



# Analyzing—and Influencing—How the Department of Veterans Affairs Allocates Its Health Care Dollars

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The Veterans Health Administration is the organization within the Department of Veterans Affairs (VA) that provides health care to veterans. In 1997, the Veterans Health Administration adopted the Veterans Equitable Resource Allocation (VERA) system to improve the allocation of its congressionally appropriated medical budget across the 21 regional Veterans Integrated Service Networks (VISNs) that form the VA health system.<sup>1</sup> However, in 2000, in the face of major regional reallocations of funds and increased congressional interest in the ways VA funds were being allocated, the VA asked the RAND Corporation to conduct a study to assess whether VERA was shortchanging some areas of the country and some veterans with special health care needs. Initially budgeted for only six months, the study evolved into a three-year, multiphase project that provided

<sup>1</sup> In fiscal year 2002, the number of VISNs was reduced from 22 to 21 (VISNs 13 and 14 were combined to become VISN 23).

## Key findings:

- Department of Veterans Affairs (VA) patient costs vary from one region to another because of patient characteristics and other factors that are largely outside the control of the regional directors.
- An important influence on patient costs is the health status of the patient population and how the amounts allocated for each patient’s care are adjusted accordingly. In response to RAND’s recommendation, the VA implemented a more refined patient classification system.
- Some regional factors thought to contribute to increased patient care costs, such as weather extremes and the infrastructure characteristics of facilities where veterans receive care, were not important.

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## This Highlight summarizes RAND research reported in the following publications:

Jeffrey Wasserman, Jeanne Ringel, Karen Ricci, Jesse Malkin, Barbara Wynn, Jack Zwanziger, Sydne Newberry, Marika Suttorp, Afshin Rastegar, *Understanding Potential Changes to the Veterans Equitable Resource Allocation (VERA) System: A Regression-Based Approach*, Santa Monica, Calif.: RAND Corporation, MG-163-DVA, 2004.

Jeffrey Wasserman, Jeanne Ringel, Karen Ricci, Jesse Malkin, Michael Schoenbaum, Barbara Wynn, Jack Zwanziger, Sydne Newberry, Marika Suttorp, Afshin Rastegar, *An Analysis of Potential Adjustments to the Veterans Equitable Resource Allocation (VERA) System*, Santa Monica, Calif.: RAND Corporation, MR-1629-DVA, 2003.

Jeffrey Wasserman, Jeanne S. Ringel, Barbara Wynn, Jack Zwanziger, Karen Ricci, Sydne J. Newberry, Barbara J. Genovese, Michael Schoenbaum, *An Analysis of the Veterans Equitable Resource Allocation (VERA) System*, Santa Monica, Calif.: RAND Corporation, MR-1419-DVA, 2001.

the VA with the tools it needs to modify resource allocation in response to changing demands and policy considerations. Among the overall findings of the study:

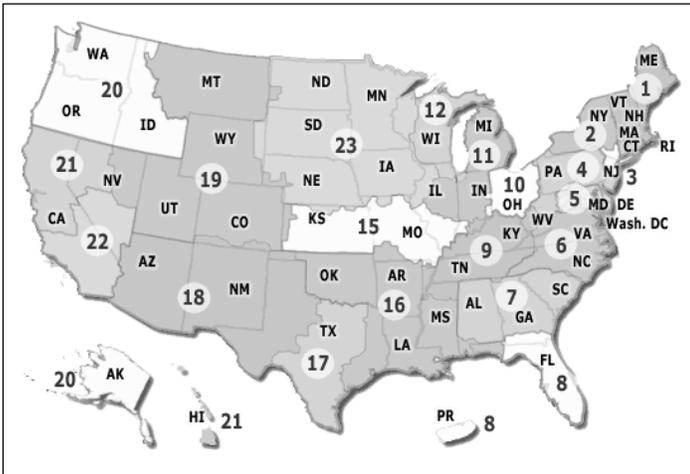
- VA patient costs vary from one region to another because of patient characteristics and other factors that are largely outside the control of the regional directors.
- An important influence on patient costs is the health status of the patient population and how the amounts allocated for each patient’s care are adjusted accordingly. In response to RAND’s recommendation, the VA implemented a more refined patient classification system.
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### What Is VERA?

The mission of the Department of Veterans Affairs is “To serve America’s veterans . . . and be their principal advocate in ensuring that they receive medical care.” Any veteran who was honorably discharged from active military service is eligible for VA benefits. Of some 26 million veterans, nearly 7 million were enrolled in the VA health care system as of 2002, and over 4 million used the system’s facilities in that year.

The VA’s health care facilities include some 1,300 hospitals and ambulatory care centers. For administrative purposes, these facilities are divided into 21 VISNs (see the map). In 2003, Congress appropriated over \$23 billion for distribution to those regional networks for health care—1.5 percent of total U.S. health care spending. These funds are used for patient care, research, education, equipment purchases, and some maintenance expenses.

### Veterans Health Administration Map of VERA Regions



SOURCE: VHA web site.

NOTE: During FY 2002, two VISNs, 13 and 14, were consolidated to form VISN 23.

### Dollars Follow Veterans

The VERA system was developed with several goals in mind: that resources be allocated equitably to the regional networks; that spending be focused on the highest priority veterans—that is, those whose disabilities/conditions were service connected and those with special health care needs (such as blind vets); and that the allocation system be simple and predictable.

According to the VERA framework, allocation to each of the regional networks is based on where the veterans go for their care. That is, resources for the coming year are allocated according to the number of the veterans seen in that region in the previous years. Allocations are also adjusted for geographic differences in labor costs.

Under VERA, resource allocation is also based on how sick the patients are in each region (their health status or “case mix”), because the sickest patients are the most costly to treat. When the RAND researchers began their assessment, VERA divided patients into three sickness categories, and the allocation per region depended on the number of patients in each category. In 2002, these categories (and their per-patient allocation) were Basic Care Vested (\$3,121), Basic Care Non-Vested (\$197), and Complex Care (\$41,667). Basic Care patients, who account for about 95 percent of those who receive health care services from the VA, were those with relatively routine health care needs. Vested patients were those who had been in-patients or had received a comprehensive health exam in a VA facility during the previous three years; non-vested patients, in contrast, were occasional users of the VA system. Complex Care patients were those who required substantial health care resources to treat chronic illnesses or disabling conditions over a long time period.

The VERA system as originally conceived has several characteristics worth noting.

First, the VA’s annual budget is a fixed sum. Thus, if the resources allocated to one region were increased, each or at least some of the other regions would, by necessity, suffer a decrease in their own allotment. Under such a zero-sum system, reallocation of resources has far more serious consequences than if other regions’ allocations were unaffected by increasing the allotment to one or two regions.

In addition, the system creates incentives to minimize the costs of treating patients. Because the resources allocated to the region for a patient’s care depend only on that patient’s sickness category, the remote possibility existed that some regions might provide less than optimal care to conserve patient care resources. What’s more, because patient classification under VERA could be influenced by patients’ use

of services (such as a longer stay in the hospital), the VERA system—as originally conceived—provided incentives to game the system, that is to allow a patient to remain hospitalized longer than necessary or use other means to classify the patient in the Complex Care category to obtain the maximum possible resources for that patient.

### **The Goals of the VERA Study Were Specified by Congressional Mandate**

In 2000, Congress passed legislation requiring the VA to examine how the allocations made under VERA affected, or accounted for, a variety of concerns, which were spelled out in the legislation. In particular, Congress was interested in whether the regional allocations considered regional differences in costs associated with

- maintaining older, sometimes historic, facilities
- consolidating facilities and their management structures
- urban versus suburban and rural locations
- a case mix that includes patients who are much sicker than average
- being a teaching hospital, that is, maintaining affiliations with medical schools (which often attract the sickest patients and may require higher staff/patient ratios)
- extreme weather conditions in some regions.

### **What Did VA Managers Think About VERA?**

To provide Congress with answers in the specified six-month time frame, the researchers based their analysis on site visits to VA facilities around the nation, interviews with VA health care administrators, and a review of prior studies and legislation relevant to the issues. Overall, VERA seemed to be doing a fairer job of allocating funds than previous systems. VERA's resource allocation was better than previous systems at matching resources with the geographic distribution of veterans. What's more, VA managers emphasized that VERA was simpler than previous allocation systems and had a better incentive structure. Nevertheless, there was a perception on the part of some VA health care administrators that a number of factors beyond their control appeared to influence the costs of providing care. Among these factors are the age of a facility and the physical condition and historical significance of its buildings: Some administrators told of having to use several-hundred year old buildings that lacked proper insulation and air conditioning or being required to maintain buildings that could not even be used. Other factors reported to affect costs included affiliation with medical schools and, not surprisingly, patient health status. Interestingly, weather and location (urban versus rural) were not among the factors that were believed to influence costs.

### **What Really Affects Patient Costs?**

Intrigued with the impressions gathered from the VA managers, Congress and the VA asked if RAND would quantify how a wide variety of factors affects the cost of caring for patients and create an equation or a set of equations (known as a model) that would allow the VA to calculate the effect of any changes in veterans' health policy on patient costs. Using actual patient data from the VA as well as Centers for Medicaid & Medicare Services and county-level databases, the researchers created two models to predict the effects of various factors on costs: a patient model and a facility model. The patient model took into consideration only patient factors, such as socioeconomic status, age, gender, health status, other care alternatives (e.g., Medicare or Medicaid), and the VA facility used by the patient. The facility model was created to further examine facility-specific factors that affect costs, such as urban versus rural location, medical school affiliations, and infrastructure characteristics. Using these models, the researchers were able to predict patient costs under various scenarios, combine the costs for all patients in a facility or region, and compare the totals with actual expenditures to predict the effects of changes. (Later, the researchers combined the patient and facility models to create one simple model.)

What did the quantitative analysis show? First, and perhaps most important, it showed that it was possible to create an equation that would allow the VA to modify regional allocations based on changes in any of a variety of patient and facility factors.

Second, the analysis showed that a region's patient care costs are affected by several patient factors, including the gender and average age of their patients: Women tend to cost somewhat more than men, and older patients have greater health care costs than younger patients—at least until the age of 85 when costs begin to fall. The researchers also found that regional patient care costs are affected by the distance traveled for care, research costs, food costs, the number of beds in a facility, building size, and differences in labor costs.

Another of the main findings was that reclassifying patients' illnesses using a more refined measure of case mix—one that divides patients into a larger number of illness categories—rather than the three-category system in use at the time would result in substantial reallocation of funds across the regions: Those regions with sicker patients could receive larger allotments, and those with less-sick patients would receive less. RAND recommended that the VA modify its case-mix adjustment system to become more responsive to the needs of the individual regions.

Yet another important factor found to affect patient costs is reliance on Medicare: The higher the proportion of patients receiving Medicare benefits in a particular region, the lower that region's VA patient care costs. Based on this finding, RAND recommended that the VA consider Medicare reliance in its allocation decisions.

**What Did the VA Do with RAND's Advice?**

Responding to RAND's findings, the VA decided to adopt a more precise adjustment for patients' health status, one that employs ten illness categories (see the table). Should they have adopted an even more complex adjustment system? RAND's findings suggested that the complexity of switching to such a system would more than offset any advantage that might be gained from doing so.

While we don't yet know whether the regional managers agreed with the changes in allocation, the VA administrators accepted the change in case-mix adjustment as an improvement in the equity of allocation processes and decisions. RAND's detailed modeling efforts demonstrated convincingly that the more detailed allocation, based on ten illness categories, captured the bulk of the variation in patient costs and that other factors were simply not important enough to enter into the calculations. ■

**How Three Categories Expanded to Ten**

VERA-3	VERA-10	Yearly Patient Allocation (in dollars)	
		VERA-3 <sup>a</sup>	VERA-10 <sup>b</sup>
Basic Non-Vested	Non-reliant care	197	263
Basic Vested	Minor medical	3,121	2,413
Basic Vested	Mental health	3,121	3,562
Basic Vested	Heart and lung	3,121	3,722
Basic Vested	Oncology, etc.	3,121	8,337
Basic Vested or Complex Care	Multiple problems		7,935
Complex Care	Specialized care	41,667	18,751
Complex Care	Supportive care	41,667	29,780
Complex Care	Chronically mentally ill	41,667	39,448
Complex Care	Critically ill	41,667	61,117

<sup>a</sup> Figures for 2002.

<sup>b</sup> Figures for 2003.

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