

# Physicians Expose Wennberg Dartmouth Atlas Hoax

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*Dr. Rosinsky, a psychiatrist, has long studied the relationship of socio-economic status to general health and welfare.*

## Introduction: Get Out of the Box

We are bombarded daily by complaints funneled through the mass media that health care is too expensive, that the cost of health care has been rising at twice the rate of overall inflation, and that there is inefficiency in the health-care system that accounts for one third of the current cost of health care. Solutions proposed for these supposed problems, such as the policies embedded in the Obama health-care initiative, would only deteriorate the quality of health care, and worsen the health status of the very poor and socially isolated.

The truth is that it is overall collapsing economic conditions that cause an apparent high expense and high inflator for the price of health care. Alongside these, one must place the last 30 years history of insertion of for-profit managed health care, into increasing echelons of the government and private systems. And it is true that the great majority of what is identified as inefficiency, is actually intensive care, which is required to keep poor, socially isolated, and vulnerable people alive.

Let us look at these two issues in turn.

The economy in a technologically advanced culture depends on the impetus of science drivers. A prime example is the Kennedy space program, which was centered on manned space flight, including colonizing the Moon and beyond. The space exploration program was expensive, but paid back more than double what it cost, through technological spinoffs, applications of basic and applied science initially developed for the space program, which were then utilized by other areas of the economy. These spinoffs included computer develop-

ment; materials science, such as new alloys (and other materials such as Teflon); the hydrodynamics of air flow used for rocket and civilian plane development, but also useful for the design of medical devices that interact with blood flow, such as ventricular assist units; and even direct medical applications, such as using the astronaut medical status monitoring technology for the development of hospital intensive care units. NASA put out a publication entitled "Spinoffs," that documented thousands of such applications.

A second science-driver example is nuclear energy development, both fission and fusion. The fission technology involves both basic science research in materials, as well as producing abundant energy which cheapens the cost of production of any other economic sector that uses energy (i.e., nearly the entire economy). Fusion research involves the basic science of understanding high energy plasmas (ionized gas) as generated either through laser heating in inertial fusion, or in self-contained geometrical configurations in magnetic confined fusion.

Both of these areas of research have enormous potential for deepening our understanding of basic physics, as well as revolutionizing all energy-dependent technologies, such as hydrogen fuel and efficient water desalination.

When the overall economy is benefiting from science drivers such as the above examples, every sector of the economy is more efficient, and costs less to function. However, after the death of President Kennedy, the above two crucial science drivers were crushed by funding cuts. These cuts were started under Presidents Johnson and Nixon, and the economy has never recovered. We have had a progressive decline in science-driver spinoffs for the past 50 years. This has combined with other economic policy disasters, such as allowing the merchant and speculative investment sections of banking to merge, and allowing unregulated derivatives



stake in the current debates over health-care reform, and the blaming of inflated health care costs on greedy and incompetent providers.

Unfortunately, because many health-care providers and health-policy advocates are not familiar with the issue of science drivers in economic planning, they may be reluctant to consider these wider issues when choosing policy positions. However, they will ignore these issues at their own risk. The “I don’t go there” mentality places such providers and advocates in a box, with limited choices and no good alternatives. And here is the fertile ground for the fraudulent attacks on the health-care professions and institutions by the likes of John Wennberg, the darling of Peter Orszag’s White House Budget Office within the Obama Administration.

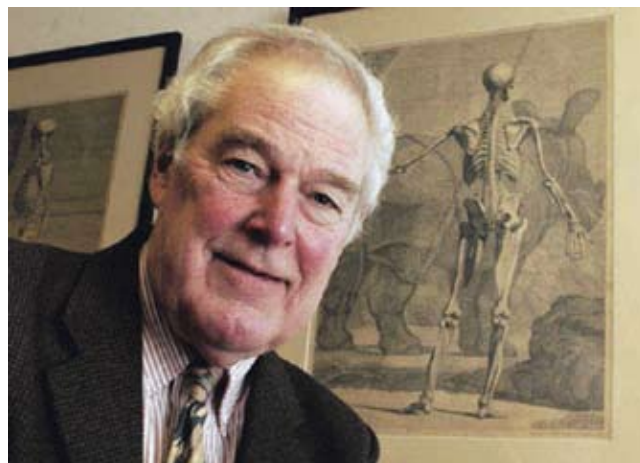
It is Wennberg’s claims of vast savings by elimination of inefficient and unnecessary health care, that Orszag and Obama have been using to conclude that we can cut \$500 billion or more from health spending, and use that money to pay for a universal health-care system that is far leaner. However, the result of such a leaner system will be increases in death and suffering for the poorest, weakest, and most socially isolated portions of the population, ironically the very same socio-economic classes that were instrumental in getting Obama elected.

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## The Wennberg Fraud

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The Obama health-care initiative, relies heavily on financing through presumed cost savings. One of the main justifications for this presumption of cost saving is the group of statistical studies by Wennberg and his group at Dartmouth, the Dartmouth Institute for Health Policy and Clinical Practice. (Wennberg is a physician with specialty training in internal medicine and subspecialty training in renal disease. He also holds a masters degree in public health from Johns Hopkins.) He lays out his method in his “Tracking the Care of Patients with Severe Chronic Illness,” which is subtitled “The Dartmouth Atlas of Health Care 2008.”<sup>1</sup> It is this Atlas, with its set of conclusions and recommendations, which forms the main basis for Orszag’s advocacy of the potential for enormous savings, in the range of one-third



*Wennberg’s (shown here) specious claims have been refuted by a number of physicians, including Peter B. Bach, an oncologist, who exposes the fraud of retrospectively studying the care of dead patients, rather than prospectively studying the care of dying, or seriously ill patients.*

of Medicare spending, and, by extension, similar savings in the private health sector and other government health programs.

Wennberg’s main proposition is that various geographical regions of the U.S. characteristically use different amounts of treatment, as quantified by Medicare billings for end-of-life care, and that the areas that use more expensive treatment do not have any significant difference in patient outcome, compared to those that use less expensive treatment. He attributes the more expensive treatments to unnecessary utilization of health-care resources, such as hospitalizations, medical procedures, specialist referrals, and outpatient visits, which, he claims, are motivated by the drive to maximize revenues by greedy hospitals, physicians, and other health-care providers.

He terms the lower spending areas “benchmarks” to be emulated, describing them as more efficient, and recommends remedial measures to bring the higher spending areas down to the benchmark levels, including, financial awards to facilities and practitioners who provide decreased amounts of health care.

Wennberg uses the following method to come to his conclusions regarding regional variations in health-care costs. First, he uses, as his main source of information, the database of death statistics provided by Medicare. All of his cost comparisons are derived from the cases of Medicare patients who have died, not from the ongoing treatment of the living. The cases he considers are limited to the nine most common causes of death, in the 67-

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1. John Wennberg, “Tracking the Care of Patients with Severe Chronic Illness,” The Dartmouth Institute for Health Policy and Clinical Practice, 2008.

100 age population, namely, congestive heart failure, chronic lung disease, cancer, coronary artery disease (including heart attacks), renal failure, peripheral vascular disease, diabetes, chronic liver failure, and dementia. These nine diagnoses account for over 90% of deaths.

He uses data only from the Medicare patients who are in the fee-for-service program, and not those who have chosen a Medicare HMO to lower their own co-pays, and who are more subject to scrutiny of medical spending by the HMO. He chooses a defined period of time for the study, in the case of the 2008 Atlas, the five-year period from Jan. 1, 2001 to Dec. 31, 2005; and gets a list of all Medicare deaths during that time period. He also obtains associated data for each person who died, including the diagnostic cause of death, age, gender, race, geographical location, and name of hospital or other facility, if the death occurred in a facility.

For the purpose of these statistical studies the United States is divided up into 306 geographical areas, termed Hospital Referral Regions; each such region must have at least one medical center which does both major cardiac surgery and neurosurgery. Notably, he does not utilize data related to the degree of family support, such as marital status, and does not utilize data related to economic status. He also does not utilize data identifying when the diagnosis was initially made. We will see in the discussion below, that these missing categories of information make the studies unreliable and misleading.

### **Focus on the Last Two Years of Life**

Wennberg also obtains a list of all charges billed to Medicare, by date and by type of charge, including daily charges for facilities, such as general hospital bed days, ICU days, nursing home stays and rehab facilities; physician charges by specialty; medications; and all other health services. He then totals all of the Medicare health-related charges billed for the two years prior to the date of death for each case, and classifies these as end-of-life care. He states that he focuses on this period of the patient's life because the majority of Medicare charges occur during the last two years of life, as chronic illnesses frequently worsen during that time.

In order to justify using the death data to compare differences between geographical regions, Wennberg makes the following assertion on page 5 of the introduction to the 2008 Atlas:

“By looking at care delivered during fixed intervals of time prior to death, we can say with assurance that the prognosis of all the patients in the cohort is identi-

cal—all were dead after the interval of observation.” He goes on to state, “By further adjusting for difference in age, sex, race, and primary chronic illness, we believe that we have developed fair measures of the relative intensity of care provided to equally ill patients—comparisons for which differences among patients are an unlikely explanation.”

Wennberg points out that the areas of high and low Medicare end-of-life spending have similar death rates, and concludes that the high-spending regions cannot justify the expenditures on the basis of improved outcomes. He also compares the rates of various diseases among regions, and states that there is no correlation between rates of disease and end-of-life spending. It is noted that the high spending regions are predominantly the urban areas on the East and West coasts. The low spending regions are predominantly in the Midwest and Mountain states.

He also compares major medical centers, where the care would presumably be at a high level of competence. He finds that among these facilities, the least expensive care is at the Mayo Clinic in Rochester, Minn., and in the Intermountain Health Care System around Salt Lake City; while the most expensive care is at New York University Medical Center, which follows the same pattern regarding type of location as seen in the 306 regions.

Wennberg further divides the Medicare expenses into three categories. He terms the first category Effective Care, and defines this as “evidence-based interventions for which the benefits so far exceed the harms that all patients in need should receive the service. Life-saving drugs following a heart attack are examples. Variations in the use of such treatment among eligible patients reflect a failure to deliver needed care, or underuse.”

The second category is Preference-sensitive Care, which “encompasses treatment decisions where different choices carry different benefits and risks, and where patients' attitudes towards these outcomes vary. An example would be the use of bypass surgery for heart disease, where surgery is likely to improve patients' chest pain but carries a small but real risk of causing memory loss. Unwarranted variations in preference-sensitive care reflect both the limitations of current scientific evidence and the failure to ensure informed patient choice.”

Wennberg terms the third category Supply-sensitive Care, that “refers to services where the supply of a spe-



cific resource [for example, the number of specialists per capita—ed.] has a major influence on utilization rates. Physician visits, hospitalizations, stays in intensive care units, and imaging services are all examples of care where the local supply influences the frequency of use. Variations in supply-sensitive care are largely due to difference in local capacity, and a payment system that ensures that existing capacity remains fully deployed.”

The main conclusion of the Atlas is that the great majority of local variation in end-of-life Medicare expenditures is due to variations in the third category, what he terms supply-sensitive costs, and he maintains that this difference amounts to 30% in total spending on end-of-life care among the geographic regions. He attributes this variation to the availability of supply, and shows a high correlation between resource availability, such as the number of beds or specialists per thousand population, and the utilization rate of these resources in end-of-life expenditures.

For example, he states that the availability of a high number of inpatient beds per thousand population motivates hospitals and physicians to admit patients and keep the beds full, in order to maximize revenues. Similarly, the density of medical specialists in a community is correlated with the rate of utilization of specialists by Medicare patients, supposedly due to the physicians being motivated to keep their hours full.

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## The Gaping Holes in Wennberg's Argument

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Let us look at the implications of Wennberg's argument up to this point. First, he claims that all of the patients had the same prognosis two years before they died, because they all died in two years. This assertion implies that all of the chronic illnesses have a relentless and predictable course, which is clearly not the case. This point was elaborated in detail, in the case of breast cancer, in an attack on Wennberg published in the *Journal of the American Medical Association*, in 2004, entitled, “Resurrecting Treatment Histories of Dead Patients, A Study Design That Should Be Laid to Rest.”<sup>2</sup> The attack is by Peter B. Bach, M.D., who is an oncologist

affiliated with the Health Outcomes Research Group, at the Departments of Epidemiology and Biostatistics, Memorial Sloan-Kettering Cancer Center in New York City. In this publication, Bach points out that there is an important methodological difference between retrospectively studying the care of dead patients, and prospectively studying the care of dying or seriously ill patients.

In the case of breast cancer, the prognosis is based largely on whether the diagnosis is made and therapy is begun before the cancer has spread to other areas of the body. Localized breast cancer is given a stage designation as I, II, or III, depending on the invasiveness and degree of localized spread. A Stage IV designation indicates that the cancer has already spread to other areas of the body. Stage IV is termed metastatic, has the worst prognosis, and is invariably fatal though the time from diagnosis to death varies considerably and may be extended by aggressive treatment. Stages I, II and III are potentially curable, and an aggressive treatment is crucial for survival. Bach illustrates the point by using data publicly available from the National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) Tumor Registry (available at <http://www.seer.cancer.gov>). This source also provides information regarding Medicare expenditures for these patients. Unlike the data Wennberg chooses to use, this data includes living patients.

Bach points out that the group of patients who are diagnosed with breast cancer and who die within one year of being diagnosed includes more patients with stage I, II and III breast cancer at initial diagnosis, than stage IV. This is not because stage I, II and III are more dangerous, but because they are more numerous. In his example from one of the SEER geographic regions, Bach notes that in one year, 667 women were diagnosed with stage IV breast cancer, which represents 5% of the total breast cancer diagnoses in that area, the other 95% being lower stages. Bach then points out that of these 667 cases, 267 died within one year of the diagnosis. However, of all the cases in the group diagnosed at stage I, II and III, there were 277 deaths within one year of the diagnosis.

As noted above, the reason for this, is that there were many more patients at the early stages—20 times more. Bach concludes that totaling up the cost of care of the group of patients who died, rather than examining the resources used to treat people who are at various stages of serious illness, is incompetent and misleading. To

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2. Peter B. Bach, “Resurrecting Treatment Histories of Dead Patients, A Study Design That Should Be Laid To Rest,” *JAMA*, 2004; 292: 2765-2770.

say, as Wennberg would, that all of the patients in the above breast cancer group who died, had the same prognosis when diagnosed one year earlier, simply because they all died within one year, has no real scientific content, and is simply a tautology which distorts the meaning of the term prognosis.

Medical science is not exact, and prognoses are not exact. When someone has potentially curable disease, it is the responsibility of the health-care professional to aggressively treat it. Anything less is incompetent, unethical and negligent.

The above paper by Bach is footnoted in Wennberg's Atlas, indicating that Wennberg is well aware of the weakness of his approach. He meets the Nuremberg criterion of "knew or should have known." I will revisit this point below.

A second attack on Wennberg, this time in the area of cardiology, was published by Gerald W. Neuberger, M.D., in the American Heart Association's journal *Circulation*, earlier this year.<sup>3</sup> The article is entitled "The Cost of End of Life Care, a New Efficiency Measure Falls Short of AHA/ACC Standards." Dr. Neuberger is a cardiologist at the Department of Medicine, Columbia University College of Physicians and Surgeons, New York City. (AHA refers to the American Heart Association; and ACC refers to the American College of Cardiology, the national professional association of cardiologists). The article notes that, in the Dartmouth Atlas, Wennberg and his group "did not measure or adjust for severity, as they believe that their model involves measures of provider 'efficiency and performance that minimize the chance that variations in the care can be explained by differences in the severity of patients' illnesses.' They further state that 'by looking at care delivered during fixed intervals of time before death, we can say with assurance that the prognosis of all patients in the cohort is identical—all were dead after the fixed interval of observation.'"

## The Reality of Medical Practice

Neuberger then discusses the reality of medical practice, as opposed to Wennberg's tautology: "From a clinical perspective, this retrospective logic misrepresents the prognostic and therapeutic uncertainty that we must contend with in real time. What matters in providing

care are the apparent severity and treatability of illness at the time of patient evaluation, not at the time of death. Thus, the fairest way to assess treatment efficiency and efficacy is to assemble cohorts with comparable disease burdens at time zero, and then track subsequent outcome and resource utilization in survivors and decedents. In contrast, looking back at fixed intervals before death identifies patients whose condition at time zero varies markedly, more so for longer intervals, and this alone could explain substantial variation in resource allocation. Furthermore, end-of-life spending does not reveal whether a provider's efforts effectively saved, extended or improved any lives. For example, end-of-life costs cannot distinguish a patient who lives 24 months (on whatever treatment) from a sicker patient who would have lived 12 months on the same regimen, but instead survives 24 months with more aggressive care. From the look-back perspective, care is viewed not as a means to improve health, but as an accumulation of expenses that failed to prevent an inevitable death."

Neuberger continues, "End-of-life spending would be a more straightforward indicator of provider performance if diseases progressed and presented in a uniform fashion, but this is not the case. In patients with fatal CHF (congestive heart failure), at least one third die unexpectedly, whereas most others experience progressive CHF requiring episodic hospital treatment before their demise. By the authors' [Dartmouth group's—ed.] method, if my practice randomly sees a greater proportion of inexpensive sudden deaths, we will be rated undeservedly as more efficient than others who see a higher rate of costly progressive CHF. However, if we prevent sudden deaths by implanting more defibrillators, we will see and treat more progressive CHF (because of the competing risks of these outcomes), and our efficiency rating will decline. If we offer such patients greater access to life-extending procedures like biventricular pacing or cardiac transplantation, our rating will plummet further, because they are sick enough that some will not survive beyond the measured interval after costly treatment, regardless of how appropriately or expeditiously it was provided."

Neuberger acknowledges that there are variations in end-of-life care expenses, but points out that the reason for the variations go beyond the clinical issues discussed above. He notes that variability in care expense may be due to several factors that are not part of Wennberg's statistics, which Neuberger terms social care, de-

3. Gerald W. Neuberger, "The Cost of End-of-life Care, A New Efficiency Measure Falls Short of AHA/ACC Standards," *Circulation: Cardiovascular Quality and Outcomes*, 2009; 2: 127-133.

fensive care, desperation care, and limbo care. He describes the first category as referring to “extra hospital days accrued by patients whose medical problems would be manageable at home if they had better compliance, follow-up, family support, or home care coverage, and by those requiring nursing home placement. In such cases, hospital discharge delays are common for myriad reasons having little to do with provider performance. In one study of hospital performance, 17% of all hospital days were classified as medically unnecessary ‘delay’ days, and the most important cause was unavailability of postdischarge facilities. Days spent awaiting postdischarge facilities (primarily nursing homes) represented 41% of all delay days.”

### The Importance of Social Support

Neuberg’s point regarding social care has far greater implications. The home support he refers to regarding compliance, follow-up, and family support applies to all levels of care. Patients are usually admitted to hospitals from emergency rooms or directly from the physician’s office. The decision to hospitalize is based on the severity of the medical condition and the intensity of care that is provided. The cutoff for the decision to hospitalize is whether the proposed treatment plan can be safely carried out in a less intensive setting, such as at home.

Some cases are clear-cut, such as a new onset stroke or heart attack, which, by their nature, cannot be safely managed at a lower level of care than hospitalization. Others are not so clear-cut, such as high blood sugar or high blood pressure. If the abnormality is on the fence between hospitalization or not, frequently the deciding factor is family support to ensure compliance, such as taking medication regularly, or doing home blood sugar testing, or following up with the next appointment reliably, or calling the physician if a symptom worsens. If the physician feels that in these borderline cases there is sufficient home support, then treatment may continue safely at home. If the physician feels that the patient may become dangerously ill due to not having sufficient home support, then hospitalization may be necessary. A similar decision occurs regarding the timing of discharges from the hospital.

Importantly, the same considerations apply when a patient is seen in the outpatient setting, and, at the end of the visit, the physician must make a decision regarding how long to wait until the next visit. If the home situation is unreliable, then the physician will schedule



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*The crucial issue of social support for patients, once they leave the hospital, or doctor’s care, is left out of the Dartmouth report. Shown: Dr. Ned Rosinsky confers with a dialysis patient.*

the patient to return sooner than otherwise. The level of social support, therefore, influences both level of care determination and frequency of visits.

The relevance of social support on resource decisions has another implication. Consider the case of a recent onset stroke or heart attack, in which the patient has partially recovered and is discharged back to the home. In both of these cases, the outpatient management would be focused on attempting to prevent another episode of stroke or heart attack. A key component to preventing a repeat episode is to control risk factors that are amenable to medical intervention, such as blood pressure or blood sugar. Since these medical conditions are frequently extended in time, physicians generally get to know the reliability aspects of patients under their care, and with experience with each patient, get to know how frequently the patient must be checked in order to achieve adequate control of the risk factors.

For example, if a patient returns for an outpatient

visit one week after discharge from being hospitalized for a heart attack, is with a reliable family member, and has been following the physician's recommendations regarding medication, diet, exercise, and so on, then the next appointment might be safely scheduled for one month. However, if the patient returns for the first appointment after hospitalization, and is found to have been irregular about taking medication, and on examination has an elevated blood pressure, then the follow up visit would be sooner, and the physician may recommend a home health nurse. In this way, the end point of adequate control of risk factors is achieved, but it is achieved with different levels of intensity of care, depending on the patient and the social support status.

Social support not only varies from patient to patient, it also varies from region to region. Social support is a reflection of the cohesiveness of society and culture. In geographical areas where the society and culture are well integrated, there is strong social support. In areas where society is breaking down, there is weak social support. These differences in social support are evident to any physician who moves from one location to another, or who has multiple practice locations. The status of social support can vary dramatically from one neighborhood to another in the same section of the same city. There may be some correlation between socio-economic status and social support, but this is not always the case. Some poorer neighborhoods may have stronger family ties and sense of responsibility than some middle-class suburbs.

The point is, that none of this is considered in the Wennberg analysis. The problem becomes severe in comparisons among major tertiary care referral medical centers, such as the Mayo Clinic and New York University Medical Center. Wennberg points out that the Mayo Clinic has a low utilization of Medicare services, averaging \$53,432 per death, and NYU has the highest in the country, averaging \$105,000. UCLA is also high, at \$93,000. Other low-end spending major hospital centers are Intermountain Health Care at Salt Lake City and Duke University in Durham, N.C. Wennberg argues that all of these centers provide high-quality care, so one would not expect the costs to vary significantly. However, a walk around Salt Lake City compared to a walk around downtown New York, particularly late at night, are two very different experiences. There are enormous socio-economic differences, and attendant social support differences, between these populations.

Senior researchers at the Johns Hopkins School of Public Health who have visited the Mayo Clinic in Minnesota have concluded that at least half of the difference in end-of-life care cost found by Wennberg is due to socio-economic factors.

Data on income was used in the statistics of a more limited study by the Dartmouth group, in 2003, which focused on the comparison of costs for treating hip fracture, colorectal cancer, and heart attack.<sup>4</sup> This study found significant differences in end-of-life spending that was not correlated with income. However, the data used was not the income of the individual patient, but the average income for the zip code of residence, as published in the 1990 census. Zip code areas are usually too large to distinguish income variations by distinct socio-economic neighborhoods, particularly in urban areas. For example, Baltimore has 38 zip codes, but for the national census, the city is divided into 201 tracts. A study of the relation of poverty to death rates by census tract showed a strong correlation, but the same study by zip code showed no correlation, due to the smoothing of data over larger geographical areas.<sup>5</sup> The Dartmouth group has been frequently criticized for minimizing local variations in patient socio-economic conditions; a prime example will be seen below in the discussion of the McAllen fiasco.

There may be a connection between the social support issue and the finding by Wennberg that the outcomes, as measured by death rates, do not vary much across regions, and that the death rates are not correlated with health spending. In the above example of outpatient treatment of risk factors following a stroke or heart attack, there is general consensus among physicians regarding the target values for blood pressure, blood sugar, body weight, and so on. If one region with good social supports achieves these target values with an average of four outpatient visits per year, while another region with low social supports achieves these target values with twelve outpatient visits per year, then the prognosis of the patients will be similar, but the expenditures very different. This is the likely explanation for the Wennberg findings of lack of correlation of expenditures with outcome; the higher spending regions simply need to spend more to get the same outcome as

4. E.S. Fisher, "The Implications of Regional Variation in Medicare Spending; Part 1: The Content, Quality and Accessibility of Care," *Annals of Internal Medicine*, 2003, Vol. 138, Issue 4, pp. 273-287.

5. Ned Rosinsky, "Poverty Kills," *EIR*, Jan. 6, 2006; pp. 20-24.



the lower spending regions due to other factors such as social supports. Again, it is remarkable that the issue of social support does not enter into Wennberg's model.

### A Challenge to Dartmouth's Method

The degree of social support can be approximated for the purpose of comparing health expenditures by region, by using markers of social integration. This approach was illustrated in a rebuttal to Wennberg's conclusions and referenced at testimony to the House Ways and Means Committee on April 1, 2009. Testifying after a committee presentation from the Dartmouth group, Robert Berenson, M.D., a Senior Fellow at the Urban Institute stated, "I would further emphasize the need to focus policy attention on the range of potential approaches to caring for the multiple chronic condition problem, rather than the geographic variations in spending. Colleagues at the Urban Institute are studying this geographic variations issue using an alternative methodology from that used by the Dartmouth group, which has done important work in this area.

"Our preliminary findings cast doubt on both the magnitude of the geographic spending variations and the source of the variations that the Dartmouth researchers found. Analysis of spending for individual patients who live in different geographic areas suggests that variations in individual characteristics, especially patient's underlying health status and a range of socioeconomic factors, including income and the presence of supplemental insurance, account for almost all of the explainable variation. In our analysis, local provider supply—the number of hospital beds and physicians per capita—did not explain the Medicare or total health cost of individual patients. While there still remains unexplained variation, it does not appear to be due to variations in provider supply."

Dr. Berenson—who worked in the Clinton Administration, where he had operational responsibility for provider payment systems at the Centers for Medicare and Medicaid Services, and was in charge of contracting with Medicare Advantage plans—referenced a study that he co-authored in 2006 to justify his conclusions, which had been presented in 2006 to the annual AcademyHealth meeting.<sup>6</sup> AcademyHealth is a project of the Robert Wood Johnson Foundation. That study was criti-

cized by the Dartmouth group in 2007 for using such social support variables as whether the patient was ever married, with the criticism being that the social support variables should be in the second phase of the Urban Institute's study, not the first, which was set up to examine supply variables. The influence of social supports on what Wennberg terms supply-sensitive services, and the ready availability of such data, was not addressed in the 2007 Dartmouth criticism, and evidently Berenson felt that his study had merit despite the Dartmouth complaints, as he referenced it in the 2009 testimony.

The main author of the Urban Institute study, Jack Hadley, Ph.D., is currently working on the second phase of the study.

The avoidance of social support variables by Wennberg is paradoxical. He states that by using only Medicare deaths, he is assured that all the patients had the same prognosis for the two years prior to death. He then states that he corrects his regional data for age, gender, and race. While these three variables certainly have an effect on prognosis, it is not clear why or how he corrected for these variables, since he assumed that all of the prognoses were identical. Any correction for other variables would throw off the initial identical prognoses, if his reasoning is followed. And if he finds it necessary to correct the initial identical prognoses with data on age, gender, and race, why did he not use other variables, such as whether the patient was ever married? And why does his group complain so strongly when Berenson's group does go ahead and use these variables?

A clue to this question may be found in the introduction to the Atlas, where Wennberg states, on page 5 of the introduction, "It is important for the reader to understand that while end-of-life measures raise the question of whether more is better, they do not provide an answer. However, because they are general indicators of care intensity patterns of regions and hospital providers, they can be used to test the hypothesis that cohorts of patients with similar illnesses, followed over time, have better outcomes in regions with greater care intensity." That is, Wennberg admits that his data analyses do not demonstrate causation, but are only correlations.

Later, in the Atlas, Wennberg sharply distinguishes between his empirical correlation findings and his theory of explanation. One question that he never raises, is why the distribution of hospitals is such as it is. If, for example, it were found that there is another factor that is connected causally to both the location of hospitals and the intensity of service utilization, then all of Wenn-

6. Jack Hadley, R. Berenson, T. Waidmann, S. Zuckerman, "Variations in Medical Care Spending Per Medicare Beneficiary: The First Stage of an Instrumental Variable Analysis," The Urban Institute, 2006.

berg's correlations would be merely finding two variables that are both caused by a third factor, and one of the two is not causing the other.

The simple explanation is that hospitals are built where they are needed, going back to the Hill-Burton program, and partially supplemented in some states by certificate-of-need programs. They are needed in greater number where people are poor, where social support is lacking, and where people are crowded, such as in the cities typified by the Northeast coast and the Southwest California coast. There is greater social support and less crowding in the Midwest and Rocky Mountain states. And yes, there is the heritage of racial and economic segregation within the cities, resulting in vastly different quality of care and need for care among closely spaced neighborhoods, such as the Harlem Hospital area compared to the Mount Sinai Hospital areas of Manhattan in New York City, or both of these hospitals compared to Stony Brook on Long Island. This is the everyday reality of any practicing physician, and should be plainly clear to any public health researcher who spends time with physicians and patients.

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## A Statistical Aside

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To illustrate the logical fallacy behind the Wennberg correlations, let us consider the following scenario. Suppose you are the owner of the world's largest producer of raincoats. You notice that for the past few years your sales have been declining, and your marketing staff tell you that people have recently been using more umbrellas and fewer raincoats. You assemble your administrative staff to brainstorm, and come up with the idea of hiring some statisticians to prove the superiority of raincoats. The statisticians arrive, and decide that the strongest approach would be to show that umbrellas are dangerous.

They do some preliminary work on the possibility that using an umbrella can increase the likelihood of being struck by lightning during a rainstorm, but the numbers are just not there. They review police reports of umbrellas used for assaults and find a few, but again the numbers are not really there, and that most of the perpetrators are demented little old men and ladies; yes, there is some criminal activity associated with umbrella use, but not what the statisticians had hoped for.

While scanning police reports with the keyword "umbrella," they notice that, in the detailed investiga-

tions of fatal car crashes, there is sometimes a mention of an umbrella on the front passenger seat. They check police reports of car searches for other reasons, such as cars used in committing crimes, and find that the number of umbrellas found on the front seats of cars not involved in collisions is much lower. They do a statistical calculation for various areas around the country and demonstrate a high degree of correlation: the areas with higher rates of front seat umbrellas are also the areas with higher rates of fatal car accidents. There it is, the proof. They go to legislatures and attempt to get umbrellas banned, get lots of publicity, and are near victory.

However, someone in the umbrella industry reviews the research, and notes that both umbrella use and fatal car accidents are related to a third factor, namely the weather. On rainy days (and in rainy geographical areas), more people use umbrellas, and also more people have fatal car accidents due to road conditions. Because the rate of umbrella use and the rate of fatal car accidents both go up on rainy days, they are strongly correlated statistically, but this does not prove causation, because they in turn are both caused by another factor, the weather.

To complete the analogy, the raincoat manufacturer reacts to the criticism not by apology and expression of chagrin, but by becoming belligerent, attacking the competence and motivation of the umbrella manufacturers, and then attempts to ram through laws banning umbrellas with lengthy legislation that no one understands or has enough time to read or debate, and with the backing of incompetent politicians whose advisors are even more incompetent.

Sound familiar?

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## Back to Neuberg

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Returning to the Neuberg publication, a second category of variation in health-care expenses that is not warranted based on purely medical need is what Neuberg refers to as defensive care. This refers to the determination of level of care and the use of medical procedures, such as diagnostic testing, that is affected by the malpractice environment. The cost of medical malpractice insurance varies enormously from state to state, by as much as tenfold or more, and this variation is due primarily to the local rate and amount of malpractice awards.

The award rates, in turn, are influenced by the population demographics, as well as by state malpractice

laws. People who are desperately poor, or who feel alienated, or cut off from the mainstream of society, may be more likely to initiate a lawsuit if they feel wronged, particularly, if lawyers take the case on a contingency basis, in which there is no payment if the patient loses the case. It is no coincidence that the states with the highest rates of malpractice premiums are also the states with the highest level of end-of-life expenses. Using OB/GYN malpractice insurance premium rates as a marker, the ten top states, starting with the highest, are: Florida, Nevada, Michigan, Washington, D.C., Ohio, Massachusetts, West Virginia, Connecticut, Illinois, and New York.<sup>7</sup> Every one of these states is in the top half of states arranged by Medicare end-of-life cost.

The ten lowest states for malpractice premiums are, in order from the lowest, Oklahoma, Nebraska, South Dakota, Minnesota, Indiana, Idaho, North Dakota, Wisconsin, Arkansas, and South Carolina. Every one of these states is in the bottom half of states by Medicare end-of-life costs, with the exception of South Carolina, which misses the cutoff by one state. There appears to be a robust separation of the upper and lower quintiles; however, a more precise determination of correlation would have to take into account numerous variables such as the yearly fluctuation of states ranking in the middle of the distribution as well as the dispersion of rankings of other medical specialties.

The general consensus is, that the threat of malpractice increases medical resource utilization in the range of 2% to 5%. Using the more conservative figure of 2%, consistent with Government Accountability Office (GAO) estimates, it appears likely that the variation in malpractice climate contributes in the range of 2% or more to the Wennberg figures, and is particularly evident in the high malpractice premium rates typically found at the county level in crowded urban areas.

Another significant source of cost variation across the country is related to local cost of living variations. Wennberg estimates that one-third of the variation in end-of-life expense is due to local price variations, such as the cost of an inpatient hospital day.

If we now add up the three non-medical factors on end-of-life care discussed so far, we have approximately 50% of the cost due to socio-economic factors,

such as social supports and income; 33% due to local cost of living variations; and at least 2% due to malpractice environment, totaling approximately 85% of the variation.

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## The McAllen Fiasco: Lies, Damned Lies, and Statistics

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Timed to coincide with Obama's upcoming legislative push for his health-care "reform," the *New Yorker* magazine published a Wennberg-type article on June 1.<sup>8</sup> The article, purports to show that in the highest-spending Hospital Referral Region in the Wennberg Atlas, an on-site report by a Harvard surgeon, Dr. Atul Gawande, found that the physicians were massively gaming the system with unnecessary hospitalizations and expensive procedures and tests. In "The Cost Conundrum," Gawande reports on his visit to the town of McAllen, in southern Texas, on the border with Mexico.

He writes, "The explosive trend in American medical costs seems to have occurred here in an especially intense form." Gawande states that the end-of-life medical cost in McAllen is twice the national average. He adds that this high cost is not justified by the rates of disease, the rate of poverty, or the outcomes of the treatment. He compares medical costs in McAllen with another Texas border town, El Paso, and states that the two towns "have essentially the same demographics," and then compares medical costs in McAllen with Grand Junction, Colo., but says nothing about the demographics there. He states that El Paso and Grand Junction have much lower medical expenses than McAllen but have similar medical outcomes.

Gawande peppers his article with personal conversations with local physicians, including his subjective impressions of their voice inflections and body language, and quotes several of them as acknowledging the obvious, viz., that there exist significant conflicts of interest when physicians own their own hospitals or labs, and that some physicians take advantage of these conflicts of interest.

According to an article in the *New York Times* of June 9, 2009,<sup>9</sup> referring to the above piece in the *New*

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7. S.B. Ransom, "High Cost of Malpractice Insurance Threatens Supply of OB/GYNs, Especially in Some Urban Areas," *Obstetrics and Gynecology*, 2005, 105: 6; Cited in a press release by Nicole Fawcett at the University of Michigan Health System, June 1, 2005.

8. Dr. Atul Gawande, "The Cost Conundrum," *New Yorker*, June 1, 2009.

9. R. Pear, "Health Care Spending Disparities Stir a Fight," *New York Times*, June 9, 2009.

*Yorker*, “President Obama recently summoned aides to the Oval Office to discuss a magazine article investigating why the border town of McAllen, Tex., was the country’s most expensive place for health care. The article became required reading in the White House, with Mr. Obama even citing it at a meeting last week with two dozen Democratic senators.” The *Times* article continues, “‘He came into the meeting with that article having affected his thinking dramatically,’ said Senator Ron Wyden, Democrat of Oregon. ‘He, in effect, took that article and put it in front of a big group of senators and said, ‘this is what we’ve got to fix.’”

The *Times* article then quotes the Wennberg Atlas, and notes, “The Senate Finance Committee recently suggested that one way to pay for health-care overhaul would be to reduce geographic variations by cutting or capping Medicare payments in ‘areas where per-beneficiary spending is above a certain threshold, compared with the national average.’” The article points out that Wennberg’s research “has become phenomenally influential on Capitol Hill since it was popularized by Peter R. Orszag, as director of the Congressional Budget Office and then as President Obama’s budget director.”

The article states, “Mr. Orszag says health spending could be reduced by as much as 30%, or \$700 billion a year, without compromising the quality of care, if more doctors and hospitals practiced like those in low-cost areas. The supply of hospitals, medical specialists, and high-tech equipment ‘appears to generate its own demand,’ Mr. Orszag said.” The article also notes that there is a fight brewing over this issue. Sen. John Kerry (D-Mass.) is quoted as saying, “States like Massachusetts are concentrated centers of medical innovation where cutting-edge treatments are tested and some of the nation’s finest doctors are trained. . . . This may cost a little more, but it benefits the entire country.”

The *Times* article ends with references to the work of Drs. Berenson and Hadley, noted above, saying that their research “suggests that much of the geographic variation in health spending can be explained by differences in ‘individual characteristics, especially patients’ underlying health status and a range of socio-economic factors, including income.’”

In a rebuttal to the *New Yorker* article, published in HealthLeaders Media on June 24, 2009, Cheryl Clark interviewed an internist in McAllen, Dr. James Stewart, who said “I am not normally a conspiracy theorist,” but, in researching and writing his article, Gawande “totally brushed off the poverty we live in here.” Stewart went

on to say that by the time many people get to a health provider, they are diabetic, morbidly obese, have some degree of organ failure, and, in some cases, have their first medical encounter in an emergency room.

## The Truth About McAllen

A more detailed critique of the *New Yorker* article was published on line at The Health Care Blog on June 29 by Daniel Gilden, entitled “McAllen: A Tale of Three Counties.” Gilden states, “The city of McAllen lies at the center of Hidalgo County, one of the costliest areas for Medicare. The population is racially diverse, low income and exhibits high rates of chronic disease. El Paso is similar to McAllen but with less poverty. Grand Junction is the county seat of Mesa County, a largely white and relatively wealthy region.”

Gilden shows that the annualized Medicare Beneficiary payments are twice as high in McAllen as in El Paso, and three times as high as in Grand Junction (**Table 1**). He next discusses the socio-economic differences between the two populations. “The dissimilarities between the McAllen and Grand Junction county populations are extensive. The socio-demographic characteristics of a population affect its access to care, ability to pay out of pocket for uncovered care and rates of disease associated with diet and life history. The costs of Medicare co-pays and deductibles can be substantial barriers to access, and history of health care coverage and access to preventative care vary substantially based on socio-economic variables. Low-income individuals often reach Medicare enrollment age with a



Daniel Gilden

TABLE 1  
**Annualized Payments per Medicare Beneficiary by County of Residence, 2006**

County	Medicare Enrollees	Medicare Payments
McAllen, Texas	63,770	\$12,384
El Paso, Texas	85,478	\$6,163
Grand Junction, Colorado	22,887	\$4,436

Source: Daniel Gilden, “McAllen: A Tale of Three Counties,” [www.thehealthcareblog.com](http://www.thehealthcareblog.com), June 25, 2009.



TABLE 2

### Comparative Annualized Payments by County and Need for Premium Assistance, 2006

County	Premium Assistance	
	No (not low income)	Yes (low income)
McAllen, Texas	\$10,012	\$16,518
El Paso, Texas	\$6,709	\$9,374
Grand Junction, Colorado	\$4,853	\$11,425

Source: Daniel Gilden, "McAllen: A Tale of Three Counties," [www.thehealthcareblog.com](http://www.thehealthcareblog.com), June 25, 2009.

TABLE 3

### Disease and Prevalence by County, 2006

	McAllen	El Paso	Grand Junction
<b>Single Selected Conditions Rate per 1,000</b>			
Diabetes	422	330	145
Ischemic Heart Disease	443	252	211
Heart Failure	168	107	74
Cerebro-Vascular Disease	202	93	56
Chronic Respiratory Disease	266	190	169
Arthritis	405	290	239
Dementia	107	57	51
Parkinson's	20	15	12
<b>Multiple Conditions Population Percentage</b>			
None of the Selected Conditions	23%	36%	46%
One Condition Only	22%	27%	30%
Multiple Conditions	55%	37%	24%

Source: Daniel Gilden, "McAllen: A Tale of Three Counties," [www.thehealthcareblog.com](http://www.thehealthcareblog.com), June 25, 2009.

lifetime history of access and cost barriers, a potent mixture. Barriers to access can lead to expensive hospital care for conditions normally treated on an outpatient basis."

Gilden provides the following data: "Grand Junction Medicare enrollees are 98% white and only 11% require assistance in paying for their Medicare Part B premium (a proxy for low income status). In contrast, McAllen and El Paso are both 26% Hispanic and a higher proportion of Medicare beneficiaries rely on Medicaid to pay for Part B—36% in El Paso and 48% in McAllen." McAllen clearly has a higher poverty rate than El Paso, and Gawande's statement that the two populations "have essentially the same demographics," is not consistent with this poverty data.

Gilden then compares Medicare costs for beneficiaries with and without Part B premium assistance (**Table 2**). "Expenditures are consistently higher for low income beneficiaries, but McAllen is still more expensive than Grand Junction in both income groups—more than 45% more expensive for low-income beneficiaries and more than twice as expensive for those not receiving premium assistance." This partially explains the difference in costs. Gilden then reviews the population disease rates, as indicated in Medicare hospital and physician billing claims. He finds that the rates of disease prevalence is substantially higher in McAllen than in El Paso for each of the major disease categories, and the rates in El Paso are substantially higher than in Grand Junction (**Table 3**).

For example, per 1,000 population, the rates for diabetes in the three areas are 422, 330, and 145. For ischemic heart disease (not enough blood to the heart muscle, and including heart attack), the numbers are 443, 252, and 211. For cerebro-vascular disease (narrowing of brain arteries, and including stroke) the numbers are 168, 107 and 74. It is also noted that the percentage of patients with more than one of the specified medical conditions is 55% in McAllen, 37% in El Paso, and 24% in Grand Junction.

Gilden then points out that if the patients with diabetes and heart disease are not counted, the monthly payments for Medicare are the same for McAllen and Grand Junction (**Table 4**). With more sophisticated

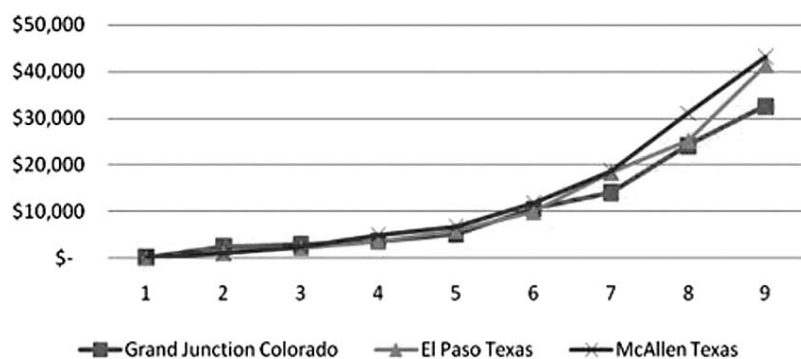
TABLE 4

### Medicare Monthly Payments per Patient Without a Diagnosis in the Year for Diabetes or Heart Disease, 2006

County	Medicare Enrollees	Monthly per Person Payments
McAllen, Texas	28,680	\$3,147
El Paso, Texas	47,960	\$2,564
Grand Junction, Colorado	11,160	\$3,307

Source: Daniel Gilden, "McAllen: A Tale of Three Counties," [www.thehealthcareblog.com](http://www.thehealthcareblog.com), June 25, 2009.

FIGURE 1  
CY 2006 Annual Medical Payments by Risk Score



Source: Daniel Gilden, "McAllen: A Tale of Three Counties," [www.thehealthcareblog.com](http://www.thehealthcareblog.com), June 25, 2009.

*When patients with equivalent risk are compared, the cost of treatment is very similar in the three indicated towns, with the highest-risk patients varying by only 10% in cost of treatment. This is in stark contrast to the Wennberg calculation of 300%, which does not take risk into account.*

techniques of risk assessment based on having multiple conditions as referred to above, the patients with various degrees of risk are remarkably close in their utilization of Medicare services (**Figure 1**), with McAllen at only 10% above Grand Junction, compared with the 300% difference as calculated by Wennberg and quoted in the *New Yorker* article.

In his discussion of the implications of the detailed data, Gilden concludes, "McAllen is different from many areas of the United States: it is sicker and poorer. The observed differences in the rates of chronic disease are highest for those conditions rampant in low income American populations: diabetes and heart disease. Further, Medicare beneficiaries in McAllen have significantly higher rates of co-occurring chronic conditions. As a result the costs of caring for the McAllen Medicare population appears high in comparison to other areas but not abnormally so. McAllen suffers from a tremendous burden, but it is not caused by its physicians: the care they provide leads to costs that are substantially comparable to the other counties in the article once adjustments are made for the magnitude of the health problems they face.

"The disturbing pattern of physician practices uncovered by Dr. Gawande [the conflicts of interests—ed.] sounds a warning not because it foretells a McAllen-like future but because it portrays the ongoing crisis that affects both McAllen and Grand Junction and it is national in scope. Physician culture is only part of the McAllen story. Patients with chronic disease, especially

those with multiple conditions, are extremely costly to treat. Cost savings will not be realized by denouncing and penalizing medical systems because they treat patient populations with high rates of disease. Instead health-care reform must develop policies that support streamlining and coordinating care for beneficiaries with multiple conditions, wherever they reside.

"Policies that support lifetime continuity of coverage, disease prevention and early treatment, could reduce health-care costs for populations who now reach Medicare eligibility with a history of under-service. Physician culture has a role to play: Accountable Care Entities are intended to reduce barriers to access by facilitating care coordination. The high costs of care in

places like McAllen will not be dramatically reduced by transforming physician ethics and organization if the roots of the crisis are in the interaction between class, demographics, and chronic disease."

## Wennberg's Proposed Fix

Wennberg finds a correlation between resource availability and resource utilization rates. He then proceeds to formulate a model to explain this correlation that involves providers making decisions to maximize utilization in order to maximize revenue. Therefore, his solution to the problem of apparent over-utilization is to cut resources in the areas of high utilization. If his theory were correct, this would make sense. However, his theory is not correct. The actual effect of his proposed cuts would be to withdraw treatment from the most vulnerable part of the population, the part that has the least social supports, the least income, and the least sophistication for working with health-care providers to ensure adequate care.

This is a dangerous proposal. This policy will have an effect equivalent to the Nazi practice of killing off the old and severely ill, what Hitler termed the "lives not worthy to be lived," the "useless eaters." This is not an exaggeration, and this is not a time to pull punches. Real lives are at stake.

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