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Patients With Lower Activation Associated With Higher Costs; Delivery Systems Should Know Their Patients' 'Scores'

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ABSTRACT *Patient activation* is a term that describes the skills and confidence that equip patients to become actively engaged in their health care. Health care delivery systems are turning to patient activation as yet another tool to help them and their patients improve outcomes and influence costs. In this article we examine the relationship between patient activation levels and billed care costs. In an analysis of 33,163 patients of Fairview Health Services, a large health care delivery system in Minnesota, we found that patients with the lowest activation levels had predicted average costs that were 8 percent higher in the base year and 21 percent higher in the first half of the next year than the costs of patients with the highest activation levels, both significant differences. What's more, patient activation was a significant predictor of cost even after adjustment for a commonly used "risk score" specifically designed to predict future costs. As health care delivery systems move toward assuming greater accountability for costs and outcomes for defined patient populations, knowing patients' ability and willingness to manage their health will be a relevant piece of information integral to health care providers' ability to improve outcomes and lower costs.

Under health care reform, delivery systems are assuming increased responsibility and financial risk for patients' outcomes and costs. This shift has stimulated interest in understanding the patient's role in determining outcomes and how to improve outcomes by influencing patients' behavior.

In part, the increased responsibility and financial risk that delivery systems are taking on are driving the current policy emphasis on patient-centered care and activating patients to be better managers of their own health and health care.^{1–5} The assumption is that if individual patients made more-informed health care choices, were better able to manage their own conditions, and adopted healthier lifestyles, their health care costs would be lessened. In this article we

examine the relationship between measured levels of patient activation and billed care costs to determine whether patients who are more activated do, in fact, have a lower overall cost of care.

Patient activation is defined as understanding one's own role in the care process and having the knowledge, skills, and confidence to take on that role.⁶ *Patient activation* and *patient engagement* are terms that are often used interchangeably. In this article we use *engagement* to denote a broader concept, including patient activation, the interventions designed to increase it, and the patient behavior that results from it.

We measured activation with the Patient Activation Measure, an assessment consisting of thirteen items. The assessment produces a 0–100 score based on how patients answer questions about their beliefs, knowledge, and

confidence in managing health-related tasks. The score can be used to assign people to one of four levels, ranging from least activated (level 1) to most activated (level 4).

Research indicates that patients who are more activated, based on their Patient Activation Measure score, are significantly more likely than patients who are less activated to adhere to treatment regimens, get preventive care, and participate to a greater degree in decisions about their care.⁶⁻¹³ More activated patients are also more likely to engage in healthy behavior and to seek out and use health information, compared to less activated patients.¹²⁻¹⁵

There is evidence that patients who are more activated are less likely to be obese or to smoke, while being more likely to have clinical indicators that fall within normal parameters—such as normal blood pressure, cholesterol, and hemoglobin A1c levels—in contrast to patients who are less activated.^{16,17} There is also evidence that more activated patients are less likely than less activated patients to use the emergency department or to be hospitalized.^{16,17} All of these relationships hold true even after patients' health status, age, sex, and income are controlled for.

Importantly, some studies have indicated that interventions designed to increase skills and confidence can both raise patients' measured activation levels and improve outcomes.¹⁸⁻²³ For example, an intervention designed to increase patients' skills in formulating questions during an office visit with a physician was tested on a group of low-income patients enrolled in a safety-net health care program. The intervention was determined to be successful in increasing patients' activation and asking of questions.¹⁸

Interventions that provide peer support for patients and improve their problem-solving skills have also been shown to increase patient activation and improve health outcomes.²⁰⁻²⁵ Finally, interventions, such as tailored coaching, that customize support to a patient's current level of activation have also been successful in increasing activation, improving health indicators, and reducing costly hospital and emergency department use.^{24,25}

Studies to date suggest that even when patients have multiple chronic illnesses, are socioeconomically disadvantaged, or are elderly, they can still make gains in activation and exert some measure of control over their day-to-day health.^{18,21,24-26} Perhaps the most encouraging finding from intervention studies is that with targeted interventions, patients who are the least activated appear to realize the greatest gains in activation.^{18,21,23}

Thus, the evidence indicates that focusing on strategies that increase patient activation can be

effective in improving patients' health and, very likely, lowering their health care costs. The findings noted thus far suggest that health care costs are probably inversely related to patients' activation levels, since highly activated patients are less likely to use emergency departments or to be hospitalized, and have better clinical indicators, compared to patients who are less activated.

No studies to date have explicitly examined the association between patient activation levels and the health care costs of patients. The present analysis examines how patient activation scores routinely collected by a large health care delivery system in Minnesota relate to the costs of care. Our results indicate that more highly activated patients may indeed incur substantially lower costs than those who are less activated.

Study Data And Methods

This study examined data from primary care patients enrolled with Fairview Health Services, a large not-for-profit health care system in Minnesota with forty-one primary care clinics, specialty care clinics, and hospitals. The data on patient activation and other characteristics of patients, including diagnoses of chronic illness, were derived from individual electronic health records. Cost data were derived from a Fairview administrative database.

We used cross-sectional analyses to assess the relationship between Patient Activation Measure scores, hereafter referred to as "activation scores," and concurrent cost of care in 2010. A longitudinal analysis examined whether scores obtained from the Patient Activation Measure in 2010 predicted the total cost of non-inpatient care during the first six months of 2011.

STUDY POPULATION To be included in the analysis, a Fairview patient had to be at least eighteen years of age, have made a primary care visit in 2010, and have completed the Patient Activation Measure. Fairview began routine collection of activation scores in mid-2010, administering the assessment to patients when they came in for primary care visits. Because widespread collection of activation scores in all of the clinics took time, the 33,163 patients included in the study sample represented a relatively small proportion (18 percent) of the total number of adult patients seen at Fairview.

As Appendix Exhibit A²⁷ shows, the sample differed slightly in terms of demographic and health characteristics from all adult patients who made a primary care visit to Fairview in the last six months of 2010. People in the sample were more likely to be women (60 percent versus 5 percent) and were more likely to be sixty-five or older (23 percent versus 16 percent). However,

members of the two groups had similar mean numbers of chronic conditions (0.8 versus 0.7), as identified using the Episode Treatment Groups rubric developed by OptumInsight (formerly Ingenix).²⁸

MEASURES The Patient Activation Measure consists of thirteen items that form a scale with strong psychometric properties.^{6–12} The items are statements about managing one's own health, which respondents answer with degrees of agreement or disagreement. The statements focus on confidence, beliefs, knowledge, and skills, such as "I know how to prevent problems with my health" and "I am confident that I can tell a doctor my concerns, even when he or she does not ask." The measure is scored on a 0–100 scale, with most patients scoring 35–95 points.

The four levels of activation reflect a developmental progression toward greater activation. For those patients who had more than one activation score recorded during 2010, we used only the first one collected in our analysis.

COST OF CARE Cost of care included billed Fairview inpatient and outpatient care costs, for both primary and specialty care, as well as laboratory and pharmacy costs. Billed costs do not reflect any negotiated discounts associated with different insurance vendors. Thus, the disadvantage of using them is that they may not indicate what was ultimately paid for the service by the insurer and patient. However, billed costs have the advantage of being directly comparable across insurance companies.

In addition to examining all billed costs for 2010, we also conducted some analyses with data from the first six months of 2011; the latter analyses excluded inpatient and pharmacy data because of a change in the data system. Patients could seek care outside the Fairview network, and the cost of that care would not be captured in our measure of cost of care. Thus, we adjusted the multivariate analyses of the cost data to account for patients' use of services outside the system.

We used data from one large insurer to calculate, for each Fairview clinic, the percentage of patients' total costs that occurred outside the Fairview system. A multiyear analysis indicated that these percentages were stable over time.

STATISTICAL ANALYSIS We estimated the relationship between patient activation and billed health care costs using a one-part ordinary least squares regression, with the dependent cost variable log transformed. This model was used because all patients in the sample had at least some health care costs in 2010, and the sample size was not sufficiently large to avoid transformation of the dependent variable.²⁹

In addition to examining the relationship for

all patients in the sample, we examined billed costs separately for people who were identified through claims as having each of the following chronic conditions: hyperlipidemia, hypertension, asthma, and diabetes. All of the regression models included the following covariates: age (younger than 35, 35–49, 50–64, and 65 or older); sex; income (tercile of per capita median income in patient's ZIP code); OptumInsight (Ingenix) retrospective risk score, which uses claims data to identify health conditions and severity in order to predict high-cost patients;²⁸ and the clinic-level percentage of patients' total health care costs that were from within Fairview Health Services, as described above.

To summarize the expected billed health care costs for patients at each activation level, we computed four predicted health care costs for each patient, retransforming costs from log dollars to dollars using the Duan smear factor.²⁹ The first prediction was the predicted costs if everyone in the sample had the lowest patient activation, level 1, along with their observed covariates. Then we computed the predicted costs if everyone in the sample was at level 2. We repeated the analysis assuming everyone was at level 3 and again assuming everyone was at level 4. The mean predicted cost for each of these four scenarios adjusted the predictions for differences in the patients' covariates.³⁰

We used the four levels of activation, instead of the continuous activation score, to simplify the data display and more clearly show the nature of the relationships. It is often the case that instead of a monotonic relationship with an outcome, the patient activation measure shows a threshold effect, as was observed in this analysis.

LIMITATIONS This analysis was limited by the fact that we used Fairview billed costs and not all costs. However, we were able to adjust for care outside of Fairview using data from one insurer.

The analysis was further limited by the fact that not all Fairview patients were included in the analysis. The study population consisted of just those Fairview patients with activation scores. The fact that the study population was older and included a larger share of women than the overall Fairview adult patient population may have affected the distribution of patient activation scores. However, the study population's age and sex characteristics were unlikely to have affected the relationship between activation scores and costs.

The longitudinal portion of the analysis was based on a more limited data set, and further prospective analyses based on a more robust data set are warranted.

Study Results

Patients in the study were disproportionately female (60 percent), and 52 percent of them were age fifty or older. Forty-eight percent had one or more of the following chronic conditions: asthma, diabetes, hypertension, congestive heart failure, coronary artery disease, hyperlipidemia, and chronic obstructive pulmonary disease. Although patient activation levels were skewed toward higher activation (46 percent were at level 4), this is similar to the distribution from a national sample.¹⁴ A table describing the study population is available in the online Appendix.²⁷

Exhibit 1 shows that patient activation was negatively associated with the cost of care, after we adjusted for demographic characteristics, health care risk, and use of providers outside of the Fairview system. For the full sample, patients with the lowest level of activation in 2010 had predicted average costs that were 8 percent higher than those of patients with the highest level of activation. There was no significant difference between the predicted costs for patients with level 2, 3, or 4 activation scores.

The results of the analyses of patients with specific health conditions also indicated that patients with low activation levels had higher health care costs than patients with high activation levels. The difference was most pronounced for patients with asthma with level 1 activation scores, who had predicted costs that were 21 percent higher than those of patients with the same condition but had level 4 activation scores.

Exhibit 2 shows that patient activation scores from 2010 were a significant predictor of cost of care in the first half of 2011. Patients with the lowest level of activation had costs that were 21 percent higher than patients with the highest level of activation. Again, there was no significant difference between predicted costs for patients with level 2, 3, or 4 activation scores. The full regression models are available in the online Appendix.²⁷

Discussion

The findings indicate that very low activation levels are significantly associated with higher health care costs and are predictive of higher future costs, when compared to higher activation levels. These findings were true for the full sample of patients and for patients with three out of four chronic conditions, even after we controlled for sociodemographic factors and the severity of health conditions. These empirical findings add to the growing body of literature suggesting that patients play an important role in determining their own health outcomes.

EXHIBIT 1

Predicted Per Capita Costs Of Patients In the Sample Billed To Fairview Health Services, By Patient Activation Level And Medical Condition, 2010

Patient activation level	Predicted per capita billed costs (\$)	Ratio of predicted costs relative to level 4 PAM
ALL PATIENTS (N = 33,163)		
Level 1 (lowest)	4,679***	1.08***
Level 2	4,451	1.03
Level 3	4,277	0.99
Level 4 (highest)	4,320	1.00
PATIENTS WITH HYPERLIPIDEMIA (n = 10,515)		
Level 1 (lowest)	6,089***	1.12***
Level 2	5,620	1.03
Level 3	5,346	0.98
Level 4 (highest)	5,454	1.00
PATIENTS WITH HYPERTENSION (n = 12,175)		
Level 1 (lowest)	7,687***	1.14***
Level 2	7,025	1.04
Level 3	6,886	1.02
Level 4 (highest)	6,750	1.00
PATIENTS WITH ASTHMA (n = 3,347)		
Level 1 (lowest)	6,581**	1.21**
Level 2	6,451	1.19
Level 3	6,075	1.12
Level 4 (highest)	5,442	1.00
PATIENTS WITH DIABETES (n = 4,253)		
Level 1 (lowest)	8,474	1.07
Level 2	8,223	1.04
Level 3	7,822	0.99
Level 4 (highest)	7,901	1.00

SOURCE Authors' analysis of Fairview Health Services billing and electronic health record data. **NOTES** Predictions were based on one-part ordinary least square regression models with a log transformed dependent cost of care variable, which controlled for age, sex, income tercile, OptumInsight risk score (see Note 28 in text), and percentage of costs at the clinic level from within the Fairview system. Predictions were computed using the Duan smear adjustment (see Note 29 in text). Patient scores on the Patient Activation Measure (PAM) range from 0 to 100 and are divided into four levels as follows: level 1, 0-47; level 2, 48-55; level 3, 56-66; level 4, 67-100. ** $p < 0.05$ *** $p < 0.01$

EXHIBIT 2

Predicted Per Capita Costs Of Patients In The Sample Billed to Fairview Health Services, By Patient Activation Level, January-June 2011

2010 patient activation level	Predicted per capita billed costs (\$)	Ratio of predicted costs relative to level 4 PAM
Level 1 (lowest)	966**	1.21**
Level 2	840	1.05
Level 3	783	0.97
Level 4 (highest)	799	1.00

SOURCE Authors' analysis of Fairview Health Services billing and electronic health record data. **NOTES** Inpatient and pharmacy costs were not included. Predictions were based on one-part ordinary least square regression models with a log transformed dependent cost of care variable, which controlled for age, sex, income tercile, OptumInsight risk score (see Note 28 in text), and percentage of costs at the clinic from within the Fairview system. Predictions were computed using the Duan smear adjustment (see Note 29 in text). See Exhibit 1 Notes for information on the Patient Activation Measure (PAM) scores. ** $p < 0.05$

This fact is noteworthy from both a clinical and a policy standpoint. Patients who have more knowledge, skill, and confidence in managing their health, and who are more adept at navigating and using the health care system, appear to incur lower costs. Unfortunately, the cost data available for this analysis were not granular enough to determine the specific utilization patterns that contribute to the cost differences. However, an earlier analysis of this same study population showed that more highly activated patients were less likely to have an emergency department visit or a hospital stay, compared to less activated patients.¹⁷

The fact that patient activation predicts costs after demographics and condition severity, or health risk score, are controlled for indicates that even sicker patients can make a difference in their cost of care through their own actions and choices. This finding suggests that strategies designed to support greater patient activation have the potential to affect costs, regardless of whether patients' illness burden is high or not.

The present findings also have implications for more efficient management of patient populations. The fact that patient activation is a significant predictor of cost after a commonly used patient risk score—a score specifically designed to predict future costs—is controlled for indicates that the activation level is providing relevant information beyond what is factored into current risk models. Those models typically consider only patients' clinical and cost profiles.

Patients' ability and willingness to manage

their health is a relevant piece of information that health care providers, both private and public, may be missing as they attempt to manage costs and their patient populations. For example, patients who both have a heavy disease burden and lack the skills to manage their conditions may need more support and outreach than patients who have the same disease burden but also have greater self-management skills and confidence.

Conclusion

As health care delivery systems move toward assuming greater accountability for costs and outcomes for defined patient populations, having a clearer and more refined understanding of the factors that drive care costs and outcomes is needed. Using patient activation levels to more effectively and appropriately support patients appears to be a potentially important way for delivery systems to improve outcomes and lower costs. Implementing interventions to increase patient activation, such as tailored coaching, have been shown to be feasible within the clinical setting.³¹

There is evidence that raising patient activation scores results in improved health outcomes. However, entities that pay for and provide health care will ultimately want to know if improving activation in their patient populations translates into cost savings. The findings of this study begin to lay the foundation for an answer that important question. ■

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NOTES

- 1 Nutting PA, Miller WL, Crabtree BF, Jaen CR, Stewart EE, Stange KC. Initial lessons from the first national demonstration project on practice transformation to a patient-centered medical home. *Ann Fam Med*. 2009;7(3):254–60.
- 2 Casalino LP. Disease management and the organization of physician practice. *JAMA*. 2005;293(4):485–8.
- 3 Clark NM. Management of chronic disease by patients. *Annu Rev Public Health*. 2003;24:289–313.
- 4 Kilo CM, Wasson JH. Practice redesign and the patient-centered medical home: history, promises, and challenges. *Health Aff (Millwood)*. 2010;29(5):773–8.
- 5 Davis K, Schoenbaum SC, Audet AM. A 2020 vision of patient-centered primary care. *J Gen Intern Med*. 2005;20(10):953–7.
- 6 Hibbard JH, Stockard J, Mahoney ER, Tusler M. Development of the Patient Activation Measure (PAM): conceptualizing and measuring activation in patients and consumers. *Health Serv Res*. 2004;39(4 Pt 1):1005–26.
- 7 Hibbard JH, Mahoney ER, Stockard J, Tusler M. Development and testing of a short form of the patient activation measure. *Health Serv Res*. 2005;40(6 Pt 1):1918–30.
- 8 Mosen DM, Schmittiel J, Hibbard J, Sobel D, Remmers C, Bellows J. Is patient activation associated with outcomes of care for adults with chronic conditions? *J Ambul Care Manage*. 2007;30(1):21–9.
- 9 Becker ER, Roblin DW. Translating primary care practice climate into patient activation: the role of patient trust in physician. *Med Care*. 2008;46(8):795–805.
- 10 Hibbard JH, Mahoney ER, Stock R, Tusler M. Do increases in patient activation result in improved self-management behaviors? *Health Serv Res*. 2007;42(4):1443–63.
- 11 Fowles JB, Terry P, Xi M, Hibbard J, Bloom CT, Harvey L. Measuring self-management of patients' and employees' health: further validation of the Patient Activation Measure (PAM) based on its relation to employee characteristics. *Patient Educ Couns*. 2009;77(1):116–22.
- 12 Hibbard JH, Tusler M. Assessing activation stage and employing a “next steps” approach to supporting patient self-management. *J Ambul Care Manage*. 2007;30(1):2–8.
- 13 Skolasky RL, Mackenzie EJ, Wegener ST, Riley LH. Patient activation and functional recovery in persons undergoing spine surgery. *Orthopedics*. 2011;34(11):888.
- 14 Hibbard JH, Cunningham PJ. How engaged are consumers in their health and health care, and why does it matter? *Res Briefs*. 2008;(8):1–9.
- 15 Hibbard JH, Greene J, Tusler M. Plan design and active involvement of consumers in their own health and healthcare. *Am J Manag Care*. 2008;14(11):729–36.
- 16 Remmers C, Hibbard J, Mosen DM, Wagenfield M, Hoye RE, Jones C. Is patient activation associated with future health outcomes and health-care utilization among patients with diabetes? *J Ambul Care Manage*. 2009;32(4):320–7.
- 17 Greene J, Hibbard JH. Why does patient activation matter? An examination of the relationships between patient activation and health-related outcomes. *J Gen Intern Med*. 2012;27(5):520–6.
- 18 Deen D, Lu WH, Rothstein D, Santana L, Gold MR. Asking questions: the effect of a brief intervention in community health centers on patient activation. *Patient Educ Couns*. 2011;84(2):257–60.
- 19 Donald M, Ware RS, Ozolins IZ, Begum N, Crowther R, Bain C. The role of patient activation in frequent attendance at primary care: a population-based study of people with chronic disease. *Patient Educ Couns*. 2011;83(2):217–21.
- 20 Druss BG, Zhao L, von Esenwein SA, Bona JR, Fricks L, Jenkins-Tucker S, et al. The Health and Recovery Peer (HARP) Program: a peer-led intervention to improve medical self-management for persons with serious mental illness. *Schizophr Res*. 2010;118(1–3):264–70.
- 21 Frosch DL, Rincon D, Ochoa S, Mangione CM. Activating seniors to improve chronic disease care: results from a pilot intervention study. *J Am Geriatr Soc*. 2010;58(8):1496–503.
- 22 Terry PE, Fowles JB, Xi M, Harvey L. The ACTIVATE study: results from a group-randomized controlled trial comparing a traditional worksite health promotion program with an activated consumer program. *Am J Health Promot*. 2011;26(2):e64–73.
- 23 Lorig K, Ritter PL, Laurent DD, Plant K, Green M, Jernigan VB, et al. Online diabetes self-management program: a randomized study. *Diabetes Care*. 2010;33(6):1275–81.
- 24 Hibbard JH, Greene J, Tusler M. Improving the outcomes of disease management by tailoring care to the patient's level of activation. *Am J Manag Care*. 2009;15(6):353–60.
- 25 Shively MJ, Gardetto NJ, Kodiath MF, Kelly A, Smith TL, Stepnowsky C, et al. Effect of patient activation on self-management in patients with heart failure. *J Cardiovasc Nurs*. 2013;28(1):20–34.
- 26 Feldman P, Gerber L. Final narrative report on Promoting Readiness and Interest in Self-Management (PRISM). Princeton (NJ): Robert Wood Johnson Foundation; 2010.
- 27 To access the Appendix, click on the Appendix link in the box to the right of the article online.
- 28 Ingenix. Symmetry episode risk groups: a successful approach to health risk assessment. Eden Prairie (MN): Ingenix; 2008.
- 29 Diehr P, Yanez D, Ash A, Hornbrook M, Lin DY. Methods for analyzing health care utilization and costs. *Annu Rev Public Health*. 1999;20:125–44.
- 30 Afifi AA, Kotlerman JB, Ettner SL, Cowan M. Methods for improving regression analysis for skewed continuous or counted responses. *Annu Rev Public Health*. 2007;28:95–111.
- 31 Blash L, Dower C, Chapman S. PeaceHealth's Team Fillingame uses Patient Activation Measure to customize the medical home [Internet]. San Francisco (CA): University of California, San Francisco, Center for the Health Professions; 2011 May 1 [cited 2012 Dec 19]. Available from: http://www.futurehealth.ucsf.edu/Content/11660/2011_05_PeaceHealth's_Team%20Fillingame_Uses_Patient_Activation_Measures_to_Customize_the_Medical_Home.pdf

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In this month's *Health Affairs*, Judith Hibbard and coauthors explore the relationship between "patient activation," or the skills and confidence that equip patients to become actively engaged in their health care, and these patients' health costs. Analyzing the experience of a group of patients at Fairview Health Services in Minnesota, they found that patients with the lowest activation levels had predicted average costs that were 8 percent higher in the base year and 21 percent higher in the first half of the next year, compared to the costs of patients with the highest activation levels. The authors observe that their finding is relevant to health care providers seeking to improve outcomes and costs—and begins to answer the question of whether increasing levels of patient activation will eventually be cost-saving.

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