Experience with Health Coach-Mediated Physician Referral in an Employed Insured Population

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BACKGROUND: Given increasing interest in helping consumers choose high-performing (higher quality, lower cost) physicians, one approach chosen by several large employers is to provide assistance in the form of a telephonic “health coach”—a registered nurse who assists with identifying appropriate and available providers.

OBJECTIVE: To evaluate the health coach’s influence on provider choice and the quality of the user experience in the early introduction of this service.

DESIGN: Cross-sectional survey of 3490 employees and covered dependents of a large national firm that offered health coach services to all employees and covered dependents. The survey began in September 2007 with proportionate stratified sampling of 1750 employees and covered dependents who used the services between October 2007 and February 2008, and 1740 non-users.

PARTICIPANTS: Insured adults (ages 21–64) employed by a large national firm or covered dependents of employees.

MEASUREMENTS: Awareness of the service, reason for using service, visits to providers recommended by service, use of health advice provided by service, user satisfaction.

MAIN RESULTS: The primary reason for using the service was to obtain provider referrals (73%). Fifty-two percent of users sought a specialist referral, 33% a PCP referral and 9% a hospital referral. Eighty-nine percent of users seeking a provider referral were referred in-network; 81% of those referred visited the referred provider. Measures of satisfaction with both the service and the care delivered by recommended providers were over 70%.

CONCLUSIONS: Customers largely follow the provider recommendation of the health coach. Users express general satisfaction with existing health coach services, but differences in performance between vendors highlight the need for the services to be well implemented.

KEY WORDS: health coach; physician referral; physician performance data; employee assistance program; survey.

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INTRODUCTION

Each year in the United States, millions of Americans consult a new physician, whether a primary care or specialist physician—there were 111 million new patient consultation visits to primary care and specialist physicians in 2006.¹ Changes in health status, family or insurance status, place of residence, physician affiliations or patient satisfaction may lead to the need to seek medical advice from a new health care provider.

Faced with rising health care costs and huge variations in quality of care within our health care system, employers have an interest in helping employees and their covered dependents who are changing doctors to identify and choose high-performing physicians. This approach is thought to have considerable promise as part of a value-based purchasing strategy. In theory, people who choose these physicians would receive higher quality care and health care costs would be reduced for both employees/dependents and employer. A key mechanism underlying such engagement has been to gather and share information about providers’ comparative cost and quality of care.²

Most evidence suggests that the majority of patients do not consult formal sources of information—patient surveys, government agencies, websites—when, choosing a physician, despite their awareness that physician performance may be highly variable.^{3–14} While some studies suggest that consumers have difficulty finding or understanding this kind of information, even those who are aware of and understand comparative quality information do not necessarily act on it.^{15–17} Of course, knowing that a good doctor exists does not mean he or she is accessible. Multiple research and media reports have detailed consumer problems accessing physician services in recent years, including approximately 30% of Medicare beneficiaries who needed a new primary care physician in 2007 and reported a problem finding one.^{18–21}

Faced with these market realities, and data that indicate that most people choose health care providers based on advice from their own doctors or friends, a small number of employers and health plans have recently begun offering a human intermediary to assist in physician referrals, including accessing and under-

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standing the available data on physician and hospital quality and performance.¹⁴ Although nurse and health information call-in lines have existed for over a decade, the use of this service to help consumers choose high-value providers is relatively new. They do not recommend specific treatments, but rather, offer “a range of services that smoothly facilitate the member’s interactions with health care providers and health insurance companies.”²² Health coaching is becoming an increasingly common health benefit: Among firms that offer health benefits, 10% of small firms and 35% of large firms now offer some form of personal health coaching for their employees and their covered dependents.²³ However, using the health coaching service to specifically focus on finding high-value providers is still uncommon. While recent studies have confirmed the effectiveness of health coaching or patient navigation in improving access to and use of cancer screening^{24–27}, research on the effectiveness of health coaching in the provider selection and referral process has not been reported.

In this study, we report the results of what we believe is the first systematic evaluation of a health coach program adopted by a large national employer. Our research focuses on four key questions: How do employee users and non-users differ in key demographic and health characteristics? Do users and non-users seek and use health information differently? Do service users use the information provided, including recommendations about provider referrals? What is the user experience with the service, and is that experience consistent across different vendors who provide the service?

METHODS

Setting

The setting for the research is a company with approximately 375,000 employees and covered dependents enrolled in company health plans in the 2007–2008 study period. In its first full year of operation (2007–2008), the service was contacted by more than 3,000 employees and covered dependents, and as of this writing, use is 15,000 annually.

Two vendors are contracted to provide the service, subject to common standard operating procedures. The service carries the employer’s name, not the vendor’s name, and is referred to in all marketing materials as a “health coach” service. A single toll free number is the access point for all employees and their covered dependents, though calls are routed to different vendors by market area. Throughout this manuscript, we report on participant differences by vendor used, referring to separate vendor groups as ‘User Group 1’ and ‘User Group 2’. The service is provided at no cost to employees and their covered dependents. By design, the service does not offer assistance with health insurance rules and options.

The “health coach” is a registered nurse who assists the caller to: a) assess insurance/service eligibility; b) assess the reason for the call; c) explain services provided; d) create a record for the caller; e) create a plan of action; f) search for information/providers appropriate to callers’ needs; g) encourage the appropriate use of primary care physician services; h) check coverage, network and verify provider information; i) provide options to the caller; and j) assist with appointments and records. Health coaches are RNs with expertise to determine the appropriate

primary care or specialist physicians (in consultation with consultant physicians as needed) and assess data on the networks of providers to determine the best course of action for customer referral. Services conclude when the customer is provided with referral information. The employer receives aggregate reports of service use only, and is not provided with individual identifying information of use by the vendor.

Survey Design and Sample Selection

The primary data for evaluating the health coach program come from a survey of employees, retirees and covered dependents ages 21–64 years old who were participating in the company’s health plan as of February 29, 2008 and were eligible to use the health coach service. Respondent identities were shielded from the employer and from the researchers. In July, 2008 we proportionately sampled 1,750 (a 50% sample) of the employees and covered dependents who were reported by vendors to have used the service between October 1, 2007 and February 29, 2008. We drew a proportionately stratified sample of 1,740 of the approximately 373,000 employees and covered dependents who were not known to be users of these services, stratified by age group and number of chronic conditions to assure an adequate sample for comparison with users in all strata. From August through October 2008 we conducted a self-administered mail survey of 1,750 users and 1,740 non-users of a health coach service in a population of employees and their covered dependents ages 21–64. We mailed a cover letter, incentive and the questionnaire to the home address of the employee/covered dependent. A small gift incentive (LCD thermometer) was included in the initial mailing. There were four subsequent waves of mailing, alternating full survey and post-card reminders. A \$2 cash incentive was included in the final full mailing.

The questionnaire was developed by the researchers. Key outcomes include use of health information, awareness and use of the health coach service, adherence to referral recommendations, and user experience with the coach interaction and the physician referral and consultation, if applicable. Response scales used are detailed in the technical appendix (available online), and the questionnaire is available on request from the authors. Virtually all measures used a one-year recall period. However, some users were likely to be reporting on less than one year of recall, others to a maximum of one year. Measures were designed to elicit any and all experiences a respondent had with the services in the past year and therefore are person-specific and not encounter-specific. Fewer than 5% used the services more than once in the 5-month period from October 1, 2007 to February 29, 2008. While the majority of data elements were gathered by self-report, employee age, gender, wage, region and claims in key major health conditions were drawn from employment and health insurance records and linked to all respondent files. Socio-demographics obtained from the employer and insurance records did not include race and ethnicity.

Statistical Analysis

We created a non-response weight to adjust for response by vendor for the user groups, and to adjust for age and number of chronic conditions for the non-user group. All analyses used these weights and were conducted in SAS and SUDAAN^{28,29}.

We categorized age into two groups (21–49 and 50–64 years), and the number of chronic conditions into three groups (0, 1–2, 3–4). We examined univariate and bivariate relationships in the data. To test for significant differences between groups, we used two-sided t-test (continuous variables) or chi-square tests (categorical variables) as appropriate. All the outcome variables of interest were binary. We explored bivariate differences by user group (Group 1 and Group 2) in self-reported user experiences using logistic regression models, controlling for age, health, wage, geographic census region and business unit of employment and number of chronic health conditions. For outcomes shown in Figure 1, we report adjusted proportions from these models; proportions shown in Figure 2 are unadjusted as no significant association by user group was found for these outcomes.

While users and non-users of the health coach service were defined a priori for sampling purposes, not all acknowledged use of health coach services or answered the questions about their use. While Table 1 shows characteristics of both sampled and acknowledged users, data reported in Table 2 and Figures 1 and 2 for users are based only on self-reports of use and outcomes thereof.

RESULTS

Of the 3,490 surveys administered to users and non-users of the health coach service, 1,825 were returned completed (970

users and 855 non-users). Response rate was calculated as the number of completed surveys divided by the attempted number in the sample, adjusting for non-deliverables returned by mail. The overall response rate was 55% (1825/(3490-147)). The overall response rate for users of the health coach service was 52% and the response rate for non-users was 58%. Among the user groups, the response rates varied between the two vendors (55% in Group 1 and 60% in Group 2). Among the non-user group, response rates were 44% for ages 21–49 vs. 61% for ages 50–64.

Awareness and Use of Health Coach

Eighty-five percent of respondents in the *a priori* user group and 46% in the *a priori* non-user group reported awareness of the health coach service prior to the survey. Demographic and health characteristics of a priori users and non-users of the health coach service are shown in Table 1. Overall, only 64% ($n=624$) of respondents in the a priori user group acknowledged use of the service ($n=291$ for User Group 1, $n=333$ for User Group 2). Five percent ($n=42$) of the a priori non-user group reported use of the service. Non-users were significantly more likely to report fair or poor health and to have higher out-of-network claims in 2007. Users served by two different vendors providing the service were compared and significant differences are observed by age, self-reported household income and the proportion with claims for musculoskeletal conditions.

Note: Users responding include people who acknowledged use of health coach, requested and received services and used them.

Figure 1. User satisfaction with the health coach: assistance with health information and provider referrals (adjusted % derived from multivariate logistic regression modeling). Note: Users responding include people who acknowledged use of health coach, requested and received services and used them.

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Figure 2. User satisfaction with the health coach-recommended providers (unadjusted %). Notes: Users responding include people who acknowledged use of health coach, requested and received services and used them.

Health Information Use and Consumer Activity

Users and non-users did not differ in frequency of accessing sources of health information, but on two measures of consumer activation, health coach users were significantly more likely to say they strongly agreed that “some doctors provide better care than others” and “I investigate alternatives before making a decision” (users vs. nonusers reported 54% vs. 45% and 83% vs. 76%, respectively). We asked for all respondents to report experience (“yes” or “no”) in the last year with health situations that might precipitate a health coach call or indicate need for the service. Users of the health coach service were significantly more likely to have changed primary care physicians in the past year (26% vs. 11%, $p < 0.0001$), received a second opinion from a physician (24% vs. 15%, $p = 0.0001$), seen a medical or surgical specialist (61% vs. 51%, $p = 0.0003$), and spent time as a hospital inpatient (20% vs. 15%, $p = 0.0201$). Users and non-users did not differ in the proportion who served as informal caregivers for frail, elderly or disabled family members (18% each group, $p = 0.6922$).

Use of and Adherence to Health Coach Recommendations

We asked respondents to reflect on the use of health coach services for two purposes: *health information* and *provider referral*. Results are shown in Table 2. Sixty percent of users reported that they called for health information and 84% of those reported using at least some of the advice provided by the health coach. Seventy-three percent called for *provider referrals* (users could report multiple requests; hence the 94% of PCP, specialist and hospital requests reported in the table). Among these, 52% were seeking a specialist referral, 33% a

primary care physician (PCP) referral, and 9% a hospital referral.

We asked open-ended questions of users who did not see an in-network provider as recommended by the health coach ($n = 77$) to elicit reasons for their decision. The most common reasons (verbatim and coded) reported were reluctance to change doctors (21%), geographic inconvenience (17%), health coach suggestion contradicted the recommendation of another trusted source (i.e. doctor or friend) (16%), incorrect information on the provider from the health coach (13%), and the decision to not seek treatment altogether (13%).

User Experience

Respondent ratings of health coach performance on the provision of health information and provider referral information is shown by user group in Figure 1. Respondents in User Group 2 reported significantly better user experience than did User Group 1 on most measures of customer satisfaction with services provided by the health coach. User group results shown here are adjusted proportions generated by our multivariate analyses of these measures controlling for respondent age, gender, chronic illness, business unit of employment, region, wage. Figure 2 shows respondent reported user experience with the health coach-recommended providers, for those users who both received provider referral information from the health coach and attended an appointment with a recommended provider. For these measures, no significant differences were found by user group. Among those who visited the provider recommended by the health coach, approximately 70% expressed rated as “excellent” or “very good” satisfaction on each measure of provider performance.

Table 1. Respondent Characteristics

	All Users (% (n=970))	Non-Users (%, SE) (n=855)	P-value	User Group 1 (%, SE) (n=479)	User Group 2 (%, SE) (n=491)	P-value
<i>Age</i>			0.10			<0.001
21–49	50 (1.6)	54 (1.7)		44 (2.3)	57 (2.2)	
50–64	50 (1.6)	46 (1.7)		56 (2.3)	43 (2.2)	
<i>Gender</i>			0.51			0.90
Male	50 (1.6)	52 (1.7)		51 (2.3)	50 (2.3)	
Female	50 (1.6)	48 (1.7)		49 (2.3)	50 (2.3)	
<i>Household Income</i>			0.56			<0.001
< \$30,000	6 (0.8)	7 (.9)		5 (1.0)	7 (1.2)	
\$30,000–\$59,999	20 (1.3)	19 (1.3)		17 (1.7)	23 (1.9)	
\$60,000–\$99,999	28 (1.4)	30 (1.6)		24 (2.0)	32 (2.1)	
\$100,000–\$150,000	20 (1.3)	17 (1.3)		22 (1.9)	17 (1.7)	
>\$150,000	15 (1.2)	14 (1.2)		19 (1.8)	11 (1.4)	
<i>Wage</i>			0.53			0.75
<\$50,000	26 (1.4)	23 (1.5)		27 (2.0)	24 (1.9)	
\$50,000–\$100,000	44 (1.6)	45 (1.7)		43 (2.3)	44 (2.2)	
>\$100,000	31 (1.5)	31 (1.6)		31 (2.1)	31 (2.1)	
<i>Census Region</i>			<0.001			0.92
Midwest	10 (0.9)	6 (0.8)		9 (1.3)	10 (1.3)	
Northeast	54 (1.6)	67 (1.6)		53 (2.3)	54 (2.2)	
South	18 (1.2)	17 (1.3)		19 (1.8)	17 (1.7)	
West	19 (1.2)	10 (1.1)		18 (1.8)	19 (1.8)	
<i>Health Status</i>			0.03			0.07
Excellent	19 (1.3)	17 (1.3)		21 (1.9)	17 (1.7)	
Very Good	44 (1.6)	40 (1.7)		45 (2.3)	43 (2.2)	
Good	27 (1.4)	32 (1.6)		25 (2.0)	29 (2.0)	
Fair	6 (0.7)	8 (0.9)		4 (0.9)	7 (1.2)	
Poor	3 (0.5)	2 (0.5)		2 (0.7)	3 (0.8)	
<i>Disability Status</i>			0.29			0.19
Has a disability or chronic illness that interferes with daily activities	18 (1.2)	15 (1.2)		17 (1.7)	18 (1.7)	
<i>Medical claims in 2007</i>						
Cardiovascular Disease	28 (1.4)	29 (1.6)	0.71	30 (2.1)	26 (2.0)	0.19
Diabetes	11 (1.0)	12 (1.1)	0.81	13 (1.5)	10 (1.3)	0.10
Musculoskeletal Disease	52 (1.6)	50 (1.7)	0.61	56 (2.3)	47 (2.3)	0.01
>\$100 in out of network expenses	19 (1.3)	24 (1.5)	0.01	19 (1.8)	19 (1.8)	0.82

P-values reported are from Chi-squared tests of significance

Note: Some items do not add to 100% due to inclusion of valid missing responses and rounding

Table 2. Health Coach Services: Use of Health and Referral Information and User Experience

	All Acknow-ledged Service Users (% (n=624))	User Group 1 (%, SE) (n=291)	User Group 2 (%, SE) (n=333)	P-value
<i>Requested health information services (base: acknowledged use)</i>	60 (1.9)	56 (2.9)	64 (2.6)	0.048
<i>Use of the health information provided by the health coach (base: acknowledged use, requested health information)</i>				0.22
Used all of it	40 (2.5)	38 (3.8)	42 (3.4)	
Used some of it	44 (2.6)	42 (3.9)	45 (3.4)	
<i>Requested provider referral (base: acknowledged use)</i>				
Requested PCP	33 (1.9)	29 (2.7)	36 (2.6)	0.048
Requested medical or surgical specialist	52 (2.0)	55 (2.9)	49 (2.7)	0.15
Requested hospital	9 (1.2)	9 (1.7)	9 (1.6)	0.87
<i>Given provider referral (base: acknowledged use, requested provider referral)</i>				
In-network referral	89 (1.5)	84 (2.5)	95 (1.5)	0.003
Out-of-network referral	6 (1.1)	6 (1.6)	7 (1.6)	0.49
<i>Visited recommended provider (base:acknowledged use, requested provider referral, given provider referral)</i>				
In-network visit	81 (2.0)	79 (3.0)	82 (2.6)	0.60
Out-of-network visit	NR	NR	NR	

NR: not reported; too few for analysis

P-values reported are from Chi-squared tests of significance

Note: Some items do not add to 100% due to inclusion of valid missing responses and rounding

Overall, 91% (65% “definitely” and 26% “probably”) would recommend the health coach service to others, with 58% of User Group 1 and 71% of User Group 2 saying they would “definitely recommend” the service. Multivariate logistic regression controlling for user group, age, chronic illness, business unit of employment, region, wage, and gender confirmed the significant bivariate difference.

DISCUSSION

This study is one of the first to examine the impact of a health coach in assisting physician referrals and health information seeking in an employed, insured population. In its first year of service, nearly half of non-users were aware of the service, but others who might benefit were still unaware of this free benefit. Among users who sought assistance with primary care and specialist physician referrals, approximately 80 percent attended a visit with one of the recommended physicians, and 70 percent of those rated their experience as “excellent” or “very good”. A majority would recommend the service, and 65% would “definitely” recommend it. This study demonstrates that the service and information provided was judged useful, and was used, by consumers. However, despite efforts to standardize the intervention provided by two vendors, not all aspects of service quality were judged as equal by users of the service.

A number of studies have explored the provision of physician and hospital quality data to consumers, and many have reached the conclusion that these data tools and services are not widely used by consumers.^{3–13} In this study, “health coaches” provided a human connection to several key government and private insurer quality and cost databases, encouraging customers to have a primary care physician and to seek the care of physicians who rated highly on available quality and cost efficiency measures. User experience the providers contacted through the service is comparable, albeit measured on a different scale, to data reported for CAHPS data for commercial health plans.³⁰ Still, given some vendor quality variation measured here, implementation is important and employers providing these services should take care to assess and monitor service quality.

The study has several limitations. First, while we obtained a high response rate for an employee/dependent survey, we failed to contact 45% of those we attempted and faced item non-response from many respondents who were defined a priori as service users but did not acknowledge using the service. While we have made some statistical adjustments to account for demographic differences between sampled population and respondents, non-response bias may still be present in our estimates. Second, data on respondent race and ethnicity was unavailable to control analysis of response or non-response bias. Third, in order to protect individual and family privacy, the vendors could not provide either details of the clinical situations faced by respondents or those of the MDs selected, so we could not validate the consumers’ choice of physicians or confirm their ratings for quality or cost efficiency. Further research about employees’ and dependents’ continued use of recommended providers is important. Employers are likely to support this strategy only if it can be shown that the providers whom are visited as a result of these

referrals are indeed of higher ‘value’. Finally, we acknowledge that this study addresses the experience of an intervention in one, albeit large, national corporation and may not be generalizable to other insured employed populations.

The complexity of the health care system can pose a challenge to consumers who are trying to navigate it. This study reports on a company that sponsors health coach assistance as an employee benefit; other models of providing and paying for these services should be explored. Encouraging consumers to use available information resources must involve building awareness among eligible service users, should rely on trusted sources of quality information, and focus on delivering the information with an orientation to high-quality customer service. Still in an age of increasing technology and provision of health information, consumers may yet benefit from the assistance of a human guide in the search for high quality health care.

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