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## International Team Works out Secrets of One of World's Most Successful Patient Safety Programmes

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A team of social scientists and medical and nursing researchers in the United States and the United Kingdom has pinpointed how a program that ran in more than 100 hospital intensive care units in Michigan dramatically reduced the rates of potentially deadly central line bloodstream infections to become one of the world's most successful patient safety programs.

Funded in part by the Health Foundation in the UK, the collaboration between researchers at the Johns Hopkins University, the University of Leicester and the University of Pennsylvania, has led to a deeper understanding of how patient safety initiatives like the Michigan program can succeed. "Explaining Michigan: developing an ex post theory of a quality improvement program" by Mary Dixon-Woods and Emma-Louise Aveling of the University of Leicester; Charles Bosk of the University of Pennsylvania and Christine Goeschel and Peter Pronovost of Johns Hopkins University, is published in the June 2011 edition of Milbank Quarterly.

"We knew this program worked. It not only helped to eliminate infections, it also reduced patient deaths," said program leader Peter Pronovost of the Johns Hopkins University School of Medicine, who was named as one of Time Magazine's 100 most influential people in 2008 and was the recipient of a MacArthur Fellowship, or 'genius grant,' from the John D. and Catherine T. MacArthur Foundation. "The challenge was to figure out how it worked." The researchers found that one of the Michigan program's most important features is that it explicitly outlined what hospitals had to do to improve patient safety, while leaving specific requirements up to the hospital personnel. A critical aspect of the program was convincing participants that there was a problem capable of being solved together.

"It was achieved by a combination of story-telling about real-life tragedies of patients who came to unnecessary harm in hospital, and using hard data about infection rates," said co-author Charles Bosk, a professor of sociology in Penn's School of Arts and Sciences and a senior fellow in the Center for Bioethics at Penn. Infection rates were continuously monitored at hospitals participating in the program, making it easier for hospital workers to track how well they were doing and where they needed to improve.

The authors conclude that there are important lessons for others attempting patient safety improvements. Checklists were an essential component, but not necessarily the most important element of the Michigan program. "The program was much more than a checklist," said lead author Mary Dixon-Woods, professor of medical sociology at the University of Leicester, "It involved a community of people who over time created supportive relationships that enabled doctors and nurses in many hospitals to learn together, share good practice, and exert positive pressure on each other to achieve the best outcomes for patients."

"What we have learned is that it is the local teams that deliver the results," said Dr Bosk. "But they need to be well supported by a core project team, who have to focus on enabling hospital workers to get things right. That means providing them with scientific expertise to justify the changes they are being asked to make, and standardising measures so they are all collecting the same data. It also means trying to figure out why simple changes that make life better are so difficult for health care delivery systems to do. Getting the whole program to work, rather than compliance with a single one component, is the key to making health care safer for patients. "No one discipline has the answer to patient safety problems. We have to bring together contributions from clinical medicine and the social sciences to make real progress in this area" added Dr Pronovost. This month, Dr. Pronovost was named director of Johns Hopkins' newly formed Armstrong Institute for Patient Safety and Quality and senior vice president for patient safety and quality.

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