Statement of TeleTracking Technologies, Inc. at the House Ways and Means Subcommittee on Health

Hearing on Exploring the Use of Technology and Innovation to Create Efficiencies, Higher Quality, and Better Access for Beneficiaries in Health Care

September 14, 2016

TeleTracking appreciates the opportunity to address the House Ways and Means Subcommittee on Health to discuss how to improve the quality and efficiency of our health care system while reducing costs, particularly with regard to the nation's hospitals. We commend the Subcommittee for your interest in this important issue. We especially want to thank Subcommittee Chairman Tiberi for visiting The Ohio State University Wexner Medical Center and observing firsthand how TeleTracking's patient flow solutions can help hospitals improve how they manage the patient health care experience.

TeleTracking's mission is to optimize health system operations by enhancing patient flow with solutions and services that enable the highest quality of care delivery and coordination. What does it mean to enhance patient flow? It means helping hospitals care for more patients without building more physical space or purchasing more beds. It means making sure that patients don't languish in emergency rooms – or leave the hospital without receiving care – because of long waits for beds. It means harnessing technology to make the most of the resources already within the health care system to improve quality of care, minimize waste, and decrease health system costs. And, it means unburdening care providers so that they can focus their attention on the patients who need them.

With TeleTracking's 25 years of experience in the industry, and hundreds of millions of patients helped, we have a unique perspective. Our experience has taught us that the most valuable assets in health care are the care providers and their ability to spend time with patients. We also see that **the health care system in the United States is in crisis. Hospitals are running inefficiently – patients seeking care are often turned away, care delivery is suboptimal, and benchmark costs far exceed other nations.**

This is not just about costs or financial performance. **"Forty-six minutes was just enough time to save the life of a new mother"[1] began a recent news story about how the process efficiencies gained at Baptist Memorial Health System are having lifesaving effects.** After an emergency cesarean section, a new mother suffered cardiac arrest and needed to be transferred from one facility's emergency department (ED) to an intensive care unit at Baptist's flagship hospital. **If Baptist had performed like an average US hospital,[2] this young mother would never have had the chance to meet her new baby.** Baptist's streamlined patient flow processes, service standards and technologies supported caregivers in their efforts to save this young mother's life, and undoubtedly the lives of countless others.

To this end, the Agency for Healthcare Research and Quality (AHRQ) targeted patient flow as a viable improvement strategy in 2011.[3] And, the Institute of Medicine (IOM) identified billions dollars of waste in the health system diverting resources away from patient care. A focus on health care operations is a theme within the IOM's recommendations on how to best address that waste and improve care quality.[4] Additionally, the Institute for Healthcare Improvement (IHI) calls for a solution that addresses three interconnected objectives which include improving the patient care experience while reducing the per capita cost of health care.[5]

It is apparent that an operational focus is needed to drive down costs, improve efficiency, and assure all patients receive timely access to care and sufficient time with caregivers.[6] This requires a set of initiatives that improves

the flow of patients within the system through research, innovation, and performance standards. Improved flow can help us care for more patients within our existing infrastructure.

The Problem of Waste in Health Care

Every year, 1.9 million people leave emergency departments (ED) without being treated after becoming frustrated with long waits. [7] Every minute of every day, an ambulance patient is diverted away from his hospital of choice because of insufficient capacity. [8] **In an average year, already-admitted hospital patients spend a total of 4.3 million days waiting to be moved into their inpatient beds and receive the care they need.**

The Centers for Medicare & Medicaid Services (CMS) has recognized the importance of ED wait times, putting measurement and reporting requirements in place as part of its Hospital Inpatient Quality Reporting Program in 2014.[9] While publication of wait time information is useful, patients needing critical emergency care typically don't have the luxury of being selective about where to go–particularly in medically underserved areas. Instead, hospitals need to know about the tools available to help them improve.

Every hour that a patient waits to receive the inpatient care he needs, he faces objectively worse health outcomes.[10] Based on a recent study, an estimated 1.2 million admitted patients annually face an 80% or greater increase in the risk of death because they spent 12 or more hours waiting for an appropriate inpatient bed.[11] Each year, 400,000 patients[12] spend three extra, avoidable days in the hospital because it took 24 hours or longer to find an appropriate inpatient bed after being admitted through the ED. A 2015 report produced by the IOM Committee on Optimizing Scheduling in Health Care, revealed how process inefficiencies in the Veterans Administration Health Care System led to reduced access to care and potentially avoidable deaths.[13] **Too often, patients are not able to access the care they need, when they need it, despite the fact that US hospitals run at an average occupancy rate of around 61%.[14]**

With over $3 trillion per year[15] spent on health care in the US,[16] our country is ranked first in the world based on per capita health care spending.[17] At the same time, Bloomberg ranks the US 44th out of 51 similar nations based on the performance of our health system.[18] **These statistics suggest that our health care system is inefficient and underperforming.** In fact, the IOM estimates that $750 billion of the money we spend on health care each year is wasted.[19]

Unfortunately, problems associated with accessing care could get worse. Over the next 10 years, we, as a country, should expect significant shortages in the number of practicing physicians and nurses.[20] At the same time, we should expect to see continued increases in the demand for care. Every day 10,000 Americans turn 65[21] becoming Medicare eligible—an age at which roughly 50% of lifetime health care expenditures begin to occur.[22] In fact, as we approach 2050, the Medicare population is expected to be twice as large as it was in 2010.[23] The growth of the Medicare population will put additional strain on the health care system. Additionally, we are seeing increased demand for health care from Americans newly insured under the Affordable Care Act.[24]

As demand continues to increase, our already inefficient system will be further taxed and patients will continue to suffer unless changes are made. Building new hospitals and improving clinical efficiencies only solve a portion of the problem; these actions cannot address all resource limitations and waste. **We need to explore what blend of process redesign, performance standards, and technology adoption will increase our capacity to move patients safely through their episodes of care.**

Current Progress Is Not Enough

As a nation, the changes we are making to public health program reimbursement, population health programs, health insurance product design, fraud and abuse prevention, and transparency are all important steps. Each of these elements must be part of a solution that addresses the areas where our health system is functioning poorly. However, it will take years to realize the benefits of many of these long-term initiatives, and they still only address a portion of the problem.

From an operations perspective, health care is still largely chaotic—it's disaggregated, highly variable, and poorly measured. Unlike nearly all other industries, health care has yet to fully implement modern process improvement methodologies, which focus on eliminating non-value-added elements in every process. Yet operational process improvement and enabling technologies promises to allow health care to achieve "an environment in which potential problems are anticipated, detected early, and virtually always responded to quickly enough to prevent catastrophic consequences."[25]

For health care, operational performance is closely tied to patient flow. Patient flow is the set of interconnected processes that move inpatients and outpatients through the health care system from admission to discharge and back out into their communities for follow-up care. **A breakdown of the $750 billion wasted per year shows that nearly half is associated with inefficiencies in the administrative processes[26] necessary to deliver patient care**[27] – the non-value-added waste that Lean methodologies are designed to eliminate. Without the tools needed to gather, track and report on data in real-time, health care organizations cannot make timely and informed adjustments to maintain safe operations in the face of increased demand.[28] **Due to process inefficiencies and lack of visibility, the health of patients is compromised because patients cannot access care when they need it.**

Although agencies like CMS are capturing statistics on certain patient flow measures, US hospitals are not being held accountable to specific performance standards. By including discharge planning and 30-day readmission rates in its Conditions for Participation, CMS is already having a positive impact on health care cost and quality.[29] **Additional focus on operational quality metrics can support the implementation of process improvement methodologies that will save lives and create a more sustainable health care system.**

The Role of End-to-End Patient Flow

A focus on improving end-to-end patient access and flow throughout the health care system will have a transformative impact on productivity, utilization and the timely delivery of quality care. In its landmark study on how the US can provide better care at a lower cost, the IOM identifies a focus on health care operations as a key opportunity to improve patient health and lower medical costs.[30] Additionally, government agencies like the AHRQ have already identified patient flow as an important focus for hospital leaders.[31] Enabling and sustaining technology in conjunction with Lean methodologies will improve patient flow processes and deliver better care.

Simply put, patient flow standards and process improvements save lives and allow more patients to get the care they need. End-to-end patient flow is the core operational process that providers need to optimize and manage as an integrated system. One academic study suggests that reducing the average boarding time in the ED from six hours to four hours across the US could create the capacity to help 9.7 million more patients per year in urban EDs with a potential of $12 billion in additional revenue[32] per year.[33] **At a time when 30% of all hospitals have**

negative operating margins,[34] these types of revenue gains are important to keep our system from collapsing. Not only will a focus on patient flow save more lives, it will allow the health system to continue to do so in the future.

The impact can extend to government programs like those run by CMS. When more than a third of all hospital stays involve a Medicare-eligible patient,[35] efficiency gains will have a significant impact on this population and Medicare expenses. For example, recent research suggests that Medicare patients experience 1.2 million avoidable inpatient days per year due to complications correlated with ED boarding times.[36] At an average expense per inpatient day of $5,687[37] across the US, **this amounts to $6.6 billion of potentially avoidable expenses impacting Medicare every year.**

The Impact of an End-to-End Patient Flow Focus

Technology innovators, like TeleTracking, are already focused on decreasing costs and increasing efficiency in health care environments. By providing solutions that enable best-in-class patient flow processes, TeleTracking helps hospitals care for more patients without building more physical space or buying more beds. An independent study of TeleTracking's solutions conducted by the RAND Corporation shows that its end-to-end patient flow platform can:

- **Decrease the average length of stay for inpatients by over 18%.[38]**
- **Create ED capacity for 12% more patient visits without any additional bed count or adversely affecting care quality.[39]**
- **Increase the number of monthly admissions per licensed bed by nearly 30%.**

Congressman Patrick Tiberi experienced the impact that TeleTracking's end-to-end patient flow solutions can have during his visit to The Ohio State University Wexner Medical Center. Through better management of inpatient admissions and discharges, the Wexner Medical Center ED experienced a **42% decrease in diversion hours** and a **38% decrease in patients who left without being seen.** Efficiency in moving patients out of the ED and into the rest of the hospital allowed the Wexner Medical Center to keep its ED open to new patients and see patients who would otherwise have gone home without treatment after a lengthy wait.

The results experienced at The Ohio State University Wexner Medical Center are not unique. In its first five years with TeleTracking, the Children's Hospital of Atlanta created capacity to make sure an additional **14,000 children received the care they desperately needed**. Rush University in Chicago was able to realize **an additional $40 million in margin per year that it could then reallocate and use to provide additional patient care**. Carillion Clinic in Roanoke, VA leveraged TeleTracking's end-to-end patient flow solution to **increase its patient volume by nearly 1,000 patients a year while running at 98% capacity**.

The Transformative Impact of Technology and Visibility

The health care system, with its patient arrivals and departures, needs to coordinate the complex work of multiple teams and draws many similarities to the aviation industry. The aviation industry has focused on process improvement, measurement, and the adoption of technologies to increase the efficiency and safety of its service. In the early days of flight, bonfires and physical lighthouse beacons were used to guide pilots to landing strips. The introduction of ground to air radio communication, radar tracking systems, the development of centralized traffic

control hubs, and powerful computational algorithms now help to manage flight paths and collision risks have made air travel nearly 100% safer since 1966 alone, in spite of a 96% increase in the numbers of passengers in the sky.[40]

Imagine what air travel might be like today if the industry suddenly stopped using radar and reverted to using decentralized, airline specific ground to air communication and bonfires as their only wayfinding tools. The health care system is essentially doing just that: using phone calls and paper based processes to find beds for admitted patients or move patients to and from procedural areas. Indeed, as Mark Chassin, M.D., FACP, M.P.P., M.P.H. of the Joint Commission points out, **"hospital care is almost 3,000 times less safe than air travel."**[41] Without patient flow technology, our health care workers are faced with unpredictable environments where it is difficult to complete simple tasks like identifying the best bed for a given patient. Breakdowns in communication and lack of visibility cost billions of dollars a year and prevent people from getting the care they need.[42]

Only half of all hospitals in the US have some form of patient flow technology in place.[43] TeleTracking estimates that fewer than half of all hospitals have centralized "air traffic control" departments with the ability to manage patient arrivals and bed assignments. Even fewer hospitals have the technology to ensure the right assets, e.g. IV stands, which patients need every day, are automatically delivered to patient rooms at the time of admission. Electronic Medical Records (EMRs) cannot address the problem of operational waste. **In fact, we see that the cost of labor in health care is increasing seven times faster than its productivity rate**[44] **even though over 90% of hospitals have adopted an EMR system.**[45]

Conclusion

The goal of process improvement is not to build more EDs or hospital beds. **The goal is to care for more patients with existing infrastructure and resources.** We believe that investing in patient flow technology and setting standards for health care operations will provide an immediate impact on the health care system. Every patient should be able to move from admission to discharge and back out into their communities by receiving the most efficient and effective care. With that goal in mind, the benefits of better patient flow can support the cost of our other, necessary structural changes. This solution will help hospitals provide better care to more patients by:

- Getting patients admitted to the right hospital and the right bed for them, the first time;
- Allowing clinicians to spend more time on patient care by standardizing and automating routine communications;
- Increasing the utilization of scarce resources like hospital beds by better managing the infection prevention workflow and making them ready for the next, waiting patient;
- Monitoring and managing discharge processes to get healthy patients home more quickly;
- Predicting demand to better match staff and resource needs to future patient admissions.

TeleTracking has consistently done this through the implementation of our end-to-end patient flow platform for the last 25 years. **This visibility has enabled many health systems to manage their patient flow processes and reduce waste and inefficiency.** There are many ways these process improvements can be used to strengthen additional health systems throughout the country, particularly in medically-underserved areas where efficient use of resources is especially critical. We would be honored to serve as a resource for the Subcommittee in expanding the reach of these improvements. We also offer a few concrete ways that the Subcommittee can promote process improvement in our health care system:

1. In order to improve efficiency and patient outcomes, we recommend a careful evaluation of potential gaps in the quality metrics on which hospitals are measured. Additional emphasis on operational metrics around ED boarding/wait times and inpatient discharge aligned with incentive programs could support current quality initiatives while improving access to care.

2. Encourage AHRQ to provide funding and support for research projects focused on developing comprehensive knowledge about best practices in end-to-end patient flow. The organization should help hospitals understand how end-to-end patient flow platform technologies and process redesign can promote hospital efficiency, expand patient access, and improve patient outcomes, particularly in rural and urban health systems and/or VA Veterans Integrated Service Networks.

3. The Subcommittee could also encourage the CMS Innovation Center to launch an initiative to speed the adoption of best practices in patient flow. This would dovetail with the work currently being done by CMS' Strategic Innovation Engine around identifying innovative practices related to streamlining patient flow and care coordination. Such a patient flow initiative would: (1) support new service delivery models and better care transitions and service delivery; (2) reduce provider overhead costs associated with bundled payment arrangements and other innovative payment / delivery models; and (3) test how to maximize the impact that patient flow technology can have on the future of health care.

As a country, we can improve our health care system through better patient flow. TeleTracking can provide information on over 80 health systems where our technology is providing great value and consistent patient flow outcomes. The technology is already deployed across more than 800 hospitals and nearly 40% of the hospital beds in the United States. With the Subcommittee's attention to an operational, patient flow focus in health care, **we can revolutionize American health care – not through building hospitals and buying beds, but by serving more patients more effectively with the resources we already have.**

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