite this, most doctors agreed that DTCA gives patients confidence to talk to their doctors about health concerns and encourages patients to follow the doctor's instructions or advice (Table 2). No demographic, practice, or workload variables were

Table 2. Physicians' Views on the Effects of DTCA ($n = 1050$)

	% Agreeing
Gives patients confidence to talk to their doctor about their concerns	83
Drives up the cost of prescription drugs	81
Encourages people to follow treatment instructions or advice from their doctors	72
Promotes unnecessary fear of the side effects	59
Helps patients get treatments they would not otherwise get	55
Improves people's understanding of medical conditions and treatments	54
Causes patients to take up more of their doctors' time	53
Promotes unnecessary visits to doctors	45
Interferes with good relationships between doctors and patients	39

associated with respondents overall opinion about DTCA.

Accuracy and Relevance of DTCA

Eight percent (95% CI, 7 to 10%) of respondents thought that advertisements were very accurate, 67% (95% CI, 64 to 69%) thought they were somewhat accurate, and the remainder thought they were not very or not at all accurate. Most physicians thought that their patients were not good at assessing whether the information in a drug advertisement was personally relevant: only 4% (95% CI, 3 to 6%) thought their patients were excellent or very good at this, 18% (95% CI, 15 to 21%) thought they were good at it, 54% (95% CI, 51 to 58%) thought their patients were fair, and 24% (95% CI, 21 to 27%) thought they were poor at this.

Experience with Patients Bringing Information from DTCA to a Physician Visit

Respondents were asked about the last time a patient talked about information from a drug advertisement during a visit. 80% ($n = 395$; Figure 2) had experienced this in the previous 12 months. Data in the remainder of this article refers to those 395 physicians. Of these, 51% reported that less than 20% of their patients had talked about information from a drug ad during a visit, and a further 35% stated that between 21 and 40% of their patients had done this.

Table 3. Effects of the Patient's Talking about a DTCA on the Doctor-Patient Relationship

	n	% Improved	% Neutral	% Worsened	p	Multivariate Odds Ratio for Improved Relationship (95% CI)*
Total	395	33	60	8		
How relevant to the patient was the information in the ad?					<0.001	
Very/somewhat	309	37	58	5		
Not very/not at all	82	16	66	19		
How accurate was the information in the ad?					<0.001	
Very/somewhat	262	38	59	3		
Not very/not at all	131	22	62	16		
Why did the patient talk to you about the ad?					0.002	
Wanted a test, medication change or referral	221	28	61	11		
Wanted your opinion only	173	38	59	3		
Did you do what the patient wanted?†					<0.001	
Yes, completely	75	44	55	1		5.7 (2.2–14.7)
Yes, partially	244	35	57	7		3.7 (1.6–8.6)
No	75	12	74	15		1.0
Did you have enough time to discuss the information?					0.031	
Yes	258	36	59	5		2.0 (1.2–3.3)
No	136	27	62	12		1.0
Did you feel the patient was taking responsibility?					<0.001	
Yes	279	38	56	6		2.4 (1.4–4.4)
No	114	19	69	12		1.0
Did you feel the patient was challenging your authority?					<0.001	
Yes	49	28	39	33		
No	343	33	63	4		
Did you think that the patient's request was not appropriate for their health?					<0.001	
Yes, not appropriate	143	25	56	19		
No, appropriate	253	37	62	1		
Did you feel you did not know the patient well enough to have good communication?					<0.001	
Yes	27	37	32	30		
No	365	32	62	6		

* For clarity, only significant odds ratios are shown. CI, confidence interval.

† Comparison of doing what the patient wanted completely versus partially revealed no significant difference in odds ratios.

Effect on Doctor-Patient Relationship

General Impact

More physicians believed that patients talking about information from a drug advertisement had a positive effect (33%; 95% CI, 28 to 38%) than a negative effect (7%; 95% CI, 5 to 11%) on the doctor-patient relationship. On univariate analysis, an improved relationship was associated with physicians' perceptions that the information in the advertisement was relevant and accurate, the patient seeking only the doctor's opinion rather than a specific intervention, and the doctor's responses

during the discussion (Table 3). Specifically, the doctor doing what the patient wanted, feeling that the patient was taking responsibility for his or her health, and perceiving the request as clinically indicated were all associated with an improved relationship. Conversely, inaccurate, irrelevant information was associated with a deterioration in the relationship, as was the doctor feeling that the patient was challenging his or her authority, not having enough time to discuss the request, and not doing what the patient wanted. Practice characteristics were not associated with a positive or negative

Table 4. Factors Associated with Respondents Feeling That Their Authority Was Being Challenged during the Discussion about DTCA

	n	% Yes	Univariate <i>p</i>	Multivariate Odds Ratio (95% CI)
Total	395	12		
Practice characteristics				
% Patients with Medicaid			0.023	
≤25%	293	11		
>25%	77	21		
Physicians' cognitive and emotional responses in the last visit where a patient talked about DTCA.				
How relevant to the patient was the information in the ad?			0.011	
Very/somewhat	308	10		1.0
Not very/not at all	81	21		2.3 (1.1–4.8)
How accurate was the information in the ad?			0.004	
Very/somewhat	261	9		
Not very/not at all	129	20		
Why did the patient talk to you about the ad?			0.019	
Wanted a test, medication change or referral	220	16		
Wanted your opinion only	171	8		
Did you do what the patient wanted?			0.004	
Yes, completely	75	4		1.0
Yes, partially	241	12		3.0 (0.9–9.6)
No	74	22		8.5 (2.5–29.2)
Did you have enough time to discuss the information?			<0.001	
Yes	134	22		1.0
No	257	8		3.0 (1.6–5.8)
Did you feel the patient was taking responsibility?			0.118	
Yes	279	14		2.2 (1.0–5.1)
No	112	8		1.0
Did you feel the patient's request was not appropriate for their health?			<0.001	
Yes, not appropriate	139	30		
No, appropriate	252	3		
Did you feel you did not know the patient well enough to have good communication?			<0.001	
Yes	28	36		1.0
No	363	11		5.0 (1.9–12.6)

The odds ratio of the doctor feeling challenged for not doing what the patient wanted compared with doing what the patient wanted partially was 2.8 (95% confidence interval, 1.3 to 6.1).

impact on the doctor-patient relationship. On multivariate analysis, the most important factor independently associated with an improved doctor-patient relationship was the doctor doing what the patient wanted (Table 3).

Doctors Who Feel Challenged

Twelve percent (95% CI, 10 to 16%) of doctors felt that their authority was being challenged by the

patient during the discussion about DTCA (Table 4). On univariate analysis, doctors were more likely to feel challenged if the patient wanted a specific intervention, if the intervention was not clinically indicated, if the doctor did not do what the patient wanted, or if the doctor did not know the patient well enough to have good communication (Table 4). Multivariate analysis confirmed that these responses by the doctor, rather than practice charac-

teristics, were independently associated with feeling challenged (Table 4).

Effect on Quality of Care, Health Outcomes, and Health Service Utilization

Patients' Reasons for Talking about DTCA During a Visit

In 56% (95% CI, 51 to 61%; $n = 222$) of the visits in which patients talked about DTCA, the doctor perceived the patient's reason for doing this as wanting at least 1 specific intervention, such as a test ($n = 110$; 28%), change in medication ($n = 190$; 48%), or referral ($n = 54$; 14%). In the remaining cases, the doctor perceived the patient as only wanting the doctor's opinion.

Physician's Response

Of the 222 cases in which the patient made a request, doctors deemed the request inappropriate for the patient's health in 108 cases (Figure 3). In 75 of these cases (19% of all visits in which DTCA was discussed; 69% of inappropriate requests), the doctor did what the patient wanted, either completely ($n = 5$) or partially ($n = 70$). In 33 cases, the doctor did not do what the patient wanted at all.

Effect on Time-Efficiency

More physicians viewed discussing information from a drug advertisement as worsening the time efficiency of the visit (39%; 95% CI, 34 to 44%) than helping it (13%; 95% CI, 10 to 17%). On univariate analysis, factors associated with worsened time efficiency included inaccurate or irrelevant advertisements, patients wanting a specific intervention, and the doctor's response. Not doing what the patient wanted was strongly associated with worsened time efficiency, as was thinking that the request was not appropriate or that the patient was challenging the doctor's authority (Table 5). On multivariate analysis, inaccurate ads, specific requests, inappropriate requests, and the doctor's feeling challenged were independently associated with worsened time efficiency (Table 5).

Effect on Quality of Care

We further analyzed the 75 cases in which the patient had made a request that was deemed inappropriate by the physician (Figure 3). In the 5 cases in which the physician did what the patient wanted completely, the impact of this on quality of care was viewed as neutral. In the 69 cases in which the doctor had done partially what the patient re-

quested, the effect on quality of care was viewed as positive in 15 cases (22%), neutral in 50 cases (73%), and harmful in 4 cases (6%).

When the patient's request was deemed appropriate by the doctor, the effect of doing what the patient wanted, either completely or partially, was viewed as positive or neutral in all cases. The findings were similar for effect on ultimate health outcomes (data not shown).

On multivariate analysis, several factors were independently associated with the patient making a request for an intervention that the doctor deemed inappropriate: the physician regarding the advertisement as not very or not at all accurate [odds ratio (OR) 2.0; 95% CI, 1.1 to 3.5]; the physician regarding patients as poor (rather than fair to excellent) at assessing the relevance of a drug ad (OR 2.2; 95% CI, 1.2 to 4.2), and the physician feeling that he or she did not know the patient well enough to have good communication (OR 5.4; 95% CI, 1.1 to 26.2).

Discussion

We found that DTCA has complex effects on quality of care and health service utilization. DTCA results in patients making almost as many inappropriate requests as appropriate ones. This puts physicians in a quandary, facing 3 conflicting ethical obligations. First, physicians aim to "do no harm." Second, physicians seek to maintain and develop a strong doctor-patient relationship because it enhances future care and health outcomes. In addition, patient satisfaction is now used as a benchmark for quality of care and, as such, may determine physician income. Third, physicians have a duty to ensure fair allocation of health care resources and avoid wasteful expenditure. In the United States, such stewardship of societal resources is regarded as a weaker obligation than promoting the well-being of the individual patient.¹⁶⁻¹⁸ We found that physicians find responding to inappropriate requests time-consuming and that they often seem to acquiesce to such requests as long as the patient is not harmed. Thus, physicians attempt to mitigate negative effects of DTCA but at the cost of physician time or health care dollars. Furthermore, more doctors perceive the effect on the relationship as beneficial than harmful, but this is dependent on physicians doing what the patient wants, a finding confirmed in our forthcoming article presenting patients' views.

Our findings have several implications for maximizing the benefits of DTCA while minimizing the harms. Inaccurate DTCA increases costs without improving health outcomes. Increased regula-

tion of DTCA may ensure that information in advertisements is accurate and includes possible harms of treatment, as well as nonpharmacological alternatives.

Table 5: Effect of DTCA on the Time-Efficiency of the Visit

	N	% Helped	% Neutral	% Hurt	Univariate <i>p</i>	Multivariate Odds Ratio (95% CI)
Total	392	13	48	39		
Physicians' background views on DTCA						
How accurate are drug ads?					0.003	
Very/somewhat	298	16	49	35		
Not very/not at all	93	4	44	51		
How good are patients at assessing the relevance of ads?					<0.001	
Excellent/very good/good	75	23	56	21		
Fair	216	13	49	38		
Poor	100	6	39	55		
Physicians' cognitive and emotional responses in the last visit where a patient talked about DTCA						
How relevant to the patient was the information in the ad?					<0.001	
Very/somewhat	306	16	51	33		
Not very/not at all	82	3	37	60		
How accurate was the information in the ad?					<0.001	
Very/somewhat	259	18	52	29		1.0
Not very/not at all	130	2	40	58		1.9 (1.1–3.3)
Why did the patient talk to you about the ad?					<0.001	
Wanted a test, medication change or referral	219	11	40	49		2.0 (1.2–3.4)
Wanted your opinion only	172	16	58	26		1.0
Did you do what the patient wanted?					<0.001	
Yes, completely	74	15	58	27		
Yes, partially	240	17	47	37		
No	75	0	42	58		
Did you have enough time to discuss the information?					<0.001	
Yes	255	16	55	29		1.0
No	134	7	34	59		3.0 (1.8–5.0)
Did you feel the patient was taking responsibility?					0.040	
Yes	276	16	47	37		
No	114	6	50	44		
Did you feel the patient was challenging your authority?					<0.001	
Yes	49	2	24	74		2.8 (1.2–6.3)
No	338	15	51	34		1.0
Did you think that the patient's request was not appropriate for their health?					<0.001	
Yes, not appropriate	142	3	35	62		1.0
No, appropriate	249	19	55	26		1.8 (1.1–3.1)

CI, confidence interval.

In addition, patients need stronger skills in critically appraising drug advertisements to determine whether the material is personally relevant and accurate. Patients should seek the physician's opinion on the relevance and accuracy of information in DTCA. This would both strengthen the doctor-patient relationship and avoid clinically inappropriate

interventions. Just as physicians need to acknowledge that patients are expert in knowing their own health utilities, patients need to recognize physician clinical judgment.

Finally, physicians need to learn how to negotiate inappropriate requests efficiently without jeopardizing the doctor-patient relationship or feeling

that patients are challenging their authority. Enhanced communication skills may enable doctors to follow their professional judgment, without damaging the doctor-patient relationship.¹⁹

Methodological Issues

Several methodological issues limit the generalizability of our findings. First, this article reports on a secondary analysis of an extant data set, so not all hypotheses could be evaluated with the desired precision. Second, we have no objective measures of the appropriateness of patient requests; however, because this is a professional judgment of the type clinicians make daily, respondents' opinions have a degree of face validity. Finally, the response rate is moderate at 53%, despite every effort to maximize it. However, comparison of unweighted with weighted data suggests that the sample obtained was representative of US physicians, and sampling weights were applied to adjust for survey nonresponse.

Conclusions

DTCA can have both good and bad effects on the doctor-patient relationship and health service utilization. The benefits can be maximized and the harms minimized by increasing the accuracy and relevance of the information in the advertisements, enhancing physicians' communication and negotiation skills, and encouraging patients to respect physicians' clinical expertise.

We are grateful to Kinga Zapert and Rachel Turner of Harris Interactive Inc. for developing and fielding the survey instrument and to Joseph Catania, PhD, director of the Health Survey Research Unit, for advice on the analytical strategy.

References

1. Goodman, A. Why bad ads happen to good causes. Santa Monica (CA): Cause Communications; 2002.
2. Woloshin S, Schwartz LM, Tremmel J, Welch HG. Direct-to-consumer advertisements for prescription drugs: what are Americans being sold? *Lancet* 2001; 358:1141–6.
3. Rosenthal MB, Berndt ER, Donohue JM, Frank RG, Epstein AM. Promotion of prescription drugs to consumers. *N Engl J Med* 2002;346:498–505.
4. Lyles A. Direct marketing of pharmaceuticals to consumers. *Annu Rev Public Health* 2002;23:73–91.
5. Holmer AF. Direct-to-consumer advertising—strengthening our health care system. *N Engl J Med* 2002;346:526–8.
6. Holmer AF. Direct-to-Consumer prescription drug advertising builds bridges between patients and physicians. *JAMA* 1999;281:380–2.
7. Bonaccorso SN, Sturchio JL. For and against: Direct to consumer advertising is medicalising normal human experience: Against. *BMJ* 2002;324:910–1.
8. Findlay SD. Direct-to-consumer promotion of prescription drugs. Economic implications for patients, payers and providers. *Pharmacoeconomics* 2001;19: 109–19.
9. Mintzes B, Barer ML, Kravitz RL, et al. Influence of direct to consumer pharmaceutical advertising and patients' requests on prescribing decisions: two site cross sectional survey. *BMJ* 2002;324:278–9.
10. Hollon MF. Direct-to-consumer marketing of prescription drugs: creating consumer demand. *JAMA* 1999;281:382–4.
11. Spurgeon D. Doctors feel pressurised by direct to consumer advertising. *BMJ* 1999;319:1321.
12. Lipsky MS, Taylor CA. The opinions and experiences of family physicians regarding direct-to-consumer advertising. *J Fam Pract* 1997;45:495–9.
13. Moynihan R, Heath I, Henry D. Selling sickness: the pharmaceutical industry and disease mongering. *BMJ* 2002;324:886–91.
14. Mintzes B. For and Against: direct to consumer advertising is medicalising normal human experience: For. *BMJ* 2002;324:908–9.
15. StataCorp, Stata Reference Manual Release 7. College Station, (TX): Stata Press; 2001.
16. Kassirer JP. Managing care—should we adopt a new ethic? *N Engl J Med* 1998;339:397–8.
17. Levinsky NG. The doctor's master. *N Engl J Med* 1984;311:1573–5.
18. Pellegrino ED, Thomasma DG. For the patient's good: the restoration of beneficence in health care. New York: Oxford University Press; 1984.
19. Levinson W, Gorawara-Bhat R, Dueck R, et al. Resolving disagreements in the patient-physician relationship: tools for improving communication in managed care. *JAMA* 1999;282:1477–83.