Results and Report of the 2012 Patient Flow Challenges Assessment:
Hospitals Consider Patient Flow Essential to Care and Competitiveness

The 2012 Patient Flow Challenges Assessment© was conducted by AHA Solutions and is jointly published with Hospitals in Pursuit of Excellence (HPOE).
Hospital professionals see a strong connection between patient flow and patient care and to overall hospital effectiveness, according to findings in the 2012 Patient Flow Challenges Assessment (PFCA) conducted by AHA Solutions, Inc. Respondents see good patient flow as essential for reducing readmissions, gaining patient confidence and maintaining competitiveness.

These beliefs were widely held. There is much less consensus as to the leading causes of patient flow challenges and the best strategies for solving them. Although respondents differ about the specific causes of poor patient flow, there is strong agreement that communications is the most difficult obstacle to overcome.

Hospitals are actively pursuing numerous patient flow improvement initiatives through process changes, staffing additions and systems investments and are reporting successes in these efforts. Leading areas being targeted for patient flow improvement include the discharge process, medication reconciliation, bed management and tracking systems for equipment, staff and patients.

This third PFCA measures opinions about the causes and effects of poor patient flow and initiatives hospitals are taking to overcome them. It examines three leading root causes of patient flow challenges, plus many specific contributing factors; it measures the priority hospitals are placing on improving each stage of patient flow; and it identifies leading process and organizational changes facilities are making to improve patient flow. The report also examines relationships between patient flow and the investments hospitals are making to reduce readmissions, meet Meaningful Use requirements for electronic medical records (EMR) and other topical issues.

Results from the 2012 PFCA make it clear that hospitals are very engaged in improving patient flow and raising the quality of care, and there is always room for improvement. While respondents express many concerns, it is evident that they are largely successful at maintaining high standards of care even where patient flow challenges exist. AHA Solutions uses these findings to continue to identify, develop and educate about solutions to help hospitals solve their patient flow challenges.
AHA Solutions, Inc. developed the 2012 Patient Flow Challenges Assessment to identify and rate the patient flow obstacles hospitals face; gather insight on how patient flow relates to other aspects of patient care and hospital operations; and to identify processes, systems and staffing approaches that are being used to improve patient flow. The PFCA was distributed via a web-based survey tool to individuals in the hospitals who had participated in AHA Solutions’ educational programs. Participants were drawn from multiple functional areas and management levels.

Assessment surveys were distributed for 10 weeks, concluding in October of 2011. A total of 75 individuals representing hospitals and health care systems completed the assessment.

Figures 2–5 provide demographic data about respondents. Most respondents answered on behalf of their hospital (Figure 3) and work in a facility with either less than 200 beds (47.1% of respondents, see Figure 3) or between 200 and 499 beds (40% of respondents).
Patient flow issues are most commonly addressed by a committee (Figure 5), although 14.1 percent of respondents have patient flow departments at their hospitals. At the other end of the spectrum, 23.4 percent have no ongoing focus on patient flow. The approach hospitals take to address patient flow concerns was measured separately from the organizational structure in place to manage it (committee, department, etc.) and is shown in Figure 6. Patient flow concerns are most commonly addressed at the departmental level, although an episodic approach is also widely used.

The 2012 PFCA differed from previous versions in that it did not focus extensively on challenges specific to each of the eight stages of patient flow. Instead, challenges were organized by root causes, and respondents were asked to rate various cause and effects of patient flow. As in past years, the 2012 Assessment measured many specific challenges and improvement initiatives.

Data about challenges and the causes and effects of poor patient flow were gathered from a series of questions for which respondents were presented a list of options to rate as: high concern, moderate concern, minimal concern or not a concern. When data are presented regarding a concern, the percentage used represents the sum of high- and moderate-concern responses. Each item measured is identified as a concern by an average of 55.3 percent of respondents. Totals presented may not equal 100 percent because of rounding and because many questions allow multiple responses. The use of italics in this report indicates the italicized text is the exact language from a survey question or response.

The complete survey, results and additional patient flow reports are available from AHA Solutions. Visit the Patient Flow Challenges Assessment page of the AHA Solutions website (www.aha-solutions.org) for more information.

What Is Patient Flow?
In 2007, AHA Solutions designated Patient Flow as a primary area for performance improvement in hospitals. An advisory committee guided this effort developing an extensive list of obstacles that slowed the patient flow process. This research identified eight stages of patient flow:

1. Pre-Admission  
2. Admission  
3. Diagnosis  
4. Procedure  
5. Recovery  
6. Discharge  
7. Post-Discharge  
8. Home

Strictly to reduce redundancy, it was determined to combine the stages of diagnosis and procedure and use home as the last stage, though it could be considered the first stage.

AHA Solutions defines patient flow as improving throughput and capacity to allow hospitals to safely provide the right level of care for patients. In today’s economic environment, improving hospital operational performance while improving safety and patient outcomes is critical to health care leadership.
Results of the 2012 Patient Flow Challenges Assessment (PFCA) suggest patient flow is intractably linked to quality of care and also to hospital efficiency, financial performance and competitiveness. Because of its wide-ranging impact, patient flow generated many concerns—67 of the 68 issues measured were cited as a concern by at least 25 percent of respondents.\(^1\) The effect of patient flow on the hospital’s Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores and the resulting financial impact was the most widely-cited concern (88.2% of respondents, including 69.1% who cited it as a *high concern*) and was one of only three issues cited as a *high concern* by more than half of respondents (69.1%). Hospital reputation and staff dissatisfaction were also in the top five overall concerns, which demonstrates that patient flow is viewed by respondents as a key component to hospital image.

The top 10 patient flow concerns are presented in Figure 6 below. The figure includes concerns about the root causes, specific causes and effects of poor patient flow. Results for each of these topics are presented separately later in the report.

As shown on page 2, Figure 1 indicates communications to be the most pervasive root cause of patient flow problems and the most challenging to solve. More than twice as many respondents cited *communications* (60.9%) than the second-most challenging root cause, *lack of visibility to data* (29.0%). Leading communications concerns that affect patient flow include the inability to communicate with doctors to complete discharge, inefficient patient handoffs and insufficient post-discharge contact with patients. Patient engagement problems are not widely seen as leading obstacles to patient flow, but they are cause for concern during Stages 7 and 8, Post-Discharge and Home.

\(^{1}\) The only exception was ‘lack of access to policies and procedures’, which was a concern to 24.3 percent of respondents.

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**Figure 6: Top 10 Concerns (%) Related to Patient Flow**

<table>
<thead>
<tr>
<th>Concern</th>
<th>High Concern</th>
<th>Moderate Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCAHPS—Financial impact</td>
<td>69.1</td>
<td>45.7</td>
</tr>
<tr>
<td>Readmissions</td>
<td>40.0</td>
<td>30.0</td>
</tr>
<tr>
<td>Inadequate communication to/from physicians</td>
<td>51.4</td>
<td>41.4</td>
</tr>
<tr>
<td>Hospital reputation impacted</td>
<td>49.3</td>
<td>34.8</td>
</tr>
<tr>
<td>Staff dissatisfaction</td>
<td>42.9</td>
<td>37.1</td>
</tr>
<tr>
<td>Noncompliance of patient education/discharge instructions</td>
<td>44.9</td>
<td>38.0</td>
</tr>
<tr>
<td>Delays from triage to disposition</td>
<td>37.1</td>
<td>41.4</td>
</tr>
<tr>
<td>Lack of discharge plan within 24 hours of admission</td>
<td>52.9</td>
<td>24.3</td>
</tr>
<tr>
<td>Limited or no programs to engage, monitor or High ED with times or boarding</td>
<td>34.8</td>
<td>29.0</td>
</tr>
</tbody>
</table>
Respondents report progress solving patient flow challenges. The Assessment identifies the leading strategies and solutions that are being pursued. Most hospitals are focusing their patient flow improvement efforts on Stage 6: Discharge. The top specific patient flow improvement initiatives include medication reconciliation systems and improving the accuracy of discharge predictions. Hospitals are actively assessing many types of systems to improve data visibility and appear most likely to implement new tracking systems for assets, patients and staff.

Many respondents with patient flow success stories credit low- or no-tech solutions like process changes and stronger communication efforts as the key improvement enablers. Respondents note that hospitalists also have a central role in patient flow improvement initiatives.

The following sections provide more data and insight about the causes, effects and responses to patient flow challenges. Additional information about the 2012 PFCA, including the complete list of questions and data, are available from AHA Solutions.

**Causes of Poor Patient Flow**

Communication problems, insufficient information, resource constraints and lack of patient engagement all contribute to constricted patient flow. While communications is considered the most persistent root cause of poor patient flow, many of the top individual concerns are resource related. Respondents rated the most challenging root causes of patient flow problems and their level of concern regarding specific conditions that affect patient flow (Figure 7). Nineteen of the 20 specific causes of poor patient flow presented are a concern to at least a quarter of respondents.

![Figure 7: Top 10 Concerns (%) About Poor Patient Flow Causes](image-url)

<table>
<thead>
<tr>
<th>Cause</th>
<th>High Concern</th>
<th>Moderate Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of discharge plan within 24 hours of admission</td>
<td>52.9</td>
<td>24.3</td>
</tr>
<tr>
<td>Hospital has limited or no programs to engage, monitor or encourage home management of chronic diseases</td>
<td>34.8</td>
<td>42.0</td>
</tr>
<tr>
<td>Turnaround time from bed request to bed assignment</td>
<td>39.1</td>
<td>36.2</td>
</tr>
<tr>
<td>Turnaround time for tests, labs, procedures, consults to findings</td>
<td>28.6</td>
<td>42.9</td>
</tr>
<tr>
<td>Limited availability or shortage of nursing and other staff</td>
<td>22.4</td>
<td>47.8</td>
</tr>
<tr>
<td>Lack of self-serve kiosks, smart phones and other technologies to improve wayfinding, check-in or admissions</td>
<td>32.9</td>
<td>35.7</td>
</tr>
<tr>
<td>Your organization does not maintain a relationship with patients after discharge</td>
<td>21.7</td>
<td>46.4</td>
</tr>
<tr>
<td>Limited availability or shortage of specialists</td>
<td>27.5</td>
<td>34.8</td>
</tr>
<tr>
<td>Lack of evidence-based care guidelines</td>
<td>30.0</td>
<td>31.4</td>
</tr>
<tr>
<td>Environmental Services or transport not active in managing flow</td>
<td>20.3</td>
<td>37.7</td>
</tr>
</tbody>
</table>
Lack of a discharge plan within 24 hours of admission is the top overall concern, cited by 77.2 percent of respondents. It is the only cause of patient flow problems to generate high concern among more than half of respondents. While this is the leading source of concern, it is also a source for hope—several respondents reported improvements and success stories related to discharge planning.

The second-leading concern is Hospital had no or only limited programs to engage, monitor, or encourage home management of chronic diseases, cited by 76.8 percent of respondents. It is not only a top concern, but a growing one, as only 60 percent of respondents expressed the same concern last year. Respondents also expressed above-average concern that The hospital does not maintain a relationship with patients after Discharge (this question applied to all patients, not only those with chronic diseases), which is cited by more respondents than a year ago.

Home management and developing relationships both relate to the continuum of care, which could help provide several possible explanations why they are growing areas of concern. The prospect of implementation of the accountable care organization (ACO) model mandated in Medicare reforms is one motive. Many hospitals are also exploring transition from volume-based to value-based (also referred to as the first curve and second curve) models for patient care. This is supported in the Hospitals in Pursuit of Excellence (HPOE) initiative of the AHA. Among the top “Must Do” strategies identified in the HPOE’s 2011 Hospitals and Care Systems of the Future report is “Aligning hospitals, physicians and other providers across the continuum of care.”

Readmissions may also explain why chronic disease management programs and ongoing patient relationships are growing concerns. Stage 7: Post-Discharge and Stage 8: Home within patient flow have historically been low priority for hospitals. The limited attention paid to these areas may be coming to light as hospitals focus on readmission reduction initiatives, since promoting patient compliance with discharge instructions and proactive disease management are important preventive measures.

While discharge planning is largely a communication issue, the other top concerns suggest resource constraints are a problem. Lack of patient engagement programs, turnaround times and a shortage of nurses and other staff all are top-five concerns, and each relates to a lack of resources (as do several lesser-rated concerns). Staffing issues may contribute to inefficient patient flow in ways that may not be readily apparent. For example, several respondents commented that enterprise-wide efforts to comply with health care reform, Centers for Medicare & Medicaid Services (CMS) targets for the Meaningful Use of EMRs, and the CMS deadline for transition to the ICD 10 inpatient procedure coding standards are diverting IT staff and other resources from initiatives that support or improve patient flow. These comments provide another example of how patient flow is connected to the critical public policy issues in health care.

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Effects of Poor Patient Flow

There are widely held views about how poor patient flow affects hospitals, even though each facility has its own specific challenges. At some hospitals the most pressing patient flow problems relate to the emergency department (ED), at others, discharge. Where hospitals agree is that poor patient flow diminishes patient satisfaction, hospital reputation and staff morale, which highlight how patient flow relates to competitiveness.

Respondents express consensus about the effects of poor patient flow but not its causes. Nearly nine out of 10 respondents (88.1%) express concern that poor patient flow can result in lower HCAHPS scores, which would have a detrimental financial impact. HCAHPS is the most cited concern and is rated a high concern by 69.1 percent of respondents. This is the highest level for any item measured in the entire 2012 PFCA. Two other widespread concerns are closely related to HCAHPS: the effect of poor patient flow on 1) hospital reputation and 2) staff satisfaction. These concerns ranked third and fourth, respectively.

Readmissions is a top concern to health care professionals for many reasons, and patient flow is no exception. It is the second-leading concern about the effect of poor patient flow, cited by 85.7 percent of respondents. It is unclear whether respondents are concerned specifically about the effect readmitted patients have on planning and resource utilization or if the concern relates to the financial impact of readmissions. Because readmissions impact nearly all aspects of hospital operations, clinical and nonclinical alike, and its reduction is an enterprise-
How Hospitals Are Addressing Patient Flow Challenges

Hospitals are pursuing patient flow improvements through changes to process, staff and the underlying systems which support them. Respondents to the 2012 Patient Flow Challenges Assessment have already made extensive use of hospitalists in their efforts to improve patient flow, and many current initiatives involve upgrades to various information systems. The Stage 6: Discharge has emerged as the top-priority stage for improving patient flow, with medication reconciliation drawing the most attention for process improvement.

There is a clear focus on Stage 6: Discharge for improving patient flow in 2012 (see Figure 9). This is a notable change from the previous Assessment, in which respondents placed nearly equal priority on Stage 2: Admissions and Stage 6: Discharge. In the 2012 PFCA, 68.1 percent of respondents state stage 6 Discharge is the stage they most want to improve (a 3% increase compared with last year). All other stages are rated as a lower priority in the 2012 PFCA compared with the Assessment last year. The priority shift is most pronounced for Stage 2: Admissions, which declined as a priority from 61.2 percent of respondents in the Assessment last year compared with 36.2 percent in 2012 PFCA. The percentage of respondents prioritizing each stage for last year and 2012 PFCA are presented side-by-side in Figure 10.

Readmission reduction efforts account for some of the increased focus on the Discharge stage. Several respondents comment that a key component of their strategy to reduce readmissions is to review follow-up instructions and medications with patients during the discharge process. Many of the most-cited steps to reducing readmissions involve post-discharge phone calls and home care. But, as Figure 9 shows, the Post-discharge and Home, stages 7 and 8 respectively, remain low priorities in respect to improving patient flow.

**Figure 9: 2012 Patient Flow Stage Priorities (%)**
When asked which initiatives they were pursuing to address the root causes of patient flow problems, respondents indicate that many of the top initiatives directly relate to improving discharge. These include improvements to medication reconciliation, raising discharge prediction accuracy, implementing tools to monitor patient flow and raising compliance with discharge instructions (Figure 11). Inadequate patient education ranked last, despite concerns that lack of patient engagement leads to readmissions and other problems.

Respondents were also given the option of listing the one metric they most wanted to improve in the next year. Reducing discharge time is cited most often, slightly more than metrics related to the ED. There is also strong support for reducing door-to-balloon time. These and other verbatim responses will be presented in the online materials that supplement this report.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Priority (%)</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pre-Admission</td>
<td>14.5</td>
<td>-5.7</td>
</tr>
<tr>
<td>2. Admission</td>
<td>36.2</td>
<td>-25.0</td>
</tr>
<tr>
<td>3. Diagnostic</td>
<td>7.2</td>
<td>-5.2</td>
</tr>
<tr>
<td>4. Procedure</td>
<td>4.3</td>
<td>-3.5</td>
</tr>
<tr>
<td>5. Recovery</td>
<td>0.0</td>
<td>-0.8</td>
</tr>
<tr>
<td>6. Discharge</td>
<td>68.1</td>
<td>3.0</td>
</tr>
<tr>
<td>7. Post-Discharge</td>
<td>8.7</td>
<td>-12.2</td>
</tr>
<tr>
<td>8. Home</td>
<td>1.4</td>
<td>-7.9</td>
</tr>
</tbody>
</table>

Respondents were asked separately which processes and information systems are currently being evaluated or upgraded to improve visibility to data. Many of the leading initiatives (Figure 12) often involve multiple operations and departments and are not specific to a single stage of patient flow. For example, the top item being assessed for implementation or replacement is asset and equipment tracking systems in order to support workflows throughout a hospital.

The programs that have already been put in place to improve patient flow are decidedly staff-centric (Figure 13). Hospitalists are by far the most reported resource for improving patient flow, with 83.6 percent of respondents reporting they have put hospitalists on staff to help patient flow. Command centers that provide access to data that are important for patient flow management are a distant second, at 27.9 percent. Medical concierges or care coordinators and physician liaisons followed next at 24.6 percent and 16.4 percent, respectively.

Several respondents submitted comments that credit the use of hospitalists for improving patient flow. More significantly, respondents report successful patient flow improvement outcomes resulting from communication process improvements that did not require significant investments in staff, equipment or technology. For example, discharge process changes like establishing set discharge times and standardizing policies made a positive impact. Respondents were given the opportunity to list process changes that improved patient flow and to describe success stories. The most frequent submissions involved improved communications, such as the addition of daily “huddles” regarding beds or discharges, rather than more
Results and Report: 2012 Patient Flow Challenges Assessment

Several respondents cite investments in bed management systems to improve patient flow; additionally, electronic bed management is rated one of the top current initiatives. Respondents also report several system- and process-based change successes for managing patients who entered through the ED. Select responses are presented in Appendix A.

Conclusion

Hospital professionals see patient flow as more than moving patients from point A to point B. They view patient flow as an important component of patient care that reflects heavily upon the quality of care and competitiveness of a hospital. As such, hospitals continue to make process changes and to invest in systems and staff to improve patient flow, even at a time when future funding is uncertain and leading initiatives, such as EMRs and ICD 10, are competing for resources. These investments may be more complementary than competitive, since systems that improve information exchange, collaboration and communication throughout the hospital and the health care system are considered helpful for improving patient flow.

AHA Solutions plans to examine these issues further. A series of follow-up reports to the 2012 Patient Flow Challenges Assessment will focus on the root causes of patient flow problems and the specific initiatives hospitals are taking to address them. AHA Solutions has focused on patient flow since 2007 and has identified and developed many resources to help hospitals improve patient flow. Visit www.aha-solutions.org to access archived case studies, webinars and other resources that highlight patient flow improvement and to learn about AHA-endorsed products and services that support more efficient flow and operations.
Development and implementation of solutions for the patient flow challenges described in this Assessment are an ongoing process. Few hospitals have resolved all the issues. As a resource to hospitals in pursuit of operational excellence, AHA Solutions is focused on identifying high-value products and services that address hospitals’ most critical challenge areas:

- **Pre-Admission**
- **Home**
- **Admission**
- **Post-Discharge**
- **Diagnostic**
- **Discharge**
- **Recovery**
- **Patient Outcomes**
  - **Communications**
  - **Patient Engagement**
  - **Data Visibility**
About AHA Solutions

AHA Solutions, Inc. is a resource to hospitals pursuing operational excellence. As an American Hospital Association (AHA) member service, AHA Solutions collaborates with hospital leaders and market consultants to conduct the proprietary AHA Signature Due Diligence Process™ and identify solutions to hospital challenges in the areas of care continuum, cultural transformation, clinical integration and financial sustainability. AHA Solutions provides related marketplace analytics and education to support product decision-making. As a subsidiary of the American Hospital Association (AHA), the organization convenes people with like interests for knowledge sharing centered on timely information and research. AHA Solutions is proud to reinvest its profits in the AHA mission: creating healthier communities. For more information, contact AHA Solutions at 800.242.4677 or visit www.aha-solutions.org.

About Hospitals in Pursuit of Excellence

Hospitals in Pursuit of Excellence (HPOE) is the American Hospital Association’s strategic platform to accelerate performance improvement and support health reform implementation in the nation’s hospitals and health systems. HPOE provides education on best practices through multiple channels, develops evidence-based tools and guides, offers leadership development through fellowships and networks, and engages hospitals in national improvement projects. HPOE brings providers together to improve performance in several areas, including care coordination/readmissions, healthcare-acquired infections, patient safety, and the development of new payment and care delivery models that promote quality and efficiency. Working in collaboration with allied hospital associations and national partners, HPOE synthesizes and disseminates knowledge, shares proven practices, and spreads improvement to support health reform implementation at the local level.