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Assessing Activation Stage and Employing a “Next Steps” Approach to Supporting Patient Self-Management

Judith H. Hibbard, DrPH; Martin Tusler, MS

Abstract: Current approaches to chronic illness care seek to engage the patient as part of the care team. Yet, finding effective ways to engage patients in their own care and support patient self-management has been challenging. Instead of pushing patients to immediately adopt all recommended behavioral changes, many programs encourage small steps while working toward a larger goal. A strategy that first assessed the level of mastery, and then encouraged “next step” behaviors, may be more effective as the recommended steps would be calibrated to the patient’s level of competency. In this analysis, we build on the previous research to determine whether there are behaviors that are more or less likely to be adopted at different stages of activation. Key words: health coaching, patient activation, patient engagement, patient participation, self-care methods, self-care statistics and numerical data, self-care trends.

The Chronic Illness Care Model emphasizes patient-centered care, with patients and their families integrated as members of the care team. Patients with the skills, knowledge, and motivation to participate as effective members of the care team are central to the model (Von Korff, Gruman, Schaefer, Curry, & Wagner, 1997). Yet, finding effective ways to engage patients in their own care and support patient self-management has been challenging. When clinicians do provide education and support for patient self-management, it is typically a “one-size-fits-all” approach.

To take on a meaningful role in their own care, patients need a sense of competence, a sense that they can have some control over events related to their health and healthcare (Bandura, 1997; Iorig, 1996). However, interactions with providers often undermine patients’ sense of competence or efficacy. It is not uncommon for patients suffering from chronic disease to be told by their clinician to initiate several major lifestyle changes. Patients can feel overwhelmed by the magnitude of the changes that are recommended and when they are unable to achieve the changes, they may feel like a failure. Yet, it is experiences with success that will build a sense of efficacy and confidence. Creating situations where patients can experience success in taking control of their health is an essential part of effective self-management support.

Instead of pushing patients to immediately adopt all recommended behavioral changes, many programs encourage small steps while working toward a larger goal. Brief Negotiation (Kaiser Permanente, Regional Health Education, 2005) and Motivational Interviewing (Miller & Rollnick, 2002) are examples of strategies that take this approach. These strategies encourage patients to make small achievable changes as they work toward a long-term goal. The idea underlying these approaches is that it is possible to gain a sense of mastery and efficacy, in part, by experiencing a series of small successes. A strategy that first assessed the level of mastery, and
then encouraged "next step" behaviors, may be more effective as the recommended steps would be calibrated to the patient's level of competency.

Yet we do not know what behaviors are realistic for patients who are at different competency levels. In this analysis, we use a measure of patient activation (knowledge, skill, and confidence for managing one's health and healthcare) to determine what are realistic behaviors for people at different stages of activation. By mapping behaviors in this way, it may be possible to tailor support for individuals and encourage behaviors that patients feel competent to take on.

BACKGROUND

The Patient Activation Measure (PAM) assesses patient knowledge, skill, and confidence for self-management. The measure was developed using qualitative methods, Rasch analysis, and classical test theory psychometric methods. The resulting measure is a unidimensional, interval level Guttman-like scale. The research to date has found PAM to have strong psychometric properties, including content, construct, and criterion validity. Findings indicate that PAM predicts a range of behaviors, including healthy behaviors; disease-specific self-management behaviors; and consumeristic-type behaviors. PAM is reliable and valid for use with patients with a wide range of chronic illnesses and for use with individuals with no chronic illness (Hibbard, Mahoney, Stockard, & Tusler, 2005; Hibbard, Stockard, Mahoney, & Tusler, 2004). Findings from a longitudinal study show that activation is changeable and that changes in activation are followed by improved health behaviors and improved functioning (Hibbard et al., in press).

Empirical evidence suggests that there are 4 stages (based on PAM scores) that patients go through in the process of becoming fully competent managers of their own health. At stage 1, patients do not yet grasp that they must play an active role in their own health, they may still believe that they can just be a passive recipient of care (about 12% of people 45 and older). At stage 2, patients may lack the basic facts or have not connected the facts into a larger understanding about their health or recommended health regimens (29% of those 45 and older). At stage 3, patients have the key facts and are beginning to take action but may lack confidence and skill to support their behaviors (36%). At stage 4, patients have adopted new behaviors but may not be able to maintain them in the face of life stressors or health crises (22%) (Hibbard et al., 2005). These stages of activation provide insight into possible strategies for supporting activation among patients at different points along the continuum. In this analysis, we build on previous research to determine whether there are behaviors that are more or less likely to be adopted at different stages of activation. We address this question by examining behaviors within different disease-specific self-management domains. Our research question is: Within each disease-specific behavioral domain is it possible to identify behaviors that are more likely to occur within each activation stage?

METHODS

The data used in this investigation are from an earlier study of enrollees in a health plan. This current study represents a reanalysis of the data. The study participants were volunteers from a large health plan. Plan members aged 50 or older and with at least one chronic illness were eligible to participate. The data from the 479 participants were collected in 2002 via telephone and self-administered surveys (Hibbard et al., 2005). The recruitment process began with a list of 8796 people who were identified as possibly eligible to participate. Of these, 540 were contacted and found not eligible. Another 1442 were on the eligible list, but contact was never attempted. Two thousand one hundred twenty-eight people were called but contact was never completed. Another 3951 were contacted but refused participation. Of the 735 who agreed to participate at the outset of the study, 256 were excluded because they never signed an informed
Table 1. Demographic characteristics of the sample

<table>
<thead>
<tr>
<th>Health Plan Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>(N = 479)</td>
</tr>
<tr>
<td><strong>Average age, y</strong></td>
</tr>
<tr>
<td>50—64</td>
</tr>
<tr>
<td>65 or older</td>
</tr>
<tr>
<td>Gender (male)</td>
</tr>
<tr>
<td>Self-rated health</td>
</tr>
<tr>
<td>Very good or excellent</td>
</tr>
<tr>
<td>Good</td>
</tr>
<tr>
<td>Poor or fair</td>
</tr>
<tr>
<td>Activation (mean, SD)</td>
</tr>
<tr>
<td>Number of chronic conditions (average)</td>
</tr>
<tr>
<td>Heart disease</td>
</tr>
<tr>
<td>High blood pressure</td>
</tr>
<tr>
<td>Arthritis</td>
</tr>
<tr>
<td>Diabetes</td>
</tr>
</tbody>
</table>

consent, leaving a sample of 479 participants. Given this process, we view this as a sample of volunteers. Table 1 shows the demographic and health status characteristics of the study population. The sample was almost 70% female. Only 24% of the sample members rated their health as very good or excellent. Sample members, on average, had 3 chronic conditions.

Variables

We examined self-management behaviors for 4 conditions, diabetes, heart disease, high cholesterol, and asthma/chronic obstructive pulmonary disease (COPD). In each case, self-management behaviors that are specific to that condition were examined in terms of the percentage of respondents in each activation stage who engaged in each behavior. Because the data were not collected with this analysis in mind, not all behaviors relevant to each condition were included. In all of the analyses, activation stages 1 and 2 were collapsed because of too few respondents in stage 1.

Diabetes self-management behaviors include taking diabetes medication as directed; testing glucose at least 3 times a week; reading food labels when shopping; checking cracks in feet regularly; reading about possible side effects when given a new drug; tracking glucose readings in a diary; being able to manage stress; exercising on a regular basis; and counting carbohydrates.

Heart disease self-management behaviors include taking heart disease medications as recommended; having one's blood pressure checked annually; seeing a physician at least annually; knowing what one's recommended weight should be; eating at least 5 fruits and vegetables daily; being able to manage stress; exercising on a regular basis; and being able to maintain one's recommended weight.

High cholesterol self-management behaviors include taking cholesterol medications as recommended; reading food labels when shopping; knowing what one's cholesterol level should be; knowing what one's weight should be; paying attention to fat in one's diet; exercising regularly; managing stress; and maintaining one's recommended weight.

Asthma/COPD self-management behaviors include not smoking; knowing what to do during an asthma attack; managing stress; and using a peak flow meter.

The analysis employed a simple bivariate approach, assessing the frequency of behaviors within each activation stage. Significant differences by stage were assessed using a Spearman’s rho correlation statistic. Because there were insufficient respondents in stage 1, we collapsed stage 1 and stage 2 into one category for the analysis.

Findings

Figures 1 through 4 show the disease-specific self-management behaviors and the frequency with which respondents at each activation stage engaged in them. Figure 1 shows diabetes self-management behaviors by stage. Overall stage predicts the likelihood of engaging in each of the behaviors; all but two of these relationships were statistically significant. Testing glucose levels and checking feet showed the same pattern as the other behaviors but failed to reach statistical significance. Generally, those at a higher activation stage were more likely to engage in each of the...
A "Next Steps" Approach to Supporting Patient Self-Management

![Graph showing stages of patient management]

<table>
<thead>
<tr>
<th>Take medication as directed</th>
<th>Test glucose 3 times per week</th>
<th>Read food labels**</th>
<th>Check cracks in feet</th>
<th>Read about side effects**</th>
<th>Keep glucose diary*</th>
<th>Manage stress**</th>
<th>Exercise***</th>
<th>Count carbohydrates***</th>
</tr>
</thead>
<tbody>
<tr>
<td>.217**</td>
<td>.171*</td>
<td>.329***</td>
<td>.183*</td>
<td>.338***</td>
<td>.181*</td>
<td>.275***</td>
<td>.309***</td>
<td>.294***</td>
</tr>
</tbody>
</table>

Figure 1. Diabetes behavior by Patient Activation Measure stage. The table shows correlation with Patient Activation Measure stages (Spearman’s rho correlations). From Health Plan Survey (n = 161). Key: *P < .05, **P < .01, ***P < .001.

Wearing: checking cracks and checking about possible side effects. Tracking glucose levels: being able to maintain a regular basis; and being able to manage stress and maintain weight.

Self-management behaviors included setting an alarm to take medications, checking blood pressure, checking feet for cracks, reading food labels, and recording side effects.

Behaviors such as taking medication as directed, testing glucose levels, checking food labels, checking feet for cracks, and reading about side effects were significantly linked to activation stage 4. Respondents in stages 1 to 2 were least likely to be able to manage stress, engage in regular exercise, and count their carbohydrate intake.

A similar pattern was observed among respondents with heart disease (fig 2). Taking heart medications as recommended, getting blood pressure checked, and seeing the physician yearly were all significantly linked to activation stage, with those in higher stages more likely to engage in each of these behaviors. The other behaviors were less frequently performed by all respondents; however, those in higher activation stages were more likely to know their recommended weight, eat 5 fruits and vegetables a day, manage stress, exercise on a regular basis, and maintain their weight.

The behaviors associated with high cholesterol were similar to those examined for heart disease. Only about 16% of those in activation stages 1 and 2 knew what their cholesterol levels should be compared with about 60% of those in stage 4. The behaviors at the far left of the chart (fig 3) are the ones that were least likely for all respondents with high cholesterol to engage in; however, those in higher activation stages were still more likely to be able to exercise, manage stress, and maintain weight more often than those in stages 1 or 2.

Finally, Figure 4 shows the self-management behaviors among those with asthma or COPD. Tobacco use was unrelated to activation stage; however, knowing what to do during an asthma attack and being able to manage stress were significantly linked with activation stage. Too few respondents used a peak flow meter to observe any statistically significant differences.
Figure 2. Heart disease behavior by Patient Activation Measure stage. The table shows correlation with Patient Activation Measure stages (Spearman’s rho correlations). From Health Plan Survey (n = 98). Key: *P < .05, **P < .01, ***P < .001.

<table>
<thead>
<tr>
<th>Take heart disease medication as directed</th>
<th>Have blood pressure checked annually</th>
<th>See doctor annually</th>
<th>Know recommended weight</th>
<th>Eat 5 fruits and vegetables</th>
<th>Exercise</th>
<th>Able to maintain weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>.293*</td>
<td>.234*</td>
<td>.369***</td>
<td>.344***</td>
<td>.142</td>
<td>.243*</td>
<td>.208*</td>
</tr>
</tbody>
</table>

Figure 3. High cholesterol behavior by Patient Activation Measure stage. The table shows correlation with Patient Activation Measure stages (Spearman’s rho correlations). From Health Plan Survey (n = 262). Key: *P < .05, **P < .01, ***P < .001.

<table>
<thead>
<tr>
<th>Take medication as directed</th>
<th>Read food labels***</th>
<th>Know what my cholesterol level should be***</th>
<th>Know recommended weight***</th>
<th>Pay attention to fat in diet</th>
<th>Exercise</th>
<th>Manage stress**</th>
<th>Able to maintain weight***</th>
</tr>
</thead>
<tbody>
<tr>
<td>.186*</td>
<td>.328***</td>
<td>.321***</td>
<td>.330***</td>
<td>.124*</td>
<td></td>
<td></td>
<td>.277***</td>
</tr>
</tbody>
</table>
DISCUSSION

The findings indicate that activation stage is correlated with disease-specific behaviors. Furthermore, the findings suggest which behaviors are realistic for patients at different stages of activation to take on. The behaviors most consistently engaged in by those who are less activated include complying with drug regimens and seeing their physicians. However, when it comes to knowing target cholesterol levels or recommended weight, or knowing how to handle a problem on their own (e.g., how to handle an asthma attack), those who are less activated are less well informed on these issues. Behaviors that require more active self-management, such as engaging in regular exercise, counting carbohydrates, or keeping a glucose diary, are rare among those who are in activation stages 1 or 2. However, these behaviors are far from universal among those in the highest stage of activation.

Results indicate that a potentially effective strategy may be to assess patients’ stage of activation and encourage and support “next step” actions, actions that are realistic given their level of knowledge and skill. That is, among activation stages 1 and 2, helping patients to become more aware of target goals, such as recommended blood pressure, body weight, or cholesterol, are realistic goals. Conversely, asking these same patients to reach and maintain recommended weight is an unrealistic short-term goal.

The analysis also points out that those in activation stages 3 and 4 have ample room to improve on their self-management behaviors. However, for these patients, taking on and maintaining more active self-management behaviors, such as regular exercise and tracking glucose levels, blood pressure, or cholesterol overtime, are realistic behavioral goals.

The findings reported here are limited by the items that were available in the data set used in this analysis. Studies that
include a fuller range of disease-specific self-management behaviors and that cover a greater number of chronic illnesses are needed to validate and expand the findings reported here. By filling out these "behavioral maps," it will be possible to develop more appropriate supports for patients with different chronic diseases. The findings are further limited by the fact that the study relied on cross-sectional data from a convenience sample. Future studies that utilize larger representative samples and that follow patients over time are needed.

In summary, using an approach tailored to an individual patient's knowledge and skill level is one possible way to break the cycle of failure that many patients fall into when they are unable to achieve the behavioral changes their clinicians recommend. Starting with appropriate goals that fit patients' activation level, and working toward increasing activation step by step, patients can experience small successes and build up the confidence and skill for effective self-management. Testing this "next steps" approach to supporting patient self-management and determining the degree to which it is effective in increasing activation levels and ultimately improving self-management behaviors and health outcomes is essential.

REFERENCES
