

FROM MATERIALS TO PEOPLE

Industrial engineering students gain experience for careers in health care

THE PROBLEM: A small community hospital in Tyrone, Pa., had an inefficient supply chain—nurses were manually noting when supplies were removed from the closet and provided to the emergency and operating rooms, intensive care unit, and medical surgical department. The solution: Penn State industrial engineering students worked with hospital administrators to improve the hospital's supply chain process—designing an automated materials management system.

The costs associated with supplies are the second highest cost to operations in Tyrone Hospital, designated as a critical access hospital—a hospital that receives cost-based reimbursement from Medicare.

“We don’t have a lot of layers of staff, and putting a plan together to fix the supply chain problem was difficult,” said Michael Zenone, then-chief financial officer of Tyrone Hospital. “The students were able to come in and act as consultants and put together a detailed plan.” Zenone added he expected the new process to be in place this fall.

Improving Lives Directly

The project was part of a new effort of Penn State Industrial Engineering (IE) to allow its students to gain experience working in the health care field. “In these projects, students use the same tools we teach them for manufacturing and quality control, such as Six Sigma and lean production, but rather than work with material flow, they work with people,” said Dr. Timothy Simpson, who

helps coordinate IE’s senior capstone design program with Michael Immel, IE’s director of Corporate Relations.

Working with the Pennsylvania Office of Rural Health at Penn State, critical access hospitals are invited to be a part of the program. “Before the start of the semester, we let them know that the students’ services are available,” said Larry Baronner of the Office of Rural Health. A graduate student in

health policy and administration that works with the office was also involved in the Tyrone Hospital project.

Interested hospitals (IE’s budget allows for at least two each semester) join the project kickoff at the beginning of the semester, along with other participating organizations—from entrepreneurs to multinational corporations.

Simpson said that the health-related projects are proving increasingly popular. For example, one semester, more than half of the 60 students in the class picked the critical access hospital project as their first choice of projects to work on. Only four or five students can be on a project team.

Simpson explains their popularity: “Many IE applications can be very abstract, but in these health care projects, students can go in and improve people’s lives directly.”



BEFORE: Students help improve the supply chain at a critical access hospital.