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## Training in teamwork essential for saving young lives

CALGARY – New research shows training in teamwork and communication translates into better performances by teams of pediatric specialists who respond to cardiac emergencies, also known as Code Blue emergencies by health care professionals.

Doctors, nurses and respiratory therapists who rush to the bedside when a child's heart has stopped or is beating irregularly must have the specialized medical knowledge and skills to respond effectively. Now a pediatric intensive care doctor with Alberta Health Services has shown that providing training in non-technical skills also helps these teams perform better.

"I've noticed over the years that when we make mistakes, it's usually a failure of teamwork processes," says Dr. Elaine Gilfoyle, a researcher with the University of Calgary's Alberta Children's Hospital Research Institute and often the lead physician during Code Blue emergencies.

"Sometimes people don't communicate clearly, or they don't co-ordinate all the things they need to do very well, or they get distracted by something and don't pay attention properly," says Gilfoyle, also a clinical assistant professor in the Cumming School of Medicine.

Gilfoyle and other researchers developed a list of 23 different behaviours under four broad competencies that team members need to be familiar with to perform at their best: role responsibility, communication, situational awareness and decision-making.

Some of the 23 behaviours include speak with a calm voice; call for help if needed; resolve conflicts quickly and effectively; think out loud; and set priorities on the fly.

In her research study, Gilfoyle ran resuscitation simulations on 51 teams, or about 300 medical specialists, at four different sites across the country: Alberta Children's Hospital in Calgary, Stollery Children's Hospital in Edmonton, Montreal Children's Hospital and SickKids Hospital in Toronto.

The study used computerized, lifelike mannequins that can be programmed to simulate different medical emergencies and respond to treatment.

The teams were videotaped in action and then asked to discuss how it went. Discussion occurred around how to improve teamwork and then the teams repeated the simulations but with a different medical scenario.

"We found that teams worked together better and faster in trying to bring a child back to life after they received training in teamwork," Gilfoyle says.

"Another benchmark was in how well they followed Pediatric Advanced Life Support (PALS) guidelines. Again, they performed better after the training."

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By more closely following PALS guidelines, resuscitation teams were better able to find the medically correct course without delay. Adherence to PALS guidelines improved by about 20 per cent and, on average, the time to starting CPR was cut in half from 60 seconds to 27 seconds.

At Alberta Children's Hospital, Code Blue teams come together about 25 times a year to try to save a child's life. Some of the health care experts who arrive at the bedside may never have worked together before.

"When you're talking about pediatric resuscitation, the focus is often on what drug to give and when to give it," Gilfoyle says. "The research shows that how people work together and communicate with one another is, in many ways, just as important."

Every second counts in a resuscitation. If a patient requires defibrillation, which is a jolt of electricity to the heart, their chances of survival go down 10 per cent for every minute delayed.

Instruction in teamwork is now a regular part ongoing simulation training for new resuscitation team staff members at Alberta Children's Hospital, something Lynette Wohlgemuth, a staff nurse in the Pediatric Intensive Care Unit, says is invaluable.

"It's such a fluid environment with new staff coming on all the time that it's important to make team training part of the culture right from the start," Wohlgemuth says. "The more practice we can provide, the better."

Being able to deal with distraction and speak up as an equal member of the team are two factors Wohlgemuth says are critical for the effective functioning of teams.

"Regardless of hierarchy, all members of the team need to be empowered to speak up and say what they're thinking about. It could be critical."

Gilfoyle will present the results of the research at two conferences in November: the Resuscitation Science Symposium, put on by the American Heart Association, and the Simulation Summit, organized by the Royal College of Physicians and Surgeons of Canada.

Alberta Health Services is the provincial health authority responsible for planning and delivering health supports and services for more than four million adults and children living in Alberta. Its mission is to provide a patient-focused, quality health system that is accessible and sustainable for all Albertans.

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