Consumer Experience With a Tiered Physician Network: Early Evidence

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Objective: To analyze consumer awareness, use, and trust of a tiered provider network, which differentiates copayments by provider cost-efficiency and quality.

Study Design: Mail survey of a plan-stratified random sample of individuals in health plans offered by the Massachusetts Group Insurance Commission.

Methods: Pearson's χ^2 tests and multinomial logistic regression were used to analyze the effect of demographics and other characteristics on consumer awareness, understanding, trust, and use of a tiered provider network.

Results: Half (49.5%) of respondents reported prior knowledge of the tiered networks in their health plan. Whites, respondents who saw a specialist in the last year, and respondents who used the Internet for health information were more likely to be aware of the tiers. A majority of respondents either did not trust (35.5%) or did not know whether they trusted (22.5%) the tiers to tell them which physicians were better than others. Nineteen percent of respondents reported knowing which tier one of their physicians was in; of this group, 50.1% learned this information at or after their first visit. Respondents who learned their physician's tier before the first visit were more likely to find this information important to their decision to see that physician (60.5% vs 39.5%; $P < .01$).

Conclusions: These findings suggest use of tiered networks to direct consumers to preferred providers requires increased consumer awareness and trust in the health plan as a source for provider rankings. Efforts targeting consumers before they decide to see a physician may be more successful.

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For author information and disclosures, see end of text.

The latest trend in the design of managed care networks is to encourage consumers to seek care from "preferred" physicians, while continuing to permit the consumer's choice of physician. These so-called tiered networks sort physicians into tiers according to their performance on cost-efficiency and quality measures, and assign differential copayments, with higher copayments for a visit to a physician in a lower performing tier. Tiered networks have been introduced in major markets such as Boston, Milwaukee, and Seattle; and many national health insurers have begun to diffuse these products more broadly.[1,2] Purchasers hope that these products will lead consumers to choose physicians in high-performing tiers and that providers in the lower tiers will respond to the potential loss of market share by improving their performance, thereby reducing costs and improving quality and efficiency in the health system overall.

Although objective information about the impact of tiered provider networks on consumer behavior is needed, understanding consumer perceptions of these networks is critical to assess whether and how these networks might influence consumer behavior. For example, if consumers do not switch to higher ranked physicians, it is important to know whether this failure to switch is because of lack of awareness or confusion, or because consumers think the information conveyed by the tiers is unimportant or suspicious when coming from their health plan. Whether consumers take notice of, understand, and use the physician tiers is unknown. To begin to explore the potential of tiered networks to change consumer behavior, and ultimately provider behavior, we surveyed members enrolled in any 1 of 6 tiered network plans offered by a public employer, the Group Insurance Commission of Massachusetts (GIC). The health plans in which survey respondents were enrolled include 3 health maintenance organizations (HMOs), 2 preferred provider organization (PPO) plans, and 1 indemnity "basic" plan. Specifically, we determined whether consumers were aware of, understood, and used the tiered physician networks in their health plan; the sources consumers said they would trust to determine which physicians should be in a preferred versus nonpreferred tier; and whether responses varied by demographic or other characteristics.

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Tiered physician networks might affect patient behavior through 2

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Take-Away Points

Mail survey of individuals included in health plans offered by the Massachusetts Group Insurance Commission suggested that using tiered networks to direct consumers to preferred providers requires increased consumer education.

- Half of respondents reported prior knowledge of the tiered physician network in their health plan, and one-fifth knew which tier one of their doctors is in.
- Those who learned their doctor's tier before their first visit were more likely to find this information important.
- Educational efforts targeting consumers before they decide to see a particular doctor may be more successful.

mechanisms: (1) price effects (the differential copayment across tiers) and (2) quality or value information (the physician's performance on cost-efficiency and quality measures is what determines his/her placement in the tiers). Few studies have assessed consumer response to differences in cost-sharing across providers (the cross-price elasticity of demand, in economic terms) despite the fact that health plans have been experimenting with tiered networks for a number of years.[3-5] However, a recent study by Scanlon et al[6] and another by M. B. Rosenthal[7] provide some evidence that consumers switch to preferred providers when the price differential between preferred and nonpreferred tiers is large.

The literature suggests that behavioral effects are modest in response to the quality or value information provided by tiered networks.[8] Consumers frequently use recommendations from friends and family to select a physician, with much less use of formal sources of quality information.[9-11] Surveys have revealed that consumer-directed reports on quality have had limited salience, possibly because they are difficult to understand and use.[12-14] However, studies of consumer preferences after the release of quality report cards, particularly studies that controlled for patients' prior beliefs about quality, found evidence of changes in market share toward higher rated providers.[15-17]

Neither the literature on consumer response to out-of-pocket costs nor that on consumer response to quality report card information applies if consumers do not know about or understand the physician tiered networks included in their health plan. To date, there is no evidence regarding such consumer knowledge and understanding of a tiered physician network. Several previous studies used survey data to analyze knowledge of health insurance and benefits more generally among privately insured populations and found that consumers had an uneven understanding of their health insurance benefits and cost-sharing requirements.[18-21] Our study is the first to provide evidence on consumer awareness, beliefs, and self-reported experience with tiered physician networks.

THE GIC AND TIERED PHYSICIAN NETWORKS

The GIC provides health benefits to approximately 300,000 public employees, retirees, and their dependents and survivors through a range of health plan choices. In response to the rising cost of health insurance premiums and a desire to reward efficient and high-quality care, in 2004 the GIC began working with its health plans to select a standard set of performance measures for individual physicians that would take advantage of pooled data on GIC enrollees across all plans to maximize sample size and eliminate potentially confusing and conflicting performance measurement. These data account for more than 2.3 million lives and have 7 million complete episodes associated with approximately 15,000 physicians. The performance data include efficiency scores based on the Episode-Treatment Group methodology and quality scores based on claims-based process measures and Resolution Health Inc analysis. The emphasis was on specialists, but several plans included primary care physicians as well.

In July 2007 all GIC health plans offered to active state employees and their dependents included a tiered physician network with a subset of physicians tiered at the individual physician level. (Five of 6 plans implemented physician tiers at the individual physician level in 2006; the indemnity plan implemented individual physician–level tiers for the first time in 2007.) The plans were consistent in that 10% to 20% of the physicians in each plan's network were tiered at the individual level. In fiscal year 2008, the year in which this survey was fielded, the group of doctors who were tiered accounted for approximately 40% of physician-driven medical spending. The 8 specialties that were the focus of the tiered physician networks in fiscal year 2009 accounted for 64% of the GIC's physician-driven expenditures (Brennan Holmes, MPA, GIC program manager, personal communication, February 24, 2009). However, each plan was allowed some flexibility in methodology to construct its networks. For example, the 3 HMO plans chose to identify their lowest performing physicians by designating a smaller "nonpreferred" tier, whereas the 2 PPO plans and the indemnity plan structured their tiers to identify the highest performing doctors in the network through a smaller "preferred" tier. The difference in copayment required from patients for a tier 1 physician versus a tier 2 physician was modest across all plans. A copayment of either $10 or $15 to see a tier 1 physician and $10 more for patients choosing a tier 2 physician was required in 5 of the plans; 1 plan set the tier 1 physician copayment at $15

and only required $5 more (a copayment of $20) for patients choosing to see a tier 2 physician.

The GIC sought to inform and educate its members about the tiered physician networks. Since 2004 the quarterly GIC newsletter has included at least 1 article that discusses the tiered networks; this newsletter is delivered to members via US mail, distributed by agency human resources departments, and sent via e-mail. In these articles vignettes are used to demonstrate how the tiers could make a difference to members in their care-seeking decisions. Each health plan also developed its own marketing materials, distributed both via mail and online, to explain the tiered network product to their enrollees. Explanatory materials on the physician tiers are part of the Benefit Decision Guide, the GIC open enrollment publication, and an educational presentation shown at health fairs. Since 2006 the GIC has trained the benefits coordinators working in agencies and offices across the state on how to assist the employees in their departments with questions about the tiered networks. Finally, telephone scripts on the tiered networks are provided to the staff that monitors the GIC's public information unit, where GIC members can call with questions about their benefits.

For the majority of these efforts, the extent to which the information about tiered physician networks reached consumers is unknown. The public information unit reported low call volume; for the 12-month period beginning in September 2007 the staff received 25 phone calls about the tiered networks, of which approximately one-third were complaints (Judy Settara, Director of Public Information at the GIC, personal communication, September 23, 2008).

DATA AND METHODS

We developed and fielded a survey to assess consumer response to tiered physician networks included in health plans offered by the Massachusetts GIC. The survey asked about consumer awareness and knowledge of the tiers, use of the tiered network over the past year, use of the healthcare system, information-seeking behavior, demographics, and self-reported health status. Whenever possible, questions included in the survey were drawn from widely used questionnaires. These included the Consumer Assessment of Health Plans Study and the Seniors Prescription Coverage, Use and Spending Survey (Safran DG, The Health Institute and New England Medical Center Hospitals, 2003). This survey instrument was tested through cognitive interviews with Massachusetts state employees in February 2008. The Harvard School of Public Health Institutional Review Board and the GIC Institutional Review Board approved this study, and completion and return of the survey served as a subject's consent to participate in the study.

The survey was distributed to a stratified random sample of 4200 state employees (stratification based on health plan). Any active (nonretired) employee who lived in Massachusetts and had selected 1 of the GIC health plans with a tiered physician network in 2007 was eligible for the sample. (Although the GIC indemnity plan offers 3 health insurance options—2 PPO-type plans and 1 Basic plan—our survey sample was only drawn from the Basic plan.) The survey was administered via US mail; responses were submitted via mail or Internet. Data were collected from March 2008 through June 2008. To increase response, respondents were sent a reminder postcard and 2 reminder survey mailings, and survey respondents were entered into a lottery to win 1 of 4 prizes of $500.

There were 64 undeliverable surveys and 1972 unique responses, giving an adjusted response rate of 48%. Thirty-nine cases with missing data on key stratifying variables (age, sex, zip code) were dropped from the analysis, giving a final sample size of 1933. Nonrespondents were more likely to live in a zip code with a high percentage of minority residents and to have enrolled in 1 of the HMO plans (results not shown). Percent minority population by zip code was assigned by using US Census Bureau data. For zip codes with missing census data we imputed the percent minority population using that of the next highest zip code in the census data. High minority zip codes were defined by being among the quartile of zip codes with the highest percentage of minority residents in our sample.

Compared with the population of active state employees, respondents were more likely to be older workers and female; the proportion of respondents from each plan was very similar due to our sampling strategy (**Table 1**). There were no significant differences between early and late respondents to the survey. Results were weighted for nonresponse and poststratification on age, sex, plan, coverage type, and minority population by zip code.

The results of our analyses are presented below. Pearson χ^2 tests were used to compare responses across groups; these findings were confirmed with logistic and multinomial logit models that controlled for age, sex, race, education level, household income, self-reported health status, use of specialist physician, use of the Internet for health information, and plan fixed effects. (Results of logistic and multinomial logit models are given in **eAppendices A** and **B**; available at **www.ajmc.com**.) We describe all comparisons across groups that were significant in both the χ^2 tests and regression models at the 5% level or better in the Results section below.

RESULTS

Awareness of Physician Tiers

Survey results indicate that just under half of the survey respondents (49.5%) were aware prior to this survey that tiered

Table 1. Descriptive Statistics

Characteristic	Percentage		
	Unweighted Sample	GIC	Analysis Sample, Weighted
Female	58.7	51.0	51.0
Age group, y			
18-44	34.6	39.9	39.9
45-54	34.7	31.4	31.4
55+	30.7	28.7	28.7
Coverage type			
Individual	39.7	40.0	39.7
Family	60.2	60.0	60.3
Plan			
Indemnity	17.3	17.7	17.7
HMO 1	16.4	3.6	3.6
HMO 2	18.0	9.2	9.2
HMO 3	13.9	1.5	1.5
PPO type 1	17.1	42.3	42.3
PPO type 2	17.3	25.7	25.7
White			79.3
Annual household income			
<$50K			23.2
$50K-$100K			46.7
$100K+			30.1
Education			
High school graduate or less			16.5
Some college			24.0
College graduate or more education			59.5
Self-reported health status			
Excellent/very good			68.1
Good			27.1
Fair/poor			4.8
Use of healthcare services in last year			
Seen doctor for a routine visit			79.3
Seen a specialist			63.6
Seen a doctor 3 or more times for same problem			32.3
Searched Internet for health information in the last year			53.8

GIC indicates Group Insurance Commission of Massachusetts; PPO, preferred provider organization.

physician networks were part of their health plan (Table 2). Minorities were less likely to be aware of the tiers prior to the survey; there were no differences in awareness across sex, age, household income, education levels, or self-reported health status. Members enrolled in 1 of the HMO plans were significantly less likely to be aware of the tiers than the survey average. As we expected, respondents who indicate they use their health plan as a source of information about specialists were more aware of the tiered networks. Respondents who reported having seen a specialist in the last year and respondents who reported using the Internet to search for health information were significantly more likely to have seen information about the tiers.

A smaller proportion of respondents (19.0%) reported that they knew at least 1 of their doctors' tier designation. This finding was consistent across demographic and other characteristics, except that respondents with family coverage were more likely to know their doctor's tier than respondents with individual coverage (20.9% vs 16.2%; $P < .025$). Only 2% of respondents reported that they discussed the tiers with a doctor. This finding did not vary by demographic characteristics.

Understanding and Trust of the Tiers

A series of questions about understanding, trust, and use of the tiered networks were asked of people who indicated they were aware of the tiers prior to the survey (Figure). A majority of the respondents who knew about the physician tiers thought that a physician's tier designation was based on cost and quality information (59.3%); however, 17.8% thought their plans used cost information alone, and an additional 17.9% responded that they did not know how the tiers were constructed. The remaining 5% of respondents thought the tier designation was based on only quality measures. These findings were consistent across respondent characteristics.

A majority of respondents indicated that they either did not trust (35.5%) or did not know whether they trusted (22.5%) the physician tiers in their health plan to tell them which doctors are better than others. There were few differences in response to this question across individual characteristics. Respondents who said they used their health plan as a source of information

when searching for a specialist physician were more likely to say that they trust the tier designations (52.3% vs 37.3%; *P* = .003). In contrast, enrollees in the indemnity plan were more likely to report that they did not trust the tiers to identify better doctors (50.6% vs 28.3%-38.6% in the other 5 plans; *P* = .005).

Respondents then were asked whether they would trust other sources to decide which doctors should be in a preferred versus a nonpreferred tier. Thirty-two percent of respondents indicated they would trust their own personal doctor, 43% would trust an independent organization (eg, *Consumer Reports*), and 49% would trust a physician professional society to allocate doctors across tiers. In comparison, 20% of respondents said they trusted their health plan and 20% said they trusted the GIC for the same information.

Use of the Physician Tiers

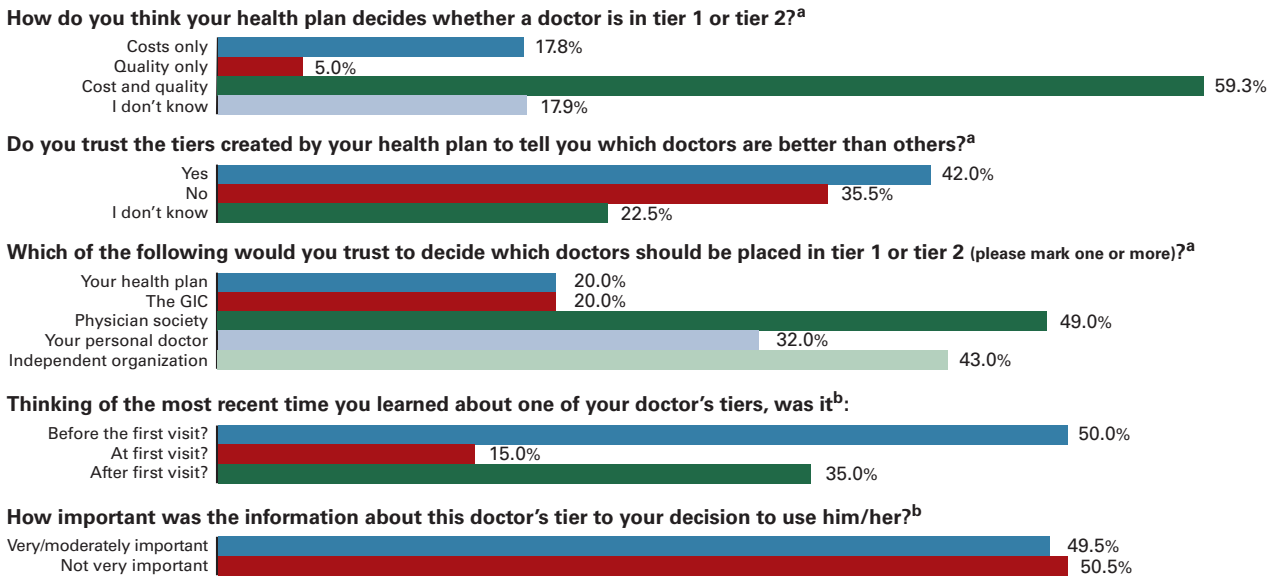
An additional set of survey questions were asked to consumers who reported they knew the tier designation of at least 1 of their doctors (19% of respondents). When asked when they learned the information about their doctor's tier designation, 50% of respondents indicated they learned about their doctor's tier before their first visit with him or her, 15% learned it during their first visit with the physician, and 35% learned it after their first visit. Approximately half of these respondents (49.5%) found the information about their doctor's tier very or moderately important to their decision to see that physician, with the remaining 50.5% indicating that this information was not very important. The importance of the information about a physician's tier designation varied for consumers depending on when they learned about it. Respondents who learned of their physician's tier before their first visit were significantly more likely to report that this information was very or moderately important to them, compared with respon-

Table 2. Consumer Awareness of the Tiered Physician Networks

Characteristic	% Aware[a]	*P*[b]
Overall	49.5	
Sex		.089
Male	46.8	
Female	52.1	
Race		.015
White	51.6	
Nonwhite	41.0	
Age, y		.25
18-44	50.0	
45-54	46.1	
55+	52.6	
Plan		.12
Indemnity	51.2	
HMO 1	36.1	
HMO 2	53.7	
HMO 3	43.7	
PPO type 1	47.8	
PPO type 2	51.8	
Household income		.77
<$50K	47.8	
$50K-$100K	50.5	
$100K+	48.5	
Education		.67
High school graduate or less	46.4	
Some college	50.6	
College graduate or more education	49.5	
Coverage type		.26
Individual	51.7	
Family	48.1	
Health status		.44
Excellent/very good	48.4	
Good	50.9	
Fair/poor	56.5	
Use Internet to search for health information		<.001
Yes	55.9	
No	41.8	
Use health plan for information about specialists?		<.001
Yes	58.8	
No	41.2	
Seen a specialist since last July?		.001
Yes	53.5	
No	42.8	

HMO indicates health maintenance organization; PPO, preferred provider organization.
[a]The percentage of respondents who answered "Yes, a lot of information" or "Yes, a little information" when asked whether they had seen any information from any source about the tiered networks in their health plan before doing the survey.
[b]*P* values are from Pearson χ^2 tests.

Figure. Consumer Understanding, Trust, and Use of Tiered Physician Networks



GIC indicates Group Insurance Commission of Massachusetts.
[a]Asked of all respondents who indicated they had seen information about the physician tiers prior to this survey.
[b]Asked of all respondents who indicated they knew which tier one of their physicians was in.

dents who learned about their doctor's tier at or after their first visit (Table 3).

Seventy percent of respondents who knew their doctor's tier designation reported that their physician was a tier 1 doctor (the top tier) and 25% indicated they see a tier 2 doctor. (Despite having indicated on a previous question that they knew which tier one of their doctors was in, the remaining 5% of respondents answered that they didn't know whether their doctor was in tier 1 or tier 2.) For respondents who know which tier more than 1 of their doctors were in, we asked them to consider the most recent time they learned which tier one of their doctors was in.

A follow-up question assessed the willingness of these consumers to switch physicians because of tier designation. Among the subset of respondents who said they had a tier 1 physician, 23.7% said they would switch doctors if they learned that their health plan decided to place their doctor in the lower ranked tier; that amounted to 3% of all survey respondents. In comparison, 76.3% of respondents who reported having a tier 1 doctor said they would not switch following a change in their doctor's tier ranking.

DISCUSSION

Half of Massachusetts state employees were not aware of the tiered physician networks in their health plan. Minorities were less likely to be aware of the tiered networks. Respondents who had seen a specialist in the last year and who reported using the Internet to search for health information were more likely to be aware of the tiered networks. Because specialist physicians are more frequently in the tiered networks (compared with primary care doctors) and because the GIC and the health plans use their Web sites as one of the primary means of communication about the tiered physician networks, both of the latter 2 findings are in the expected direction.

Although the majority of consumers who were aware of the tiered networks also knew that they were constructed using both cost and quality measures, few respondents trusted the tiers to identify better doctors. Trusted sources of information for selecting a physician included their own physician, physician professional societies, and independent consumer groups; health plans and employers were the least trusted sources for this information. Only 1 in 5 of the consumers knew the tier designation of at least 1 of their physicians, but half of these respondents knew their doctor's tier before seeing him or her for the first time. Few respondents reported being willing to switch physicians based on the doctor's ranking in a tiered provider network.

Awareness and use of tiered networks were low overall. The findings suggest substantial challenges and the need for increased consumer education to realize the potential benefits of a tiered physician network. However, these networks may still be important if they influence patients at key junc-

tures. To date, the GIC health plan tiers primarily include specialists; thus, patients selecting a specialist, particularly for the first time, would be the ideal targets for information about the tiers. Although respondents who had seen a specialist in the last year were more aware of the tiered network in their health plan, nearly 1 of 2 of these patients did not know about the tiers. The survey revealed that the window for consumer education about the tiers is open before a patient's first visit with a physician. Thus, strategies that focus on attracting consumers' attention to information on tiered networks when they are selecting a physician to see for the first time may have the greatest influence on their behavior. The best methods for increasing consumer awareness (ie, the optimal source for information on tiering, the most effective means of communication, how to provide the information when it is most salient) remain unknown and will be important topics for further research.

Table 3. Importance of Tier Ranking and Timing

When Learned of Doctor's Tier Ranking[a]	Very or Moderately Important, %	Not Very Important, %
Before first visit	60.5	39.5
At first visit	39.9	60.1
After first visit	40.0	60.0
Overall	49.5	50.4

[a] $P = .005$ based on test between those responding "Before first visit" and those responding "At first visit" or "After first visit."

Even if consumer self-reported awareness and use persist at the levels represented in this survey, the introduction of tiered physician networks might improve the cost-efficiency and quality of healthcare. Studies of consumer response to quality report cards have found that analyses of actual consumer choices often result in findings different from those of studies that interviewed and surveyed consumers.[7] A claims-data–based analysis comparing the periods before and after implementation of tiered networks would shed some light on whether the tiered network design has in practice influenced consumer choice of physician.

In addition to influencing consumers, tiered networks also could influence the cost-efficiency and quality of care through the providers themselves. Providers in tiered networks are informed of their tier designation each year. Physicians who are placed in the bottom tier may be motivated to improve their quality and cost-efficiency so as not to lose patients to higher tiered competitors. This response depends on whether the physicians believe that consumers are responding to the tiered networks and choosing to see top-tier physicians. Because tiered networks are relatively untested and these survey data confirm that patients are not discussing the tiers with their doctors, it is likely that physicians do not know the extent to which their patient flow will be threatened by a lower tier ranking. With time, the true level of consumer response will become evident.

Independent of consumer response, providers may want to improve their ranking for its own sake. Intrinsic motivation may have reduced mortality rates for some procedures publicly reported in quality report cards.[22] Whether intrinsic motivation is a factor in provider response will depend on physician perceptions regarding the validity and longevity of the tiers. Currently the Massachusetts Medical Society opposes the GIC's tiered networks, expressing concerns that the methods used to assess quality and cost-efficiency at the individual physician level are inaccurate and unfair, and is filing a lawsuit against the GIC to demand transparency, fairness, due process, and independent oversight in the tiering process or to halt use of the tiered networks.[23,24] The potential for intrinsic motivation to influence physician response to the tiered networks is unlikely to be fully realized until this legal action and the future of the GIC tiering program are resolved.

There are some limitations to this survey. First, generalizability may be limited because the survey was conducted among employees who all live in Massachusetts and work for 1 employer. Further research is necessary to determine whether consumers differ in their responses to tiered physician networks across employers and geographic areas. Second, this survey relied on self-reported data; consumers may not always accurately remember or report their experience with tiered networks. Third, the consumers surveyed for this study all were members of a health plan in which tiered physician networks had been implemented 1 to 2 years earlier; therefore, these findings represent early, as opposed to extended, evidence of consumer awareness and response to the tiered networks. Lastly, the difference in copayments charged across tiers in the GIC health plans was relatively modest; on average, a patient was required to pay $10 more if he or she chose to see a tier 2 doctor instead of a tier 1 doctor. We don't know whether a larger difference in cost between tiers would provide greater incentive for patients to learn about the tiered physician networks in their health plans and/or consider information on tiering more important in their choice of physician. Nevertheless, the findings reported here may represent a baseline from which changes in awareness and use of the tiers as well as education about the tiered physician networks can be measured in the future.

This early evidence suggests that using tiered physician networks to direct consumers to preferred providers requires consumer education to increase awareness of and trust in the employer and health plan as sources for determining the tiers. Efforts targeting consumers before they decide to see a particular doctor may be more successful at achieving the desired consumer response.

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REFERENCES

1. Draper DA, Liebhaber A, Ginsbug PB. High-performance health plan networks: early experiences. May 2007. Issue Brief No. 111. Center for Studying Health System Change. http://www.hschange.com/CONTENT/929/. Accessed April 24, 2009.

2. Thomas JW, Nalli GA, Coburn AF. What we know and do not know about tiered provider networks. *J Health Care Finance.* 2007;33(4):53-67.

3. Robinson JC. Hospital tiers in health insurance: balancing consumer choice with financial motives. *Health Aff (Millwood).* 2003;Suppl Web Exclusives:W3-135-146.

4. Mays GP, Claxton G, White J. Managed care rebound? Recent changes in health plans' cost containment strategies. *Health Aff (Millwood).* 2004;Suppl Web Exclusives:W4-427-436.

5. Fronstin P. Tiered networks for hospital and physician health care services. August 2003. EBRI Issue Brief 260. Employee Benefit Research Institute. http://www.ebri.org/publications/ib/index.cfm?fa=ibDisp&content_id=179. Accessed December 10, 2009.

6. Scanlon DP, Lindrooth RC, Christianson JB. Steering patients to safer hospitals? The effect of a tiered hospital network on hospital admissions. *Health Serv Res.* 2008;3(5 pt 2):1849-1868.

7. Rosenthal MB, Li Z, Milstein A. Do patients continue to see physicians who are removed from a PPO network? *Am J Manag Care.* 2009;15(10):713-719.

8. Kolstad JT, Chernew ME. Quality and consumer decision making in the market for health insurance and health care services. *Med Care Res Rev.* 2009;66(1 suppl):28S-52S.

9. Hoerger TJ, Howard LZ. Search behavior and choice of physician in the market for prenatal care. *Med Care.* 1995;33(4):332-349.

10. Kaiser Family Foundation and Agency for Healthcare Research and Quality. *National Survey on Americans as Health Care Consumers: An Update on the Role of Quality Information.* December 2000. http://www.ahrq.gov/downloads/pub/kffchartbk00.pdf. Accessed April 24, 2009.

11. Harris KM. How do patients choose physicians? Evidence from a national survey of enrollees in employment-related health plans. *Health Serv Res.* 2003;38(2):711-732.

12. Hibbard JH. What can we say about the impact of public reporting? Inconsistent execution yields variable results. *Ann Intern Med.* 2008;148(2):160-161.

13. Schneider E, Epstein AM. Use of public performance reports: a survey of patients undergoing cardiac surgery. *JAMA.* 1998;279(20):1638-1642.

14. Jewett JJ, Hibbard JH. Comprehension of quality of care indicators: differences among privately insured, publicly insured, and uninsured. *Health Care Financ Rev.* 1996;18(1):75-94.

15. Cutler DM, Huckman RS, Landrum MB. The role of information in medical markets: an analysis of publicly reported outcomes in cardiac surgery. *Am Econ Rev.* 2004;94(2):342-346.

16. Mukamel DB, Weimer DL, Zwanziger J, Gorthy SH, Mushlin AI. Quality report cards, selection of cardiac surgeons, and racial disparities: a study of the publication of the New York State Cardiac Surgery Reports. *Inquiry.* 2004/2005;41(4):435-446.

17. Dranove D, Sfekas A. Start spreading the news: a structural estimate of the effects of New York hospital report cards. *J Health Econ.* 2008;27(5):1201-1207.

18. Marquis MS. *Consumers' Knowledge About their Health Insurance Coverage.* 1981. Rand Report R-2753-HHS. Rand Corporation, Santa Monica, CA.

19. Garnick DW, Hendricks AM, Thorpe KE, Newhouse JP, Donelan K, Blendon RJ. How well do Americans understand their health coverage? *Health Aff.* 1993;12(3):204-212.

20. Nelson DE, Thompson BL, Davenport NJ, Penaloza LJ. What people really know about their health insurance: a comparison of information obtained from individuals and their insurers. *Am J Public Health.* 2000;90(6):924-928.

21. Reed MK, Brand R, Newhouse JP, Selby JV, Hsu J. Coping with prescription drug cost-sharing: knowledge, adherence, and financial burden. *Health Serv Res.* 2008;43(2):785-797.

22. Kolstad JT. *Information and Quality When Motivation Is Intrinsic: Evidence From Surgeon Report Cards. 2008.* Harvard University working paper. http://www.people.fas.harvard.edu/~jkolstad/Paper1_JobMarket_IntrinsicMotivation_Kolstad.pdf. Accessed April 15, 2009.

23. Walsh T. MMS board of trustees authorizes legal action regarding GIC tiering. Vital Signs. May 2008. http://www.massmed.org/Content/NavigationMenu3/BackIssues/2008/May2008/TopStories/vs_may08_top1.htm. Accessed February 10, 2009.

24. Walsh T. Society takes legal action against GIC tiering program. Vital Signs. June/July 2008. http://www.massmed.org/Content/NavigationMenu3/BackIssues/2008/JuneJuly2008/TopStories/default.htm. Accessed February 10, 2009. ■