

ProModel helps Miami Valley Hospital Cope with a 26% Increase in ED Visits

Miami Valley Hospital
Success Story
Healthcare
MedModel



CHALLENGES

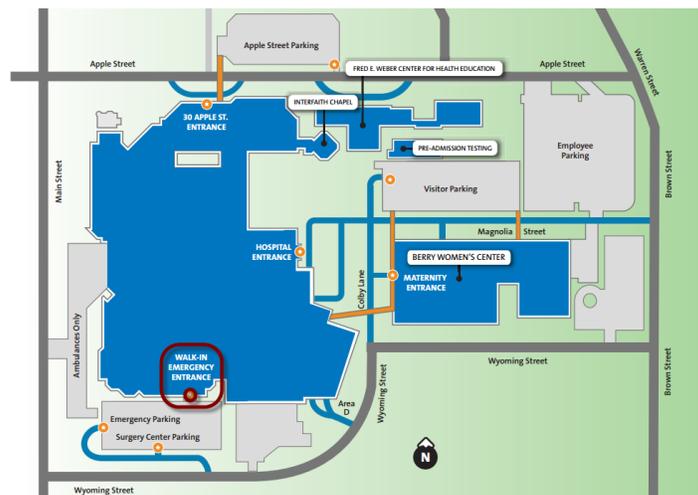
Miami Valley Hospital (MVH) in Dayton, OH had built a new emergency department (ED) which was running well, when a nearby hospital shut its doors. MVH's annual ED visits immediately jumped from 75,000 to 95,000. MVH ED was seeing the number of patients per day that it had expected to be seeing in 8-10 years! Already two years into their 10-year plan, they needed to come up with a solution that did not involve immediate expansion.

They had previously worked with ProModel Healthcare Solutions, resulting in documented improvement in patient satisfaction and expense reductions. This previous success, combined with ProModel's strong reputation in consulting and decision-support technology specific to Emergency Services, led to a valuable partnership to reduce length of stay (LOS) in the MVH Emergency Service without significant investment.

OBJECTIVES

A simulation tool that could accurately:

- Analyze and validate the current ED process
- Understand where the bottlenecks are
- Understand opportunities for improvement with the biggest impact: "orders to disposition" and "disposition to exit"
- Make overall LOS improvements



www.promodel.com

877-333-4499 | saleshelp@prmodel.com

ProModel[®]
Better Decisions—Faster

SOLUTION

The current LOS was 225 minutes and 95,000 patient visited the hospital per year, with anticipated volume increases all ideas for potential “best practices” were welcome. The project team visualized current and future ED environments; analyzed the impact of various scenarios prior to investing time or money; and optimized the care delivery process and use of resources.

The first step was to accurately portray the current MVH ED process flow with MedModel. Using MVH data and process maps, the model depicted the current ED to 99.2% accuracy. This “as-is” model helped to develop a deeper understanding of the bottlenecks and opportunities for improvement and gave the project team confidence the predicted impact of changes would also be accurate.

The LOS was broken down into subcategories:

- Present to triage
- Triage to registration
- Registration to room
- Room to MD
- MD to orders
- Orders to disposition
- Disposition to exit (discharge to admit)

ED process times were benchmarked against peer hospitals. The two areas which, when improved, would apparently have the most impact on patient LOS were “orders to disposition” and “disposition to exit”. The fact LOS for admitted patients was almost twice as high as for discharged patients further validated that “disposition to exit” could be improved.

VALUE PROVIDED

In tackling the “disposition to exit” issue, the key was to improve admission time. Several process improvement opportunities were evaluated to reduce average admission time to 30 minutes. This new admission time was shown to reduce ED LOS by 21 minutes. Diving deeper into this problem area, there were a high number of cardiac patients that had to go through time-consuming diagnostics. Devoting part of an observation area to heart diagnostics showed an LOS improvement of 12 minutes.

To address the area of “MD to disposition” and the overall LOS, several scenarios were investigated. “Front-loading” more work to triage decreased LOS by 12 minutes, and by 20 minutes for patients requiring labs. By moving to a bedside registration system, LOS was reduced by 13 minutes. Several other process changes and IT investments were considered.

Once all of the potential impacts on LOS were evaluated independently, combinations of various changes were considered. Overall LOS improvement in the 12-17% range in the next 6-12 months seems quite probable, with potential for even greater improvements. Miami Valley Hospital is now focused on the implementation and change management associated with these improvement initiatives. Based on MVH's previous success working with ProModel Healthcare Solutions and VAO technology, confidence is high to achieve LOS reduction of 12-17% per patient encounter.

HC 21-04