



The “Hidden” Impacts of Poor Patient Flow on Hospitals & Health Systems

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Introduction

Most health care professionals understand how critical patient flow is to their operations. When patients move through the healthcare system efficiently, there are positive effects across the health system including:

- Decrease in patients leaving the hospital without being seen (LWBS)
- Drops in ED holding times
- Better coordination of care
- Higher cost savings for the health system
- Improved patient health outcomes
- Enhanced patient satisfaction
- Heightened staff satisfaction

However, when one of the steps in the patient care journey is delayed, it causes a chain reaction impacting multiple facets, including :

- Burdens on physicians and hospital staff
- Lost revenue
- Patient dissatisfaction
- Negative patient outcomes
- Staff turnover

While poor patient flow has become far too commonplace, there are strategies to minimize the impact. Adopting technology such as operational patient-tracking platforms, Command Centers, and Real-Time Locating System (RTLS) can help alleviate bottlenecks. Newer hospital features such as Discharge Hospitality Centers (DHCs) and primary care clinics within the emergency department (ED) can help, as well.

When such tactics and strategies are employed, patients move more efficiently and effectively through healthcare systems. They're also more likely to receive timely, quality care. At the same time, providers and front line teams experience increased job satisfaction, with less stress and feelings of being overwhelmed. Improving patient flow has positive impacts across the entire continuum of care.

In this paper, we will share our insights on:

01
Common Contributing Factors to Inefficient Patient Flow

02
Hidden Impacts of Poor Patient Flow

03
Strategies for Improving Patient Flow

04
How Manageable Patient Flow is Within Reach



01 Common Contributing Factors to Inefficient Patient Flow

Several factors can lead to poor patient flow in hospitals. The volume of patients entering hospitals has been on an ever steady rise, COVID-related patient flow process disruptions have had residual effects and many healthcare facilities have siloed units with less than optimal cross-unit coordination and little automation. Throughput is a very complex process and any of the following factors can cause a break in the chain and result in a backup:

Capacity Constraints

There are only so many available beds and staff in any given hospital. In fact, in the two decades before the COVID-19 pandemic, inpatient bed capacity decreased by 27%¹. When there aren't enough staff to adequately care for the volume of patients at any given time, patients may have to wait to receive the care they need. This is particularly difficult for those patients who critically need and are waiting for an inpatient bed.

Likewise, ever rising ED admission trends will continue to pose a patient flow challenge. Before the COVID-19 pandemic, admissions through the ED were steadily on the rise, prompting more than 90% of U.S. EDs to report they were at their breaking point¹. After a steep decline in ED-based admissions throughout the pandemic, they are again rising¹. The shortage of inpatient beds and care staff at every hospital directly causes higher instances of ED holding until beds are available for patients. This cycle of capacity not being able to keep up with volume is one that will not easily be overcome.

Rising Volumes of Underinsured Patients

When patients lack health insurance or a primary care provider, they may not receive the preventive care they need. Research demonstrates the extent of this challenge. In a 2018 survey, the Agency for Healthcare Research and Quality (AHRQ) found that just 8% of adults over 35 received all their recommended preventive care. Only 22% of respondents received at least three-quarters of these critical services¹.

This gap can adversely impact patient flow in two ways. Underinsured patients may come to EDs for treatment of non-urgent issues that primary care physicians (PCPs) normally handle, which is an inefficient use of the ED. Meanwhile, other uninsured or underinsured patients may have medical issues that have been allowed to develop and progress from lack of regular care. While the ED provides the appropriate setting for the urgent, acute care required, such cases still consume time and other resources, affecting overall patient flow.

Room Turnover Delays

Even when hospital rooms become unoccupied upon discharge, lags in cleaning and prepping them can cause patients to continue to wait for care. A 2018 study in the Journal of Hospital Medicine found that it takes up to 68 minutes, on average, for hospital support staff to be notified that a patient has been discharged¹.

Unanticipated Volume Surges

During the pandemic, many hospitals set up COVID wards that reached capacity during various waves. EDs also became flooded with COVID-19 patients needing care. Due to the contagious nature of COVID-19, infected patients had to be kept apart from the uninfected. All patients coming to the ED or being admitted into the hospital had to be screened for the virus, making care even more complex and burdening an already-strained process. Future pandemics, contagious disease outbreaks or major national or regional disaster or accident events will always cause patient flow interruptions, but hopefully hospitals and health systems can mitigate the impact of these through crisis management and disaster scenario planning training.



Hidden Impact #1: Poor Flow Affects Patient Outcomes and Patient Experience

Poor patient flow unquestionably has impacts across the entire health care ecosystem. The most serious effects are on patient satisfaction and patient outcomes, including higher severity and accelerated progression of illnesses, in some case even leading to mortality, due to delayed care. Research shows that patients are more likely to show improved health and report greater satisfaction if they receive timely care. Unfortunately, the opposite also holds true.

These cause-and-effect dynamics are the main reasons health systems want to improve patient flow and relieve overcrowding. Doing so requires a look at some specific patient engagement and experience-related areas tied to patient flow across the health system or hospital directly impacting satisfaction and outcomes that need to be addressed.

Delayed Patient Admissions

Unavailability of beds results in patient flow congestion problems at hospital entry points, leading to increases in ED hold rates. As patient wait times for inpatient admission increase, this can negatively impact patient health outcomes. A 2021 study published in Internal and Emergency Medicine suggests that keeping patients in the ED longer than four hours can increase their length of stay (LOS) and mortality risk.

Leaving the Hospital Without Being Seen Or Finishing Treatment

Another negative consequence of problematic patient flow is when patients face potential harm by leaving the ED without being seen (LWBS) or leaving subsequent to being seen (LSBS) but before treatment is complete. They often do so because of long wait times to see a provider or to get test results back.

These premature departures also lower patient satisfaction. Beyond potentially harming patient health, health systems also incur a negative financial impact with LWBS and LSBS, as these patients do not stay long enough to trigger the charges of a completed visit.

Patient Diversions

Unhealthy patient flow patterns due to maximum hospital capacity being reached can also have a number of adverse impacts. Hospital staff send EMS crews to other medical centers when an ED has too many patients and can't accept more. This practice delays patient care and represents another revenue loss for health systems. Diversions may also negatively affect the patient's opinion of that hospital for future health care needs.

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Hidden Impact #2: Poor Patient Flow Impacts Health Care Workers

Remediating poor patient flow is an important part of keeping patients healthy and safe. It's also a critical aspect of sustaining job satisfaction, physical and mental health, and general well-being among health system and hospital nurses and staff. Inefficient patient flow can have a detrimental effect on healthcare workers in myriad ways. In fact, research suggests that strained hospital capacity may negatively impact the health care workforce⁸. According to the Bureau of Labor Statistics, 436,000 workers left jobs in health care and social assistance in September 2020. Preliminary data indicate an additional 589,000 then quit in September 2021, the highest rate since data was first collected two decades ago⁹. This frightening statistic underscores the mounting nursing and staff recruitment challenges facing health systems and hospitals today, reinforcing the urgency of turning around these long-standing patient flow inefficiencies across healthcare.

These patient flow bottlenecks and overcrowding contribute to dissatisfaction and turnover among health care staff by increasing the following:

Stress Levels and Burnout

Nurses and other hospital employees experience elevated levels of stress and burnout due to the intense nature of their jobs. Extreme pressure from the pandemic made an already widely reported problem even worse and took a further toll on caregivers' mental health. In a 2021 survey by the American Nurses Association, more than one-third of respondents considered themselves "not or not at all emotionally healthy"¹⁰. Self-reported burnout also increased by an alarming 350% since the initial survey, given a year earlier.

Patient flow-related burnout can be directly tied to how healthcare employees respond to it as well as their day-to-day work experiences resulting from it. For instance, as patient waits increase because of poor patient flow, caregivers may feel they have to do more in less time, increasing their stress. Similarly, the frustrations of increased wait times may increase the incidents of patients and their families lashing out at health care workers — workers who already often suffer verbal and physical abuse at times from the people they are trying to help.

Cognitive Load

As caregiver stress levels increase so does their cognitive load, or the limited amount of working memory they can use at a given time. When health care workers are overwhelmed, they can make mistakes that may impact patients' quality of care or safety. Continually trying to manage an extremely high cognitive burden also affects the mental, physical, and emotional well-being of nurses and other healthcare workers.

Learn more about [Cognitive Load in Clinicians](#) by downloading our white paper.

Compassion Fatigue

Unrelenting stress can diminish health care workers' ability to relate to patients and act compassionately toward them, an effect known as compassion fatigue. Unlike burnout, in which caregivers may feel frustrated, angry, or cynical, compassion fatigue can cause staff to feel sad, numb, or detached. Unaddressed compassion fatigue can also lead to post-traumatic stress disorder (PTSD) among health care workers¹¹.

Staffing Departures and Shortages

Stressors such as burnout, compassion fatigue, and high cognitive load are causing health care workers to leave their jobs, exacerbating already critical staffing challenges at hospitals and worsening job satisfaction among remaining caregivers. The 2021 American Nurses Association survey also asked about job satisfaction, with 50% of respondents considering leaving the profession. The nurses most likely to leave included those in areas with high stress and high patient volumes, such as the ED and the intensive care unit (ICU).



Patient throughput is extremely complex with multiple exposure points for congestion to occur – for instance nurse handoff of patients. The following are some proven strategies that can help target some of the common causes while simultaneously improving areas that include hospital revenue, patient outcomes, patient satisfaction and staff job satisfaction.

Strategies to consider include:

Utilizing Visual Operational Management Platforms

Many health care providers spend a significant portion of their workdays completing non-clinical tasks. Using operational management software to complete those tasks more quickly and efficiently (and in some cases, automatically) allows them to increase the time they spend directly caring for patients.

With real-time operational patient tracking software, all staff members can optimize their patient care time by instantly knowing where a patient is located throughout the continuum of care. Operational platforms that help visualize patient location status and break down health system and hospital departmental silos by uniting all pertinent information and providing it to anyone who needs it as it occurs. Additionally, unnecessary manual steps (such as phone calls to verify a patient's location) can be replaced with automation. In a 2021 study published in *Pediatric Quality and Safety*, researchers suggested that employing this type of visual management software decreased the average length of stay¹².

Establishing Discharge Hospitality Centers

A Discharge Hospitality Center (DHC) for discharged patients can also improve patient flow. As they wait for family members or other means of transportation, such patients take up needed beds and postpone cleaning by EVS. Offering a designated space where they can wait may help free up beds and provide a safer space to wait. A 2020 study found that discharge turnaround time and hospital overcrowding improved as DHC usage increased.

Learn more about [Discharge Hospitality Centers](#) and their potential for streamlining operations by downloading our white paper.

Improving Patient Access

Having centralized visibility across inpatient and outpatient transfers can streamline patient flow operations, with benefits that include:

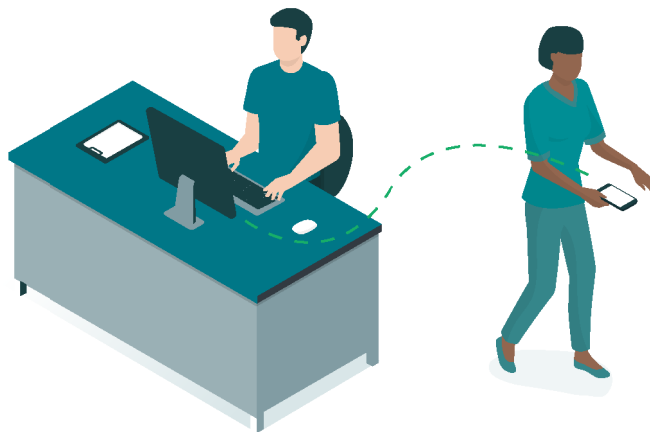
- Connecting staff to critical resources and data
- Creating capacity visibility at the unit, facility, and system level
- Placing patients in the appropriate location the first time around, reducing delays to care and the need for multiple transfers
- Utilizing treatment capacity throughout the health system, helping to decompress high demand facilities.

Features and enablement capabilities of patient-tracking platforms may include:

Automated Patient Discharge

A common bottleneck in hospitals occurs when beds are vacated and not immediately readied for new patients. While environmental services (EVS) need to clean the room, there is often significant time between when the patient vacates the room and when paperwork is complete letting EVS know its services are needed. Using a real-time automated trigger, auto-discharge changes bed status to “unoccupied/dirty” as soon as the process to discharge or transfer a patient is complete, with EVS receiving an immediate alert. This automation enables patients to occupy their inpatient bed in a timelier manner and reduces “lost bed time,” which improves overall efficiency for the health system.





Automated Nursing Handoff

If handoffs among nurses and other health care workers are not completed accurately or thoroughly, patient safety can be compromised. Incomplete information can also cause incoming care team members to investigate the undocumented steps, leading to delay. An electronic handoff can avoid these pitfalls by ensuring care continuity and effective communication. A 2020 study showed that the implementation of electronic handoffs at Rush University Medical Center reduced the assign-to-occupy time by more than 40 minutes per patient.¹⁴

Standardized Care Processes & Protocols

Hospitals can significantly reduce hold-ups by reducing the variability of care. Patient-tracking software can streamline the creation of standard, documented processes for certain types of care and can give team members clear plans to follow to keep patients moving along the care continuum. While patients with comorbidities may still need unique care plans, health care workers can follow a set checklist for those that present specific symptoms.



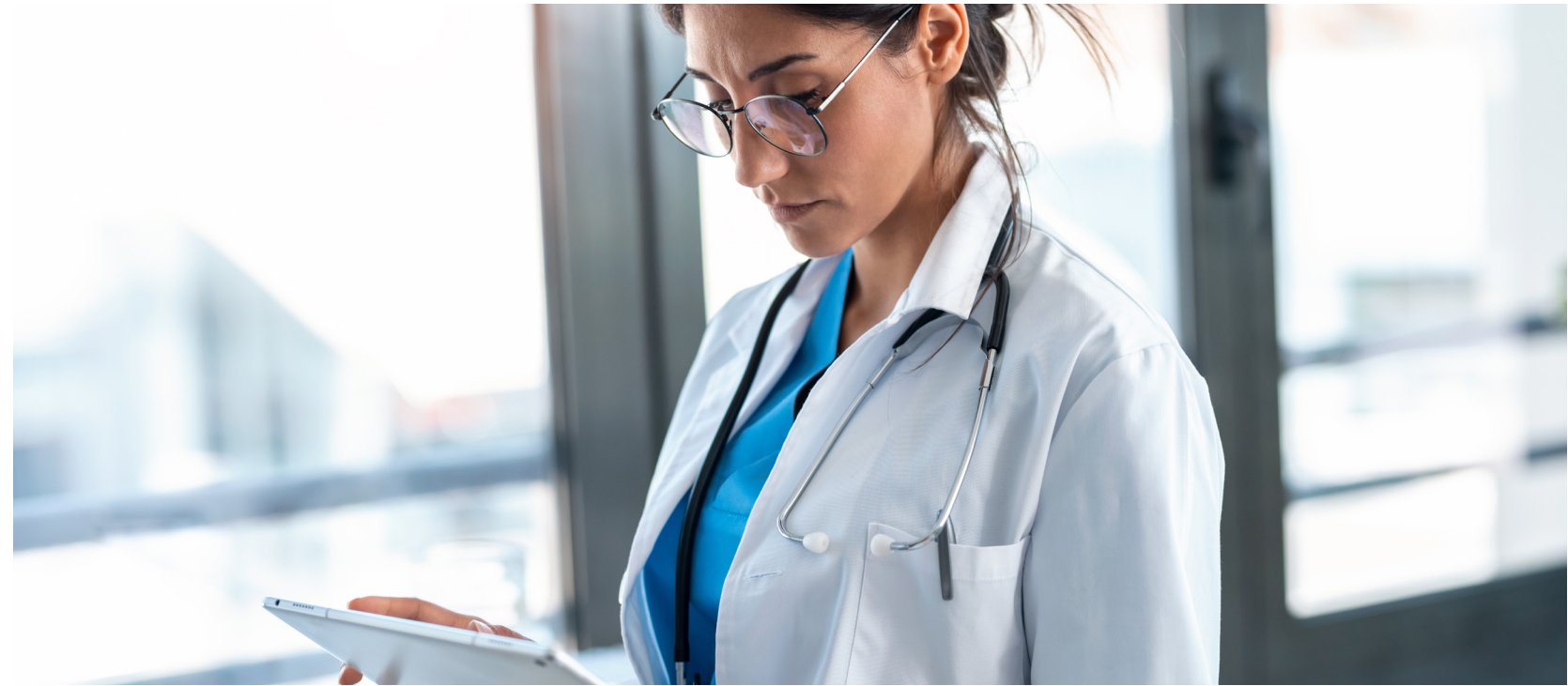
Staffing By Demand-To-Capacity

Hospital managers can better oversee patient capacity with enterprise analytics applications integrated as part of patient-tracking software platforms, making it easier to anticipate future staffing needs. By implementing demand-to-capacity staffing, hospitals can match staffing load to patients' severity level (acuity) across units. Instead of nurses tending to a set number of patients, they can base their daily patient load on acuity.



04 Manageable Patient Flow is Within Reach

Struggling with poor patient flow and ED overcrowding does not have to remain a way of life for health care systems and their staff. By implementing systems and processes, including visual management software, health systems can reduce delays and maximize capacity. Not only do such improvements enhance patient safety, quality of care, and experience¹³, they also support the job satisfaction and mental health of health care workers¹³. It's a virtuous goal, and an achievable one with the right steps.



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