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## For Physician Residents, Where You're Taught Medicine Influences How You Practice

*Medical students analyze new Dartmouth Atlas data,  
find large differences in the way teaching hospitals treat patients at the end of life*

**Lebanon, N.H. (October 30, 2012)** – When choosing a residency program, medical students typically consider the reputation and training curriculum of the institution, as well as their own geographical and lifestyle preferences. But there's something else they should consider: The way academic medical centers deliver health care differs dramatically from one institution to the next.

A new report from the [Dartmouth Atlas Project](#), led by physicians-in-training, found that 23 top academic medical centers vary markedly in the intensity of care they provide patients at the end of life, in their quality, safety and patient experience ratings, and in their use of surgical procedures when other treatment alternatives exist. The report is part of a new effort to inform medical students about the patterns of care provided by teaching hospitals with residency training programs, and is intended to guide fourth-year medical students in ways to identify hospitals with exemplary practice patterns.

"Hospitals providing a higher intensity of care are not necessarily providing higher quality care or better patient experiences. For medical students and residents, that means training at hospitals with less intensive practice patterns may better prepare us to provide higher quality care that respects patient preferences," said Anita Arora, MD, report co-author and recent graduate of the [Geisel School of Medicine at Dartmouth](#).

The report uses new 2010 Medicare data to update previous reports on regional variation in the use of medical resources to treat patients at the end of life. It also documents trends in surgical procedures from 2008 to 2010, and examines quality of care metrics in regard to patient experience, patient safety, and processes of care.

"Learning how to use health care resources wisely, provide high-quality care, and incorporate patient preferences into a care plan is just as important as learning to work up a patient," said Alicia True, report co-author and member of the Geisel School of Medicine at Dartmouth's Class of 2015. "Medical students should be aware of the practice styles of residency programs they are considering ranking highly in the Residency Match."

The report specifically features data showing the variation in medical and surgical care at academic medical centers recently rated by [U.S. News and World Report](#) as the best hospitals for clinical excellence. It also includes several other notable teaching hospitals, for a total of 23

medical centers reflecting a wide range of practice styles. Together, these hospitals represent approximately 17 percent of all primary residency slots in 2012.

“These variations in the way care is delivered are not trivial, as they may very well affect the future practice of medicine. During their residency training, young physicians learn by observing faculty, making decisions on how aggressively to treat chronically ill patients at the end of life, and whether to recommend surgery when other treatment options exist,” said John R. Lumpkin, MD, MPH, director of the Health Care Group at the Robert Wood Johnson Foundation, a longtime funder of the Dartmouth Atlas Project.

### ***End-of-life care and chronic illness management***

For chronically ill patients near the end of life, the amount of care provided differs across the 23 teaching hospitals, leading to diverse training environments for residents. In 2010, about half of chronically ill patients (49.4%) treated at Johns Hopkins Hospital in Baltimore were enrolled in hospice in their last six months of life, compared to only 23.1 percent of patients treated at Mount Sinai Medical Center in New York City. A Mount Sinai resident may therefore learn a higher threshold for referral to hospice care, or decide to explore more aggressive treatment first. Meanwhile, a Johns Hopkins resident may be better trained in having discussions with patients about their preferences.

When treating chronically ill patients, primary care physicians and resident teams frequently coordinate instructions from different specialists to organize a patient’s care. In 2010, 66.6 percent of chronically ill patients at NYU Langone Medical Center in New York City saw 10 or more different physicians during their last six months of life, compared to only 42.5 percent of patients at Scott & White Memorial Hospital in Temple, Texas. A patient’s care will likely be more influenced by specialists’ opinions at NYU; in contrast, residents at Scott & White may be more likely to obtain experience managing complex chronic illnesses, as fewer patients see multiple specialists.

### ***Surgical procedures***

In 2010, there was nearly twofold variation in rates of common surgical procedures at the 23 academic medical centers. And for some procedures, the variation was even greater, with patients being twice as likely to get knee replacement surgery in Salt Lake City (11.9 per 1,000 discharges) than in Manhattan (4.5 per 1,000 discharges). Unwarranted variation in these orthopedic surgeries leads to crucial differences in surgical training—a resident trained in Salt Lake City may be more likely to learn a treatment style involving surgery than in New York City, where a resident might more readily prescribe physical therapy.

“These findings challenge the assumption that clinical science alone drives medical practice at these prestigious institutions and thus raise a serious issue for academic medicine,” said David C. Goodman, MD, MS, co-principal investigator for the Dartmouth Atlas Project, and director of the Center for Health Policy Research at the Dartmouth Institute for Health Policy & Clinical Practice. “With such drastic variations from one institution to the next, they clearly cannot all be right. Academic medicine needs to address this gap in clinical science.”

### ***Quality and patient experience***

Across the 23 academic medical centers, researchers found above average scores on patient experience, patient safety, and processes of care. While the quality of care at academic medical centers is generally high, there is still considerable room for improvement. For instance, patients at NYU Langone Medical Center were 47 times less likely to experience an infection from a urinary catheter (0.04 per 1,000 discharges) than patients at the University of Michigan Health System (1.88 per 1,000 discharges) in Ann Arbor, Mich.

The Dartmouth Atlas Project is located at the Dartmouth Institute for Health Policy & Clinical Practice. A link to the full report, *What Kind of Physician Will You Be? Variation in Health Care and Its Importance for Residency Training*, can be found at [www.dartmouthatlas.org/pages/residency](http://www.dartmouthatlas.org/pages/residency).

**About the Dartmouth Atlas Project**

For more than 20 years, the Dartmouth Atlas Project has documented glaring variations in how medical resources are distributed and used in the United States. The project uses Medicare data to provide information and analysis about national, regional, and local markets, as well as hospitals and their affiliated physicians. This research has helped policy-makers, media, health care analysts, and others improve their understanding of our health care system and forms the foundation for many of the ongoing efforts to improve health and health systems across America.

**About The Robert Wood Johnson Foundation**

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