

## Executive Briefing:

# The Value of Time in Healthcare

Because so much is still done manually in the chaotic, urgent and ever-changing environment of healthcare delivery, time can be wasted at virtually every step of the patient experience, from check-in to discharge.

Wasted time in the healthcare system contributes to emergency department overcrowding and anxious patients waiting in hallways for beds. It adds to the underlying reasons patients may be turned away from the optimal care they need. And, it's a big reason why operating rooms go overtime and still fall far short of being used to their maximum.

Yet wasted time is rarely included in the discussion of waste and spiraling costs for U.S. healthcare.

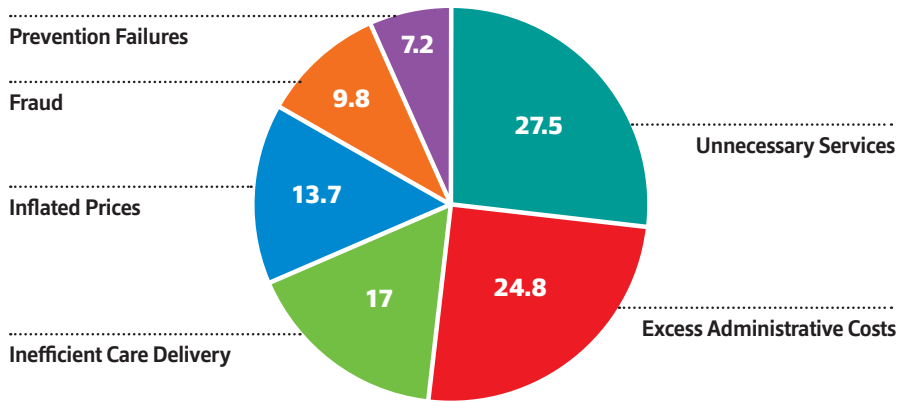
### What is the value of Time?

For decades, productivity experts in other industries have assigned a dollar value to time. Yet in healthcare, the value of time is much more associated with lives than it is with dollars.

It is commonly accepted that the sooner a patient gets to the right care in the right place with the right resources, the better the chances for a positive outcome. Health-

care providers rightfully link timely care to positive patient outcomes, but making a link between time and dollars has been less perceptible and may even be viewed as somewhat objectionable.

This may be explained partly by the fact that there are no "units of production," per se, in healthcare. Each patient is a unique individual and each case has distinctive components, making productivity measurement, in the traditional sense, more elusive.



This is how the Institute of Medicine (IOM) breaks down the causes of financial waste in U.S. Healthcare. TeleTracking believes inefficient care delivery also contributes to several other categories mentioned here.

Another reason may be that wasted time is a very subjective concept. Taking the time to do something correctly seems to be a very good idea in healthcare, so how do you get people to agree on what actually constitutes “wasted” time in a hospital?

In a recent Institute of Medicine (IOM) report entitled *Better Care at Lower Cost* (September 2012, [www.iom.edu/bestcare](http://www.iom.edu/bestcare)), one of the top 10 recommendations for Healthcare in America is Optimized Operations. In the report, the IOM recommends healthcare delivery organizations should: **“Continuously improve health care operations to reduce waste, streamline care delivery, and focus on activities that improve patient health. Care delivery organizations should apply systems engineering tools and process improvement methods to improve operations and care delivery processes.”**

When operational efficiency and elimination of wasted time is a focus, the dividends are multi fold. Consider this: Methodist Health System of San Antonio was able to add over \$150 million to its bottom line in two and a half years by extracting wasted time from its multi-hospital operations through the automation of its capacity management process.

Cleveland Clinic was able to forgo a multi-million dollar addition of operating suites by automating patient flow through its existing

suites and increasing their utilization to an optimal level.

Rush University Medical Center added over \$40 million in revenue by automating and combining its patient placement and transfer processes to free up space for inter-hospital transfer cases requiring tertiary care.

What these providers have in common is using real-time automation to convert wasted time into usable space. From bed turns, to transport, to post-op to discharge, they have wrung idle time out of their operations. The result is greater efficiency, a reduction of chaos, and better planning that allows them to treat more patients. And they were able to begin saving time and money immediately after system “go-live.”

Researchers at the University of Wisconsin postulate that time may be the greatest edge that enterprises have in the 21<sup>st</sup> century. That is a big reason why industry is turning to the “real-time enterprise” model. RTEs, as they’re called, use a network of intelligent sensing devices, combined with automation, to provide a “moving picture” of productivity. RTEs provide instantaneous decision-making ability via these massively distributed monitors, allowing an organization to know at all times what is going on. This allows managers to run entire enter-

prises from their desktops and intervene when necessary to rectify problems.

Adapting the RTE model to healthcare requires the expanded use of automation, instrumentation, location and condition-sensing technologies, as well as event-driven approaches, advanced messaging, interoperability, and wireless mobility.

By combining its market-leading patient flow software, business analytics engine and real-time location system on a single operating system, TeleTracking is bringing the RTE to healthcare providers on an integrated, web-based, enterprise-wide platform. Known as Real-Time Capacity Management™, it displays a hospital or system’s physical tasks as they unfold via desktop dashboards. Data such as bed turnaround times, emergency department average wait times, discharge times and average length of stay are measured against key performance indicators in easy-to-read graph displays. Combined with real-time alerts and notifications, they allow corrective action to be taken in moments rather than requiring days or weeks to analyze performance data.

Pulling wasted time out of the patient flow continuum frees up bed space so throughput can be accelerated. That means more surgeries can be performed and more patients can be transferred from other hospitals for the care they need.

RTCM forms an integrated, end-to-end “operational backbone” which provides unparalleled transparency and maximizes performance for a broad spectrum of daily activities, such as in-patient tracking, staff location, recent admissions, recent discharges, room assignments and cleans, mobile device searches and other critical issues. Optimizing these daily operational tasks to eliminate waste and non-value added variation drives important financial and clinical metrics, such as:

- ▶ Average Length of Stay
- ▶ Net Revenue
- ▶ FTE per Adjusted Occupied Bed
- ▶ Mean Wait Time in ED for Hospital Bed
- ▶ Cost per Discharge
- ▶ Patient Complaint Rate
- ▶ Patient Satisfaction
- ▶ Discharge Processing Time
- ▶ Nurse Turnover
- ▶ Nurse Vacancy Rate
- ▶ Employee Satisfaction
- ▶ Bed Turnaround Times
- ▶ ED Diversion, Turnaround Time, or Admissions
- ▶ Amount of Interdepartmental Calls and Confusion
- ▶ Transport Time Response
- ▶ Nursing Workload
- ▶ OR Delays or Holding Issues
- ▶ FTEs in Transport, EVS or Patient Placement

Automated patient flow also yields a tremendous amount of data. Drilling down uncovers the hidden stories between data points that lead to powerful strategies for operational improvement. A comprehensive, state-of-the-art real time capacity management system with advanced business analytics software and decision support tools should provide the healthcare organization with “instant” snapshots of the following:

- ▶ Facility capacity
- ▶ Patient flow performance

- ▶ Impact of ED, OR, on overall process
- ▶ Discharge management
- ▶ Transfer center volumes and impact on demand for specific care areas
- ▶ The exact number of patients being admitted from any portal at any time
- ▶ The number of staffed beds available and their unique bed characteristics
- ▶ Expected patient discharge times, based upon formal, recorded discharge protocol.
- ▶ Location of all mobile medical devices, patients, physicians and medical personnel
- ▶ Location of potential bottlenecks which would slow down the patient flow process
- ▶ Disposition of patients awaiting treatment or diagnostic procedures enterprise-wide
- ▶ A 24-hour look ahead of staffing needs based upon real time patient numbers.
- ▶ Location of infected patients and exposed medical equipment
- ▶ Admission and discharge analysis.
- ▶ Root causes of wait times for space, materials, staff and patients
- ▶ Constant performance measurement via timestamps for all flow milestones

Hospitals of all sizes can gain new perspectives on their capacity utilization, like emergent trends and future needs. For example, by breaking down discharges by time of day as well as overall volume, hospitals can identify bottlenecks in the discharge process and use the information to drive for earlier discharges. In short, real-time capacity management allows hospitals to turn data into the useful, actionable intelligence that’s needed for transformational change. This capability helps hospitals reach the status of true learning organizations, which the Institute of Medicine concludes is critical to sustaining continuous improvement in reducing waste, streamlining care delivery and raising overall patient health.

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*Reducing wasted time added \$150 million in revenue for Methodist Healthcare of San Antonio, \$40 million to Rush University Medical Center, and saved untold millions for Cleveland Clinic by avoiding O.R. expansion.*



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