Using Systematic Measurement to Target Consumer Activation Strategies
Judith H. Hibbard

Med Care Res Rev 2009; 66; 9S originally published online Dec 3, 2008;
DOI: 10.1177/1077558708326969

The online version of this article can be found at:
http://mcr.sagepub.com/cgi/content/abstract/66/1_suppl/9S

Additional services and information for Medical Care Research and Review can be found at:

Email Alerts: http://mcr.sagepub.com/cgi/alerts

Subscriptions: http://mcr.sagepub.com/subscriptions

Reprints: http://www.sagepub.com/journalsReprints.nav

Permissions: http://www.sagepub.com/journalsPermissions.nav

Citations http://mcr.sagepub.com/cgi/content/refs/66/1_suppl/9S
Using Systematic Measurement to Target Consumer Activation Strategies

Judith H. Hibbard
University of Oregon, Eugene

Current policy directions place high expectations on consumers, pressing them to adopt new roles and behaviors. The price of failing to meet these expectations will be high for the individual, for the care delivery system, and for the society as a whole. Yet there is limited support in place to help consumers meet these expectations. The article reviews the major approaches used to stimulate consumer engagement in health and health care. The concept of activation is explored as a possible organizing construct for informing strategies to increase consumer involvement in health. Illustrative data are presented that show how activation levels are associated with engaging in specific health behaviors. The strategy of measuring activation and calibrating both the type and the amount of support for consumers is discussed as a way to improve current approaches. Tailoring activation to the individual, group, and community level is also explored.

Keywords: consumer activation; consumer choice; consumer engagement; patient engagement

“How can we activate consumers to be better managers of their health and health care?” has become a common question posed by employers, payers of health care, delivery systems, and policy experts. Interest in this question is born out of a recognition that having engaged and informed consumers making prudent health care choices is essential to the efforts toward containing health care costs and improve quality (Herzlinger, 2002; Iglehart, 2002). Consumers are being encouraged to make changes in the way they select and use health care, as well as how they

Author’s Note: This article, submitted to Medical Care Research and Review on August 25, 2008, was revised and accepted for publication on August 26, 2008.

This article was commissioned by AcademyHealth and the Robert Wood Johnson Foundation. Their support is gratefully acknowledged. The article was presented at an invitational AcademyHealth Meeting on Activating Consumers, February 2007, Washington, D.C. This supplemental theme issue of Medical Care Research and Review was supported by the Robert Wood Johnson Foundation. The findings and conclusions of the articles in this publication are those of the authors and do not necessarily represent the views of the Robert Wood Johnson Foundation. Judith Hibbard has an ownership interest in and is a consultant to Insignia Health LLC.

Please address correspondence to Judith H. Hibbard, Department of Planning, Public Policy, and Management Institute for Policy Research and Innovation, 1209 University of Oregon, Eugene, OR 97403-1209; e-mail: jhibbard@uoregon.edu.
manage their health on a day-to-day basis, including the following: selecting high-performing providers, health plans, and facilities; choosing evidence-based cost-effective treatments; collaborating effectively with their providers; being vigilant partners in preventing medical errors; taking on and maintain healthy behaviors; and self-managing symptoms and conditions. While there is strong agreement that consumers need to be more engaged and proactive about their care and their health, there is much less agreement about how best to achieve this. And while there is an abundance of different strategies employed to stimulate consumer engagement, there is only limited evidence for the efficacy of those strategies.

**Conceptual Framework**

We begin with a review of the major approaches used to stimulate consumer engagement and include an examination of the evidence for their efficacy. The concept of activation, as measured by the *patient activation measure* (PAM), is explored as a possible organizing construct for informing strategies to increase consumer involvement in health. The principal idea is that by using reliable and valid measures, we can segment consumers based on their capability or readiness to engage in productive health behaviors. This measurement will, in turn, allow more targeted and potentially more effective strategies. Data are presented to illustrate how the likelihood of engaging in specific behaviors is linked with activation levels. The discussion focuses on how systematic measurement of individual activation levels can be used to bolster ongoing efforts aimed at encouraging consumers to be better managers of their health.

**New Contribution**

A new way to conceptualize how to support consumer engagement is presented. It is built on three key ideas: first, that activation can be measured and that it is predictive of a wide range of behaviors; second, behaviors vary in the degree to which they are difficult, complex, or require sustained effort. Illustrative data are presented that indicate that behaviors that are more challenging for consumers are unlikely to be adopted among those who are less activated. This implies that the chances for success are improved if we encourage behaviors that are more realistic for the individual, given their level of activation. That is, tailoring support to the individual’s activation level can likely improve the efficacy of current efforts. Ways to tailor support to activation level at the individual, group, and community level are explored.

**Approaches to Supporting Consumer Involvement**

**The Provision of Information and Financial Incentives**

A key policy approach to encouraging healthy behaviors and informed choices has been to provide consumers with financial incentives along with new information tools
on comparative provider quality, evidence-based treatment options, and self-management strategies (Iglehart, 2002). These strategies, integral to consumer-driven health plans (CDHPs), are designed to stimulate cost-effective choices (Herzlinger, 2002; Iglehart, 2002).

Yet neither financial incentives nor information strategies have proven to have sufficient power to change consumer behavior. Information-only strategies have been shown to be largely ineffective in changing self-management behaviors (Coulter & Ellins, 2006). Even when information products are well designed, they still may not always translate into knowledge. When information does translate into knowledge, it still may not translate into action. That is, while information is essential, even well-presented information is likely to be insufficient to stimulate the kind of change that is sought.

This is true for a variety of reasons. Many of the targeted behaviors run counter to how people have been socialized to behave with regard to using health care (Roter et al., 1997). The traditional patient role is to be compliant, passive, and trusting. Many of the behaviors expected of consumers are antithetical to this traditional role, requiring them to question or challenge medical authority. For example, bringing a comparative quality report into a dialog about a referral to a specialist or hospital may be viewed as questioning physician’s judgment by both the physician and the patient (Carman, 2006. Asking for a more thorough explanation during a doctor office visit, or just an explanation that is understandable, takes an unusually assertive patient.

Some of the targeted behaviors involve gaining new skills and knowledge or changing lifestyle habits. For example, a patient with a new chronic condition may have to manage complex treatment regimens, learn how to monitor symptoms, learn to emotionally cope with new limits on their life, and change many aspects of their lifestyle. Changing health-related behaviors, which are often life-long habits, and which are embedded in the social, physical, and cultural context in which people live their lives, will not be easily accomplished.

Financial incentives, the other main policy strategy, may be successful in stimulating the initiation of some behaviors, but the evidence suggests they do not support sustained behavior change over time (Volpp et al., 2006; Stone et al., 2002).

Self-Management Support

The chronic care model emphasizes patient-oriented care, with patients and their families integrated as members of the care team (Von Korff, Gruman, Schaefer, Curry, & Wagner, 1997). Thus, a critical element needed for the successful implementation of the model is a knowledgeable and activated patient who is a collaborative partner in managing his or her health. While patient activation is a central concept in the chronic care model, it is also the least well-developed element. The full implementation of the chronic care model has been slowed, in part, because effective strategies for activating patients have not been available.

Overall, self-management programs have shown to generate moderate improvements in the clinical outcomes for those with chronic illness (Warsi, Wang, LaValley,
While there are many different strategies employed in self-management support programs, the evidence for efficacy of any one of these strategies is limited. A recent meta-analysis of chronic disease self-management finds little or no evidence for the efficacy of the elements, such as group setting, feedback, and so on, which are often used in programs (Chodosh et al., 2005). Similarly, in another review of self-management intervention studies, Coulter and Ellins (2006), found no consistent pattern between intervention characteristics and strength of outcomes. However, they did observe that larger-effect sizes were associated with longer interventions, 12 weeks or more, and higher-intensity programs; clinician involvement and review; participative rather than didactic teaching methods; involvement of family members; and multicomponent approaches. Thus, from the meta-analyses there is limited evidence about which specific strategies support self-management behaviors.

Because the support for patient self-management has not been well integrated into the delivery of care, disease management (DM) programs have emerged as a way to fill that gap. There is a growing investment in these programs. In a meta-analysis assessing the efficacy of the various interventions used in DM, patient education was found to have a significant, albeit moderate, impact on health outcomes (Weingarten et al., 2002).

The Stanford Chronic Disease Self-Management Course (CDSMC) was developed to provide chronic disease support to patients in the community. It is a program that has operated largely outside and separate from the care delivery system, utilizing trained lay leaders and carried out in community settings. Evaluations of the program have shown some effectiveness in stimulating improved self-management and reductions in costs (Lorig et al., 1999). Classes are either in person or online. They are highly participative, where mutual support and success build the participants’ confidence in their ability to manage their health. One investigation showed that activation was increased, as compared to a control group, immediately following the 6-week class. However, after 6 months into the study, the differences between the intervention and control group were no longer significant (Hibbard et al., 2007). Furthermore, in the same study, it was noted that those who chose to participate in the classes were more activated than the patients with most chronic illness. This raises the question of who we are reaching with the various efforts used to activate and engage patients. Are we just reaching those who are already highly activated?

Thus, although there is a variety of strategies designed to engage and activate consumers, few have proven effective, and there is no uniformly accepted approach that has been widely adopted.

**Background on PAM**

The research involved the development and testing of PAM, and the studies to determine its utility for improving health and health care have included several phases:
Defining the Construct

PAM was developed to assess an individual’s knowledge, skill, and confidence for self-management. Initial developmental steps included the use of qualitative methods to define the construct. This involved convening a national expert panel and conducting patient focus groups. The knowledge, skills, and beliefs needed to manage one’s health include the following: taking preventive actions, collaborating with providers, managing symptoms and problems, and finding and using high-quality and appropriate care were explored with both the expert panel and the patient focus groups. From these sources, a grid was developed specifying the domains of activation. These domains of activation were then operationalized by the construction of a large number of questionnaire items. After several rounds of cognitive testing and refinement, these items were administered to a sample of patients with chronic conditions via a telephone interview.

Psychometric Testing

The next phase of development involved initial psychometric analysis, selection and refinement of a smaller set of items, and additional data collection and psychometric analysis of the empirically selected items. Psychometric analysis was conducted using Rasch stochastic measurement models and methods (Andrich, 1978; Wright & Masters, 1982; Wright & Stone, 1979), as well as selected classical test theory (CTT) and item response theory (IRT) statistics. A Rasch psychometric approach was selected to overcome the now well-known difficulties inherent in CTT-summated rating and IRT 2 and 3 parameter methods (Duncan & Stenbeck, 1987; Massof, 2002). Briefly, when the data fit the stringent requirements of the Rasch measurement model, ordered or unordered categorical data are transformed into a true interval, unidimensional measure having the properties of fundamental measurement as it is known in science including known accuracy and precision (Massoff, 2002). The probabilistic statistical basis of Rasch measurement allows the creation of Guttman-like scales. Rasch methods also have the advantage of capturing the construct and its content and structure from the patient’s, rather than the researcher’s, point of view.

The data collected using the initial large number of items administered to the first sample of chronic-condition patients were subjected to Rasch analysis for the purpose of identifying a set of items that measured patient activation. The results of the Rasch analysis produced a set of items having very high correspondence to the content
domains identified in the first phase. This evidence, and the subsequent replication of these results in a second sample, strongly suggests the construct validity of PAM. During testing, PAM has demonstrated strong discriminant validity for self-management behaviors, self-rated health and a measure of health fatalism (Hibbard, Stockard, Mahoney, & Tusler, 2004), and strong test–retest reliability. Further data collection and analysis based on a diverse sample of respondents strongly suggest that activation is developmental in nature, with the different knowledge, belief, and skill elements constituting activation having a hierarchical order in the progression from low to high activation.

The structure of this Guttman-like hierarchy of item difficulty implies that the interventions needed to increase activation depend on where the patient is on the activation continuum. For example, those at the low end of activation may lack the belief that they have an important role to play in their health and lack elementary knowledge about their condition and their care. Respondents scoring in the mid-range of the scale tend to have the necessary knowledge for self-care, but appear to lack some of the skills and confidence needed to carry through on all that is required for effective self-care. The 13 items that make up PAM are shown in the appendix.

Determining Whether Activation Is Changeable

For this measure to be of use in supporting patient self-management, it must first be determined whether the construct is changeable. A longitudinal study was conducted to observe change over time. Chronic disease patients were followed over a 6-month period and both their behaviors and their PAM scores tracked. It was found that some of the patients showed increased activation, while most stayed stable or showed decreased activation during the study period. Those patients who showed increased activation also had a positive change in a variety of self-management behaviors. In all, 18 behaviors were tracked in the study, and 11 out of the 18 behaviors significantly increased among those participants who showed increased activation during the study period. Those patients who were stable or who showed activation also showed a stable or negative change in a variety of self-management behaviors. That is to say, the findings indicate that when activation changes, behaviors change in the same direction (Hibbard et al., 2007).

Determining Whether Tailoring Care Based on Activation Level Improves Outcomes

Once the measurement properties of the measure had been established and the mutability of the construct confirmed, it was feasible to test the utility of the measure. That is, can the measure be used to assess and then tailor support to individuals and thereby improve outcomes? Preliminary evidence from a study using the PAM within a DM setting shows promise in this regard. The study used a quasi-experimental design, where one group of chronic disease patients were coached with an approach...
that tailored the coaching to the patients activation level (the intervention group) and a similar group of patients who were coached in the usual way (the control group). In the intervention group, the nurses administered the PAM and then tailored their coaching to the patient’s activation level. The control group was also measured; however, the coaches were not privy to their patient’s activation scores. Preliminary findings show statistically significant gains in activation among the intervention group, but not in the control group, who received “usual care coaching.” In addition, during the 6-month intervention period, intervention group members showed more improvement in clinical indicators (LDL [low-density lipoprotein] cholesterol, diastolic blood pressure [DBP]) than did control group members (Hibbard, 2008).

Using Measurement to Inform Self-management Support for Individuals

While previous studies have shown that the PAM scores are predictive of a range of behaviors (Hibbard et al., 2004, 2005), the mapping of behaviors into different levels of activation, as presented here, is a new approach to using the measure. This way of displaying the data indicates which of the behaviors is likely to occur at each level of activation. Four behavioral domains are included: disease-specific self-management (hypertension), behaviors in the medical encounter, healthy behaviors, and consumeristic behaviors.

Figure 1 shows an example of the disease-specific self-management by showing the percent of hypertension patients who engage in four self-management behaviors by their activation level. The data indicate that there is a statistically significant difference in the likelihood of engaging in each of the behaviors by activation level. In addition, the tables show the correlation between activation scores and each of the behaviors. The behaviors are arrayed from what appear to be minimal self-management to more active management of hypertension. Each of the behaviors is predicted by the PAM level. Further, it appears that some behaviors are more likely to occur in the higher levels of activation but not in the lower levels. Taking medications as directed is the most common behavior at Level 1. However, being compliant with a drug regimen is only a first step toward active management of a condition. Being more engaged by knowing one’s recommended blood pressure level implies a greater degree of ownership in the process. Regular monitoring of blood pressure and tracking and recording blood pressure over a specific period of time in a diary are behaviors that are indeed rare in the case of people at the lowest level of activation. In fact, these behaviors are increasingly difficult to follow, with fewer respondents engaging in them, at all the levels of activation. Few people in the lowest activation level engage in monitoring and tracking blood pressure.

Figure 2 shows the percentage of patients who engage in the three behaviors associated with a medical encounter, within activation levels. Again, level of activation
is a strong predictor of each of the three behaviors. The behaviors are arrayed along what appears to be a dimension of degree of participation and control in the medical encounter. About 33% of those in the lowest activation level indicate that they read about possible side effects or complications when they are prescribed a new medication. Only 25% of those in the lowest activation level try to influence the medical encounter by bringing a list of questions to discuss. Only 7% of those in Level 1 activation indicate that they are persistent in asking when they do not understand something the doctor has told them. The same pattern is repeated in activation Levels 2 and 3, with fewer indicating they bring a list of questions and fewer still who are persistent in asking their physician questions. However, in this behavioral domain, the most activated (Level 4), show a different pattern of responses, where all three of these behaviors are about equally common.


Note: BP = blood pressure.
a. The correlations are between the behavior and the activation score (not activation level).

**p < .01. ***p < .001.
Figure 3 shows healthy behaviors. Again, we see a similar pattern in which activation level is predictive of the behaviors, and the behaviors differ in how commonly they are exhibited across all types of respondents. Behaviors are arrayed from awareness and attention to more actively managing diet and exercise to being successful at maintaining a recommended weight. For all activation levels, the behaviors are increasingly rare as you move from left to right in the chart. Even for those at Level 4 activation, the most activated group, these are behaviors difficult to attain.

Figure 4 shows consumeristic-type behaviors mapped onto the PAM levels. These behaviors are arrayed from more general information seeking to using information about health care efficacy and quality. Awareness of treatment guidelines was only asked of respondents who had a chronic condition for which there are treatment guidelines.
guidelines. Here we can see that some of the behaviors that we are encouraging consumers to engage in, such as seeking out health information, using quality information, and being aware of treatment guidelines, are not behaviors common to those with lower activation levels (Level 1 and 2). The latter two behaviors are uncommon for Level 3 respondents as well.

Overall, the data illustrate how activation level is linked with specific behaviors. More important, the data indicate that many of the more difficult behaviors are rarely
exhibited among less activated consumers. The behavior maps help to explain why many of the behaviors that current policies seek to encourage among consumers are meeting with little success. These behaviors, such as using quality information, being more collaborative with providers, and knowing about treatment guidelines, are behaviors that are common only among those who are highly activated. Only 22% of the adults aged 45 years or older are highly activated (Level 4 activation), and even among this group, the examined behaviors are not universal (Hibbard et al., 2005).

The behavior maps highlight three key points. First, although this is only a cross-sectional analysis, it appears that there is a progression of behaviors that led up to becoming a fully competent self-manager of one’s health and health care. Second, these behaviors are closely linked with activation level and, to some degree, can be

<table>
<thead>
<tr>
<th>Level</th>
<th>Seek out health information***</th>
<th>Look up qualifications of new doctor***</th>
<th>Aware of treatment guidelines***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levels 1-2</td>
<td>34% (r² = .34, p &lt; .001)</td>
<td>8% (r = .38, p &lt; .001)</td>
<td>1% (r = .52, p &lt; .001)</td>
</tr>
<tr>
<td>Level 3</td>
<td>45%</td>
<td>10%</td>
<td>4%</td>
</tr>
<tr>
<td>Level 4</td>
<td>76%</td>
<td>47%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Source: National Survey (2003), N = 1,469.

a. The correlations are between the behavior and the activation score (not the activation level).

***p < .001.
predicted, once activation level is known. Third, the latter two points have implications for how to engage consumers and how to effectively encourage behavioral adoption. That is, instead of just focusing on the behaviors that we hope consumers will adopt, we should focus on encouraging behaviors that are realistic for consumers to adopt in the short run, with the expectation that in the long run consumers will become prepared for Level 4 behaviors, by starting with behaviors more closely tied their current level of activation. The key is to start where people are and support them step by step up to higher levels of activation. This implies measuring individual activation levels and tailoring approaches based on their level.

The research on PAM is at an early stage. While research has established the strength of the measurement, the research that assesses the application of that measurement to improving care and outcomes is still in its infancy. In the remainder of the article, the potential for applying the measure for improving outcomes are explored at the level of the individual patient, the group, and at the community level.

**Increasing Activation at the Individual Level**

The efficacy of the current strategies to support consumer engagement may be bolstered by measuring activation levels and using that information to be more targeted and tailored in their approach. For example, PAM can be used to extend patient-centered interviewing techniques, such and motivational interviewing, and to provide a vehicle for greater insight and precision while working with a patient. This approach is currently being tested in a DM setting serving chronic disease patients. They use the PAM in three different ways: tailoring support based on activation level; tailoring the discussion based on patient responses to individual PAM items (visual scan discussion); and in addition, they use the PAM to track progress on patient activation and to inform clinicians about individual patient improvement.

Clinicians visually scan patients’ responses to individual PAM items as a way to open a window for productive discussions. The idea is to hear the patient’s own story about what is going on when they try to manage their condition. For example, a clinician might open a discussion with something like, “I see from your answer to this question that you aren’t sure about your ability to prevent problems with your condition, let’s talk about that.” Anecdotal evidence indicates that this discussion supports patient self-reflection, awareness, and problem solving, and helps to identify impediments to engaging in productive health behaviors. Some clinicians report that the simple act of taking the PAM stimulates patient questions and directs their attention to the issues that they had not previously thought about, that is, the clinicians use the measure both as a patient self-assessment tool and as a trigger for a productive discussion.

Tailoring based on activation level means encouraging realistic behaviors for people in that level (based on the behavioral maps). For example, in Level 1, the typical challenges are a lack of self-confidence in managing one’s own health, a lack of
focus on health care, difficulty managing stress, and a lack of understanding of the patient role in the care process. For those in Level 1, negotiating an action plan that focuses on self-awareness and mindfulness of behaviors, role delineation, and stress management, along with small behavioral action steps are appropriate. In Level 2, patients may understand that they have to play an active role, but may lack the knowledge or the confidence to do so. For patients in Level 2, assuring that they understand the basics of their condition, their treatments, and the specifics of their part in care are essential. Equally essential is building a sense of self-efficacy. For patients in Level 3, where they are beginning to become more active managers, negotiating an action plan that focuses on supporting the initiation of new behaviors and the continuation of behaviors recently adopted is appropriate. Patients in Level 4 of activation, also face challenges, although they are different challenges than those in earlier levels. In Level 4, the challenge is to cope with new or unfamiliar situations as they arise, to maintain behaviors already adopted, and to do so even during times of stress. Acquiring coping and problem-solving skills along with gaining awareness of environmental and situational factors that undermine the maintenance of behaviors are important for patients in Level 4.

Simply put, patients at Level 1 or 2 focus on self-awareness (how their behaviors relate to how they feel and function) and taking small steps or preparatory behaviors (e.g., taking a walk around the block each evening or reducing portions during one meal each day). While patients at Level 3 or 4 are taking on clinically meaningful behaviors (e.g., exercising for an hour 5 days a week) or they are working on maintaining behaviors.

For patients in each level, experiencing a series of successes, with the particular challenges they face at that level, will likely build a sense of self-efficacy and increase activation (Bandura, 1991; Battersby et al., 2003). Encouraging realistic next-step behaviors is a part of enabling these successes. Acquiring the basic knowledge, beliefs, and skills to progress through the early levels of activation is likely necessary for building a sense of efficacy for the self-management tasks involved in the later levels. Focusing on a behavioral change that the patient chooses helps the individual begin to take ownership of his or her health. By experiencing a series of successes, the individual begins to feel competent to take on this ownership role. A basic hypothesis is that activation increases will occur as individuals come to feel more competent to manage their health. Thus, starting with behaviors the individual chooses (and not necessarily the behaviors that the clinician views as the most important) will kick start the process of taking ownership and building a sense of competence.

This approach is consistent with several theoretical perspectives that inform current strategies. For example, Roter and Kinmonth (2002) suggested that simply participating in decisions about one’s own care is an important step toward activation. When patients are able to tell their story and feel listened to, they begin to feel more a part of the process. Within this context, the patient is transformed from a reporter of symptoms to a co–problem solver (Roter & Kinmonth, 2002; Wallerstien
& Bernstein, 1988). This process, which is based on self-determination theory and embodied in the motivational interviewing approach (Miller & Rollnick, 2002), seeks to activate patients by making them a part of decision-making (including goal setting and action planning) process, supporting self-reflection, and engaging with them in problem solving. The PAM can be used as a complement to these approaches.

That is, it is possible to build on existing approaches that utilize patient-centered interviewing techniques, such as motivational interviewing, and add in the measurement of activation as a way to tailor care, to assess progress, and potentially increase the efficacy of efforts. It is also a tangible way to implement the chronic care model. By measuring activation levels, and working with patients in ways that appropriately involve them in their care (given their level of activation), improvements in activation may be tracked along with other outcome metrics. Thus, the approach is not to replace existing strategies, but to sharpen them and tailor them to the activation levels of individual patients. Applying activation-tailored approaches could be done across the spectrum of health care settings, including hospitals (with discharge planning), DM, and primary care. The medical home model, which seeks to deliver patient-centered care is consistent with this approach. Finally, all programs that seek to engage patients and consumers could benefit from built-in measurement to assess how well current approaches are working and to use the measure to refine and improve efforts.

**Increasing Activation at the Group Level**

Segmentation strategies have been used for some time within enrolled populations, primarily as a way to control costs and to identify high-cost enrollees. Segmentation strategies could also be used to increase activation among a patient population. Such approaches could be informed by measurement and employ tailoring approaches. For example, delivery systems could stratify their enrolled patient populations by both clinical indicators (e.g., blood pressure or cholesterol levels) as well as by their activation levels. Doing so would allow for early intervention with patients who have clinical risk factors and who lack the skills to self-manage, ideally intervening with patients before they move to a higher-risk group.

Health plans or employers could then devise either group-level or individual-level interventions aimed at one or more of these consumer segmentation groups. The segment-based interventions could be designed to address the challenges faced by individuals in the level of activation represented within that segment.

Finally, segmentation strategies could be used to more efficiently deploy resources. For example, because less activated consumers tend to be more passive about their health, using high-touch, one-on-one approaches to pull people into programs and support services could be used with those lower in activation. At the same time pushing out information to the more activated via electronic and other low-cost methods may still yield good results, as this segment of the population is more motivated and ready.
to act. The same segmentation approach could be used within a clinical population, using resources more effectively by spending more time supporting the less activated and less time with those who need less support.

**Increasing Activation at the Community Level**

Recent research findings indicate that social environmental factors are associated with consumer activation levels. For example, Becker and Roblin (2008) found that physicians who function more effectively within a health care team were more trusted by their patients and in turn their patients were more activated and displayed more healthy behaviors and better clinical outcomes. Becker and Roblin (2007) also examined the social environments of worksites, home and family, and neighborhoods, and found that where these environments were supportive of healthy behaviors, participants had both higher activation and engaged in more health-promoting behaviors. That is, where there was normative support, opinion leader support, and more opportunities to engage in healthy behaviors, people tended to be more activated. This suggests that community-wide efforts aimed at creating multiple supportive social environments (e.g., work, health care, and neighborhoods) could amplify efforts to increase consumer activation.

One advantage of community level strategies is that different organizations and actors in the community can reinforce similar messages and norms, creating a social environment where there is widespread support for particular consumer roles and behaviors. The coordination and reinforcement of messages can create a synergy that is more than the sum of individual efforts of actors and organizations (Rimal, Flora, & Schooler, 1999). Key reference groups in the community, such as churches, parent groups, media sources, and civic organizations, working together to promote the idea of taking an active role in one’s own health would likely have a greater impact than any one organization working in isolation.

Further, these coordinated messages could be tailored to the individual’s level of activation. The heterogeneity within mass audiences is increasing apparently; thus, the approach of developing and disseminating different versions of materials for distinct population subgroups has gained currency (Capella, 2006). Although principles of audience segmentation have been well known to communication scholars and widely used in advertising and social marketing (Maibach, Rothschild, & Novelli, 2002), the application to creating tailored health materials is considered innovative.

Research indicates that tailored messages, ones that are personalized based on the unique needs of the individual, are more effective in influencing attitudes, knowledge, and behaviors than generalized messages (Rimer & Kreuter, 2006). While research has not determined what factors are most important to tailor on, tailoring is recommended when there is a high level of variability in the population, under key determinants of outcomes, and where there is some mechanism for gathering data from or about the population of interest (Collins, Murphy, & Bierman, 2004).
By assessing activation levels among their employees/patients, and providing the same activation level–based messages, the individualized message could be reinforced by more than one source, likely magnify the impact, and create greater normative support for behavior adoption.

Finally, reaching out to the most activated in the community and recruiting them to act as opinion leaders, role models, and guides could be an effective approach for stimulating change in norms and behaviors. This reflects a basic marketing approach—focus on those most receptive to the message, use them to create a buzz, and make them role models.

For example, the findings from the behavior maps analysis showed that it is primarily the individuals at Level 4 of activation use performance information. Thus, in encouraging consumers to use comparative quality information, it may be more efficient to reach out to those who are most activated with performance information and seek to move the market through this more motivated and interested segment. Since it is presumed that it will only take a relatively small proportion of consumers choosing on quality to motivate provider improvement, reaching out and encouraging those most likely to use the information could be a successful strategy. Further, this activated group could also be recruited to be role models and to help others in making informed provider selections.

**Discussion**

Adequate measurement is fundamental to our ability to advance research and inform action in this arena. We now have measurement on which to develop a research agenda. To begin to lay the foundation, some basic questions need to be addressed: (a) Are outcomes improved if interventions are tailored to the individual’s level of activation? (b) Which interventions will most efficiently move people from one level of activation to the next? (c) How important is physician support in stimulating patient activation? (d) Will reaching out to the most activated and recruiting them to be opinion leaders and guides to others help to bring about change? (e) How are responses to financial incentives, behavior change, and activation related?

Perhaps the most challenging and critically important question is how to support and motivate the least activated. These are patients and consumers who have opted out of the role of self-manager. Evaluating approaches that effectively engage these consumers will be a high priority. A testable hypothesis is that encouraging realistic small next steps will reduce the overwhelming nature of the task they face and enable them to move forward, and, in addition, is the question of how to best recruit low-activated patients into self-management and wellness-support programs. There is some evidence that current programs are largely serving the consumers who are already activated. An important challenge will be to find ways to successfully recruit the low-activated consumer into appropriate support programs.
Conclusions

Current policy directions place high expectations on consumers, pressing them to assume new roles and adopt new behaviors. The price of failing to meet these expectations will be high for the individual, the care delivery system, and the society as a whole. And yet we have limited supports in place to assist consumers meet these expectations. The current focus on the provision of information is important but likely insufficient.

The empirical evidence reviewed here suggests that when activation changes a range of health-related behaviors will also change in the same direction. This means that activation is an important outcome in itself. It further underscores the importance of developing and testing approaches for supporting activation. This does not mean abandoning current approaches, but instead, it implies a need integrate and use measurement to inform their methods.

A focus on activation as an outcome of care could be transformative for the delivery system, moving away from the current provider-centric perspective to one that is patient centered and supports the real work of the patient.

Supporting activation will likely mean engaging consumers and patients where they are, and this implies moving away from a generalized approach to a tailored approach. While health care has been slow to move in this direction, almost all other industry sectors are moving toward a mass customization approach (Gilmore & Pine, 2000). As long as we continue to use methods that rely solely on strategies that assume a one-size-fits-all approach to encouraging consumer engagement, we will likely see limited response from consumer audiences.

Appendix

Patient Activation Measure (PAM) Items

When all is said and done, I am the person who is responsible for taking care of my health problems.
Taking an active role in my own health care is the most important thing that affects my health.
I am confident I can help prevent or reduce the problems associated with my health condition.
I know what each of my prescribed medications do.
I am confident I can tell whether I need to go to the doctor or whether I can take care of a health problem myself.
I am confident that I can tell a doctor my concerns, even when he or she does not ask.
I am confident I can follow through on medical treatments I need to do at home.
I understand my health problems and what causes them.
I know what treatments are available for my health problems.
I have been able to maintain (keep up with) lifestyle changes, like eating right or exercising.
I know how to prevent further problems with my health condition.
I am confident I can figure out solutions when new problems arise with my health condition
I am confident I can maintain lifestyle changes, like eating right and exercising, even during times of stress.

Source: Copyright© University of Oregon. All rights reserved.
Notes

1. Private conversations with Connie Davis of Fraser Health and Harry Laudermilk of the Community Health Plan, 2006.

2. Two different data sets are used in this reanalysis. Both data sets are based on survey data from two different populations in which the patient activation measure (PAM) is included, along with data on respondent behaviors. The first data set is from 2002 and is drawn from an investigation of enrollees in a health plan (N = 479). The respondents volunteered to participate in the study, and only those with a chronic illness were eligible. The second data set is based on a telephone survey of 1,515 randomly selected adults in the United States who were aged 45 years or older. The data were collected in 2002. Respondents were selected via a random digit–dial selection and a screening question to determine age eligibility. A 48% response rate was achieved.

References


