

REVCYCLE INTELLIGENCE

xtelligent HEALTHCARE MEDIA

How Time-Driven Costing in Healthcare Boosts Staffing, Revenue Cycle

Armed with modern data analytics, Montefiore was able to leverage time-driven costing in healthcare to first optimize staffing, then revenue cycle operations.



Source: Getty Images

By Jacqueline LaPointe

January 04, 2021 - As people sweep up the confetti and put long-stemmed glasses back in the cabinet after New Year's Eve, many emergency department providers are coming home after a busy night.

The hours between the end of one year and the start of another are notoriously high-volume times for hospitals and health systems. Put that on top of already existing

challenges created by the ongoing COVID-19 pandemic, and providers are finding themselves stretched thin this new year.

“In the ED, as well as operating rooms, there is a long recognition that staffing levels are convenient and a little bit ‘That’s just the way we’ve always done scheduling,’” says Jason Oliveira, director of decision support at Montefiore Health System. “It’s a steady state, it doesn't matter what day of the year or what day of the week, there are say ten nurses, then New Year's Eve spikes, and you have to bring in all the off-duty nursing.”

In light of this staffing problem, and others throughout the system, the New York-based medical center that serves as the university hospital for Albert Einstein College of Medicine is scheduling differently now using a time-driven costing strategy.

[Time-driven costing in healthcare](#) is a methodology that calculates the costs of resources consumed as a patient moves through the care process. The strategy has gained popularity among hospital leaders alongside the need to control rising costs and limited resources, like nurses, especially in the face of new value-based reimbursement models.

Despite the potential to determine and manage costs within an organization, implementing time-driven costing in healthcare has been a challenge. Previous attempts, such as those in the 1990s, have failed or only partially succeeded because of the large resource investment required and the complexity of the healthcare system, researchers have [found](#).

But with the help of modern data analytics, Montefiore Health System is leading the way with time-driven costing.

About two years ago, the health system was one of the first to implement a time-driven costing solution from its cost accounting and financial decision support provider [Strata Decision Technology](#). The solution pulls data from the electronic health record (EHR) system to marry payroll and time-keeping data with clinical information, like how many cases came into the ED and at what emergency severity index (ESI) level, Oliveira explained.

Using the combined information, the health system started to execute a staffing-to-demand strategy to ensure adequate levels of nursing staff and other providers based on historical volume and productivity trends.

“We could start creating staffing models that are much more responsive, precise, and fine-tuned,” Oliveira stated.

In turn, the health system is better controlling its costs and resources, which has been key during the [COVID-19 pandemic](#).

Like many health systems in early 2020, Montefiore had to shut down most operations to stop the spread of the novel coronavirus that was infecting thousands of patients a day. During this time, many nurses found themselves practicing in a new capacity as the health system prepared for a surge of COVID-19 patients.

“The data overall has been integral in COVID response, planning, and returning to business,” Oliveira stated. “At our height, we had about 2,000 COVID patients in our beds. The costing data did guide nurse repurposing decisions to handle the volume of COVID patients.”

The time-driven costing approach also helped those nurses and the health system get back to more normal operations despite the ongoing pandemic. The data has guided system leaders on which practices to reopen under more relaxed social distancing orders and in what order they should open, for example.

“We were using historical margin information to prioritize gearing up in marketing and reallocating resources back to the practices,” Oliviera explained.

Looking further down the COVID-19 recovery path, Montefiore also plans to leverage the data coming out of the time-driven costing technology to create a more accurate, flexible budget.

“We're rethinking our entire budgeting concept,” Oliveira said. “If COVID taught us one thing it's that the annual budget process is meaningless. So we're also working with Strata to go to a rolling forecasting model, and cost accounting data will be a major feeder into those models in terms of volume.”

That could change staffing at the health system, Oliveira added, based on say, how many lab tests the system did last month and what staffing level corresponded to that volume, as well as revenue generation across the system.

Before the COVID-19 pandemic hit last year, Montefiore started using cost accounting data to price elective procedures that would not be covered by insurance, like plastic surgeries.

Patients can shop around for plastic surgeries like breast augmentation and liposuction, Oliveira explained. So Montefiore leveraged precise time-driven cost accounting data that looks at metrics like how long the procedure takes, staffing levels, and supplies

used, to price the service so it is competitive relative to the market and can still generate a profit for the health system, which relies heavily on government-funded payers.

“We were able to create a menu of all the services, including a day or two days of recovery, and we were able to price these various plastic surgery procedures that we wanted to advertise in a more aggressive manner,” Oliveira stated.

But the strategy is also working in other more Medicaid-heavy departments, such as urology and the GI suite.

“One of the surprising things I noticed with customers over the last couple of years is that everyone is fixated on volume,” Oliveira said regarding his previous experience as a consultant. “So the GI suite will say, ‘Oh, we did 100 more GI procedures last month. Give us more staffing and give us another room.’ And I guided them to look at some additional measures like: Do we make money on those procedures? And we did not. They were shocked.”

For a health system with a payer mix skewed toward the public payer, the maxim “more is better” is not necessarily true.

“Our Medicaid patients do not pay the same as our commercial or our risk-bearing managed care contracts. So it’s been an educational process to get away from volume and look at actual margins, back to revenue cycle intelligence,” Oliveira said.

Moving forward, the health system is planning to push the time-driven cost accounting data to more people within the organization to get to a higher level of revenue cycle intelligence and ensure appropriate allocation of resources as COVID-19 recovery continues.

“All these departments and divisions, they use their own platforms, EMRs, analytics solutions to track volume, revenue, clinical measures, KPIs, and quality metrics. The only thing that was missing was cost,” Oliveira stated. “We’re pursuing a strategy to push that information to our enterprise data warehouse environment, which is the source of data for many of these different analytic solutions. Instead of training a decision or a practice administrator in another tool, the cost information will be in their existing tool and at their fingertips to analyze.”

“We’re not quite complete with that journey. It’s actively being designed, but that will be a game changer once we get there,” Oliveira stated.