

## STUDENTS AIM AT IMPROVING HEALTH CARE DELIVERY

When a group of students in Dr. Pasek's graduate class on Engineering Applications in Health Care embarked on a class project at Windsor's Hotel Dieu Grace Hospital, they were not sure what to expect. Their job was to analyze operations of the Emergency Department. Says Nancy Khurma: "I was expecting a total chaos, considering overcrowding issues reported in the press, but it turned out to be all organized. By spending time in the emergency we understood what was going on there." The students have recognized, working alongside health professionals, how dedicated they are. But they also immediately spotted a number of systems issues. "It turns out, you cannot fix just one issue, such as improve efficiency of the emergency department, because you discover that the real issue, is somewhere else, comments George Bacioiu. He comes with a lot of experience in Lean and Six Sigma efforts in automotive supplier industry, and thinks hospitals can clearly benefit from this waste-elimination approaches. The student team has collected the data triage operations of the Emergency Department at HDGH by "playing the patient" and was amazed to find that even though average ED triage takt time was almost 9 minutes (with 165 patients daily load), the waiting times can on average by a long as almost 4 hours. Based on thorough analysis and simulations, the team has proposed improvement in the ED layout and a list of other improvement suggestion. "We think the waiting times can be dramatically reduced – according to the results from our simulations waiting can drop down to 5 minutes," says Bacioiu, "but the hospital would need to implement a lot of changes." For Nancy Khurma the potential for research work in health care with the prospect of applying her industrial engineering background was so compelling that she decided to pursue the subject in her thesis. "Working along the engineers and health professionals was a new experience for me," according to Tenille Harrison from Human Kinetics,"and has opened new possibilities for my post-graduation work." The benefit of such collaborative effort, according to Nicky Schmidt, RN at HDGH, was that "students brought a fresh look at things we do everyday. We want to continue these joint efforts, and we have started to implement some of their ideas already."



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