American Hospital Association®

# Private-Sector Hospital Discharge Tools

*Samples of hospital discharge planning tools that strive to improve transitions to post-acute care and reduce readmissions.*

## Contents:




**This report was developed by the American Hospital Association**
**in collaboration with**
**Dobson DaVanzo & Associates, LLC**
**Al Dobson, PhD**
**Joan Davanzo, PhD, MSW**
**Audrey El-Gamil**

American Hospital Association®

# A Sample of Private-Sector Hospital Discharge Tools

*Case studies of hospital discharge planning tools that strive to improve transitions to post-acute care and reduce readmissions.*

## EXECUTIVE SUMMARY

### Introduction and Policy Background

Hospitals and health systems are seeking innovative ways to help ensure that patients are discharged to the appropriate care setting, be that the patient's home or another health care setting, with the ultimate goal of improving the overall quality of care for patients and reducing readmissions.

This report highlights the efforts of five organizations working to improve patient care transitions through the development and implementation of hospital discharge planning tools. The findings and lessons learned through these innovations provide valuable insights for:

1. general acute-care hospitals seeking to improve their discharge planning processes;
2. post-acute care (PAC) providers trying to help improve transitions from general acute-care hospitals to their settings; and
3. policymakers aiming to improve the quality of the overall episode of care.

Shifts in payment away from fee-for-service (FFS) toward larger units of payment for episodes of care have heightened the need to refine the hospital discharge process to make it more patient-centered and less variable. By facilitating patient care in the right setting at the right time, these efforts will advance progress toward achieving the "Triple Aim" – a framework developed by the Institute for Healthcare Improvement that calls for simultaneously improving the individual experience of care, improving the health of populations, and reducing the per capita cost of care.

At this time, there is no standardized hospital discharge tool. However, the Department of Health and Human Services (HHS) has developed a standardized patient assessment tool to capture clinical and demographic characteristics of patients across post-acute care settings. This tool exists in two forms – the Continuity Assessment Record and Evaluation (CARE) Tool and the B-CARE tool[1]. However, these two tools do not identify the best next setting for patients being discharged from general acute-care hospitals, and providers report both tools are burdensome and lack the ability to capture the full spectrum of a patient's medical complexity to determine post-hospital care needs. Hospital discharge planning tools differ from patient assessment tools in that hospital discharge planning tools are used only within the general acute-care hospital to inform patient transition into post-acute care. Patient assessment tools are used across care settings to consistently measure and monitor changes in patient status. This report focuses only on hospital discharge planning tools.

[1] B-CARE Tool is a streamlined version of the CARE Tool specifically developed to be used by participants in the CMS Bundled Payment for Care Improvement (BPCI) initiative to manage care across settings during the episode of care.

A technical advisory panel (TAP) of American Hospital Association (AHA) members and other stakeholders was convened in fall 2013 to examine a variety of innovative patient discharge planning tools. During a one-day symposium, representatives from five organizations shared information about the development and use of their patient assessment tools:[2]

- Partners Continuing Care – Post Acute Leveling Tool (PAL)
- Advocate Health Care – Advocate Cerner Readmission Tool
- Geisinger Health System – ProvenHealth Transitions
- Cleveland Clinic – "Six Clicks" Functional Mobility Measure
- Carle Hospital – LiveSafe™ by naviHealthTM

In addition, the TAP discussed ways that provider-specific and/or standardized hospital discharge planning tools could be used to optimize hospital and post-acute care partnerships.

Representatives from the Centers for Medicare & Medicaid Services (CMS) and the Medicare Payment Advisory Commission (MedPAC), as well as Dobson DaVanzo & Associates, LLC, the study's support contractor, also were in attendance.

## Summary of Case Studies

Table 1 notes the primary objective and key reporting domains for each of the five examples. While their primary objectives vary, the tools were found to have three cross-cutting themes:

1. appropriate post-acute care placement;
2. readmission reduction; and
3. management of patient transitions from acute to post-acute care settings.

The domains included in the tools are reflective of the diversity of the instruments studied. Generally, inputs to the models are variables contained in the patient's medical record, as well as observations from clinicians based on their assessment of a patient's clinical and functional status.

**Table 1: Primary Objectives and Domains Measured Using Each Tool**

| | **Partners** (PAL Tool) | **Advocate** (Readmission Tool) | **Geisinger** (Proven Health Transitions) | **Cleveland Clinic** ("6-Clicks") | **Carle Hospital** (LiveSafe™) |
|---|---|---|---|---|---|
| Primary Objective: | PAC Placement | Readmission Reduction | Transition Management | PAC placement | PAC placement |
| Domains Measured | Patient demographics, medical/clinical need (including medications), physician, specialty and nursing care needs, social issues, payer information | Patient demographics, medical/clinical need, social issues, care utilization; current conditions and procedures, length of stay, discharge disposition | Readmission risk score; primary care physician; medications; discharge disposition; post-discharge contacts | Basic function (mobility) and activities of daily living | Basic function (mobility) and activities of daily living; applied cognition |

[2]Representatives from other organizations that developed patient assessment and hospital discharge planning tools also attended but did not present the specifications or details of their tools.

**Commonalities Across Featured Hospital Discharge Tools.** Each of the tools was designed to align with the culture of the organization and providers using it, with a focus on reducing the burden on administrative staff and clinicians. However, commonalities in tool development and design features could be transferable to the broader provider and policy communities. In general, each tool is a low-burden instrument that strives to facilitate the discharge of patients to the right care setting. All of the tools allow for input by treating physicians and other clinicians. While using different data inputs, the tools share very similar primary objectives and tend to capture multiple aspects of patient care (e.g., clinical and therapy sessions).

**Challenges in Implementing Patient Assessment/Hospital Discharge Planning Tools.** In the development of an effective, low-burden discharge planning tools, three common challenges emerged:

1. identifying the primary objective for the tool and resisting the tendency to try to cover all aspects of patient care;
2. adapting the organization's culture to gain "buy in" from clinical and administrative staff, including physicians; and
3. determining the reliability and validity of tool outputs to maximize the tool's benefits.

## Lessons Learned

Five key lessons can be derived from the featured discharge tools and the TAP's evaluation of these tools. The following lessons can serve as guiding principles in developing future discharge planning or patient assessment tools:

1. Post-hospitalization placements must first and foremost be based on patients' clinical needs. Clinical decision making, as reflected in any hospital discharge planning process or collection of standard metrics, must be considered an essential element in the design of future payment models.
2. Discharge planning tools must be designed to incorporate the medical judgment of treating physicians and other clinicians.
3. Discharge planning tools must be administratively feasible and not add to current administrative burden.
4. Discharge planning tools should provide information that helps clinicians optimize patient health during the hospital stay to help return the patient to as full function as possible and reduce the overall need for post-hospitalization services.
5. Standard information about the patient can be collected by tools with different design structures, reduce variation in post-acute placement, and assist in reducing readmissions.

## Patient Assessment Tools versus Hospital Discharge Planning Tools

There are two types of tools providers can use to assess patient characteristics and care needs in order to improve care within and across settings. While the tools are used at different points to inform care decisions, they collect similar patient information:

- ***Hospital discharge planning tools*** are used within general acute-care hospitals to inform the planning process for the transition from an acute-care hospital to home or a post-acute care setting. These tools are used by hospital personnel to assess patient demographic and clinical characteristics, risk of hospital readmission, expected post-acute care needs and level of resource use. Once the patient is discharged, these tools generally are no longer used to track patient progress across settings.

- ***Patient assessment tools*** are used across settings to assess the level of care needed and to ensure the appropriate care is provided to patients – while either in the general acute-care hospital or post-acute care setting. These assessment tools can aid in tracking patient rehabilitation progress over an episode of care (and across settings), and improving the coordination of care and communication across providers. Medicare mandates distinct patient assessment instruments for beneficiaries treated by a home health agency, skilled nursing facility or inpatient rehabilitation facility. In addition to care planning, the data collected by these tools are used to determine Medicare FFS payment per case and to collect data for the respective post-acute quality reporting programs. The tools do not contain consistent measures of functional status, activities of daily living, or patient living arrangements that would enable comparisons of relative outcomes and effectiveness per post-acute setting. Nor do these tools facilitate the tracking of patients over time.

This report focuses on hospital discharge planning tools, as the case studies focus on information gathering prior to the point of transition from a general acute-care hospital. While patients are assessed during the discharge planning process (likely using many of the factors contained in a patient assessment tool), discharge planning tools have the end goal of informing clinicians to help them execute the transition to the most appropriate next setting, which may be the home or a post-acute care setting.

## INTRODUCTION

General acute-care hospitals and post-acute care (PAC) providers are seeking ways to improve quality across the continuum of care and have placed greater focus on improving care transitions. As part of this trend, hospitals have undertaken efforts to improve their discharge process, with some developing discharge planning tools to support decision-making on determining the best care setting for patients post-discharge. The hope is that these tools will help improve overall patient outcomes and reduce the likelihood that these patients will be readmitted.

This report highlights five organizations working to improve patient transitions through the development and implementation of hospital discharge planning tools. The findings and lessons learned from the use of these tools provide valuable insights for:

1. general acute-care hospitals trying to improve their discharge planning process;
2. post-acute care providers trying to better understand hospital discharge planning; and
3. policymakers aiming to improve patient care.

As payment policy moves from fee-for-service toward larger units of payment for episodes of care, a focus in the years ahead will be the clinically appropriate and cost-effective discharge of patients from hospitals to home and post-acute care. Today, approximately 40 percent of FFS beneficiaries being discharged from hospitals receive post-acute care in a long-term care hospital, inpatient rehabilitation hospital or unit, or a skilled nursing facility, or from a home health agency. Under episode-based payment, greater connectivity between general acute-care hospitals and these post-acute settings will further integrate the health system, help improve the overall health of the population, and reduce overall health care spending – the trifecta identified as the "Triple Aim." A consistent and minimally burdensome patient discharge tool used by both general acute-care hospitals and post-acute providers would help facilitate movement toward the Triple Aim.

In September 2014 Congress passed the Improving Medicare Post-Acute Care Transformation (IMPACT) Act, which mandates common patient assessment data and quality measure reporting requirements for post-acute providers. The new requirements will take effect in October 2016. The IMPACT Act also establishes new discharge requirements for general acute-care, and critical access hospitals and post-acute providers that are intended to facilitate the flow of patient information to the next health care setting. The law requires several reports on a new post-acute prospective payment system that would set post-acute payment rates based on the clinical characteristics of the patient, rather than on the setting of care. This could eventually result in a new post-acute payment structure, which would affect the hospital discharge process, post-acute utilization patterns and overall Medicare payments.

Nationwide, concern over the impact of uncoordinated care across provider settings has been growing, fueled by data on patient vulnerabilities during care transitions, unplanned readmissions, significant variation in post-acute utilization and other concerns.[3] Literature suggests that close monitoring of patient transitions, such as those from hospitals to the next care setting, could reduce unplanned readmissions and other adverse events.[4] These concerns, in combination with the readmissions payment penalties of the Affordable Care Act (ACA), have fueled a focus on reducing readmissions that is beginning to yield improvements. CMS reported that the national rate of all-cause, all-condition hospital readmissions within 30 days fell 0.5 percentage point (from 19 percent to 18.5 percent) from 2011 to 2012.[5] CMS asserts that preliminary data from 2013 show a continuation of this positive trend.[6,7] Efforts such as the HHS-funded Hospital Engagement Network have supported readmissions reduction programs at 1,700+ hospitals. Over the course of the three-year project, which concluded December 2014, avoidable readmissions for heart failure patients were reduced by 13 percent and the 30-day all cause readmission rate was reduced by 15 percent.

[3]Trachtenberg M, Ryvicker M. (2011) Research on transitional care: from hospital to home. Home Health Nurse, Vol. 29(10): 645-651.

[4]Coleman E, Parry C, Chalmers S, Min SJ. (2006). The Care Transitions Intervention. Arch Intern Med, Vol. 166: 1822-1828.

[5]While the ACA readmission penalties were applied to hospitals starting in FY 2013, the measurement period for determining those penalties stretches back several years. For 2013 CMS used data from July 2008 through June 2011, for FY 2014 it's July 2009 – June 2012, and FY 2015 its July 2010 – June 2013. So going from 2011 to 2012 would actually cross two different fiscal years (in this case it's FY 2013 and FY 2014) and (somewhat) reflects the impact of the readmissions program.

[6]http://blog.cms.gov/. New Data Shows Affordable Care Act Reforms Are Leading to Lower Hospital Readmission Rates for Medicare Beneficiaries. December 13, 2013.

[7]Brian J, Greenwald J, Forsythe S, et al. (2008) Developing the tools to administer a comprehensive hospital discharge program: The Reengineered Discharge (RED) Program. In Henriksen K, Battles JB, Keyes MA, et al., editors. *Advances in Patient Safety: New Directions and Alternative Approaches (Vol. 3: Performance and Tools)*. Rockville (MD): Agency for Healthcare Research and Quality (US).

## HHS's Standardized Patient Assessment Instrument: The "CARE Tool"

As early as 1999, MedPAC recommended that the HHS Secretary identify a core set of patient clinical, demographic, and functional characteristics that should be available across settings. Since then, CMS, MedPAC and others have contributed to the design of a standardized patient assessment tool. In addressing this issue, CMS's work with the Office of the Assistant Secretary for Planning and Evaluation (ASPE) found that "no standardized terminology provided sufficient coverage of the functional status concepts needed by the federal government, including the functional status concepts reflected in the three post-acute assessment instruments."*

In 2008, CMS began the Post-Acute Care Payment Reform Demonstration (PAC-PRD) mandated by the Deficit Reduction Act of 2005. One goal of the PAC-PRD was to provide "standardized information on patient health and functional status, independent of PAC site of care." To that end, CMS developed the Continuity Assessment Record and Evaluation (CARE) Tool for testing during the demonstration. The CARE Tool item sets are built upon current evidence and assessment approaches related to the five mandated settings: general acute-care hospitals, HHAs, SNFs, IRFs and LTCHs. The tool tested measurement concepts across four patient domains – medical, functional, cognitive and social/environmental – to identify the best items to measure patient complexity. The tool has provided CMS with a single patient assessment instrument to provide a snapshot of a patient's clinical condition at a single point in time. In a public meeting in November 2013, CMS stated its intention that even if the tool is not used in its entirety in practice, "the CARE tool items can and should have a life beyond the demonstration." The agency asserted that the tool could serve as a platform for patient-centered reforms, and recommended a unified assessment approach for determining patient functional status.

More recently, CMS shortened and streamlined the tool for use by Bundled Payment for Care Improvement (BPCI) initiative participants to monitor patient-level effects of care redesign, calling it the B-CARE Tool. BPCI participants report that the CMS estimate of 20-30 minutes to complete the B-CARE Tool is inaccurate, and that 45-60 minutes per assessment are typically required. Furthermore, participants assert that the B-CARE Tool does not offer any "added advantage" toward improving the care of patients, since most organizations already have procedures in place to gather the relevant data. A further critique by bundled payment demonstration participants is that the tool provides only a single point in time assessment and does not provide sufficient evidence of rehabilitative trends or changes in functional status within the episode. As such, participants have indicated that the B-CARE Tool is possibly more useful for providing case-mix adjustments for Medicare episode payments, and less useful for determining the quality of care a patient receives.

In August 2014, CMS announced an indefinite suspension of the use of the B-CARE Tool within the bundled payment demonstration. As an alternative to a standardized patient assessment tool, the agency will increase the scope of the patient outcome surveys to assess whether functional outcomes are different for patients treated under BPCI. The addition of quarterly reporting on population level measures is also being considered to inform CMS's study of outcomes and whether bundling organizations are steering patients as they transition to a new healthcare setting.

*Medicare Payment Advisory Commission Report to Congress. (2005) *Issues in a Modernized Medicare Program*. Chapter 5: 105-133.

## POLICY BACKGROUND

Hospitals and health systems need several key abilities or competencies pertaining to the hospital discharge process:

- Placing patients in the most clinically appropriate and cost-effective post-acute care setting;
- Determining likely resource use for each patient;
- Predicting the risk of readmissions for each patient being discharged;
- Collecting standardized information on each patient; and
- Transferring patient information from one provider to another in a systematic way.

Under future episode-based payment methodologies, providers will be responsible for ensuring that patients receive cost-effective and quality care in the right setting for the pre-acute, acute and post-acute stages of care.
Under the current FFS payment structure, providers are reimbursed by Medicare for each service provided, with payments for some settings adjusted to account for outcomes under the Medicare value-based purchasing and readmissions policies. The lack of care coordination across settings under the FFS system produces significant variation in how patients receive post-acute care. An Institute of Medicine study found that variation in utilization of post-acute care services constitutes approximately 73 percent of geographic variation in Medicare spending.[8] As a result of this variation, clinically similar patients experience a wide array of post-acute care clinical "pathways." An episode-based Medicare claims analysis conducted by Dobson DaVanzo & Associates, LLC, found that across all Medicare Severity Diagnosis-Related Groups (MS-DRGs), there are more than 8,800 different patient pathways, with significant variation in the type and total count of unique post-acute visits after discharge.[9] Even when looking at selected high-frequency MS-DRGs, there are still more than 1,000 unique clinical pathways following discharge. This indicates that, during a relatively short period of time (60 days following discharge from the general acute-care hospital), there are no standard post-discharge protocols guiding utilization of post-acute medical, rehabilitation and other services.

The Dobson analysis and other research also show that the first care setting after discharge from a general acute-care hospital is a major driver of both the clinical pathway the patient will follow and the overall Medicare payment for that episode of care. Therefore, clinically appropriate placement into the setting immediately following hospitalization – with a properly managed transition – could improve patient outcomes and satisfaction, as well as minimize readmissions risk and expenditures. However, without consistent measurement of patients' clinical condition within the hospital prior to discharge and consistent utilization of this information to guide the discharge process, achieving less variable post-acute care placements is difficult. The emergence of low-burden post-acute placement protocols that have the ability to identify patients' post-hospitalization medical needs reliably are an essential ingredient to achieve higher quality and more efficient patient care delivery.

[8]Institute of Medicine. Variation in Health Care Spending: Target Decision Making, Not Geography. Washington, DC: The National Academies Press, 2013.

[9]Dobson | DaVanzo analysis of Medicare claims data for 20 percent sample of Medicare beneficiaries.

## Public Policy Efforts to Standardize Patient Assessments across Providers

As early as 1999, federal policymakers recognized the need for standardized tools that capture a core set of patient clinical, demographic and functional characteristics across settings. While HHS has not developed a standardized hospital discharge planning tool for use in the general acute-care hospital, there has been some progress in the development of a standardized patient assessment tool. While the purpose of each type of tool is distinct, the attributes and lessons learned from the development of patient assessment tools must be considered in the development of hospital discharge planning tools, and vice versa. That is, the important aspects of care considered in the discharge planning from the general acute-care hospital are likely the same aspects of care that should be tracked throughout a patient's post-acute care treatment to monitor rehabilitative progress.

The CARE Tool (more fully described in the Care Tool text box) is a patient assessment tool designed to capture a patient's medical, functional, cognitive and social/environmental status. The CARE Tool does not identify the appropriate care setting following discharge from a hospital or post-acute care provider, rather it facilitates care planning by assessing a patient at a particular point in time. CMS remains committed to a standardized patient assessment tool and continues to support the CARE Tool, as indicated by the use of the tool to collect post-aucte care quality data. The agency's sustained interest in expanding the use of the CARE Tool is evidenced by its recent hosting of expert panels to evaluate whether the tool could be used, in lieu of the existing post-acute care patient instruments, to collect the data needed to calculate payment through the current post-acute care prospective payment systems.

Many providers in the Post-Acute Care Payment Reform Demonstration (PAC-PRD) found that excessive time and resources were required to complete the instrument. Further, concerns were raised about the tool's ability to capture the health status of high-acuity patients. As a result, there has been little interest in the CARE Tool from the provider community. Even a shortened version used by Bundled Payment for Care Improvement (BPCI) initiative participants to monitor the patient-level effects of care redesign – referred to as the B-CARE Tool – has been considered too lengthy and burdensome to complete and does not offer any "added advantage" toward improving the care of patients.[10] The CARE Tool's shortcomings combined with its inability to guide placement in the next setting has led some hospitals to develop customized discharge planning tools.

[10] Letter to CMS Administrator Marilyn Tavenner from BPCI Awardee/Awardee Conveners, dated August 28, 2013.

## CASE STUDIES:
## Five Discharge Planning Tools Currently Used by Hospitals

A technical advisory panel (TAP) of AHA members and other stakeholders was convened to examine innovative hospital discharge planning tools that aim to improve patient transitions from general acute-care hospitals to post-acute care settings and reduce preventable readmissions. The TAP was comprised of representatives from:

1. organizations engaged in using discharge planning tools for post-acute referrals and readmission control;

2. providers engaged in payment bundling initiatives; and

3. researchers specializing in improving patient transitions to post-acute care.

The symposium featured representatives from five organizations who shared their discharge planning models:

- Partners Continuing Care – Post Acute Leveling Tool (PAL)
- Advocate Health Care – Advocate Cerner Readmission Tool
- Geisinger Health System – ProvenHealth Transitions
- Cleveland Clinic – "Six Clicks" Functional Mobility Measure
- Carle Hospital – LiveSafe™ by naviHealthTM

Representatives from other hospital and post-acute organizations also attended. In addition, representatives from CMS and MedPAC and Dobson DaVanzo & Associates, LLC, the study's support contractor, were in attendance. A list of meeting participants is included in Appendix A of this report.

Following individual presentations from the five organizations, there was a discussion of the "next steps" for discharge planning tools and ways either provider-specific or standardized patient assessment tools could be used to optimize hospital and post-acute care partnerships moving forward. To augment the information presented during the meeting, participants also completed detailed surveys.

This review focuses on understanding the organizational need that prompted the development of the discharge planning tool, the key domains measured by each tool, how and when in the care process the tool is administered, and whether the information is integrated into the patient's medical record. We also note the level of burden imposed on the clinical and administrative staff in using and interpreting the data from the tools. Information for the case studies is from the presentations and discussion at the symposium, as well as the organization's responses to the survey questions. (We also received survey responses from McKesson Health Solutions (Interqual) and MCG (formerly Milliman Care Guidelines), which provided additional information to support this report.)

We then present the current uses, characteristics and common features of the assessment or discharge planning tools in two summary tables and overall lessons learned.

## *Partners Continuing Care –* POST-ACUTE LEVELING (PAL) TOOL

**PAL Primary Objective:**

- Appropriate post-acute care placement

**Domains:**

- Patient age
- Major reason for care
- Physician need in visits per week
- Nursing/rehabilitation
- Program and estimated length of stay
- Needs for specialty care
- Social, payer, and medication issues

**WHO developed the PAL?** The post-acute leveling tool (PAL) was developed in 2012 by Partners HealthCare. Partners is a not-for-profit, integrated health care system in Boston that provides a wide array of services including primary care, specialty, hospital and other care, with the Partners Continuing Care arm of the organization delivering LTCH, IRF, SNF and HH services.

**WHY was the PAL developed?** The PAL was developed to help determine the most appropriate level of care and the best post-acute care provider for the patient within Partners Continuing Care. Partners developed the PAL in conjunction with the consolidation of all of its post-acute care pre-admission screening processes.

**WHAT is the PAL?** The PAL tool uses 11 metrics based on Medicare post-acute admission guidelines, and utilizes a Partners algorithm created 10 years ago to triage emergency room and observation stay patients to a post-acute care destination rather than to a general acute-care hospital. These metrics include frequency of physician visits, nursing and therapy hours, anticipated length of stay, services received and other non-clinical metrics. While the PAL does not assess the risk of readmission, it helps reduce the likelihood of readmission through more targeted placements by aligning the capacity of the selected post-acute care setting with the patient's needs. The tool underwent a three-month testing process of inter-rater reliability and tool refinements prior to full implementation into the Partners system.

**WHERE is PAL's output stored?** PAL is integrated into the patient referral system. As a result, the tool output is accessible to any practitioner with access to the system.

**WHEN and HOW is PAL completed?** The PAL is completed as a patient is approaching discharge from a general acute-care hospital and has been referred to a Partners Continuing Care entity. The tool is completed by a nurse or therapist using information in the patient's medical record and from the patient interview, and discussions with the case manager and other members of the treatment team. PAL assessments are not linked to the hospital's electronic health record (EHR) system and require manual data entry. Currently, PAL is used primarily by Partners' post-acute care pre-admission teams, who use the PAL-based recommendation, in conjunction with other factors, such as physician and other clinical input, to develop a discharge recommendation. Each assessment requires a review of the patients' medical record and then five to 10 minutes to enter manually PAL's 11 data metrics, which include both clinical and non-clinical factors.

**WHAT is the impact of the PAL Tool on patient care?** Thus far, approximately 300 PAL assessments have been completed. The assessments are used by staff as a resource to assist in clinicians' decision-making process for determining post-acute care placement within the Partners Continuing Care network. The impact of the PAL tool on patients' post-discharge outcomes is not being tracked.

**Advocate Cerner Readmission Tool Primary Objective:**

- Readmission reduction

**Domains:**

- Utilization
- History and physical exam
- Medications
- Past and present conditions
- Procedures
- Lab tests
- Exploratory factors

# *Advocate Health Care –* ADVOCATE CERNER READMISSION TOOL

## WHO developed the Advocate Cerner Readmission Tool?

This tool was co-developed by Advocate Health Care and Cerner Corporation as part of the Advocate Cerner Collaborative (ACC). Advocate Health Care is a faith-based, not-for-profit health system based in Oak Brook, Ill., with a wide continuum of acute and non-acute care services and multiple delivery system reform initiatives. *Cerner*® Corporation develops software for a wide array of health providers located worldwide.

## WHY develop the tool?

Advocate is focused on providing better, more coordinated care across the care continuum, with readmission rates serving as key measures of care coordination and management. In support of enhanced care coordination, the ACC's first priority was to build the capacity to identify those patients most at risk of 30-day all-cause readmission in order to intervene and improve patient outcomes. This approach is intended to help ACC: 1) identify and stratify patients at risk of readmission; 2) facilitate early interventions; and 3) guide care across the continuum.

## WHAT is the Advocate Cerner Readmission Tool?

The Advocate Cerner Readmission Tool was created based on findings of the ACC's retrospective cohort study conducted on admitted patients between March 2011 and July 2012. This study yielded an automated assessment process, which uses two predictive models – one for hospital admissions, the other for hospital discharges. Following a four-week pilot in two Advocate hospitals, the tool was incorporated into patient care at six additional hospitals between September and December 2013.

The ACC developed two models that predict the risk of patients' readmission: an admissions model and a discharge model. Both tools predict the likelihood of a patient being readmitted with very good accuracy (c-statistics[11] of .76 and .78 respectively). As part of the model development, the ACC reviewed more than 700 risk factors and identified 30+ significant factors in the domains identified above. The assessment is based on the tool's 30 data metrics, all of which are embedded in the Advocate EHR.

## WHERE is the Advocate Cerner Readmission Tool's output stored?

The resulting readmission risk score is interfaced with electronic medical record templates and placed on transition of care documents for patients transitioning to post-acute care settings. All information collected by the tool is contained in patients' records and available to all practitioners.

[11]The c-statistic is a measure of how well a model is able to distinguish high-risk subjects from low-risk subjects. The c-statistic ranges from 0 to 1, and values closer to 1 indicate good discriminative power.

**WHEN and HOW is the Advocate Cerner Readmission Tool completed?** The tool is entirely automated and requires no staff time for completion. Rather, the tool runs continuously using electronically available patient health data. At the point of admission, data sources for the tool include elements within the patient's EHR, including demographics and social needs, utilization, medication, laboratory tests and clinical assessment from the history and physical. Since the tool is linked to the EHR and not manually entered, the readmission risk score is automatically recalculated approximately every two hours until final discharge. The models yield a fully automated readmission risk score that is used by physicians and other clinicians to identify patients' readmission risk, with the highest risk patients receiving additional supports such as targeted patient education prior to discharge, expedited physician visits following discharge, and/or transition support in the subsequent post-acute setting. At the point of discharge, length of stay, diagnosis and procedure coding, and discharge disposition data are added to the patient's readmission risk profile. The model was validated internally using data from Advocate's eight Chicago-area hospitals and externally using Cerner's "HealthFacts" database.

**WHAT is the impact of the Advocate Cerner Readmission Tool on patient care?** Since 2013, implementation of the tool at eight Advocate hospitals has resulted in a material decrease in hospital readmissions. Approximately 78,000 patients were discharged and evaluated between July and December 2013. Within that group, the patients identified as high-risk experienced a 20 percent reduction in readmissions. A significant decrease in readmission rates was achieved for chronic obstructive pulmonary disease patients – a 50 percent drop – and congestive heart failure patients – a 16 percent drop.

The readmissions risk assessments are part of the ACC's broader readmission reduction strategy. The multi-pronged strategy includes color-coded work-lists per department or per physician that clearly flag a patient's degree of readmission risk based on a predictive algorithm. In addition, the model clearly identifies incomplete care items, such as therapy consultations and medication reconciliation. Physicians, nurses or social work care managers have access to the clinical risk factors that contribute to a patient's readmission risk score (e.g., prior hospitalization, certain medications.). Real-time notification of any increase in readmission risk, combined with electronic prompts on patient-centered interventions aid physicians and the care team who adjust the care plan, as needed. The tool also facilitates the transfer of key patient information, such as the patient's social history and home environment profiles, to the next setting.

Today, the Advocate Cerner Readmission Tool has been commercialized and is being used by more than 170 Cerner EHR clients. In addition, efforts are underway to link the tool to other non-Cerner EHRs by early 2015. The ACC group is further evaluating the model's predictive accuracy, its ability to improve staff efficiency and ongoing reductions in readmissions. Also underway is work to expand the model by adding a feature that supports the identification of the post-hospitalization setting by aligning the needs of the patient – including projections of relative readmissions risk for each of the post-acute settings – with local transition options.

## *Geisinger Health Systems –* PROVENHEALTH TRANSITIONS (PHT)

**ProvenHealth Transitions Primary Objective:**

- Transition Management

**Domains:**

- Patient readmission risk score
- Identified PCP
- Universal authorizations
- Pharmacy Medication Reconciliation
- Advanced directives
- Discharge time-out
- Discharge summary & instructions
- Teach back
- Post-discharge phone call
- PCP follow-up visit within 7 days

### WHO developed the ProvenHealth Transitions (PHT)?

PHT was developed by Geisinger Health System, a physician-led, not-for-profit, integrated delivery system in Pennsylvania that provides diverse hospital, health and insurance services and has developed numerous innovative service delivery approaches.

### WHY develop PHT?

Geisinger developed and implemented multiple interventions based on best practices to reduce 30-day readmission rates. PHT was designed in 2012 as part of a broader organizational approach to ensure that transitions between health settings achieve the same high reliability as condition-specific treatment protocols. The PHT program continues to evolve, and while some elements are provided for all patients, the comprehensive program is occurring only on pilot floors of the flag-ship facility in Danville. Collectively, these interventions are intended to reduce readmissions.

### WHAT is the ProvenHealth Transitions process?

PHT is a readmission reduction tool that consists of 10 elements based on a comprehensive compilation of best-evidence guidelines and institutional best practices. A PHT assessment occurs during patient discharge. While deployed only in in a limited number of units, it is envisioned that this process will be employed during discharge from the general acute-care hospitals, and the inpatient rehabilitation and skilled nursing facilities across the system. As discharge approaches, PHT flags abnormal test values or vital signs that may lead to a readmission if they are not mitigated and this is confirmed at the discharge timeout. PHT stratifies patients based on their risk of readmission – low risk (0-5 percent), medium risk (6-15 percent), and high risk (greater than 15 percent). High-risk patients receive high-touch, post-discharge interventions, while lower-risk patients receive less intensive interventions.

### WHERE is ProvenHealth Transitions' output stored?

Data sources are the patient's electronic health record, as well as nursing and clinician input. Data are stored in the medical record and are used by inpatient and outpatient teams including physicians, case managers and post-acute care providers.

**WHEN and HOW is ProvenHealth Transitions completed?** PHT assessments of readmission risk are completed by registered nurses upon admission and, if a substantial change in clinical condition occurs, just prior to discharge. Physicians, as well as all team members, use the discharge risk rating to help mitigate those factors that can be improved. While portions of the risk assessment are completed automatically from the EHR, other portions require direct clinical and staff input. Therefore, on average, risk assessment assessments conducted by nurses and care managers take about 10 minutes to complete.

To complement the discharge readmissions risk assessment feature of PHT, the tool includes several features that aid the transition to the next setting. PHT includes a scheduler that confirms a patient's primary care physician (PCP), receives authorizations to allow automation to push targeted discharge information to the PCP, and collects and stores confirmations of patient and family understanding of and ability to attend the first outpatient PCP appointment. Upon discharge, patient and family teach-back method training on potential complications and appropriate responses is performed and comprehensive medication reconciliation occurs. The PHT automation then ensures the needed discharge data are transmitted to the PCP.

**WHAT is the impact of ProvenHealth Transitions on patient care?** Thus far, more than 3,000 patients have received a PHT assessment. These assessments are complemented by other Geisinger programs designed to improve care over the episode. Collectively, these programs have realized significant reductions in readmissions, such as a 36 percent reduction in readmissions of Medicare beneficiaries. The further refinement and expansion of these programs, and in particular, the extension of the full PHT process to include all acute-care hospitals in the system, as well as inpatient rehabilitation and skilled nursing facilities are important next goals. Development of more targeted post-acute interventions based on medical need and readmission risk is another critical next step.

**"Six Clicks" Functional Mobility Measure Primary Objective:**

- Appropriate post-acute care placement

**Domains:**

- Basic mobility
- Daily activities

## *Cleveland Clinic –* "6-CLICKS" FUNCTIONAL MOBILITY MEASURE

**WHO developed "6-Clicks"?** The 6-Clicks tool was developed in 2011 by the Cleveland Clinic, a not-for-profit, multispecialty academic medical center. This integrated system provides clinical and hospital care, research and education, and includes outpatient, IRF, SNF and HH services. LTCH services are provided by local providers. Across its system, Cleveland Clinic employs almost 700 therapists specializing in physical, occupational and speech, and other therapies. These therapists are employed under unified leadership that serves patients across the entire system.

**WHY was the tool developed?** The purpose of 6-Clicks is to quickly and regularly determine the functional abilities of patients in the general acute-care hospital setting. 6-Clicks assessments, in combination with other information, help physicians, therapists and discharge planners facilitate more objective decisions regarding therapy services, discharge planning and post-hospitalization placements.

**WHAT is the "6-Clicks"?** 6-Clicks is a patient assessment tool comprised of six data metrics derived from the Activity-Measure for Post-Acute Care (AM-PAC) tool, which was developed at Boston University. From among the AM-PAC metrics, Cleveland Clinic staff selected six metrics that were of most interest to post-acute providers. The tool was then validated by a team led by researchers sponsored through Boston University. 6-Clicks data are used to drive clinical treatment decisions, identify patients appropriate for therapy services, and guide resource utilization throughout the care continuum.

6-Clicks has been the subject of two articles published in 2014, which provide evidence of the tool's validity in assessing patients' activity limitations in general acute-care hospitals and its accuracy in predicting the destination following discharge from a general acute-care hospital.[12] [13]In addition, the tool has undergone an inter-rater reliability study at Cleveland Clinic, with findings to be published in 2015.

**WHERE is "6-Clicks" output stored?** Output from each 6-Clicks evaluation is stored within the patient's care plan, which is housed within Cleveland Clinic's EHR system. Functionality for each individual measure, as well as the composite score across measures, is accessible to the therapy and clinical teams. Several aggregate reports are generated, tagged to provider and location of treatment, to drive appropriate hospital resource utilization.

[12]Jette, Diane, et al. (March 2014) Validity of the AM-PAC "6-Clicks" Inpatient Daily Activity and Basic Mobility Short Forms. Physical Therapy Journal of the American Physical Therapy Association, Vol. 94 Number 3.
[13]Jette, Diane, et al (September 2014) AM-PAC "6-Clicks" Functional Assessment Scores Predict Acute Care Hospital Discharge Destination. Physical Therapy Journal of the American Physical Therapy Association, Vol. 94 Number 9.

**WHEN and HOW is "6-Clicks" completed?** During a stay in the general acute-care setting, patients' functional mobility is assessed by a therapist during every therapy interaction across the health system. As the six functional items included in the tool are traditionally assessed by the therapists, the 6-Clicks assessment introduces minimal additional burden on staff and patients. The 6-Clicks functional score helps the care team assess the patient's hospital discharge planning needs earlier in the hospital stay. The score is also used, in conjunction with other information and patient/family input, to identify post-hospitalization placement options.

**WHAT is the impact of "6-Clicks" on patient care?** 6-Clicks is used within Cleveland Clinic as an organizational tool to help therapists and discharge planners better allocate therapy resources to the appropriate patients, as a factor in care planning during the stay, and during discharge planning. Information from over 500,000 6-Clicks assessments helps identify the patients who require licensed therapy services in the hospital, and helps avoid unnecessary therapy. The tool is helping facilitate earlier and more objective discharge planning, match licensed therapists with patients that need them the most, increase targeted therapy use in the ICU (facilitating earlier discharge recommendations on complex patients), and achieve other efficiencies. In addition, the tool has helped expand awareness about the importance of mobility in the care process, with the entire care team now acknowledging that the physical activity of the patient is the responsibility of all staff, not just licensed therapy professionals.

**LiveSafe™ Primary Objective:**

- Appropriate post-acute care placement

**Domains:**

- Basic mobility
- Daily activity
- Applied cognition for activities of daily living (ADLs) and independent ADLs (IADLs)

## *Carle Hospital –* USER OF LIVESAFE™ BY NAVIHEALTH™

**WHO uses LiveSafe™?** The Carle Foundation is the not-for-profit parent company of an integrated network of health care services, and is based in Urbana, Ill. The integrated network includes the 345-bed Carle Foundation Hospital and other services, which serve as the primary network of providers for the Carle-owned Health Alliance Medical Plan.

**WHY did Carle Hospital change its discharge process?** The Health Alliance Medical Plan noticed that, relative to the broader Health Alliance network and national benchmarks, the referral rates from Carle-system hospitals to SNFs within the system were higher, and referrals to in-system home health services were lower. To attempt to realign these patterns, Carle's Health Alliance Medical Plan contracted with naviHealth™ to manage the system's hospital discharge process. Starting May 2013, naviHealth™ assumed risk for those Medicare Advantage patients who are discharged to post-acute care following a Health Alliance hospitalization. Under this arrangement, naviHealth™ is reimbursed based on decreasing overall PAC utilization, including 60-day all-cause readmissions.

**WHAT is the LiveSafe™?** LiveSafe™ is a commercial, web-based tool based on the AM-PAC data set, which is used by naviHealth™ to manage post-hospitalization placement decisions for Carle Hospital and other providers and insurers.

**WHEN and HOW is LiveSafe™ completed?** naviHealth™ staff use the patient's EHR and communication with case management staff to collect more than 800 LiveSafe™ data metrics on health status, such as functional status, medical complexity and demographics. These data populate the LiveSafe™ assessment, which is an automated process using an algorithm to generate patient-specific projections and compare to naviHealth's™ robust database of like patients. Based on the patient's characteristics, the LiveSafe™ tool predicts post-acute service utilization, caregiver burden, and readmission probability for these post-acute settings: HH, SNF, IRF or outpatient rehabilitation. And LiveSafe™ currently predicts functional gains for the home health and skilled nursing settings.

The LiveSafe™ assessment tool may be validated by a naviHealth™ physician, upon request, refined if necessary, and then shared with the Carle discharge planning team within hours to days. For medically complex patients, such as complex respiratory or cardiac patients, or other patients with high risk of readmission, naviHealth™ assigns a post-acute transition team of nurses, coaches and social workers to help the patient and family transition to home or other facility. If a patient disagrees with the naviHealth™-generated placement recommendation, the case management team works with the treating and naviHealth™ physicians. If the disagreement persists, the patient can appeal to a Medicare Quality Improvement Organization. LiveSafe™ has been validated by a retrospective comparison of risk-adjusted, predicted outcomes to actual outcomes.

**WHERE is LiveSafe™ output stored?** Data from the unique assessment tool are not linked to the patient's EHR for automated completion. However, copies of final LiveSafe™ assessments are scanned into the EHRs.

**WHAT is the impact of LiveSafe™ assessments?** Thus far, more than 1,000 Carle patients have been assessed with the LiveSafe™ tool. While Carle has found that using the LiveSafe™ process has not yet significantly reduced readmissions, it has decreased SNF utilization, and yielded internal process improvements due to the heightened awareness of patient outcomes. The assessment data, in combination with new protocols for communications with patients and families and enhanced monitoring of patients likely to be referred to post-acute care, have elevated the system's patient care management environment.

## DISCUSSION OF CASE STUDIES

### Objectives, Commonalities and Challenges

Below we identify the key elements of each tool and the features that are common among the five case studies. As noted previously, two additional organizations – Interqual of McKesson Health Solutions, and MCG (formerly Milliman Care Guidelines) – were surveyed. An overview of their respective discharge planning support tools is included in the summaries below.

Appendix B contains summary tables for easier reference and comparison across tools. **Table B-1** contains a summary of the current uses of each tool. **Table B-2** highlights key features of the various tools. These two tables inform the following discussion of the various factors that motivated organizations to develop the tools, as well as common characteristics, challenges and limitations.

### Objectives for Developing and Implementing Hospital Discharge Tools

Each featured organization approached **hospital discharge planning with the goal of improving appropriate post-acute care referrals and resource allocation in order to achieve high-quality outcomes (including reduced readmissions).**

Other organizational goals included:

1. a desire to minimize variation in how care is delivered during a full episode of care;
2. changing market incentives;
3. payer demands;
4. a need for a tool that demonstrates predictive value concerning the probability of a patient being readmitted; and
5. minimization of hospital and patient burden.

As noted above, the creation of these tools was, in part, a response to the providers' experience that the publicly-developed patient assessment tools do not assist in the identification or recommendation of an appropriate post-acute care setting. Furthermore, the view that the publicly developed tools are too time consuming motivated the development of more streamlined tools. Some organizations also sought to minimize variation in how and what types of care were provided during an episode, including properly allocating specialty care, selecting the most cost-effective setting, and managing transitions across settings.

The TAP emphasized that each tool was designed to align with the delivery system's developmental needs, the culture of the organization and the providers who would use it. However, despite these differences, the process for developing the tools was generally similar. PAL relied on CMS guidelines for the level of care needed for each post-acute care setting, while Geisinger referred to published research on the relationship between transition management and readmission rates. Cleveland Clinic and Carle Hospital both adapted the existing Activity-Measure for Post-acute Care (AM-PAC) tool, but concentrated on different measures. Lastly, Advocate's readmission tool is based on a review of potential data elements and collaboration with Cerner to ensure the inclusion of appropriate tool components. As the featured providers relied upon past research in developing their tools, others can draw upon their "lessons learned" to advance progress in the development of patient assessment or hospital discharge planning tools.

### Commonalities across Hospital Discharge Planning Tools

Regardless of the individualized needs of each organization, we identified the following commonalities in the process to develop tools to improve transition management and reduce readmissions.

***Commonality: Tools Focus on Improving Care Coordination.*** **The featured discharge planning tools incorporate some aspects of care planning and coordination into their design**. The coordination of care planning is central to the hospital discharge planning process, as it encompasses everything from in-hospital treatment plans to managing transitions to post-acute care. Coordination is the "glue" that holds the pieces together and reduces readmission risk.

***Commonality: Tools Use a Variety of Data Sources to Accomplish Similar Objectives.*** A successful hospital discharge that places the patient in the appropriate next setting relies upon the data and other information needed to understand a patient's post-hospital clinical and non-clinical needs. The tools examined in this report collect such information using different data fields to attempt to address questions such as:

- Does the patient require carefully monitored medical care?
- Does the patient need aggressive physical and occupational therapy or other services, such as assistance with bathing or eating?
- What level of intensity of services is needed for the patient to be safely discharged to home or a residential setting?

The tools primarily designed to assist with post-acute care placement (PAL, "Six Clicks," and LiveSafe™) measure the requisite patient attributes to answer such questions. However, the data fields used to accomplish similar objectives differ significantly. For example, both "Six Clicks" and LiveSafe™ rely on patient mobility, difficulty with specific activities of daily living (such as the level of difficulty standing up from a seated position), and cognitive status as data inputs to determine patient placement. On the other hand, PAL uses an estimated level of need for physician and nursing care (as defined by hours per day or week) and not the ability of the patient to accomplish discrete activities. PAL also incorporates more information on specialty needs and social issues, whereas "Six Clicks" and LiveSafe™ do not. Furthermore, PAL and LiveSafe™ rely on information from the patient's medical record, while "Six Clicks" is solely based on a functional assessment from a physical or occupational therapist during therapy consultations and assessments.

***Commonality: Tools are Designed to Limit Administrative and Clinical Burden.*** The featured organizations emphasized the need for a short concise tool that relies on previously recorded information to reduce administrative and clinical burden. Four of the five tools are based on inputs from the patient's medical record (whether automatic or manual), while one tool relies on information clinicians are already observing and collecting. As a result, no tool requires more than 10 minutes to complete. Furthermore, providers reported that the proper implementation of a standardized tool reduces duplicate documentation across clinicians, and allows for systematic tracking of patient outcomes and changes in functional status over time.

***Commonality: Tools are Designed to Incorporate Clinician Judgment.*** The featured tools rely on clinician judgment as a specific input into the discharge planning process. The TAP noted that the judgment of these clinicians guides all aspects of patients' care beginning at least upon hospital admission, and often during the pre-admission stage of care. As noted by many members of the TAP, clinicians' "gut feeling," based on medical training combined with real world experience treating patients, must be considered and incorporated into the discharge plan, even if such guidance is inconsistent with the recommendations derived from a discharge planning tool. And while some of these tools can make projections about post-discharge therapy needs and even length of stay, the informed judgment of the clinical care team must remain paramount in determining the most-appropriate post-acute care setting for an individual patient.

***Commonality: Tools Assess Multiple Components of Care.*** Because the hospital discharge process is integrally linked to other hospital protocols and needs, the featured tools do not narrowly focus on the discharge process. Rather, they tend to focus on a primary objective, but still assess multiple aspects of care. For example, the tools with the primary goal of transition management (ProvenHealth Transitions and Interqual's Transition Plan) also have components that relate to readmission risk assessment and reduction. As transitions represent a vulnerable point for patients, safe transitions to post-acute care or home can greatly reduce the risk of readmissions. Also, some of the tools rely on multiple types of follow-up with the patient, such as telephone outreach and post-discharge medication reconciliation, which also help reduce readmissions.

## Challenges in Implementing Hospital Discharge Planning Tools

This study identified four main challenges that affected the way the tools were developed and implemented, and how the results were used by developers to change the way health care was provided.

***Challenge: Focusing on a Primary Objective.*** A key challenge was to avoid developing a discharge tool without a primary objective to guide the process. Prior to identifying the primary objective of the tool, many of the featured organizations reported wanting a tool that could determine which post-acute care setting would be best for each patient, improve transitions for patients to post-acute care and the community, and identify those patients with the greatest risk of readmission. However, accomplishing each of these objectives would require varied data inputs from clinicians, patients and families, as well as make the tool overly lengthy, and therefore infeasible. By evaluating each organization's care processes (i.e., the process of discharge planning, patient follow-up and clinician-caregiver hand-offs), developers were able to identify a primary objective. For some, the identification of the primary objective was determined by organization leadership, while, for others, the primary objective was determined by the front-line clinical care teams.

***Challenge: Adapting Organizational Culture.*** The second challenge the organizations had to overcome was accounting for the different perspectives and cultures among physicians, other clinicians, discharge planners, case managers and, occasionally, patients and their families. One common difference was that some physicians and clinicians perceived that a discharge planning tool would "prescribe" patient care and reduce the importance of or reliance on physician judgment and clinical expertise in establishing patient care plans. To overcome this challenge and effectively implement the tool, organizations indicated a need for leadership, and clinician and internal stakeholder commitment.

Another cultural hurdle was the change in the care processes for the clinicians, therapists, case managers and others who were administering the tools and collecting the input data. The discharge tools change the way patient interactions occur and how information is shared by clinicians on the care team. While the general burden of completing the tools was minimal, the care teams still faced the burden of adjusting to new data metrics and collection protocols, new database protocols and new reports and other outputs the help determine the best care for the patient. The focus was shifted from day-to-day clinical care to meeting the longer-term, more holistic objectives facilitated by the tool. The reassurance that physician judgment would not be overruled by the discharge tool also helped manage these cultural hurdles.

***Challenge: Establishing Data Reliability and Validity.*** The third challenge the organizations had to overcome related to how input data for the tool were collected and used. Staff training to ensure that all clinicians or case managers complete the tool in the same way is key to consistent and appropriate tool implementation. Many organizations overcame this challenge through staff training and performing inter-coder reliability tests. Some organizations have yet to complete this step. In addition, validity testing to determine the tool's predictive ability for some organizations has led to tool refinements and changes. Some organizations are now completing the requisite testing to determine the extent to which the tool predicts readmission risk or successful post-acute care placement.

***Challenge: Capturing the Wide Array of Post-Hospitalization Needs.*** The panelists noted the wide range of acuity levels among patients treated in the four post-acute settings: HH, SNF, IRF and LTCH. In general, each setting serves a fairly distinct role in the community by focusing on a particular type of patient and providing a defined service. However, in some areas, clinically similar patients are treated in different post-acute care settings. The panel agreed that the clinical mission of each setting can vary from market to market, based on historical practice patterns, PAC service availability and community population health status.

No discharge planning tool currently has the capacity to capture the full spectrum of post-acute clinical needs and complexities across settings and patients when infoming the decision about whether to use post-acute care services and which type. Specifically, the panelists noted the difficulty hospital discharge planners experience in placing patients who need LTCH-level care, given their higher acuity levels. Despite the current lack of patient assessment and hospital discharge planning tools to capture this wide range of services, developing a standard patient assessment tool that captures the differences in patient needs for each post-acute care setting continues to receive interest from CMS and Congress.

## LESSONS LEARNED

The deliberations of the TAP yielded the following lessons for policymakers and providers. These were shaped by both the panel's review and discussion of the hospital discharge tools.

***Post-Hospital Placement Should be based on Patient Clinical Needs.*** Hospital discharge planning tools should help determine care settings or treatment protocols that best meet the patient's clinical needs. Placing the patient in the right care setting at the right time can minimize the number of care transitions a patient needs following discharge and improve the patient's overall outcomes.

***Discharge Planning Tools Must Incorporate Physician and other Clinicians' Judgment.*** The five featured tools allow the incorporation of input from the treating physician and other clinicians. The developers recognized that the tools, on their own, do not provide sufficient guidance to support the discharge placement decision. Rather, as the placement decision is in process, input from the treating physician and other clinicians also should be factored into these decisions.

However, as patients move toward discharge to home or a post-acute care setting, important non-clinical variables also must be incorporated into discharge planning, although they should not override clinical judgment. Non-clinical factors such as geographic proximity and the availability of family support often affect post-hospital placement. While the discharge planning teams weigh both clinical and non-clinical factors, current discharge tools cannot incorporate the full array of clinical, social, environmental and demographic needs for every patient. However, the tools can still help support clinicians and other hospital personnel engaged in identifying a patient's comprehensive needs and matching these needs to the best post-hospitalization setting.

***Discharge Planning Tools Must be Administratively Feasible and Not Add to Current Reporting Burden.*** Hospitals and other providers cannot continually increase the effort dedicated to assessing and documenting patient needs and progress. At some point, there must be a reconciliation of reporting activities to remove redundancies and focus on the most valuable data. All TAP members emphasized the need for administrative ease in using and interpreting hospital discharge planning tools to determine the appropriate post-acute care setting. And, as noted, the burden associated with the CMS-developed tools has led to a lack of broad support among providers.

***Discharge Planning Tools Should Help Clinicians Optimize Health During a Hospital Stay and Facilitate Restoration of Function.*** The discharge planning process is underway throughout a patient's hospital stay. Likewise, some of the tools featured in this report are used throughout the patient stay. As such, the discharge planning process, in combination with these tools, provides an opportunity to help focus on preserving health during the stay. Optimizing the clinical health of patients before discharge will expedite the transition to home or to a post-acute care setting, facilitate restoration of function, and presents an opportunity to proactively reduce or eliminate the need for post-acute care. Using the discharge planning process to pursue this objective would produce material improvements in the patient experience and overall outcomes, and could reduce health care spending.

***Multiple Discharge Tool Designs Can Be Used to Capture Standardized Information.*** The collection of standardized data can be achieved using multiple discharge tool designs. Further, it is too early in the study and testing of discharge tools to commit to a single approach. For example, it is not clear at this time whether it would be optimal to focus on predictive versus observational tool structures. Predictive tools quantitatively estimate the amount of functional gain, length of stay, and resource need based on the setting of care. Three of the tools have relied on predictive analyses to better target care. Advocate's readmission tool and Geisinger's ProvenHealth Transitions predict readmission risk in order to better target readmission reduction programs to high-risk patients. Carle Hospital's LiveSafe™ is designed to predict the amount of post-acute care needed to ensure appropriate placement. Observational tools rely on clinician reports (augmented with information in medical records) to offer guidance on patient needs or where the patient should receive care. Partners' PAL tool uses an observational structure to better inform patient liaisons and clinical staff about which setting is best able to meet patient needs. Cleveland Clinic's "Six Clicks" measures patient functional status using six measures regularly being collected by occupational and physical therapists. Both structures were able to help the organizations achieve their primary objective and inform the discharge planning process.

# APPENDIX A

## TAP Participants

**Lynn C. Jones, Chairman**
Senior VP, Post-Acute Care Services
CEO/President, Christiana Care
Visting Nurse Association
Christiana Care Health System
New Castle, DE

**Lynne C. Barnes**
Vice President-Hospital Operations & HVI
Carle Foundation Hospital
Urbana, IL

**Linn Billingsly, RN**
Division Vice President
Kindred Healthcare, Inc.
Las Vegas, NV

**Tina Esposito**
Vice President,
Ctr. for Health Information Svcs.
Advocate Health Care
Downers Grove, IL

**Thomas Graf, MD**
CMO Population Health &
Longitudinal Care Service Lines
Geisinger Health System
Danville, PA

**Lisa Hall RN, CCM, MSM**
Director of Case Management
Christina Care Health System
New Castle, DE

**Nancy Harrison**
Director, Acute Care Episode Project
Ardent Health Services
Nashville, TN

**Carolyn Holder, MSN, RN, GCNS-BC**
Director, Transitional Care &
Utilization Management
Summa Health System Akron City & St. Thomas Hospitals
Akron, OH

**Therese Locke**
Director, Discharge Planning & Util. Review
Edwards County Hospital & Healthcare Center
Kinsley, KS

**Deb Murphy**
Senior Director of Admissions Operations
Partners Healthcare at Home
Spaulding Rehabilitation Network
Waltham, MA

**Gail Nielsen**
Fellow and Faculty
Institute for Healthcare Improvement
Des Moines, IA

**Bradley Rosen, MD**
Dir. of Care Transitions & Complex Medical Mgmt.
Cedars Sinai Health System
Los Angeles, CA

**Stacy Burns Smith**
Chief Operating Officer
Valir Health
Oklahoma City, OK

**Michael Spigel**
Exec. Vice President & Chief Operating Officer
Brooks Rehabilitation
Jacksonville, FL

**Mary Stilphen, PT, DPT**
Senior Director, Rehab & Sports Therapy
Cleveland Clinic
Cleveland, OH

**GUESTS**

**Carol Carter**
MedPAC Policy Analyst

**Jean Moody-Williams, RN, MPP**
CMS CCSQ, Group Director

**Traci Archibald, OTR/L, MBA**
CMS CCSQ, Technical Advisor

**Jacqueline Kreinik, MS, RN**
CMS CMMI Partnership for Patients
Nurse Consultant

**Stella Mandl, RN**
CMS Division of National Systems

**Alan Levitt, MD**
CMS Division of Chronic and Post-Acute Care

**Tara McMullen, PhD**
CMS Health Analyst

**Dobson Davanzo & Associates, LLC**
Al Dobson, PhD
Joan Davanzo, PhD, MSW
Audrey El-Gamil

**AHA STAFF**

**Linda E. Fishman**
Senior Vice President,
Public Policy Analysis & Development

**Rochelle Archuleta**
Senior Associate Director, Policy

**Joanna Kim**
Vice President, Policy

**Aimee Kuhlman**
Senior Associate Director,
Federal Relations

**Susanne Sonik**
Director, Member Relations

# APPENDIX B

## Hospital Discharge Planning Tools: Summary of Current Tool Uses and Characteristics

### Table B-1: Current Uses of the Tool

| | **Partners** (PAL Tool)* | **Advocate** (Readmission Tool)* | **Geisinger** (Proven Health Transitions)* | **Cleveland Clinic** ("Six Clicks")* | **Carle Hospital** (LiveSafe™)* | **Interqual** (Transition Plan) | **MCG** (MCG Care Guidelines) |
|---|---|---|---|---|---|---|---|
| Primary Objective: | PAC Placement | Readmission Reduction | Transition Management | PAC placement | PAC placement | Transition Management | Clinical decision support |
| **Other Discharge Planning Tool Uses** | | | | | | | |
| Facilitate Care Planning | X | X | X | | X | X | X |
| Reduce Readmissions Rates or Determine Readmission Risk | | X | X | | X | X | X |
| Recommend Post-Acute Care Setting | X | | | X | X | X | X |
| Determine Type of Post-Acute Care Needed (e.g., medical, therapy, other) | X | | | X | X | X | X |
| Determine Level of Post-Acute Care Resource Use (e.g., level of therapy) | | | | X | X | | X |

*Indicates the tool was presented during the TAP meeting.

## Table B-2: Key Features of Discharge Tool

| | **Partners** (PAL Tool)* | **Advocate** (Readmission Tool)* | **Geisinger*** (ProvenHealth Transitions) | **Cleveland Clinic** (Six Clicks)* | **Carle Hospital** (LiveSafe™)* |
|---|---|---|---|---|---|
| **Organizational Need** | Improve post-acute placements | Reduce readmissions; improve care coordination under ACO; | Streamline patient transitions; reduce readmissions. | Improve post-acute placement through functional status assessments | Improve post-acute placement (specifically home health) based on anticipated level of functional recovery; reduce readmissions. |
| **Domains Measured** | Patient demographics, medical/clinical need (including medications), physician, specialty and nursing care needs, social issues, payer information | At Admission: patient demographics, medical/clinical need, social issues, care utilization. Additional Domains at Discharge: current conditions and procedures, length of stay, discharge disposition | Readmission risk score; primary care physician; medications; discharge disposition; post-discharge contacts | Basic function (mobility); activities of daily living | Basic function (mobility), activities of daily living; applied cognition |
| **Development Process** | Used Medicare admissions criteria to help determine level of patient needs; uses CMS guidelines for level of care determination | Collaboration with Advocate and Cerner reviewed 700+ data elements; included 30+ significant factors in ten domains | Based on evidence-based (and consensus-based) practices for better transitions. | Adapted existing validated tool (AM-PAC) to capture most important functional measures | Adapted existing validated tool (AM-PAC) to look at risk of 60-day all-cause readmissions to drive PAC placement |
| **Externally Developed?** | No | No | No | Yes, Metrics derived from AM-PAC | Yes, by naviHealth™. Tool based on AM-PAC metrics. |
| **Point(s) of Assessment** | Once: At discharge once patient has been referred to a Partners Continuing Care Entity | Multiple: Every 2 hours between admission and discharge | Multiple: At admission, throughout acute care stay, and at discharge | Multiple: Every physical therapy and occupational therapy patient interaction | Once: At discharge |
| **Who Currently Uses Tool?** | Discharge planners and transition care team | Inpatient care managers and social workers | Inpatient and outpatient teams: physicians, case managers, PAC providers | Physical therapists (PT) and occupational therapists (OT) | naviHealth™ completes assessment and provides real time recommendations to the Carle discharge team |
| **Input Source** | Medical record; patient interview; and discussions with the case manager team | Medical record; patient interview; and discussions with the case manager team | Medical record; discussions with nursing and clinicians | Assessment by PT (functional mobility) and OT (ADLs) | Medical record, health care claims, and protocol administered by naviHealth™ nurses. |
| **EMR Connection?** | Manual entry | Automated | Automated | Manual entry | Manual entry |
| **Outputs of Tool** | Recommends next post-acute facility based on level of care, clinical program, and specialty needs | Patient risk for readmission based on predictive modeling | A rating of risk of readmission. | Score of functional status used to allocate therapy resources in hospital and post-acute settings. | Predicts LOS, therapy needs, and functional gain for HHA and SNF; likelihood of 30-day hospital readmission |
| **Burden: Minutes and metrics per assessment** | 5-10 minutes; 11 metrics | 0 minutes (automated); 30 metrics 20% reduction in readmissions (especially in high-risk COPD and HF patients); | 10 minutes; 10 metrics | 1 minute; 6 metrics | LiveSave staff, rather than hospital staff, complete the assessments. |
| **Patient or Organizational Outcomes to Date** | Patient outcomes not tracked; used as organizational tool to consistently discharge patients to the appropriate setting | Reduces duplicative documentation and directs resources to high risk patients | Stratifies patients by readmission risk level; will lead to development of targeted interventions | Patient outcomes not tracked; used as organizational tool to allocate clinical resources; Enables early communication of discharge recommendations | Increases patient and provider engagement by sharing outcome prediction tool results; ensures smooth "handoff;" Retrospective PAC provider reporting |

*Indicates the tool was presented during the TAP meeting.

This report was developed by the
American Hospital Association
in collaboration with
Dobson DaVanzo & Associates, LLC