Do hospitals that conduct research provide better care for patients?

28 February 2022

Many clinical and laboratory research studies advance the science of medicine and eventually improve patient outcomes, but is there a more direct and immediate impact on the care provided to patients by hospitals that conduct such research? In a new analysis conducted by investigators at Massachusetts General Hospital (MGH) and reported in Health Services Research, hospitals that published scientific studies had higher patient ratings and lower patient mortality rates for a range of medical conditions and procedures.

The analysis included all publications attributed to authors from a 40% random sample of U.S. Medicare-participating hospitals from 2015 through 2016. Only 647 of 1,604 study hospitals (40.3%) had at least one publication during this time. Being a teaching hospital, a larger institution, geographic location, and not-for-profit ownership were predictors of higher publication volumes, whereas the percent of Medicaid admissions was inversely related.

After linking publication data to quality measures extracted from the Centers for Medicare and Medicaid Services Hospital Compare site, hospitals with more publications had lower risk-adjusted patient mortality rates for heart attack, heart failure, pneumonia, chronic obstructive pulmonary disease, and coronary artery bypass grafting surgery. Also, surveys indicated that hospitals with more publications were more likely to receive the highest overall ratings from patients, and they also had significantly higher patient "willingness to recommend" scores.

"From a patient's perspective, our findings should debunk the misconception that conducting healthcare research is just an 'ivory tower' exercise detached from 'real' patient care," says lead author David M. Shahian, MD, vice president of MGH's Center for Quality and Safety. "Conceiving and conducting a study, then writing and publishing a scientific paper (often a multi-author collaboration), requires solid content knowledge, curiosity, innovation, organized and coherent thought processes, teamwork, and persistence. It is not surprising that clinician-authors with these qualities would be well-positioned to deliver superior patient care. Our study made no effort to link specific publication topics with the quality of care for corresponding specific conditions or procedures—we believe the impact of publishing is much broader and organic in nature."

Shahian and his co-authors encourage healthcare providers at all institutions to consider the value of conducting research and publishing their findings in reputable journals. Senior author Elizabeth A. Mort, MD, MPH, senior vice president of quality and safety, and the chief quality officer at the MGH, notes that "conducting research and writing papers is an intellectually stimulating process that can influence the way physician researchers approach their clinical work. These activities create an intellectual milieu characterized by critical thinking, inquisitiveness, constant learning, teamwork, attention to detail, and persistence. These are very
likely some of the mechanisms by which research translates to improved care."

The team stresses that there are many hospitals and physicians that do not publish research but nevertheless provide superb care, and conversely, publishing papers does not guarantee high quality clinical care. "It's important to understand that studies such as ours present 'average' findings—in other words, 'on average' a hospital with more publications will have better outcomes for some common medical and surgical conditions," says Shahian. "Also, smaller hospitals, which are less likely to publish, are often affiliated in some way with larger academic medical centers that do publish. Ideally, there is constant interaction of their staffs and diffusion of knowledge and technologies from the academic medical centers to the smaller affiliated hospitals."

Mort notes that scores on all of the quality metrics used in the study are available on Medicare's Hospital Compare site. "So patients should be encouraged to look up the hospital that they use to learn more about its quality of care," she says. "Most of U.S. community hospitals are now in some sort of a system, many but not all of which include academic medical centers. While the jury is out as to whether hospitals that are part of systems provide better care compared with those that are not, the hope is that, in time, systems will more consistently strive to become true learning organizations that can spread best practice across sites. This should be a call to action for all system leaders."

Finally, the authors note that in the contemporary era of pervasive hospital ratings and ranking systems, research performance may be an important additional indicator of superior quality of care, and it deserves consideration from measure developers, providers, and patients.

Study co-authors include Dan McCloskey, MLIS, Xiu Liu, MS, Elizabeth Schneider, MLS, and David Cheng, Ph.D.
