# The Status of Quality Improvement Resident Education

The nation is grappling with reforming a medical system that is the most expensive in the world, yet still lags behind in key quality areas. The philosophy of how best to deliver health care is rapidly evolving in order to meet the demands that care is sustainable, reliable, safe and effective. The complex medical structure that exists in the United States is an especially challenging system to improve because each hospital, outpatient clinic, laboratory, patient demographic, and insurance system is completely unique. Unlike the human body, which is essentially the same everywhere, solutions to quality problems must be tailored to the system it wishes to improve. This concept is realized each time a health care organization adopts a quality improvement approach from another institution. They quickly learn that what works well for one system may be fraught with difficulty at another.

The assertion put forth in 1999 by the Institute of Medicine that nearly 100,000 patients die every year due to preventable medical error has spurned a quality and safety movement in the medical community that was long overdue. The challenges faced by health care systems are hampered by a lack of individuals experienced in QI. Residents and fellows entering the work force that are knowledgeable in quality and safety are not only more prepared, they are more sought after by hospitals, clinics and academic institutions. Residencies and medical schools across the country are struggling to meet this demand while still providing effective education that matches the pace of advances in medical science, maintains patient care, and incorporates of duty hours' constraints. There is little room left for QI in the myriad of responsibilities and expectations currently facing resident physicians. Nonetheless, if the graduate medical education community is dedicated to producing physicians trained and ready to take on the responsibilities expected of them, quality and safety must be addressed.

To address the problem, hospitals and departments must work to change the culture of medicine. Adopting a top down *and* bottom up approach has been effective at many institutions. Hospital administration demonstrates a commitment to QI by encouraging and supporting specific QI initiatives, recruiting outside experts in quality and organizing workshops to teach concepts in QI to interested faculty and staff (top down). Departments can encourage quality initiatives by investing in FTE for attending physicians to learn and be involved in QI projects with residents. The bottom up approach utilizes those individuals at the front lines of patient care (often resident physicians), to deliver ideas and insight into what is *actually* keeping providers from providing safe care. Incorporating resident physicians in QI leadership positions will reinforce the importance of quality and safety in day-to-day operations. Some divisions accomplish this through the creation of a Quality Chief Resident and a Resident Patient Safety Council that reviews patient safety issues pertinent to residents. Resident unions, such as CIR/SEIU have been beneficial to quality and safety training by bringing in outside speakers, setting aside funds to assist residents with quality projects, and bringing residents from various specialties together to discuss quality issues specific to their institution. Finally, A QI rotation provides protected time for a resident to work on their personal QI project, assist an attending physician on a depart-mental QI project, and utilize on line QI training resources such as IHI Open School.

Residents should be taught how to evaluate a hospital or a clinic as a system, not as discrete, unrelated units. Encouraging the use of flow charts and diagrams that demonstrate the interrelated aspects of a system helps to identify leverage points at which to focus efforts. Introducing the concept of measuring value in a medical system, that is,

understanding the cost to benefit ratio of any intervention will ensure physician efforts have the greatest likelihood of success. Breaking a complex problem into measurable, discrete units gives positive feed back and keeps teams from feeling overwhelmed by the task at hand. Because quality improvement projects often take years to move from inception to implementation and finally maintenance, resident physicians should be included in ongoing projects spearheaded by permanent faculty members. Quality improvement teams should be multidisciplinary, incorporating attendings, residents, nursing, pharmacy, and any other pertinent parties into projects.

The state of resident education in quality improvement is itself a quality improvement project. Each residency program must evaluate how and where quality and safety can be incorporated into their curriculum and modify it over time to best address their needs. Residents receiving their education in a setting that values safety and quality will be prepared to successfully meet the demands of the health care system of the future.

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