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Health Systems by Amanda Mewborn

Industrial Engineer's *monthly column about health systems (July 2015)*

Multidisciplinary problem-solving

In February, I attended the Healthcare Systems Process Improvement Conference 2015 in Orlando, Florida. While the weather in Orlando was abnormally cold, the networking was hot. I made many new contacts from a wide variety of backgrounds.

One unique aspect of IIE's Society for Health Systems, which sponsors the conference, is that it caters to all types of healthcare improvement professionals, not just IEs. This diversity of membership provides great opportunities to collaborate and solve problems together from different perspectives.

Hassan Abbas, a sophomore nursing student at the University of Michigan, was one new contact. A group of students from the University of Michigan attended and won an honorable mention in the YouTube Competition, where students produced videos aimed at increasing the interest in pursuing health systems engineering as a career. Abbas found out about the conference through the Center for Healthcare Engineering and Patient Safety at the University of Michigan. Through Abbas, I met Amy Cohn, associate director of the center. She shared more details about the center, and I was impressed with its approach.

The center was started a few years ago to focus on translating research into practice – moving research from "bench to bedside." The center set out to address the communication barrier between clinicians and engineers. Engineers don't know what problem to solve, while clinicians don't know that the engineering tools exist.

The center brings together students from a variety of disciplines, such as public health, nursing, medicine and engineering. The students do hands-on work in the healthcare environment and solve real-world problems. Nearly 40 students from all disciplines work with Cohn, with many more faculty and students participating in the center as well.

I was particularly impressed with the multidisciplinary approach of the center. In my college education, both as a nurse and as an engineer, I did not collaborate with other students outside my discipline. There was no mechanism in place to facilitate such partnerships.

Despite that gap in my education, I was expected to know how to work in multidisciplinary teams to solve problems at my first job out of college. This center provides students with the chance to gain valuable experience working in multidisciplinary teams to solve problems.

Another great aspect about this center is that it gives engineers the chance to apply their skills to healthcare, an industry ripe with opportunities for application of these skillsets. Imagine the impact that exposure to these tools is having on the students who come from disciplines outside of engineering. Now, nurses like Abbas will graduate knowing that the tools exist, and they also will have used the tools to make real-life improvements in healthcare. The impact for the engineers is that they are solving real problems and expanding their thinking to healthcare applications.

The students also teach each other. Engineers can teach others about the tools and performing analyses. Clinicians, such as nurses and medical students, can teach about the alphabet soup of acronyms that are used in healthcare, as well as the processes that are followed in providing care.

Clearly, there are a lot of benefits to multidisciplinary problem-solving, and it is exciting to see that happening on college campuses in addition to the workplace. The students are better prepared for the work environment, and healthcare benefits from their application sooner; that's a win-win.

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