

You Can't Improve What You Don't Measure: Using Workforce Analytics at Memorial Hermann to Drive Productivity

Memorial Hermann Health System owns and operates 14 hospitals in southeast Texas. It has more than 100,000 pieces of medical equipment and devices that are maintained by a team of 75 healthcare technology management technicians and engineers.

CHALLENGE

Memorial Hermann key stakeholders expressed a critical need to collaborate with Crothall's Healthcare Technology Solutions (HTS) division to help improve its workforce productivity and compliance with government regulations.

The health system is the largest hybrid workforce model in the nation—one keeping the majority of talent in-house and partnering with Crothall Healthcare, for additional staffing needs and to manage the entire healthcare technology management solution. But to better measure and maximize productivity of its model, it wanted Crothall to use its data collection and

analysis tools to implement a workforce optimization management plan.

Because Crothall manages over one million medical devices across more than 200 hospitals nationally, its unique database allows it to establish a fixed time for work on each medical device based on the OEM standard. By combining the data gathered from Memorial Hermann's Workday time-tracking platform and correlating it to Crothall's work order system, which captured the time to complete each service event, Crothall developed new metrics to measure productivity.

“While we had the right amount of staff coming out of the COVID-19 pandemic, there was an opportunity to better utilize our workforce by benchmarking their productivity. With the help of Crothall’s data-driven tools, we’ve been able to establish benchmarks for each service event and teams at all of our sites while also redefining our training programs. Working together, we’ve been able to significantly increase productivity and ensure our patients receive the care they need.”

— Umair Siddiqui, AVP Clinical Engineering & Asset Management Memorial Hermann Health System

SOLUTIONS

In February 2022, Crothall began gathering baseline data on each team member’s productivity and established new target productivity metrics. By March, it could compare the amount of time reported by each employee to complete each task to the HTS productivity metrics.

Crothall established a productivity target for each team member to use at least 70 percent of their time on service-related activities, work orders, and other tasks. The 70 percent goal aimed to significantly improve productivity, which averaged 35 percent per employee as measured in the baseline assessment.

With the data collected and goals established, the following solutions were put into place:



More Exact Data on Individual and Team Performance.

With Crothall’s data and analytics providing detailed information on each team member’s performance, productivity quickly increased. Once average service times (to standard) were measured and correlated, it was determined that employees’ previous estimates for the amount of time to complete each task differed from the OEMs standard. Employees were also not reporting the time for proactive service and administrative work.



Better Service Alignment.

Crothall quickly found that some work took longer than needed because employees were not properly trained. Quality management audits identified educational gaps for each worker and all participated in skill development programs. Collaborating with Memorial Hermann executives, Crothall revamped and expanded the training programs to improve soft skills, technical skills, and productivity.

Monitoring key performance indicators in staffing and scheduling enabled Crothall to better align the workforce. This occurred after Crothall measured the amount of overtime for individuals and teams, absenteeism, rest periods between shifts, and deviations between scheduled and actual worked hours. As a result, jobs were added in imaging, biomedical, and general electronics service.



More Scrutiny of Same-Day Work Orders.

It often takes more than one day to resolve a work order, especially to repair sophisticated medical equipment needed to diagnose patients. Yet employees often reported opening and closing a work order on the same day. Crothall has a built-in review mechanism where completed work orders are selected and inspected in detail by the director.



Proactive Service Rounds.

Rather than simply waiting for obvious problems to be noticed, the team takes a proactive role in identifying corrective repair needs and communicating with equipment users through routine inspections and rounds. Each staff member conducts formal rounds, inspecting the condition of the equipment, noting needed repairs, and liaising with department users. As repairs are identified, they are logged and prioritized.



Change in Culture.

To help employees adjust to the changes, the initiative was positioned as a tool to better justify additional resources, promote a healthy work-life balance, and validate needed training/tool investments. Crothall also added an enhanced employee engagement and recognition program to reinforce the importance of raising productivity. In turn, employees understood they now had a clear path to new career opportunities.

“Our evidence-based approach has helped all employees improve their productivity while providing more training to increase their technical acumen and soft skills. Within six months, we were able to double the amount of time employees spent on servicing and repairing medical equipment. This increase translates into much higher job satisfaction for nurses and clinicians, a better technical workforce, and a more predictable revenue stream for the hospital.”

— Ryan Sanders, Vice President of Operations, Crothall Healthcare



RESULTS



Significant Improvement in Productivity.

Between March and August, 2022, productivity rose significantly, from 32% to 72%. In addition, Crothall's analysis provided productivity data on each individual, work function, hospital and field-based teams for outlying clinics, and imaging centers. Data also highlighted teams that were most improved and those that needed further improvements.

Productivity improvements provided workers more time to perform proactive service rounding, where they identified and performed corrective maintenance on key equipment, which increased service quality and reduced maintenance time for critical devices.



Hospital Leadership Satisfaction.

The rise in productivity increased the availability of medical equipment to treat patients and supported the safe use of aging equipment. As a result, it reduced pressure on the hospital's budget and allowed for investment in new imaging equipment, defibrillators, and other technology.



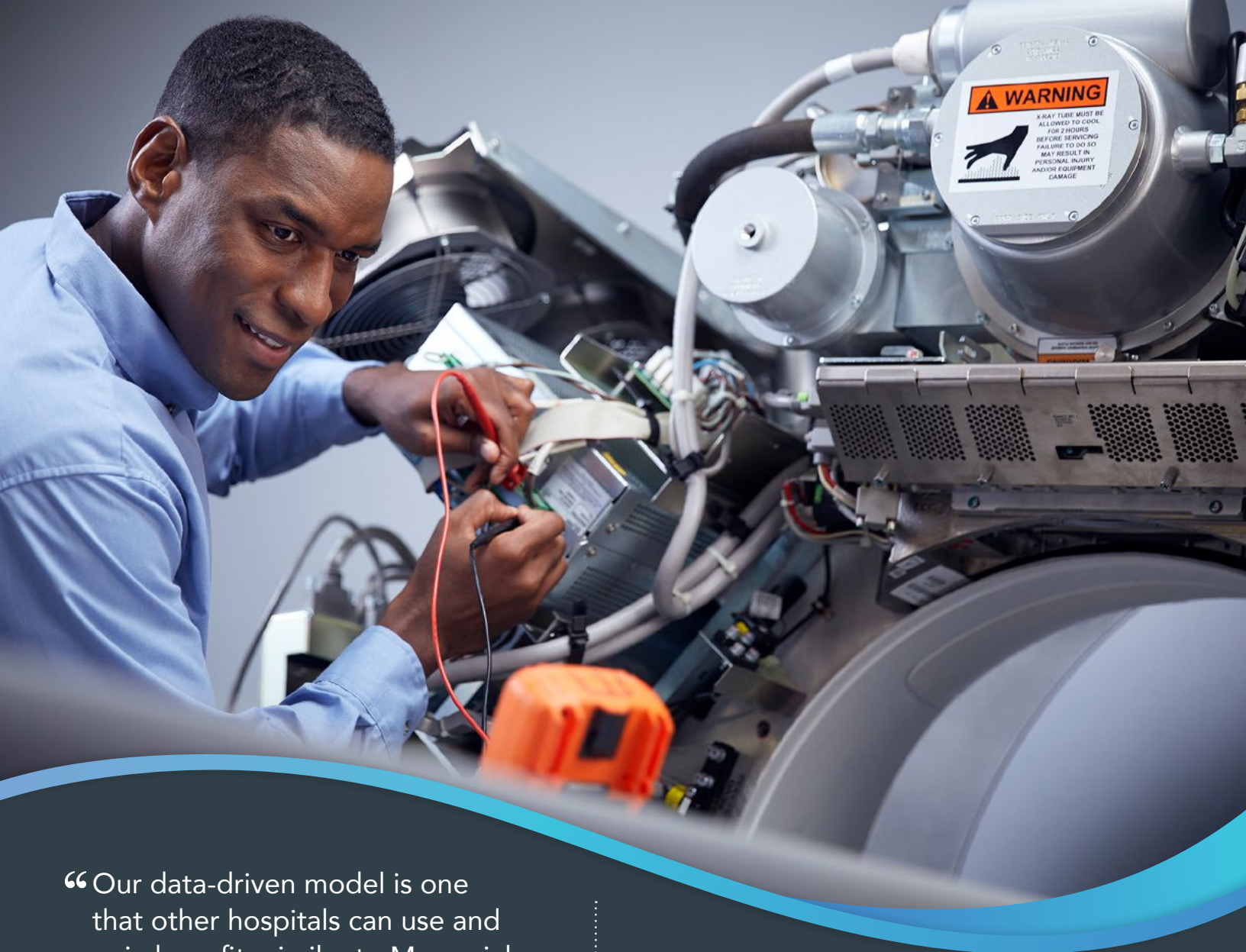
A Better Trained Workforce.

The data-driven approach provided leadership with better resources across modalities, identified training gaps, and provided an analysis of staffing level needs. In addition, a better-trained staff led to more effective labor management, enabling Crothall to reallocate staff with precision as services expanded to better meet the changing needs and unique equipment mix throughout Memorial Hermann's 14 hospitals.



Improved Employee Satisfaction and Morale.

Armed with productivity data, Crothall demonstrated to team members how to be more productive with a few changes to their approach and implementation of new productivity strategies. Turnover has been reduced and employees are now working together as a team.



“Our data-driven model is one that other hospitals can use and gain benefits similar to Memorial Hermann, especially those who have loyal employees who have provided them with many years of service. We believe our database and analytics are powerful tools for any hospital seeking to maximize the performance of their workforce.”

— Michael Martin, Vice President
Crothall Healthcare Technology Solutions

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