Implementation of the Affordable Care Act will broaden access to health care in most of the U.S., but this increased access will often occur via new insurance products that will provide incentives to patients to obtain care from limited networks of providers. Accordingly, patients are likely to reconsider the providers from which they choose to receive their care and contemplate moving to a new practice in order to reduce their personal health care costs.

The impact of new insurance product incentives will be magnified by the increased availability of public data on quality. Additionally, the likely result of provider transparency and choice will be considerable movement of patients among ambulatory medical practices. Already, front-line physicians are aware of growing numbers of patients who will have to move their care in the year ahead.

To help medical groups understand and reduce their vulnerability, Press Ganey has identified the risk factors that define patient subgroups with varying levels of loyalty to their physicians and medical practices. Based on these risk factors, Press Ganey developed and validated an algorithm that can be used by medical groups to benchmark their expected risk of patient attrition and to develop appropriate intervention strategies. This model can be used to profile individual clinicians, as well as entire medical practices, on their proportions of at-risk patients and focus efforts to enhance patient loyalty. This analysis suggests that coordination of care and demonstrating concern for the worries of patients represent key opportunities for physicians and their associated medical practices to improve patient care, while also enhancing patient loyalty and supporting financial viability.

Overview
An analysis of one million patient records revealed that more than 15% of medical practice patients are in a high-risk category for defection from their current physician/practice. This cohort is defined as patients who were both:

- Not “very likely” to recommend their physician and
- Not “very likely” to recommend their medical practice to others

This segment of patients who are not satisfied with their care has historically attracted limited attention within organizations because many such patients are believed to remain with their current sources of care because of convenience or inertia. However, this cohort is of growing strategic interest as health care enters a period of unprecedented turmoil and uncertainty, during which medical practices must address the risk of losing market share.
Deeper analysis of this patient data reveals that the following variables are likely to be key determinants of patient loyalty for medical practices:

- Confidence in the care provider
- Coordination of care
- Concern care providers show for patients’ questions and worries
- Listening
- Courtesy of care providers

A statistically robust algorithm based on these factors was developed to assess both medical practice and individual physician vulnerability of losing patients, and to guide efforts of enhancing overall patient loyalty.

**Key Findings**

Using patient experience data from a sample of approximately one million patients treated in U.S. medical practices during the 12-month period from June 2012 – May 2013, Press Ganey’s research team performed a decision tree analysis. Each node in the tree separates patients into groups with higher or lower levels of expected loyalty to the practice (see Appendix for more information on how loyalty was defined for these analyses). Overall, 15.7% of patients met criteria for being at-risk.

The decision-tree analysis identified the risk factors that were most important, i.e., the questions that split groups into subgroups with the greatest difference (high versus low) in rates of at-risk patients. The resulting risk stratification framework allows medical practices to consider the following series of questions:

1. How does my medical practice’s rate of high-risk patients compare with benchmark data?
2. What are the most important determinants of patient loyalty, and how can they be used to define subgroups with different sources of vulnerability?
3. What factors do not seem to be important predictors of patient loyalty, after these risk factors have been taken into account?
4. How do individual physicians vary in their loyalty rates, and what factors might enable those with higher rates to improve?

The answers to these questions allow medical practices to assess their risk and focus their resources on high-impact issues—both at the practice level and at the individual caregiver level.
Press Ganey’s analysis considered all elements of the Press Ganey Medical Practice Questionnaire and the Clinical and Group CAHPS (CGCAHPS) survey as potential risk factors, and the following questions emerged as the most statistically significant:

1. Confidence in Provider (“Your confidence in this care provider”)
2. Coordination of Care (“How well the staff worked together to care for you”)
3. Concern for Worries (“Concern the care provider showed for your questions or worries”)
4. Listening (“During your most recent visit, did this provider listen carefully to you?”)
5. Courtesy (“Friendliness/courtesy of the care provider”)

While the surveys contain questions about all aspects of the patient experience and reference various staff roles, four of the five most important questions deal specifically with the care provider. (See Appendix for information on how the responses to these questions were analyzed.)

Press Ganey’s analysis found that the most important predictor of patient loyalty was the patient’s confidence in their care providers. The decision tree’s first split is between the 81% of patients who expressed very strong confidence in their clinicians versus the 19% who did not. The rates of at-risk patients were 1.9% vs 74.6%, respectively. (Figure 1)

**Figure 1**

Factors Influencing Likelihood to Recommend

- **All Patients**
  - **High “Confidence in Provider” in 81% of Patients**
    - Recommendation Failure Rate of 1.9%
  - **Low “Confidence in Provider” in 19% of Patients**
    - Recommendation Failure Rate of 74.6%

- **High “Worked Together” in 72% of Patients**
  - Recommendation Failure Rate of 1%
- **Low “Worked Together” in 28% of Patients**
  - Recommendation Failure Rate of 11%

- **High “Concern for Worries” in 68.4% of Patients**
  - Recommendation Failure Rate of 0.6%
- **Low “Concern for Worries” in 3% of Patients**
  - Recommendation Failure Rate of 5.6%

- **High “Listen Carefully” in 3.4% of Patients**
  - Recommendation Failure Rate of 24.7%
- **Low “Listen Carefully” in 0.8% of Patients**
  - Recommendation Failure Rate of 45.7%

- **High “Courtesy” in 2.5% of Patients**
  - Recommendation Failure Rate of 78.2%
- **Low “Courtesy” in 11.4% of Patients**
  - Recommendation Failure Rate of 92.8%
Regardless of the level of confidence in the clinician, performance on Coordination of Care and Concern for Worries were important determinants of patient loyalty. More than two-thirds of all patients were in the lowest risk group, defined by positive answers on all these questions. Only 1% of these patients met the criteria for being at-risk. However, even among patients who said their confidence in their care provider was very good, one in 10 felt the coordination of their care was less than very good and had an 11% at-risk rate. Among these patients, those who rated “Concern for Worries” as lower than very good had an even higher at-risk rate of 22.3%. This rate was similar to the 24.7% at-risk rate among patients who did not have high confidence in their caregivers, but who thought positively about the coordination of care and the extent to which providers were listening carefully to them.

The eight nodes created by this decision tree can be separated into four risk groups: a Very Low Risk (<1%) group consisting of the first node only; a Low Risk (~5%) group, consisting of the next two nodes; a Medium Risk (22-48%) group, consisting of the next three nodes; and a High Risk group, consisting of the last two nodes. Table 1 shows the number of patients in each of these four strata. The percentage of the total population that fell into each group, and the percentage of patients in each group who were at risk.

Table 1

<table>
<thead>
<tr>
<th>Risk group</th>
<th>Number of patients</th>
<th>% of all patients</th>
<th>% at-risk in group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very low</td>
<td>650,131</td>
<td>70%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Low</td>
<td>84,597</td>
<td>9%</td>
<td>6.1%</td>
</tr>
<tr>
<td>Medium</td>
<td>62,493</td>
<td>7%</td>
<td>26.4%</td>
</tr>
<tr>
<td>High</td>
<td>132,054</td>
<td>14%</td>
<td>90.2%</td>
</tr>
</tbody>
</table>

The accuracy of this predictive model was confirmed in two separate tests. Figure 2 shows the percentages of at-risk patients in each of these four risk groups in two validation sets (i.e., data that were not used to develop the risk-stratification model). The first uses data from all practices for one month (June 2013). The second table shows the percentages from a sample of patients from a single practice, which demonstrates how single practice data can be expected to track closely with data from the overall sample, and thus, how variation from the benchmark is likely to be meaningful.
The percentages on the group labels on the X-axis indicate the percentage of patients who fell into each of the four categories in the larger validation set. In the validation sets, about 95% of vulnerable patients can be found among the 19% of patients who were in the Medium and High Risk groups. Accordingly, improvement efforts could be directed at the issues that define these risk groups and at physicians with higher-than-expected rates of patients in the “nodes” in these groups.

Further testing of this algorithm and risk-stratification framework demonstrate its potential utility for identifying individual clinicians with increased proportions of patients in medium- and high-risk strata. Figure 3 shows that, among all 67 internal medicine physicians in a single organization, the proportion of patients in these higher-risk groups ranged from 7% to 48%. The percentage of patients in the lowest-risk group—i.e., those with positive responses on all three questions—ranged from 88% to 42% for these individual physicians. Because this organization used Press Ganey’s Census-Based Surveying, large samples (average size = 200 patients) were available for these physicians, and the findings are likely to be robust.
Similar variation existed within other specialty groups, and also between specialty groups. For example, in this organization, the overall percentage of patients who were at risk was 22% for internal medicine, but 36% for another large medical specialty.

The Benefits of Improving Coordination of Care and Demonstrating Concern for Patients’ Worries
The decision tree confirms the importance of having physicians who inspire confidence in patients and reinforces the potential value of appropriately bolstering patients’ confidence in their caregivers of all type (Figure 1). But, this analysis also shows the powerful impact of patients’ perceptions of care coordination and concern for their worries. Note that even when patients held high degrees of confidence in their care providers, lack of confidence in the coordination of their care raised their “at-risk” rates from 1% to 11%. At each level of the decision tree, lower patient confidence in these variables raised “at-risk” levels several-fold.
After these variables were taken into account, data on waiting time, convenience, ease of access and practice amenities—variables that are traditionally the focus of improvement efforts, as they are easily definable and actionable—were relatively less important predictors of patient loyalty. For example, among the roughly two-thirds of patients who had high levels of confidence in their caregiver and felt strongly positive about the coordination of their care and the extent to which their concerns were being heard, the at-risk rate was only 0.6%, and no variable could identify a high-risk subset of this population.

**Conclusion**

For some medical practices, the challenging period ahead could result in a loss of patients and thus compromised business viability. But, this period will also provide opportunities to increase market share, retain patients, improve clinical outcomes and patient experience, and enhance clinician and employee satisfaction. This analysis presents a risk-stratification framework based on likelihood to recommend a practice and likelihood to recommend a physician. Lower levels of satisfaction on these questions—as well as commitment to both their individual caregivers and to their medical practice—suggest the strongest risk of defection.

With this algorithm and risk stratification system, provider organizations can estimate the size of their at-risk populations and compare them to benchmarks. Provider organizations can also evaluate whether they have higher-than-expected levels of adverse risk factors (e.g., communication from physicians to patients) in various patient segments. This system can help organizational leaders evaluate the potential return on investments aimed at improving adverse risk factors, which may include: Confidence in Provider; Coordination of Care; Concern for Worries; Listening; and Courtesy.

These analyses can be used to guide efforts of practices and individual physicians to better meet the needs of patients, thus minimizing the risk of market share loss as the market changes and new insurance products are introduced. Improvement efforts to reduce the proportions of patients who do not have confidence in their clinicians, do not believe that their care is well-coordinated or do not believe that their concerns are being heard are likely to have an additional important benefit: greater professional satisfaction and pride for caregivers.

**Appendix: Analytic Methods**

Expected loyalty was defined on the basis of patients’ responses to two separate questions asking them to rate their likelihood of recommending their care provider (generally, their physicians) and the medical practice to others. Patients who gave the highest of five possible responses (“Very Good”) to one or both questions were considered to be at lower risk of leaving the practice. Patients who indicated that their likelihood of recommending was lower than “Very Good” for both the caregiver and the medical practice were considered at higher risk.

For analysis of potential risk factors for loyalty, responses to questions 1, 2, 3, and 5 as described in the text were considered positive if the patient answered “Very Good,” the top response on a five point scale. Responses to #4 (Listening) were considered positive if the patient answered “Yes, definitely,” as opposed to “Yes, somewhat” or “No.”
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