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## **U.S. End-of-Life Care Changing: While Medicare Patients Are Spending Less Time in the Hospital, Those Admitted Receive More Intensive Care**

*First report showing longitudinal change demonstrates differing trends across geographic regions and individual hospitals and academic medical centers*

**Lebanon, N.H. (April 12, 2011)** – Chronically ill Medicare patients spent fewer days in the hospital and received more hospice care in 2007 than they did in 2003, but at the same time there was an increase in the intensity of care for patients who were hospitalized, according to a new Dartmouth Atlas Project report on trends and variation in end-of-life care.

While Medicare patients diagnosed with severe chronic illness were less likely to die in a hospital and more likely to receive hospice care, at the same time, they had many more visits from physicians, particularly medical specialists, and spent more days in intensive care units. Growth in intensive care and medical specialist capacity, the researchers say, can lead to increased aggressiveness of care.

“In addition to its effects on patients’ quality of life, unnecessarily aggressive care carries a high financial cost. About one-fourth of all Medicare spending goes to pay for the care of patients in their last year of life, and much of the growth in Medicare spending is the result of the high cost of treating chronic disease,” said David C. Goodman, M.D., M.S., lead author and co-principal investigator for the Dartmouth Atlas Project, and director of the Center for Health Policy Research at the Dartmouth Institute for Health Policy and Clinical Practice. “It may be possible to reduce spending, while also improving the quality of care, by ensuring that patient preferences are more closely followed.”

This report updates previous findings regarding regional variations in end-of-life care, documenting trends from 2003 to 2007 in the use of medical resources to treat Medicare patients at the end of life, both among hospital referral regions and among 94 academic medical centers. Throughout this period, the constant was the importance of geography; the care patients received in the months before they died depended largely on where they lived and received their care. Researchers found that trends in end-of-life care differed substantially across regions and academic medical centers, and that widespread variation persists.

For example, even at academic medical centers, the experiences of patients at the end of life differ remarkably. Most academic medical centers substantially changed the intensity of the end-of-life care they provided from 2003 to 2007, but not in the same direction; some increased the intensity of care, while others provided less intensive care.

### *Deaths occurring in hospitals*

From 2003 to 2007, the percentage of chronically ill patients dying in hospitals and the average number of days they spent in the hospital before their deaths declined in most regions of the

country and at most academic medical centers. In 2003, 32.2 percent of patients died in a hospital; by 2007, the rate had dropped to 28.1 percent. In 2007, the highest rates of death in a hospital were in regions in and around New York City, including Manhattan (45.8%), East Long Island (41.9%) and the Bronx (39.9%). Chronically ill patients were far less likely to die in a hospital in Minot, N.D. (12.0%), Fort Lauderdale, Fla. (19.0%) and Portland, Ore. (19.6%).

Among patients using academic medical centers for most of their care, rates of deaths occurring in the hospital also decreased. Even so, several hospitals that had among the lowest rates in 2003 saw substantial decreases over the five-year period; one example is University of Utah Health Care in Salt Lake City, where the rate dropped from 31.5 percent to 21.3 percent. In comparison, in 2003, UCLA Medical Center and the Medical College of Georgia in Augusta had very similar rates, at 39.1 percent and 39.7 percent, respectively. Over the next five years, their rates moved in opposite directions, with UCLA joining those medical centers with the highest rates at 45.5 percent, while the rate at the Medical College of Georgia dropped to 28.7 percent.

#### *Hospital days during the last six months of life*

Overall, the average patient spent slightly fewer days in the hospital during the last six months of life in 2007 than in 2003, as the national rate dropped from 11.3 to 10.9 hospital days per patient. In 2007, chronically ill patients in Manhattan spent, on average, 20.6 days in the hospital during their last six months of life, almost four times more than patients in Ogden, Utah, where the average was 5.2 days.

Among those academic medical centers where patients spent less time in the hospital in 2007 than in 2003 were the University of Texas Medical Branch Hospitals in Galveston (-5.0 days), the University of Iowa Hospitals and Clinics in Iowa City (-5.0 days) and Tufts-New England Medical Center in Boston (-4.6 days). Ten academic medical centers had increases of at least two days, including Hahnemann University Hospital in Philadelphia (+6.8 days).

#### *Patients seeing 10 or more doctors during the last six months of life*

Overall, chronically ill patients were significantly more likely to be treated by 10 or more doctors in the last six months of life in 2007 than they were in 2003, as the national rate increased from 30.8 percent to 36.1 percent. In 2007, patients in Royal Oak, Mich. received the most intensive care by this measure, with 58.1 percent of patients seeing 10 or more doctors in the last six months of life. Other regions with high rates included Ridgewood, N.J. (57.6%) and Philadelphia (57.2%). Regions with low rates included Boise, Idaho (14.2%), Salt Lake City (15.0%) and Medford, Ore. (16.4%).

From 2003 to 2007, among the 35 academic medical centers for which data are available, 22 had increases in the percentage of patients seeing 10 or more doctors in the last six months of life. Emory University Hospital saw the largest growth in this rate, from 40.4 percent to 63.2 percent, while the University of North Carolina Hospitals in Chapel Hill had the largest decrease, from 45.0 percent to 35.2 percent. In 2003, the likelihood that a patient at Emory University Hospital would see 10 or more doctors was similar to that for a patient at the University of North Carolina Hospitals. But over the next five years, the percentage of patients seeing 10 or more doctors increased 22.8 percentage points at Emory, while the percentage dropped 9.8 percentage points at UNC Hospitals.

“The differences observed across regions and academic medical centers in the approach to caring for patients with chronic illness underscore important opportunities to learn how to improve end-of-life

care. While current trends demonstrate that change is occurring in many regions and at many institutions, it is not always in the direction that patients may prefer,” said Elliott S. Fisher, M.D., M.P.H., report author and co-principal investigator of the Dartmouth Atlas Project and director of the Center for Population Health at the Dartmouth Institute for Health Care Policy and Clinical Practice. “More work remains to ensure that future variation in care reflects the well-informed preferences of patients.”

The researchers explain that variations in the treatment of chronically ill Medicare patients depend largely on the systems of care within different regions and hospitals. For example, declines in the rates of death in a hospital and of death associated with admission to intensive care may also be evidence of attempts to provide care that aligns more closely with many patients’ preferences. But not all hospitals changed at the same pace. Furthermore, the number of ICU days in the last six months of life increased both nationally and in most hospitals and regions; so, too, did the amount of physician labor used.

“This report has important implications for patients, health care providers and policymakers. By providing insight into patterns of care, patients can look to these data to get a sense of where care is likely to be more or less intensive. Providers can look for insights into potential savings they can achieve through improved care of chronic illness that allows patients to remain safely out of the hospital, and policymakers can identify regions that may have promising approaches,” said Risa Lavizzo-Mourey, M.D., M.B.A., president and CEO of the Robert Wood Johnson Foundation, a longtime funder of the Dartmouth Atlas Project.

The Dartmouth Atlas Project is located at the Dartmouth Institute for Health Policy and Clinical Practice. A link to the full report, *Trends and Variation in End-of-Life Care for Medicare Beneficiaries with Severe Chronic Illness*, and data tables can be found at [www.dartmouthatlas.org](http://www.dartmouthatlas.org).

### **Methodology**

Researchers identified Medicare beneficiaries who died over the five-year period from January 1, 2003 to December 31, 2007 and who were hospitalized in an acute care hospital at least once during the last two years of life for a medical (non-surgical) condition. The analysis was restricted to include patients who had one or more of nine chronic illnesses. Data reported are based on assignment of decedents to the hospital they most frequently used in the last two years of life (data for specific hospitals) and the place of residence at time of death (data for regions and states).

### **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 policymakers, the 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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