St. Elizabeth is a teaching, tertiary care hospital that is licensed for 550 beds. As a member of Mercy Health - Youngstown, St. Elizabeth provides the most advanced technology and services for the Mahoning Valley, while still providing the personal touch of a community health care facility. It is the only Level 1 Trauma Center in the Mahoning and Shenango Valleys.

**ANALYSIS**

Renoir's initial survey of Mercy - Youngstown operations identified the following:

- Operational Key Performance Indicators were in place; however, they were inconsistently reviewed or enforced and not as robust as required for the size of the operation.
- Inaccurate/missing data across all areas with no standard methods for collection, interpretation and reporting.
- Hospital Market Intelligence information for strategic volume fill was underutilized and underleveraged.
- Structured management tools – short interval control, area rounding, visual performance boards, performance variance analysis, meeting agendas and action logs and performance reviews – were missing in most cases.
- OR turnovers were taking an excessive amount of time due to lack of job role execution, task allocation and understanding.
- OR Surgery scheduling was managed in a Service Line Block methodology that allowed for large gaps of unutilized time, lack of clarity of available time, surgery schedule run overs, lack of accountability for utilization performance and staffing overtime.
- OR Surgery first case on time start performance had opportunity for improvement with 59% of cases starting on time.
- CSS delivery accuracy of case carts and instrumentation to the OR was poor with excessive amounts of time lost in the OR and CSS looking for missing instrumentation and materials.

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**Key Results**

- Additional 4,000 hours of available time for physicians
- OR capacity increase of 2300 hours
- 2:1 return on investment delivered during the project

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“This project really enabled us to make massive change rapidly. The Renoir Team supported management and front line staff every step of the way.”

* Cindi Bishop, (MSN, RN, NE-BC Director Surgery & Perioperative Services)
RENOIR CONSULTING CASE STUDY: ST. ELIZABETH HOSPITAL (MERCY – YOUNGSTOWN)

PROJECT APPROACH
Following the analysis, Renoir was engaged to conduct a 24-week rapid improvement project with a focus on surgical throughput performance and optimization as well as Surgery scheduling. The assignment followed the Renoir Focus Process® in order to develop management systems around the OR and physician scheduling which would lead to maximization of resources.

To help install the required process and data elements to attain the desired operational delivery impact, Renoir and Youngstown created and branded the Mercy S.T.E.E.L. project. A full-time team of 2 Renoir consultants and a Project Manager were installed locally in the Youngstown facility to oversee all initiatives and drive the effort.

Four working groups, called Kaizen Teams were established to research and analyze current operating conditions in OR Flow, Planning & Scheduling, CSS and Data Management/Business Intelligence capacities as well as to provide a feedback loop for process changes and ensure data credibility.

IMPLEMENTATION
The OR Flow Committee and the Planning & Scheduling Committee provided open dialogue among physician champions, senior leadership, OR staff and Renoir to improve processes at the site level. This included extensive mapping of existing OR Patient Flow and Planning & Scheduling processes, the launch of several updated work flows and the installation of Key Performance Indicators to keep the department on track.

Inter-departmental process flows were also defined so as to improve efficiency in handovers. Part of the activity included undertaking a RACI exercise to attach specific task execution responsibilities to designated job roles.

The Data Management/Business Intelligence Committee was designated the role of validating scorecard data that would measure the project’s success. Upon completion of this task, the team was reduced and reformatted for Business Intelligence purposes and began data mining various data to help formulate a strategic volume fill plan. The group focused on outmigration patterns and outpatient services in order to reach out to physicians currently in the network and discuss long term volume strategy and service line growth.

RESULTS
During the lifecycle of the 24-week engagement, the team was able to quantify a contribution worth $1.531 million USD in time gained through efficiency improvements converted into case contribution margin. This provided a 2:1 return on investment during the project lifecycle with an annualized return of 10:1 should the capacity made available be filled.

Not only were there significant financial and capacity benefits, the St Elizabeth Hospital now has a culture of continuous improvement such that further improvements can be made without external help.