

Are Primary Care Physicians Ready to Practice in a Consumer-Driven Environment?

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Consumer-directed health plans (CDHPs) present new challenges to the medical decision making of patients and physicians. Broadly conceived, CDHPs are composed of high-deductible insurance products and medical savings accounts (whether in the form of health savings accounts or health reimbursement arrangements). In theory, high deductibles create incentives to limit unnecessary care and to shop for services based on cost and quality. Medical savings accounts enable patients or their employers to save pretax dollars for future healthcare needs. With these reforms, CDHP enrollment has grown 10-fold in the past 3 years from 440,000 to 4.5 million, and 20% of employers, large and small, offer these plans.¹

Early research indicates that CDHP enrollees utilize healthcare differently than patients in traditional plans.² In some cases, they use fewer inappropriate services (ie, emergency department care for nonemergent conditions),³ while other studies^{4,5} demonstrate poorer adherence with follow-up care and physician-prescribed treatment regimens. When preventive services are exempt from the deductible, screening rates for breast and cervical cancer do not change.⁶ Such mixed effects may reflect the complexity of weighing the costs and benefits of medical care and of integrating various sources of clinical, financial, and quality-of-care data.

As an initial point of contact for patients, primary care physicians are likely to confront these issues when discussing, recommending, and providing medical care. Moreover, many primary care services (including chronic disease visits, prescription medications, diagnostic testing, and, in some cases, preventive care⁷) are not exempt from the high deductibles. As a result, patients in CDHPs face financial considerations beyond copayments and coinsurance in deciding whether to use medical services. While CDHP enrollees may increasingly utilize Web-based clinical and decision-making supports,² physicians may need to help patients interpret the information from these sources.

Despite these challenges, research (to our knowledge) has yet to explore primary care physicians' readiness to practice in a consumer-driven environment. For this study, we surveyed a national sample of primary care physicians to assess their knowledge and attitudes with regard to CDHP benefit design and their readiness to engage patients on issues of cost and quality. Along with analyzing

Objective: To evaluate physicians' readiness to care for patients enrolled in consumer-directed health plans (CDHPs), which change the nature of cost sharing and medical decision making in primary care.

Study Design: Mailed cross-sectional survey of 1500 nationally representative primary care physicians.

Methods: Physicians' knowledge of CDHP benefit design, readiness to advise patients about financial issues, and views regarding the role of quality-of-care information in patient decision making were assessed. Results were analyzed using descriptive statistics and multivariate models.

Results: Five hundred twenty-eight of 1076 eligible physicians (49%) responded to the survey. Forty percent of physicians had CDHP enrollees in their practices. Forty-three percent of physicians reported low knowledge of CDHP cost sharing, and approximately one-third reported low knowledge of how medical savings accounts function. Overall, physicians with CDHP enrollees in their practices had higher knowledge than physicians without these patients; however, 1 in 4 of these providers reported low knowledge of CDHP cost sharing. More than two-thirds of all physicians were ready to advise patients on the costs of office visits, medications, and laboratory tests; approximately half or less were ready to advise on the costs of radiologic studies, specialist visits, and hospitalizations. Forty-eight percent were ready to discuss medical budgets with patients. Twenty-one percent of physicians thought that patients could trust quality-of-care information from government Web sites, and 8% thought that patients could trust quality-of-care information from insurance Web sites.

Conclusion: Many primary care physicians report low knowledge of CDHPs, limited readiness to advise patients on issues of cost and medical budgeting, and minimal trust in quality-of-care information.

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In this issue

Take-away Points / p667

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Full text and PDF

Web exclusive

eAppendix Patient Survey

For author information and disclosures, see end of text.

ing the sample as a whole, we tested whether outcomes differed between physicians with and without CDHP enrollees in their practices.

METHODS

Study Design and Population

In May and June of 2007, we mailed an anonymous survey to a nationally representative sample of 1500 US primary care physicians randomly selected from the American Medical Association Masterfile. Eligible physicians were general internists, family physicians, and general practitioners 65 years or younger (to minimize the inclusion of nonpracticing or retired providers). Each physician received a \$2 incentive in the first mailing. Nonresponders were sent 2 additional mailings without a financial incentive.

Survey Instrument

We developed the survey instrument after a literature review of CDHPs, patient cost sharing, and primary care decision making and pilot tested it among 50 academic and community-based primary care physicians. The final survey instrument included a clinical vignette and a questionnaire about knowledge and attitudes related to CDHPs. This study focuses on results from the questionnaire. The full survey is shown in the [eAppendix](#) (available at www.ajmc.com). The institutional review board of the University of Pennsylvania approved this study.

The questionnaire first asked physicians about their baseline knowledge and overall impression of CDHPs. It then provided a brief description of the plans' deductible requirements and medical savings account options. Next, physicians were asked about (1) their general readiness to discuss issues of cost, cost-effectiveness, and medical budgeting with patients; (2) their ability to advise patients on the costs of commonly prescribed services; (3) their views regarding the effects of CDHPs on clinical care; and (4) their views on the role of publicly available quality-of-care information in patient decision making. Questions were answered on a 5-point scale. In the demographics section, we asked physicians whether any of their patients were enrolled in CDHPs and, if so, what percentage of their practice panel. We did not ask specifically whether physicians were aware of CDHP insurance status at the time of care.

Statistical Analysis

We reported proportions and calculated approximate 95% confidence intervals (CIs) for each survey question. Five-item response frames were collapsed into 3 categories to generate these proportions. For example, knowledge was categorized as

“high” if physicians answered “much” or “a great deal,” “medium” if physicians answered “somewhat,” and “low” if they answered “a little” or “not at all.”

Using bivariate analyses with χ^2 tests of significance and multivariate logistic regression, we tested whether physician and practice characteristics (age, sex, specialty, board certification, practice size, academic affiliation, percentage of patients with Medicaid coverage, and geographic region) were associated with having CDHP enrollees in one's practice. Using multivariate logistic regression analyses adjusting for physician and practice characteristics, we also tested whether having CDHP enrollees in one's practice was associated with physicians' knowledge, readiness, and views with regard to these plans.

RESULTS

Of the 1500 total sample, 528 eligible physicians responded to the survey ([Table 1](#)). After excluding 124 physicians who did not practice primary care and 300 physicians with undeliverable or inaccurate mailing addresses, the adjusted response rate was 49% (528 of 1076). Respondents were more likely than nonrespondents to be female (32% vs 27%, $P = .04$), board certified (86% vs 81%, $P = .02$), and family physicians or general practitioners (58% vs 49%, $P = .002$). There were no significant differences between respondents and nonrespondents with regard to age or region.

Experience With CDHPs

Forty percent of physicians indicated that CDHP enrollees were part of their practice panels ([Table 1](#)). Among these physicians, patients in CDHPs comprised a median of 5% of their practice panels. In bivariate and multivariate analyses, physicians with CDHP enrollees in their practices were less likely to care for a high percentage of patients with Medicaid coverage and were less likely to be from the Northeast. Physician age, sex, specialty, board certification, practice size, and academic affiliation were not associated with having CDHP enrollees in one's practice.

Baseline Knowledge of CDHPs

In response to the question “Prior to this study, how much had you heard about consumer-directed health plans (CDHPs)?,” 43% reported having heard “a little” or “not at all,” 33% reported having heard “somewhat,” and 24% reported having heard “much” or “a great deal” ([Table 2](#)). Similarly, 43% indicated low knowledge of out-of-pocket costs faced by CDHP enrollees. Last, approximately one-third had low knowledge of how money is contributed to (35%) and spent from (31%) medical savings accounts.

Primary Care Physicians Practicing in a Consumer-Driven Environment

Two hundred ten physicians with CDHP enrollees in their practices had higher knowledge across all 4 domains than physicians without CDHP enrollees in their practices (Figure). They were more likely to have heard about CDHPs (adjusted odds ratio [AOR], 5.31; 95% CI, 3.29-8.58), understand out-of-pocket costs (AOR, 3.34; 95% CI, 2.12-5.26), and understand how money is contributed to (AOR, 2.76; 95% CI, 1.85-4.14) and spent from (AOR, 2.47; 95% CI, 1.66-3.68) medical savings accounts. However, low knowledge among physicians with CDHP enrollees in their practices was not uncommon: 24% reported low knowledge about cost sharing, and 18% and 14%, respectively, reported low knowledge about how money is contributed to and spent from medical savings accounts.

Impression of CDHPs

Before providing a brief description of CDHPs, we asked physicians about their overall impression of these plans. Forty-six percent reported a favorable impression, 37% were neutral, and 17% reported an unfavorable impression. Physicians with patients enrolled in CDHPs were more likely to have a favorable impression (AOR, 2.27; 95% CI, 1.54-3.35) than physicians without these patients.

Readiness to Discuss and Advise Patients on Financial Matters

Next, we asked physicians “how ready” they were to discuss issues related to cost, cost-effectiveness, and budgeting. While almost three-quarters of physicians were ready to discuss issues of cost and cost-effectiveness, less than half were ready to discuss medical budgeting with patients (Table 3). Physi-

Table 1. Characteristics of Primary Care Physicians and Their Practice Settings

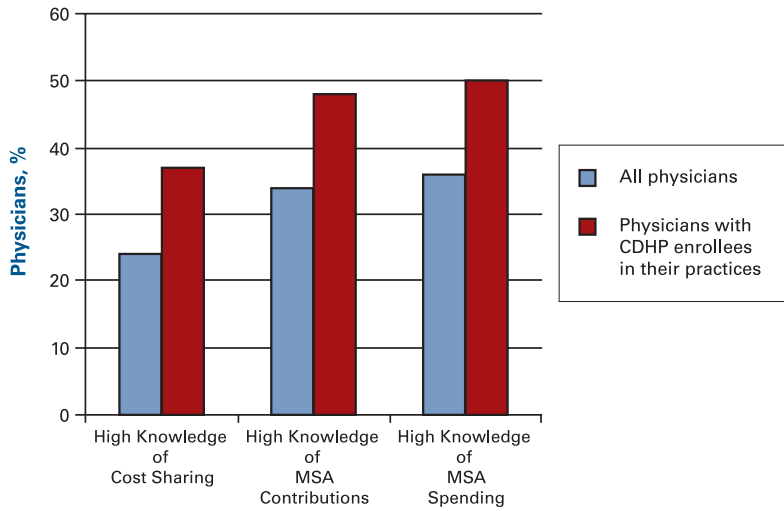
Characteristic	No. (%)	
	Total (N = 528)	Physicians With CDHP Enrollees in Their Practices (n = 210)
Age, y		
≤45	189 (35.8)	80 (38.1)
46-55	216 (40.9)	85 (40.5)
56-65	123 (23.3)	45 (21.4)
Sex		
Male	357 (67.6)	142 (67.6)
Female	171 (32.4)	68 (32.4)
Specialty		
Internal medicine	220 (41.7)	77 (36.7)
Family medicine or general practice	308 (58.3)	133 (63.3)
Board certified		
Yes	454 (86.0)	181 (86.2)
No	74 (14.0)	29 (13.8)
Practice size^a		
Solo	102 (20.2)	46 (22.2)
2-4	175 (34.6)	77 (37.2)
5-9	122 (24.1)	50 (24.2)
≥10	107 (21.1)	34 (16.4)
Academically affiliated^a		
Yes	174 (33.5)	61 (29.2)
No	346 (66.5)	148 (70.8)
Medicaid coverage among patient panel^a		
High, ≥10%	110 (21.8)	33 (16.3)
Low, <10%	394 (78.2)	170 (83.7)
Region		
Northeast	108 (20.5)	30 (14.3)
South	168 (31.8)	66 (31.4)
Midwest	144 (27.3)	64 (30.5)
West	108 (20.5)	50 (23.8)

CDHP indicates consumer-directed health plan.
^aTotals differ from column totals because of missing data.

cians with CDHP enrollees in their practices were more ready than those without CDHP enrollees to discuss the 3 topics of costs of medical care (AOR, 2.33; 95% CI, 1.48-3.68), cost-effectiveness of medical care (AOR, 2.13; 95% CI, 1.33-3.41), and medical budgeting (AOR, 1.99; 95% CI, 1.35-2.92).

Turning to the costs of specific services, we asked physicians whether they were ready to advise patients on costs

■ **Figure.** Primary Care Physicians' Knowledge of Consumer-Directed Health Plans (CDHPs)



MSA indicates medical savings account.

taking into account the resources at their practice sites. More than two-thirds of physicians were ready in the case of office visits, medications, and laboratory testing. However, approximately half or less were ready to advise patients on the costs of radiologic studies, specialist consultation, and hospitalizations. Compared with physicians without CDHP enrollees in their practices, physicians with these patients were more ready to discuss the costs of medications (AOR, 1.68; 95%

CI, 1.03-2.71) but were no more ready to discuss the costs of the other 5 services.

Role of Quality-of-Care Information in Patient Decision Making

In addition to considering costs, patients in CDHPs are encouraged to use information on quality-of-care when making medical decisions. Less than half of physicians in our survey agreed that quality-of-care information from government or insurance Web sites should factor into patients' choice of hospitals or specialists (Table 3). Having CDHP enrollees in one's practice was not associated with attitudes regarding the use of quality-of-care information. Less than one-quarter of physicians agreed with the statement that "Patients can generally trust the quality information provided by government web-

sites." Only 8% agreed that patients can trust quality-of-care information from insurer Web sites. Again, physicians with CDHP enrollees in their practices were no more or less likely to trust these sources of information.

Anticipated Effects on Healthcare Utilization

Forty-five percent of physicians agreed with the statement that "Under CDHPs, the use of clinically indicated medical

■ **Table 2.** Physicians' Knowledge and Attitudes Regarding Consumer-Directed Health Plans (CDHPs)

Variable	% (95% Confidence Interval)		
	High	Middle	Low
Prior to this survey, baseline knowledge of			
CDHPs in general	24 (20-28)	33 (29-37)	43 (38-47)
Out-of-pocket costs with CDHPs	24 (20-27)	33 (29-37)	43 (39-47)
How money is contributed to medical savings accounts	34 (30-38)	31 (27-35)	35 (31-39)
How money is spent from medical savings accounts	36 (32-40)	32 (28-36)	31 (28-36)
Impression of CDHPs			
	Favorable	Neutral	Unfavorable
	46 (42-51)	37 (33-41)	17 (14-20)
CDHPs will decrease the use of			
	Agree	Neutral	Disagree
Clinically indicated care	45 (41-50)	24 (20-28)	31 (27-34)
Care that is not clinically indicated	71 (67-74)	19 (16-23)	10 (8-13)

Primary Care Physicians Practicing in a Consumer-Driven Environment

care will decrease compared to current use.” In comparison, more than 70% of physicians agreed that CDHPs would reduce the use of care that is not clinically indicated. Physicians with CDHP enrollees in their practices were no more or less likely to agree with either statement.

DISCUSSION

Through a national survey, we assessed primary care physicians’ readiness to care for patients enrolled in CDHPs. First, many physicians, including those with CDHP enrollees in their practices, have low knowledge of cost-sharing requirements and of medical savings accounts. Second, while physicians are generally ready to discuss issues of cost with patients, they are less ready to discuss medical budgeting and to advise patients on the costs of specific services. Third, primary care physicians do not generally trust the quality-of-care information that patients in CDHPs may increasingly utilize.

Some may consider that physicians’ level of knowledge and readiness is appropriate at this stage in the development of CDHPs given that approximately 3% of privately insured Americans are in such plans.¹ Accordingly, our results provide a useful baseline from which to track these outcomes as CDHPs become more prevalent. The US Department of the Treasury⁸ estimates that enrollment will reach 25 million by the next decade. However, in terms of practice prevalence, we find that 40% of primary care physicians are providing care to CDHP enrollees. This may be an underestimate because it does not account for those physicians who are unaware of their patients’ CDHP coverage.

One-quarter of physicians with CDHP enrollees in their practices have low knowledge of the cost sharing faced by patients in these plans. Moreover, among all primary care physicians, less than half are ready to discuss medical budgets or to advise patients on the costs of certain commonly recommended services. Does limited knowledge and readiness among primary care physicians pose risks to CDHP enrollees? What role should physicians have in helping patients make medical decisions within these plans?

Table 3. Physicians’ Readiness to Advise Patients on Medical Costs and Their Views on the Role of Quality Information in Patient Decision Making

Variable	% (95% Confidence Interval)
	Ready or Very Ready
Readiness to discuss	
Costs of medical care in general	73 (69-77)
Cost-effectiveness of medical care	76 (73-80)
Medical budgeting	48 (43-52)
Readiness to advise patients regarding the specific costs of	
Office visits	85 (82-88)
Medications	79 (76-83)
Laboratory tests	67 (63-71)
Radiologic studies	54 (50-59)
Specialist consultation	38 (33-42)
Hospital costs	33 (29-37)
Agree or Strongly Agree	
Quality-of-care information from Web sites should factor into patients’ choice of	
Hospitals	45 (41-49)
Specialists	41 (37-45)
Patients can generally trust the quality-of-care information provided by	
Government Web sites	21 (17-24)
Insurance Web sites	8 (6-10)

Alexander and colleagues⁹ state that CDHPs highlight a tension in physician practice between treating all patients equally according to clinical factors (an aspirational model) versus treating patients differentially according to clinical and nonclinical factors such as coverage, costs, and ability to pay (an agency model). The former approach may lead physicians to recommend care that patients cannot afford. The latter approach may lead physicians to take on a fiduciary role that is inappropriate or impractical. While this dichotomy provides a key framework for thinking through the ethical challenges of CDHPs, many clinicians probably find themselves somewhere in the middle. From clinical experience, physicians may recognize that patients decrease their use of essential and nonessential care in the face of cost sharing but that guidance about the relative value of medical interventions can help them make better decisions.

Our findings suggest that many primary care physicians may not have the requisite knowledge to help patients in CDHPs make such decisions. In terms of cost sharing, physicians may be unaware that CDHPs do not exempt many

primary care services from the deductible. In turn, patients may be left to decide on their own whether to fill a chronic disease medication or to complete a diagnostic test. Low-income patients may face especially difficult decisions and risk higher rates of nonadherence.^{10,11} In terms of medical savings accounts, many physicians may not know that less than half of employers make contributions to their employees' medical savings accounts.⁷ Arguably, CDHP enrollees may be aware of such benefit limitations and may signal their physicians accordingly, but a recent national survey of employers suggests that CDHPs "are difficult for some employees to understand and, therefore, require extensive employee education when offered."^{12(p2)} Physicians, too, may need targeted educational interventions regarding deductibles, cost sharing, and medical savings accounts. Employers and insurers, in particular, should find ways to help physicians meet these educational needs.

Primary care physicians are also unprepared to advise patients on the costs of medical care, particularly radiologic studies, specialty consultations, and hospitalizations. Insurers such as Aetna and Humana have implemented regional initiatives to make price information available,¹³ but widescale access and availability at the point of care have not been realized.¹⁴ Ideally, these resources would be available online for physicians and patients to consider together during office visits, enabling a process of shared decision making. Along with expanded access to this information, providers and payers will have to establish reporting standards to help patients and physicians distinguish among the price, the charge, and the out-of-pocket cost for services. Notwithstanding these reforms, new models of decision making may be needed because of limitations in time and the ever-growing number of clinical interventions.¹⁵

The limited readiness of physicians to discuss medical budgets is also important. To the extent that budgeting decisions are based on knowledge of cost sharing and costs, physicians may not consider themselves capable of helping patients. Our findings may also reflect physicians' practice of separating clinical decisions from considerations of cost,^{16,17} their aversion to planning for future medical needs,¹⁸ or their hesitancy to make judgments about the value of medical care for their patients. Notably, physicians with CDHP enrollees in their practices are more ready to discuss medical budgeting with their patients. From these cross-sectional data, it is not clear whether CDHP patients are gravitating toward physicians who are better prepared to discuss these issues or whether physicians, by caring for these patients, are becoming more informed. Studies of actual patient-physician decision making in CDHPs may shed light on these issues. Going forward, CDHP enrollees and their physicians

will need to take shared responsibility in shaping medical budgets.

Early research suggests that CDHP enrollees are using quality-of-care information more often than patients in traditional plans, but overall such data are underutilized and insufficient.² Our findings reveal that physicians' trust in publicly reported quality information is low. This distrust may stem from disagreements between physicians and payers about the definition of quality¹⁹ or from concerns about its unintended consequences.²⁰ In the context of CDHPs, physicians may disapprove of their patients' use of quality-of-care data, potentially creating tension in the physician-patient relationship. At the extreme, physicians may attempt to dissuade patients from using such data, causing confusion and consternation for patients facing difficult medical decisions. The severe physician distrust of quality data may also present a stumbling block for third-party payers trying to use these tools to direct patients' use of medical services.

Last, physicians seem to be struggling with the potential clinical implications of CDHPs just as policy makers are.^{4,10,21} Forty-six percent of physicians have a favorable impression of these plans, yet 45% believe that CDHPs will decrease the use of clinically indicated care. An online questionnaire from June 2006 found similar results.²² In our study, physicians with CDHP enrollees in their practices have more favorable impressions, but this may reflect that current enrollees (who are more affluent than those in traditional plans²) are not facing cost-related difficulties. More studies using claims and clinical data will be needed to understand the full effect of these plans on patients across the socioeconomic spectrum. Meanwhile, physicians may grapple with whether to recommend the most effective care or the most affordable care. Patients may be less likely to reach clinical milestones, with attendant negative effects on patient health and on physician remuneration in the form of pay-for-performance reimbursements. From a legal perspective, it remains to be seen whether recommending less expensive, less effective care will leave physicians vulnerable to malpractice claims.²³

The results of this study should be viewed in light of several limitations. First, our 49% adjusted response rate is below the mean for surveys published in medical journals (60%); however, it is close to the mean rate for surveys of physicians (54%).²⁴ Second, although respondents differed from nonrespondents by sex, specialty, and board certification, only board certification was associated with an outcome of interest in multivariate modeling. Because it was positively associated with overall CDHP knowledge, we may be overestimating physician knowledge. Third, this questionnaire was cross-sectional in nature, revealing physicians' knowledge and attitudes about CDHPs at a single point in time. As plan

prevalence grows and as physician experience accrues, such outcomes may change. Fourth, we asked questions about CDHPs as a whole, yet these plans are varied with regard to deductibles, savings accounts, coverage of services, and consumer information support.^{7,25}

Despite these limitations, our findings have important implications for patients, clinicians, and policy makers. To care appropriately for patients enrolled in CDHPs, primary care physicians may need a better understanding of cost sharing and of medical savings accounts. Physicians and patients need greater access to the costs of specific services, and physicians need guidance with regard to their role in medical budgeting. Finally, physicians' lack of trust in quality-of-care information may limit its usefulness in transforming patient behavior within CDHPs. As enrollment grows, we must continue to investigate the effect of consumer-driven reforms on primary care delivery.

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Take-away Points

Many primary care physicians have low knowledge and limited practice readiness with regard to consumer-directed health plans (CDHPs).

- Physicians may not be aware of the coverage limitations and cost considerations faced by CDHP enrollees. Targeted educational interventions from insurers or from employers may be needed.
- Many physicians are not prepared to advise patients on financial matters such as the costs of common interventions and medical budgets. Point-of-care access to standardized cost information should be developed.
- Severe physician distrust of quality-of-care data may cause confusion for CDHP enrollees and may limit the ability of such data to transform patient behavior.

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