The mission of the Veterans Health Administration (VHA) is to provide high quality health care to veterans. The Veterans Equitable Resource Allocation (VERA) system was instituted by the VHA in 1997 in a continuing effort to improve the allocation of congressionally appropriated health care funds to the 21 Veterans Integrated Service Networks (VISNs).\(^1\) VERA was designed to fulfill this mission in an equitable, understandable, and efficient manner as well as to address the complexities of providing health care to veterans with service-connected disabilities, low incomes, and special health care needs (e.g., spinal cord injuries and post-traumatic stress disorder).

Although a number of studies have indicated that VERA is helping the VHA meet its goals and budget objectives, these studies have also suggested areas for improvement, such as revising patient classifications and developing methods to monitor and improve access to care for all veterans (Price Waterhouse LLP and the Lewin Group, Inc. 1998; General Accounting Office, 1997, 1998; AMA Systems, Inc., The Center for Naval Analysis Corporation, March and July 2000). In contrast to earlier VHA allocation systems, which were based largely on historical costs, VERA bases its allocation of funds primarily on the number of veterans served. Thus, since VERA’s inception, dramatic shifts in allocations have occurred from geographic areas with shrinking veteran populations to geographic areas with increasing numbers of veterans.

These funding shifts prompted concerns in Congress that VERA was not distributing resources equitably across the VISNs, which could affect health care delivery to some veterans. In legislation enacted in late 2000 (Public Law No. 106-377), Congress directed the Department of Veterans Affairs (DVA) to determine “whether VERA may lead to a distribution of funds that does not cover the special needs of some veterans.” The VHA contracted with RAND’s National Defense Research Institute (NDRI) to examine three specific areas of concern expressed by Congress:

- An assessment of the impact of the allocation of funds under the VERA formula on VISNs and subregions with older-than-average medical facilities, with older or more-disabled enrolled veterans, undergoing major consolidation, and/or with appointment backlogs and waiting periods in rural and urban subregions.

\(^1\)These VISNs span the United States, its territories, and the Philippines. In FY 2002, the number of VISNs was reduced from 22 to 21.
An Analysis of Potential Adjustments to the VERA System

• An assessment of issues associated with the maintenance of direct affiliations between the DVA medical centers and university teaching and research hospitals.

• An assessment of whether the VERA formula for allocating funds adequately adjusts for differences in weather conditions when calculating the cost of construction and maintenance of health care facilities and whether VISNs that experience harsh weather require more resources.

To address these issues, the NDRI initially conducted a qualitative analysis of the VERA system. Findings from that analysis, which appear in An Analysis of the Veterans Equitable Resource Allocation (VERA) System (Wasserman et al., 2001), are summarized below. One finding of that report was that comprehensive evaluation of the current system, and of possible modifications to it, required extensive quantitative analysis. This report describes the results of such a quantitative analysis of the VERA system (Phase II), which was also conducted by RAND’s NDRI on behalf of VHA.

DESCRIPTION OF THE VERA SYSTEM

VERA represents VHA’s most recent effort to implement a resource allocation system that is both equitable and efficient and that preserves, if not enhances, VHA’s commitment to providing high-quality health care to the veteran population. VERA allocates most of the congressional appropriation to VHA for health care—over $21 billion in fiscal year (FY) 2002—to the 21 regional networks nationwide (see Figure 1.1). To do so, it first splits the appropriation into General Purpose funding and Specific Purpose funding.

General Purpose funds are used to cover the costs of patient care, research support, education support, equipment, and non-recurring maintenance (NRM). In FY 2002, these funds accounted for approximately 86 percent ($18.31 billion) of the congressional appropriation; supplemental funds allocated to five VISNs (totaling over $267 million) were also included as part of the General Purpose funds in FY 2002. Specific Purpose funds ($3.02 billion in FY 2002) are used to finance the costs associated with programs that are administered by VHA headquarters, including, for example, the provision of prosthetic devices, quality improvement initiatives, and database development, as well as headquarters’ administrative expenses. A portion of the Specific Purpose funds is held in reserve to cover contingencies that may arise during the course of the fiscal year.

Over 90 percent of General Purpose funding is intended for patient care. Within General Purpose funding, two patient types are identified: Basic Care and Complex Care;
and Basic Care is further divided into two subcategories: Vested and Non-Vested (Appendix A contains a description of the formulas used to allocate VERA funds in FY 2002).

The “Basic Vested” category includes patients with routine health care needs who either were hospitalized in a VA facility or received a comprehensive physical examination from a VA provider during the previous three years.

The “Basic Non-Vested” category includes patients who have relatively routine health care needs and have used some VA health services but did not receive inpatient services and did not receive a comprehensive medical evaluation by the VA system in the previous three years.

The “Complex Care” category includes patients who require substantial health care resources to treat a chronic illness or disabling condition, generally over a long time period. Many Complex Care patients are included in one of the VHA’s special emphasis programs, such as spinal cord injury and post-traumatic stress disorder.

VERA funds for treating Basic and Complex Care patients are allocated to VISNs based on “workload,” which is essentially a measure of the number of patients treated (however, in determining workload, Basic Care patients in Priority Group 7 are not counted; Table 1.1 provides the definitions of VA patient priority groups).4

4More precisely, Basic Care Priority 7 patients who are not counted as VERA workload include those veterans who have incomes and net worth at or above an established threshold, whose illness/injury is non-
# Table 1.1

<table>
<thead>
<tr>
<th>Priority Group</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Veterans with service-connected disabilities rated 50% or more disabling</td>
</tr>
<tr>
<td>2</td>
<td>Veterans with service-connected disabilities rated 30% or 40% disabling</td>
</tr>
<tr>
<td>3</td>
<td>Veterans who are former prisoners of war Veterans whose discharge was for a disability that was incurred or aggravated in the line of duty Veterans with service-connected disabilities rated 10% or 20% disabling Veterans awarded special eligibility classification under Title 38, U.S.C., Section 1151, “benefits for individuals disabled by treatment or vocational rehabilitation”</td>
</tr>
<tr>
<td>4</td>
<td>Veterans who are receiving aid and attendance or housebound benefits Veterans who have been determined by VA to be catastrophically disabled</td>
</tr>
<tr>
<td>5</td>
<td>Veterans with non-service-connected disabilities and veterans with service-connected injuries or illnesses who are rated 0% disabled, whose annual income and net worth are below the established dollar threshold</td>
</tr>
</tbody>
</table>
| 6              | All other eligible veterans who are not required to make copayments for their care, including:  
• World War I and Mexican Border War veterans  
• veterans receiving care solely for disabilities resulting from exposure to toxic substances, radiation or for disorders associated with service in the Gulf War; or for any illness associated with service in combat in a war after the Gulf War or during a period of hostility after November 11, 1998  
• veterans with service-connected injuries who are considered 0% disabled but qualify for compensation (compensable). |
| 7              | Veterans in Priority Group 7 have income and net worth at or above an established income level and are expected to pay a specified copayment. They form two subgroups:  
• 0% service-connected non-compensated Priority Group 7 Veterans include those veterans who do not fall into any of the above groups and whose illness/injury is service related but who are not entitled to compensation, because they are 0% disabled. These Priority Group 7 veterans can be included in both the VERA Basic Care and Complex Care components. Also included in this priority group, for the purpose of VERA workload credit, are veterans who receive compensation and pension exams and who are included in the VERA Basic Care component.  
• Non-service-connected Priority Group 7 veterans are those veterans who do not fall within Priority Groups 1 through 6 and whose illness/injury is not service related. They are not included in the VERA Basic Care component but are only included in the VERA Complex Care component. |

**SOURCE:** Department of Veterans Affairs, 2002.  
**NOTES:** The priority groups define the order of priority for VERA enrollment. These groups are numbered 1 through 7, with 1 conferring the highest priority for enrollment.

The VA calculates the amounts allocated annually per patient for treatment, referred to as “National Prices,” for Basic Vested Care, Basic Non-Vested Care, and Complex Care patients by taking VERA’s corresponding annual budget allocation for each of service connected, and who do not fall within Priority Groups 1 through 6. They are expected to pay specified copayments for the care they receive. Throughout this report we refer to these patients as Basic Care Priority 7s. Table 1.1 provides complete definitions for each of the VA patient priority groups.
these categories and dividing by the forecasted national workload. For example, the Basic Vested Care price for FY 2002 was calculated by dividing the $10.1 billion budget allocation for Basic Vested Care by a forecasted workload of 3.3 million patients to obtain a National Price of $3,121 per patient. The National Prices for Basic Non-Vested and Complex Care in FY 2002 were $197 and $41,667, respectively.

The allocation to a particular VISN for care of patients in any category is the product of the VISN’s workload estimate and the National Price for that care category. Adjustments to this figure are then made for geographic variation in the costs of non-contracted and contracted labor and contracted goods and services such as energy-related products, utilities, and provisions.\(^5\)

In addition to covering the costs associated with patient care, VERA allocated over $1.4 billion to the VISNs in FY 2002 to support research, education, equipment purchases, and NRM expenses. Research support allocations to the networks for FY 2002 were based on the amount of research funded in FY 2000. Education support is allocated on the basis of the number of approved residents. In contrast, equipment and NRM funds are allocated strictly on the basis of workload. NRM is adjusted for geographic differences in construction costs.

**UNDERSTANDING THE INCENTIVES CREATED BY VERA**

Similar to other capitated systems, VERA presents VISN directors and facility administrators with a strong economic incentive to increase the number of cases treated (workload) while minimizing the costs per case.

However, unlike allocations determined by other government and private-sector capitation arrangements, the total allocation to VISNs is capped by the amount of the annual congressional appropriation. As a result, the VISNs compete for VERA funds in what is essentially a zero-sum game, and if the growth rate of the total annual appropriation falls short of the growth in workload, then per-patient resource allocations will decrease over time.

The incentive to minimize costs per case means that VISNs have an incentive to treat patients in the least costly setting possible and avoid unnecessary tests and procedures. At the same time, VERA provides an incentive to increase the number of patients who are likely to use few resources and to limit the number of patients who are expected to incur costs that are higher than the funding they generate. However, the extent to which such manipulation is possible or actually occurs is unclear and difficult to assess.

Another incentive for “gaming” the current three-class VERA system is created by the large disparity among per-patient allocations for the Basic Non-Vested ($197), Basic Vested ($3,121), and Complex ($41,667) Care categories. The VERA methodology for classifying patients includes some utilization measures such as number of “care

\(^5\)Prior to 2002, a geographic adjustment was made only for non-contracted labor; geographic adjustments for contracted labor and non-labor contracted goods and services were instituted in FY 2002.
days.” This inclusion of utilization measures in the classification system would allow a patient to be shifted from the Basic Care to the Complex Care class by, for example, increasing that patient’s length of stay. Again, the extent to which this practice occurs is unclear.

In considering the incentives created by VERA, it is important to note that delivery of health care to veterans takes place within a larger context that both alters those incentives and constrains the behavior of health care administrators and providers. As illustrated in Figure 1.2, a complex interplay exists between VERA and a host of other factors that influence the cost, quantity, and quality of health care delivered to veterans. Thus, VERA plays a critical, yet in some respects limited, role in determining the care actually delivered to patients.

**SUMMARY OF PHASE I FINDINGS AND RECOMMENDATIONS**

In the initial phase of this project, RAND’s charge was to address, over a period of nine months, the issues specified in the congressional mandate (Public Law No. 106-377) and outlined above. Because of the time constraint, we used qualitative research techniques to examine the issues and to generate research questions and hypotheses for future research. The data were gathered from government documents; an extensive review of the relevant health services research literature; a series of in-depth discussions with experts; and site visits to the Allocation Resource Center in Braintree, Massachusetts, and to selected VISNs. Over the course of Phase I, we interviewed over 175 people in 13 VISNs and 15 facilities across the country.

![Figure 1.2—Influences on the VA Health Care System](RANDMR1629-1.2)
Although interviewees raised many concerns about VERA, the overwhelming major-
ity indicated that VERA was preferable to previous systems with respect to its incen-
tive structure, fairness, and simplicity. Overall, it appeared that VERA is more suc-
cessful than previous allocation systems in meeting its objectives of reallocating
resources to match the geographic distribution of the veteran population more
closely than did previous VA budget allocation systems. The main findings of Phase I
are outlined here:

- Health care delivery costs may be affected by the age and physical condition of a
  VISN’s capital infrastructure. Currently, VERA does not take these factors into ac-
count in determining VISN allocations.

- VERA’s current case-mix adjustment, designed for simplicity, may not ade-
quately account for differences in the average health status of veterans across
VISNs and, as mentioned above, appears to provide incentives to game the sys-
tem.

- External pressure from key stakeholders presents a formidable barrier to efforts
to consolidate facilities and services, even when such consolidations may in-
crease efficiency.

- VERA adjusts for the costs of academic affiliations directly attributable to re-
search and education through education support and research support alloca-
tions. However, VERA makes no explicit adjustment for the potential effects that
academic affiliation might have on other patient care costs. Moreover, the dis-
tinction between education support funds and patient care funds may be artifi-
cial because residents provide patient care services and affect productivity.

- Facilities with major academic affiliations generally benefit as referral centers in
the VISN equipment fund allocations.

- The extent to which such factors as the number of facilities in an area, the
breadth of services offered, rural versus urban location, and weather extremes
influence costs and access to care remains unclear.

- No clear reason exists for adjusting VISN allocations for weather-related cost
differences. Rather, the VA should investigate the extent to which prices of all
non-labor inputs vary geographically, with an eye toward making appropriate
allocation adjustments should the amount of variation prove significant. Any
case-mix differences linked to weather should be accounted for through a
comprehensive case-mix adjustment, rather than one that is simply targeted to
weather-related conditions and procedures.

- A broad range of factors influence the cost and manner in which health care is
provided to the veteran population. Thus, it is important that any potential ad-
justment not be considered in isolation. Rather, adjustments should be consid-
ered in the broader context of a comprehensive health care delivery cost model.

We recommended that the factors that appeared to be affected by VERA should be
further clarified by a quantitative analysis. Such an analysis would provide significant
insight into VERA and would yield valuable information about the potential need for,
and consequences of, various modifications to the VERA allocation system. Further, such an analysis would constitute a logical extension of the VA’s ongoing effort to ensure that VERA remains an efficient, effective, and equitable resource allocation system.

PHASE II OBJECTIVES

The Phase I report identified some key issues that would require quantitative evaluation to resolve; however, such analysis was outside the scope of that initial phase of work. After reviewing the report and the results of that initial analysis, Congress proposed that the VHA contract with NDRI to conduct the analysis.

An underlying concern in Phase I, and one that was articulated in the legislation calling for this study, was whether the VERA system for allocating resources omitted consideration of certain factors, particularly factors that had a predictable and systematic impact on the costs of providing health care to veterans and were largely outside the control of VISN directors. Phase II was intended to evaluate the impact of these factors on the variation in patient costs across VISNs and to assess the potential effects of modifications that might be made to VERA to account for such factors.

The remainder of this report is organized as follows. Chapter Two describes the specifics of the analytic approach and the sources of data used in the analyses. Chapter Three presents the results of the quantitative analysis. Chapter Four presents our conclusions and recommended changes to VERA.