

ASPR TRACIE Technical Assistance

Request Receipt Date (by ASPR TRACIE): 22 February 2021

Response Date: 24 February 2021

Type of TA Request: Complex

Request:

The requestor asked for resources related to hospital patient discharge/ transfer times, noting discharges and transfers typically occur late in the afternoon/ early evening, causing a backlog. Terms used to describe this include, “discharge before noon (DBN),” “length of stay (LOS),” and “discharge processes.”

Response:

The ASPR TRACIE Team conducted a search of existing ASPR TRACIE resources and online for relevant materials. Comments from ASPR TRACIE subject matter expert (SME) Cadre members along with key takeaways and materials gathered can be found in the following sections.

I. ASPR TRACIE SME Cadre Member Comments

Please note: These are direct quotes or paraphrased comments from emails and other correspondence provided by ASPR TRACIE SME Cadre members in response to this specific request. They do not necessarily express the views of ASPR or ASPR TRACIE.

SME Cadre Member 1:

- I can understand why this is an issue as we often face capacity issues mid-day waiting for discharges.
- This would cascade over onto the Emergency Medical Services transport providers taking patients home/ back to long-term care, etc.
- There are a lot of potential solutions, but most of it comes down to care management and a willingness and ability to start the discharge process earlier in the day and coordinate with other services (e.g., social work, physical therapy).
- Pharmacy and transportation (family or private) are the two biggest delays in discharge.
- For services that provide 911 responses and scheduled transports, this often ends up in a “perfect storm” of peaks in 911 calls, high traffic on the roads (equals delays), and higher requests for scheduled transports.

II. Key Findings

- There are conflicting findings in studies looking at the success of DBN on patient flow and reduction in bottlenecks.
- Longer-term studies performed at one facility pointed to the fact that earlier times often led to higher patient satisfaction because patients had time to settle in, obtain

prescriptions, get set up with aides, and the like. However, the key to success seemed to be the level of planning that went into trying to meet certain discharge targets.

- Often, workload balancing went into effect, planning started days before, and resources were allocated, likely explaining the success of discharge planning.
- When LOS increased with patients discharged before noon, it was more likely that patients were not discharged the evening before but instead the next morning to meet the metric, thereby extending the LOS by approximately half a day, or a little more. The average was 0.6 days longer in one study.
- **Key takeaway:** There are patient benefits to discharging early in the day. Planning for earlier discharges with appropriate staff and resources improves patient flow across the hospital.

III. Select Resources

ACEP Now. (2016). [Early Hospital Discharge Can Improve Capacity, Patient Flow.](#)

This transcript, one of a series of interviews that discuss interventions to help reduce hospital crowding issues, focuses on how early-morning discharges affect hospital capacity, boarding, and length of stay for patients. Participants included experts in emergency medicine and patient quality of care. The answers highlight specific strategies used by one New York hospital to increase their DBN rates. It includes details on the methods they used to change or improve hospital operations and how they were able to overcome obstacles.

Artenstein, A., Rathlev, N.K, Neal, D., et al. (2017). [Decreasing Emergency Department Walkout Rate and Boarding Hours by Improving Inpatient Length of Stay.](#) Western Journal of Emergency Medicine. 18(6):982-992.

This article addresses the Baystate Patient Progress Initiative (BPPI), which was a cross-disciplinary, multifaceted quality and process improvement project. The project was launched on March 1, 2014, and the main objective was to optimize patient progress for adult patients. Results from the BPPI highlighted that significant gains in patient progress can be made by promoting earlier discharges (by noon) and decreasing overall inpatient LOS.

Bravo, G. (2017). [Discharge by 11:00 AM and the Effects on Throughput.](#) The University of San Francisco.

This paper aims to improve the discharge process and increase the percentage of patients discharged before 11:00 am in a progressive care unit (PCU). The main objective of this project is to educate the frontline staff, care coordinators, and providers on a standardized discharge process. It also includes assigned roles and responsibilities for nursing staff and care coordination on PCU.

Chen, J.K. (2019). [Discharge Before Noon: An Appropriate Metric for Efficiency?](#) The Hospitalist.

This brief article addresses the complications with DBN for pediatric patients. One of the most common reasons for pediatric hospitalization is dehydration. Discharge criteria for dehydration includes demonstrating the ability to drink enough liquids to stay hydrated, which also requires staff monitoring. The child may also be on intravenous fluids overnight. This would require staff to monitor the child at least through breakfast and likely lunch, therefore making DBN nearly impossible.

The Commonwealth Fund. (n.d.). [In Focus: Improving Patient Flow—In and Out of Hospitals and Beyond.](#) (Accessed 2/23/2021.)

This article focuses on strategies and solutions for improving how patients are moved through a hospital system in order to better manage patient outcomes and quality of care. Brief summaries of various solutions and their benefits include, but are not limited to, ending long ED stays; more timely discharges during early afternoon hours; spreading out elective surgeries through the week; and streamlining admissions procedures.

Destino, L, Bennett, D., Wood, M., et al. (2019). [Improving Patient Flow: Analysis of an Initiative to Improve Early Discharge.](#) (Abstract only.) Journal of Hospital Medicine. 14(1):22-27.

The authors of this article conducted a pre- and post-intervention retrospective analysis and hypothesized that obtaining at least 25% early discharges would decrease emergency department (ED) and post-anesthesia care unit (PACU) hospital bed wait times. Results indicated that a multimodal intervention was associated with more early discharges and decreased PACU and ED bed wait times.

El-Eid, G.R., Kaddoum, R., Tamim, H., et al. (2015). [Improving Hospital Discharge Time.](#) Medicine. 94(12): e633.

This article addresses factors that cause delays in discharging patients, which can impact hospital and ED throughput. The objective of this study was to assess the effectiveness of using Six Sigma methods to improve the patient discharge process over a 10-month period. The authors concluded that Six Sigma methodology can be an effective change management tool to improve discharge time.

Handzel, S. (2020). [Improving Patient Discharge Times: Lessons from One Hospital's Cardiac Surgery Service.](#) Wolters Kluwer.

The author provides strategies to help improve the discharge process including identification of early discharge patients; conducting morning stand-up bed management huddles; prioritizing early discharges; conducting interdisciplinary transition management huddles; coordinating with a patient flow nurse; and having a shared discharge plan.

Institute for Healthcare Improvement. (2021). [Schedule the Discharge to Improve Flow](#).

This resource addresses the need to synchronize patient admissions and discharges. It suggests that in order to help improve patient flow, staff should create a more consistent and predictable discharge schedule.

Kane, E.R., and Fieldston, E. (2019). [Discharge by Noon: The Time Has Come for More Times to be the Right Time](#). (Editorial only.) Society of Hospital Medicine. 14(1):63-64.

This resource addresses two studies that examine morning discharges and patient flow, noting that hospitalists and hospital leaders should be mindful and obtain more information before implementing DBN programs. The authors emphasize resource balancing and planning for success.

Kane, M., Weinacker, A., Arthofer, R. et. al. (2016). [A Multidisciplinary Initiative to Increase Inpatient Discharges Before Noon](#) (Abstract only). The Journal of Nursing Administration. 46(12):630-635.

This retrospective analysis evaluated the outcome of hospital interventions implemented at two facilities to increase DBN rates to 40% in order to reduce hospital capacity challenges. Results showed that while the DBN rate increased to 24%, the implemented interventions did not achieve the goal of 40% and overall patient satisfaction scores and readmission rates remained stable.

Maguire, P. (2016). [Do Discharge-before-noon Initiatives Work?](#) Today's Hospitalist.

This article addresses whether DBN improves patient flow within hospitals. One example assessed was from a study at the University of California, San Francisco (UCSF), which tracked the success of their hospital's DBN initiative from July 2012 through April 2015. Researchers found that physicians were able to discharge approximately 17% of both medical and surgical patients before noon (their goal was 20%). However, the study also found that patients in the DBN cohort had longer LOS than patients not discharged before noon, by about 12 hours. That difference was mostly evident in patients admitted from the ED, compared to those undergoing elective hospitalizations. One factor the authors noted for this longer LOS was the pressure some clinicians feel to discharge before noon.

Rachoin, J.S., Aplin, K.S., Kupersmith, E., et al. (2020). [Discharge Before Noon: Is the Sun Half Up or Half Down?](#) The American Journal of Managed Care. 26(8):e246-e251.

This retrospective study analyzed inpatient discharge data during an estimated two-year period to understand how DBN impacted LOS and readmission of adult patients. The authors reviewed over 78,000 patient records from a tertiary care facility where patients were divided according to DBN or after noon. Outcomes associated DBN in medical patients with a higher LOS suggesting that perhaps these medical patients could have been safely discharged the evening prior. In cases involving surgical patients, DBN was linked to lower LOS and lower rates of readmission. Additionally, the study found that patients with later discharges had a higher likelihood of being sent to a rehabilitation center or skilled nursing facility.

Rajkomar, A., Valencia, V., Noveler, M., et al. (2015). [The Association Between Discharge Before Noon and Length of Stay in Medical and Surgical Patients](#). (Abstract only.) Journal of Hospital Medicine.

The authors conducted a retrospective analysis of data from adult medical and surgical discharges from one academic center from July 2012 through April 2015. The authors noted that they could not determine whether discharges were delayed to achieve DBN, however earlier discharge was associated with a longer LOS, particularly among emergent admissions.

The Hospitalist. (2016). [Tips for Improving Early Discharge Rates](#).

This brief article provides tips for improving DBN rates, including partnering with bedside nurses, case managers, and social workers; scheduling appointments for patients with a high predictability of being discharged the next day; and notifying the transport team and family members of the appointment.

Today's Hospitalist. (2017). [The Case Against Discharge Before Noon](#).

This brief article looks at whether the DBN concept is an effective way to decrease hospital congestion. It outlines the complexities associated with implementing the strategy, including the interdependencies and challenges of discharging patients, scheduling elective surgeries, and streamlining communications and routine hospital operations, as well as impact to staffing and resources.

Wertheimer, B., Jacobs R.E.A., Bailey, M. et. al. (2014). [Discharge Before Noon: An Achievable Hospital Goal](#). Journal of Hospital Medicine. 9(4):210-214.

The authors of this article conducted a pre- and post-intervention retrospective analysis on two acute-care inpatient medicine units in a tertiary care, urban, academic medical center. The objectives of this study were to achieve a DBN rate of 30% and evaluate the effect of this intervention on observed-to-expected length of stay and 30-day readmission rate. Intervention strategies implemented included: the creation of a checklist at a DBN kick off meeting to include daily responsibilities; interdisciplinary rounding in the afternoon to identify next-day DBNs; and the creation of a website to enhance communication. The study demonstrated that increased DBN is an achievable and sustainable goal for hospitals.

Wertheimer, B. Jacobs, R.E.A., Iturrate, E., et al. (2015). [Discharge Before Noon: Effect on Throughput and Sustainability](#). Journal of Hospital Medicine. 10(10):664-669.

As noted in the previous annotation in this document, the authors of this article conducted a pre- and post-intervention retrospective analysis on two acute-care inpatient medicine units in a tertiary care, urban, academic medical center. However, the objectives of this study were to evaluate the effect of an increased DBN hour and the sustainability of their DBN initiative, which stated that high levels of DBN from inpatient medicine units is achievable through a multidisciplinary intervention. The authors concluded that a

successful DBN initiative correlates with movement of ED admissions and transfers onto the inpatient units earlier in the day. ED admission loads were leveled over the same time period.