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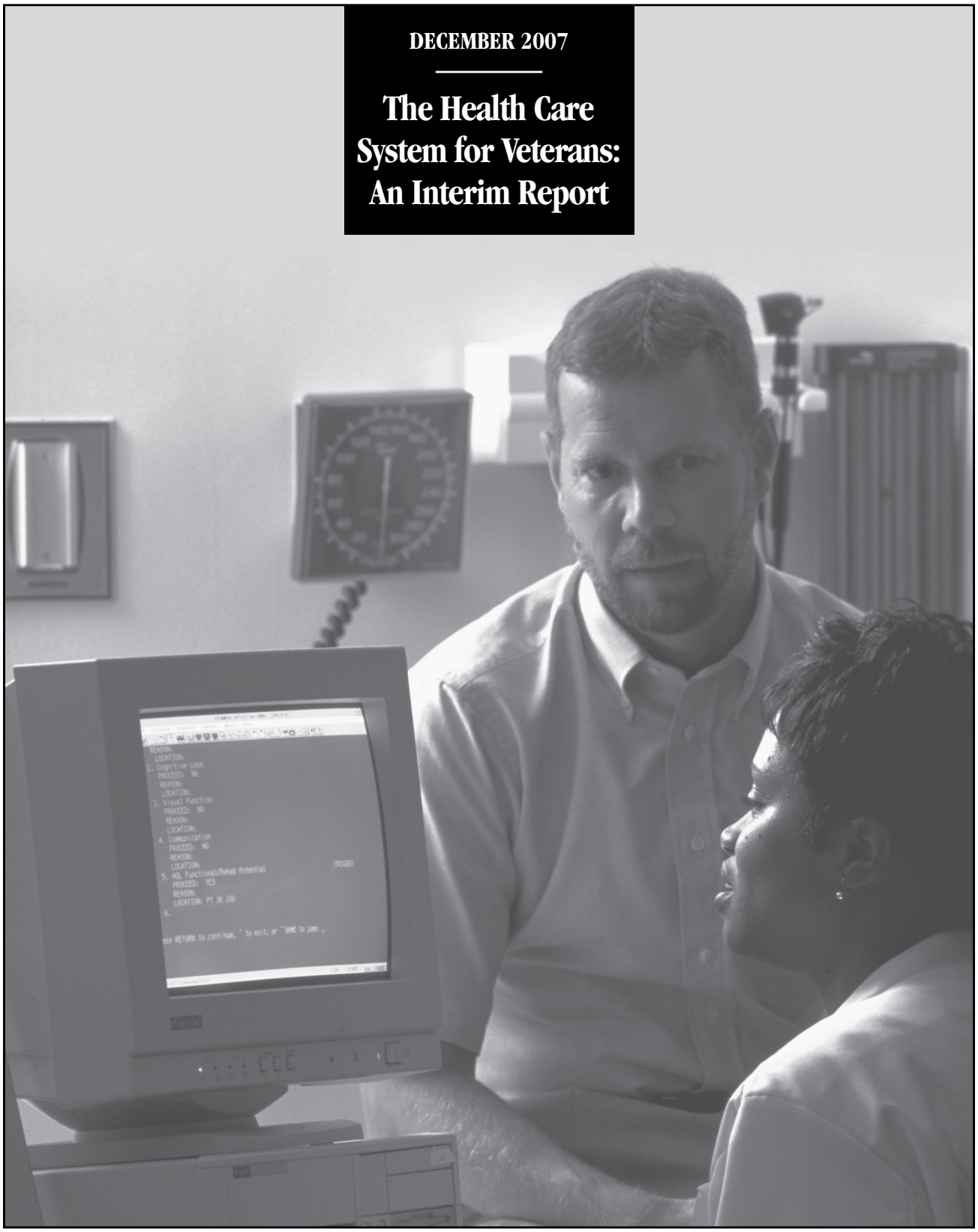
The Health Care System for Veterans: An Interim Report



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The Congress of the United States ■ Congressional Budget Office

Note

The photograph on the front cover was provided courtesy of the Department of Veterans Affairs.

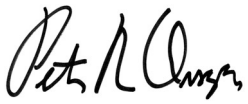
Preface

With the return of veterans having served in the conflicts in Iraq and Afghanistan and with a much larger number of veterans from earlier eras turning to the Department of Veterans Affairs (VA) for at least a portion of their health care, the department is now treating over 5 million veterans each year. Many observers have suggested that the quality of that care has been bolstered by advances in health information technology as well as in other areas such as the coordination of care and the management of chronic diseases, which may have implications for other components of the nation's health care system.

In response to requests from the Chairmen of the House Committee on Veterans' Affairs and the Subcommittee on Military Construction, Veterans Affairs, and Related Agencies of the House Committee on Appropriations, the Congressional Budget Office (CBO) has prepared this interim paper that describes the incentives for quality that VA has included in its management system and its uses of health information technology. A final paper, anticipated next year, will consider whether other government or private-sector health systems would benefit from adopting those and other practices by VA. In keeping with CBO's mandate to provide impartial analysis, this paper makes no recommendations.

Allison Percy of CBO's National Security Division wrote the paper under the supervision of J. Michael Gilmore and Matthew S. Goldberg. Lyle Nelson served as the internal reviewer. David Auerbach, Tom Bradley, Keith Fontenot, Stuart Hagen, Arlene Holen, Sarah Jennings, Sam Papenfuss, and Michelle Patterson provided helpful comments on a draft of the analysis. Michael McLendon of the consulting firm McLendon & Associates reviewed the paper. (The assistance of an external reviewer implies no responsibility for the final product, which rests solely with CBO.)

John Skeen edited the paper, Loretta Lettner proofread it, and Victoria Liu checked it for accuracy. Cindy Cleveland produced drafts of the manuscript. Maureen Costantino prepared the report for publication and designed the cover. Lenny Skutnik produced the printed copies, Linda Schimmel handled the distribution, and Simone Thomas prepared the electronic version for CBO's Web site (www.cbo.gov).



Peter R. Orszag
Director

December 2007

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The Health Care System for Veterans: An Interim Report

In recent years, the number of patients served by the medical system of the Department of Veterans Affairs (VA) has increased substantially. At the same time, VA's ratings for the quality of care and customer satisfaction have apparently improved. Many people both within and outside the department have pointed to several factors as being key to achieving those results:

- Organizational restructuring designed to share decisionmaking authority between officials in the central office, regional managers, and key personnel at dispersed medical facilities;
- Performance measurement targeted toward improving the quality of care; and
- Extensive use of health information technology (health IT).

This interim report provides a brief overview of VA's medical system, summarizes some of the recent evidence on the quality of VA's medical care and describes the incentives for quality that VA has included in its performance management system. The report also examines ways in which the department's health IT may affect the quality of care. CBO's final report, anticipated in early 2008, will address the potential for other government and private health care providers to make use of VA's experience, along with other issues.

Description of VA's Health System

The Department of Veterans Affairs, through the Veterans Health Administration (VHA), operates a system comprising 153 medical centers, 882 ambulatory care and community-based outpatient clinics, 207 Vet Centers, 136 nursing homes, 45 residential rehabilitation treatment programs, and 92 comprehensive home-based care programs—all providing medical and related services to eligible veterans. Those facilities provide inpatient hospital care, outpatient care, laboratory services, pharmaceutical dispensing, rehabilitation for a variety of disabilities and conditions, mental health counseling, and custodial care. VHA facilities employ about 200,000 full-time-equivalent employees, including over 13,000 physicians and nearly 55,000 nurses.

In 2006, there were about 24 million living veterans of the U.S. military, according to VA's estimates. In that year, the department provided medical services to over 5 million of those veterans and to over 400,000 other patients.[1] An additional 2.9 million veterans were enrolled in VA's system but did not seek services from the department that year (see Figure 1).

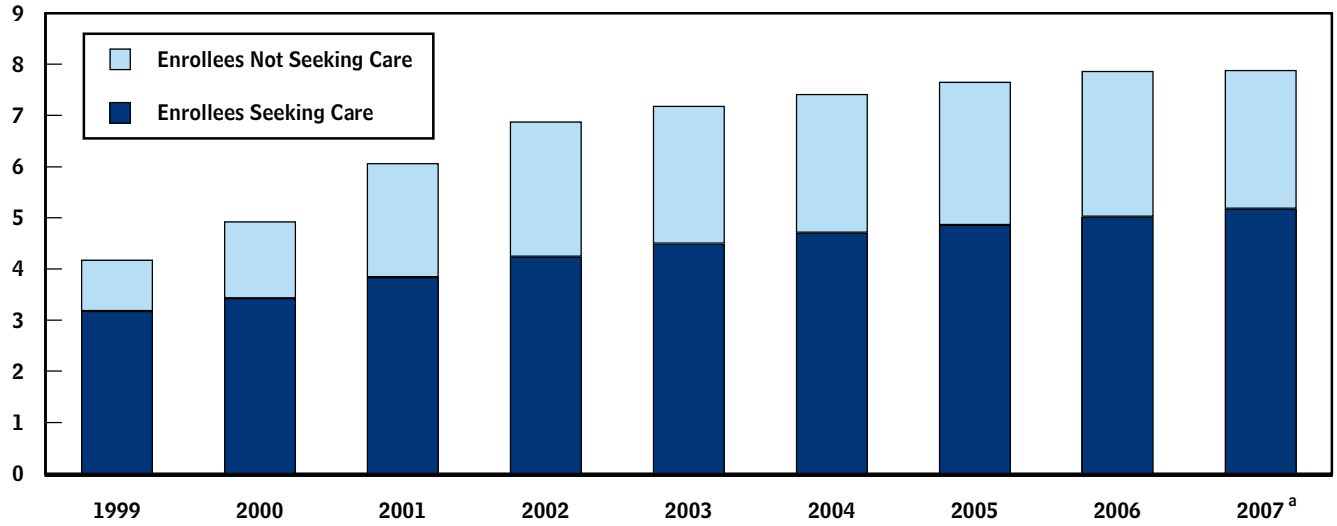
VA's enrollment system, begun in 1999 in accordance with provisions of the Veterans' Health Care Eligibility Reform Act of 1996 (Public Law 104-262; 110 Stat. 3177), calls for veterans who desire services to be assigned to a priority group based on service-connected disabilities, service-related exposures, income, assets, and other factors. Currently, there are eight priority groups (see Box 1). Those in the highest priority groups, 1 through 3, have service-connected disabilities of varying degrees, while those in priority group 4 have serious disabilities

1. Patients who are not veterans include employees (for example, ones receiving tests and vaccinations required for employment at VA facilities); dependents and survivors of disabled veterans who are eligible for the Civilian Health and Medical Program of the Department of Veterans Affairs program; and patients seen through sharing agreements with other providers, including the Department of Defense's TRICARE program (the medical plan provided to military service members, retirees, and their dependents).

Figure 1.

Veterans Enrolled in VA's Health System, 1999 to 2007

(Millions of veterans)



Source: Congressional Budget Office based on data from and budget submissions by the Department of Veterans Affairs (VA)

Note: "Enrollees not seeking care" are veterans who were enrolled in VA's system but who did not seek care in a particular year; "enrollees seeking care" were patients within VA's system.

a. Projected.

that are not service-connected. Priority group 5 consists of low-income veterans, and priority group 6 includes those with environmental exposures (to Agent Orange, for instance) as well as many recent combat veterans. The veterans in priority groups 7 and 8 have no compensable service-connected disabilities and have higher income than those in priority group 5.

As part of its model for projecting its health care budget, VA has calculated the relative cost of health care for veterans in each priority group, including the impact of such factors as the age, sex, and morbidity of veterans in each group.[2] With costs for veterans in priority group 1 (P1 veterans, or those with a service-connected disability rated 50 percent or higher) considered as a reference, the average cost of services provided to most other groups is substantially less (see Figure 2). The costs of providing care to veterans in priority groups 2 and 3 are, respectively, just 53 percent and 48 percent as much as the amount for P1 veterans, while care for low-income veterans in priority group 5 costs about 57 percent as much. The most expensive group, however, is veterans in priority group 4 (most of whom are housebound with catastrophic disabilities not related to their military service), whose care costs 63 percent more than that for P1 veterans. The least expensive veterans are those in priority groups 6, 7, and 8, whose care costs between 37 percent and 45 percent as much as that for P1 veterans.

Veterans in some priority groups rely more heavily on VA for their care, while others receive the majority of their medical services from other sources, such as Medicare, Medicaid, private health insurance, the military health system, or public hospitals. VA estimates the dollar value of all medical care received by enrolled veterans from all sources (including out-of-pocket payments) and then calculates the percentage of that care received from VA.

Disabled veterans receive the highest portion of their care from the department (see Figure 3). Veterans in priority groups 1 through 3, with service-connected disabilities, receive between 33 percent and 47 percent of their care, on average, from the department. Veterans in priority group 4 (mostly housebound veterans) receive about

2. The estimates exclude any reliance on other sources of care—that is, the relative costs are what would be incurred if veterans received 100 percent of their care from VA. (The impact of other sources of health care is estimated separately.)

Box 1.

The Department of Veterans Affairs' Health Care Priority Groups

Priority Group 1 (P1)
Veterans with service-connected disabilities (SCDs) rated 50 percent or more disabling.

Priority Group 2 (P2)
Veterans with SCDs rated 30 percent or 40 percent disabling.

Priority Group 3 (P3)
Veterans who are former prisoners of war; were awarded the Purple Heart; were discharged for SCDs; have SCDs rated 10 percent or 20 percent disabling; or were disabled by treatment or vocational rehabilitation provided by the Department of Veterans Affairs (VA).

Priority Group 4 (P4)
Veterans who are receiving aid and attendance benefits (cash payments from VA to eligible individuals who need assistance with daily activities because of a disability) or are housebound; and veterans who have been determined by VA to be catastrophically disabled.

Priority Group 5 (P5)
Veterans without SCDs or with noncompensable SCDs rated zero percent disabling who are living below VA's means-test thresholds; veterans who are receiving pension benefits from VA; and veterans who are eligible for Medicaid benefits.

Priority Group 6 (P6)
Veterans of either World War I or the Mexican Border War; veterans seeking care solely for disorders associated with exposure in the line of duty to chemical, nuclear, or biological agents (including, for example, Agent Orange); veterans with compensable SCDs rated zero percent disabling; and combat veterans who are within the two-year special eligibility period (see Box 2).

Priority Group 7 (P7)
Veterans without SCDs or with noncompensable SCDs rated zero percent disabling who have income and/or net worth above VA's means-test thresholds and below a geographic index defined by the Department of Housing and Urban Development (HUD).

Priority Group 8 (P8)
Veterans without SCDs or with noncompensable SCDs rated zero percent disabling who have income and/or net worth above both VA's means-test thresholds and HUD's geographic index.

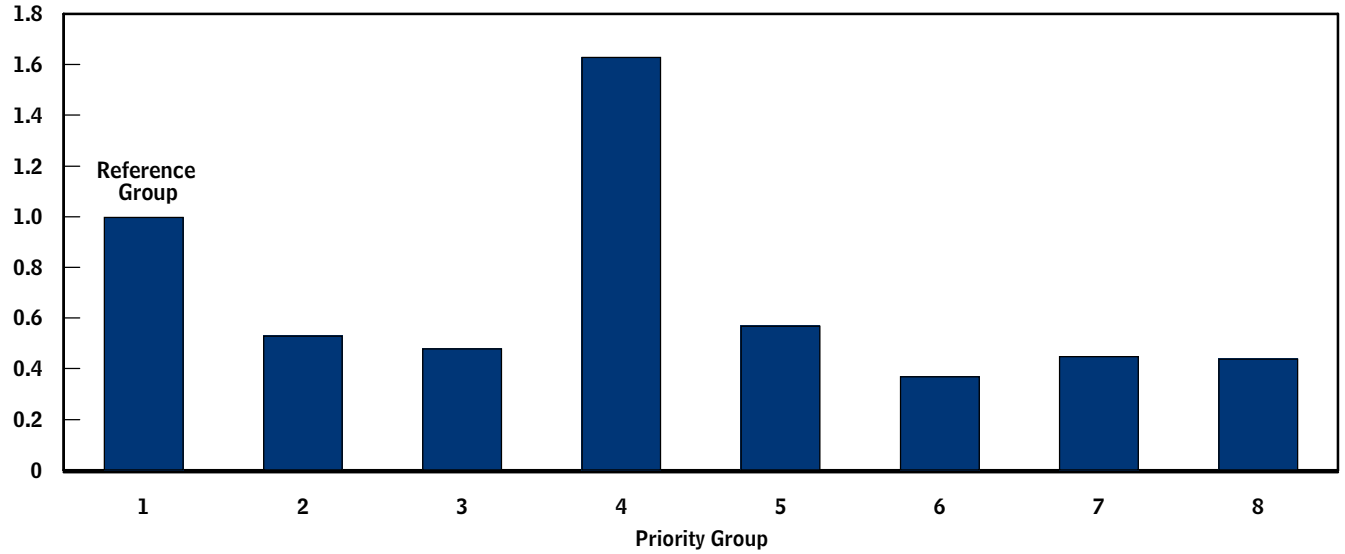
Cost-Sharing Rules
VA provides treatment for service-connected conditions free of charge to all enrolled veterans. Veterans in the highest priority groups generally do not pay inpatient or outpatient copayments even for care unrelated to their service. Copayments for outpatient services for veterans in the lower priority groups are $15 for a primary care visit or $50 for a visit to a specialist. The copayment for inpatient services for the first 90 days of care during a 365-day period is $992 and $496 for each additional 90 days of care during a 365-day period. The per diem charge for inpatient services is $10. Those copayment rates may be reduced by 80 percent for veterans with income and/or net worth below HUD's geographic index.

Copayments for medications are waived for veterans with very low income and those with SCD ratings of 50 percent or higher. Those copayments are also waived for veterans in priority groups 2 through 6 after they reach an annual cap of $960. Veterans in priority group 6 pay copayments only for services that are not related to their exposures or experience. Veterans in the lowest priority groups—7 and 8—pay copayments for all care that is not related to a service-connected condition. Even under the various circumstances in which copayments are waived, a veteran's third-party insurer may be billed for treatment for conditions unrelated to his or her service.

Figure 2.

Relative Cost of Care per Enrolled Veteran by Priority Group

(Ratio of cost to that of a veteran in priority group 1)



Source: Congressional Budget Office based on data from the Department of Veterans Affairs.

Note: In the figure, costs for veterans in priority group 1 serve as the reference and therefore are set at 1.0. Priority groups are defined in Box 1.

49 percent of their care from VA, on average. Low-income veterans in priority group 5 turn to VA for about 43 percent of their care. For veterans in priority group 6 (which includes veterans suffering from exposure to toxic substances as well as recent combat veterans), the figure is 24 percent; and for veterans in priority groups 7 and 8, the figures are 21 percent and 22 percent, respectively.

In addition to the 7.9 million veterans currently enrolled, VA estimates that 5.8 million veterans who are not enrolled would be eligible to receive medical care from the VA health system if they applied and that about 10.2 million veterans would be classified in priority group 8, for which new enrollment has been frozen since January 2003. Recent combat veterans may enroll regardless of disability or income status during a two-year special eligibility period (see Box 2).

To serve the population of eligible veterans, the Veterans Health Administration received $36 billion in budget authority in 2007 (including collections and supplemental appropriations). The agency's budget has grown rapidly in the past decade, in part because of substantial growth in the number of veterans using the system (see Box 3).

In the 1990s, VA's then-Undersecretary for Health Dr. Kenneth Kizer led a "reengineering" of the department's health system, with the goals of better managing performance and systematizing improvements in quality and innovation.[3] In the early part of the decade, the system focused largely on inpatient care and care by specialists, lagging behind changes in the private sector, where many medical procedures had moved to an outpatient setting. In fact, rules prohibited outpatient care in many cases, raising concerns that VA could not provide coordinated primary care of the sort best suited to its population of mainly older male patients, many of whom had one or more chronic illnesses.[4] The Veterans' Health Care Eligibility Reform Act of 1996 substantially revised eligibility rules in an effort to provide a comprehensive medical benefit to each veteran who enrolled for care from VA,

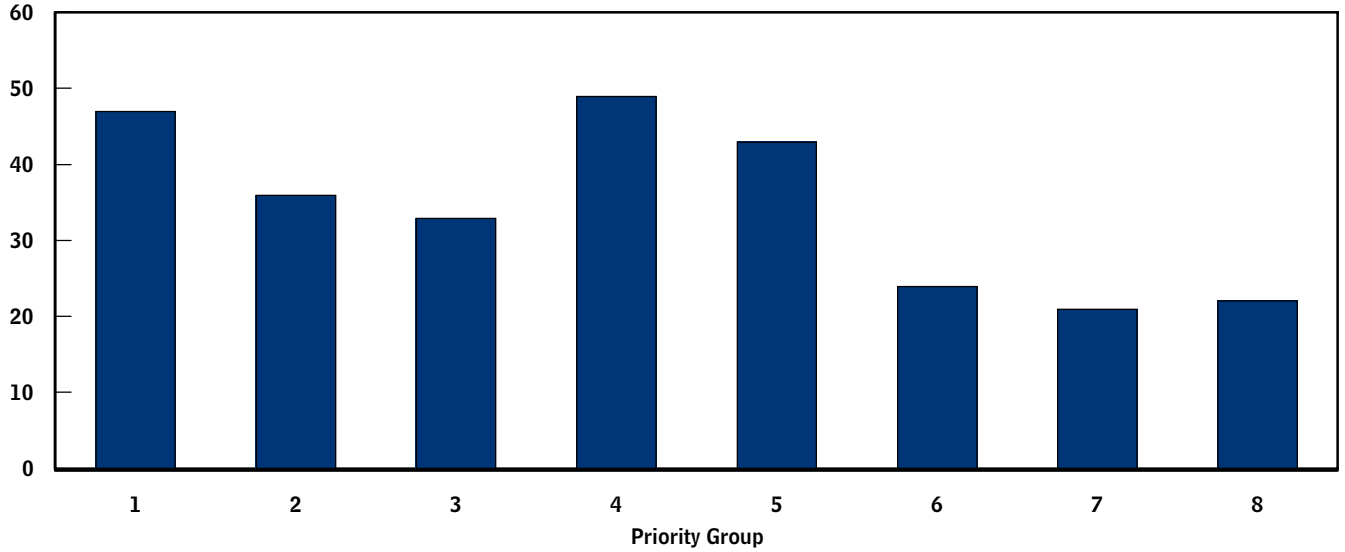
3. See Kenneth W. Kizer, John G. Demakis, and John R. Feussner, "Reinventing VA Health Care: Systematizing Quality Improvement and Quality Innovation," *Medical Care*, vol. 38, no. 6 (2000), pp. I-7–I-16.

4. See Kenneth W. Kizer, *Prescription for Change: The Guiding Principles and Strategic Objectives Underlying the Transformation of the Veterans Healthcare System* (Department of Veterans Affairs, 1996).

Figure 3.

Average Reliance on VA's Care by Priority Group

(Percentage of care received from VA)



Source: Data provided to the Congressional Budget Office by the Department of Veterans Affairs (VA).

Note: Reliance on VA's care is measured in dollar terms. Priority groups are defined in Box 1.

including lifting the restriction on outpatient care. VA then substantially expanded its outpatient services, opening hundreds of clinics throughout the country so that services would be more accessible to patients and could be provided in the most medically appropriate setting.

VA medical centers, outpatient clinics, and other facilities are organized into regional networks known as Veterans Integrated Service Networks (VISNs). There are currently 21 VISNs; a typical VISN includes 7 to 10 medical centers and a number of outpatient clinics and other facilities. The networks have the responsibility for allocating funds and for meeting performance goals set at the national level.

The Quality of VA's Medical Care

VHA's Office of Quality and Performance has adopted the definition of health care quality proposed by the Institute of Medicine (IOM): Quality is "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge."[5]

The IOM also noted that health care should have the following attributes:

- "Safe—avoiding injuries to patients from the care that is intended to help them.
- Effective—providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and overuse, respectively).
- Patient-centered—providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.
- Timely—reducing waits and sometimes harmful delays for both those who receive and those who give care.
- Efficient—avoiding waste, including waste of equipment, supplies, ideas, and energy.

5. Institute of Medicine, Committee on Quality of Health Care in America, *Crossing the Quality Chasm: A New Health System for the 21st Century* (Washington, D.C.: National Academies Press, 2001), p. 44.

Box 2.

Special Eligibility Period for Combat Veterans

More than 1 million active-duty military personnel have been deployed to either the Iraq or the Afghanistan theater of operation. Of the soldiers in the Army's current force, more than half have been deployed in support of those operations at least once, and 15 percent have been deployed twice or more. In addition to the active-duty troops, reserve personnel have been mobilized in large numbers—a total of 580,000 through March 2007; and more than 410,000 reservists had been deployed to combat operations through December 2006. Troop levels in Iraq have climbed by between 30,000 and 40,000 over the past six months, in turn increasing the number of service members who may qualify for VA medical care in the future.

Traditionally, reserve-component personnel who return from a deployment but remain on the military rolls would not qualify for VA health care until some later date when they were discharged from the service. However, legislation enacted in 1998, the Veterans Programs Enhancement Act (Public Law 105-368), gave veterans and demobilized reservists returning from combat operations a special two-year period of eligibility for health care from the Department of Veterans Affairs (VA), waiving any requirements for them to satisfy a means test or to demonstrate a service-connected disability. Under that authority, VA provides health care for free for medical conditions potentially related to military service in combat operations.[1]

1. 38 U.S.C. 1710(e)(1)(D), as added by section 102 of the Veterans Programs Enhancement Act of 1998 (P.L. 105-368; 112 Stat. 3315, 3321).

- Equitable—providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status." [6]

VA tracks many aspects of its health care along the dimensions highlighted by the IOM.

Evidence of the Quality of VA's Health Care

VA officials have often cited studies that have given the department high ratings for the quality of its medical care. For example, then-Secretary of Veterans Affairs James Nicholson stated in a speech in July 2007, "We lead private and Government health care providers in almost every measure and our state-of-the-art quality care arcs from the research lab to a patient's bedside."[7] Michael Kussman, then-Acting (now confirmed) Under Secretary for Health, gave testimony before the Congress in March 2007 in which he called VA "the Nation's leader in providing high-quality health care" and cited a number of external research studies to support that claim.[8]

VA tracks the quality of its medical care using a variety of indicators for such areas as adherence to clinical guidelines, waiting times for access to services, and customer satisfaction. One key index is the Clinical Practice Guidelines Index, which measures the degree to which a provider follows nationally recognized standards of care that

6. Institute of Medicine, *Crossing the Quality Chasm*, pp. 5–6.

7. Remarks by R. James Nicholson to the Health Care Panel, Public Health Congress, Washington, D.C., July 16, 2007.

8. Statement of Michael J. Kussman, Acting Under Secretary for Health, Department of Veterans Affairs, before the Subcommittee on Military Construction, Veterans' Affairs and Related Agencies, House Committee on Appropriations (March 6, 2007).

Box 2.

Continued

VA has established three criteria for health conditions unrelated to military service, in which case VA will provide the care but may charge a veteran copayments or bill the veteran's third-party insurance:

- Congenital or developmental conditions (for example, scoliosis),
- Conditions that are known to have existed before military service, and
- Conditions that began after military service (for example, bone fractures occurring after separation from the military).[2]

At the expiration of the two-year period, unless they are reclassified because of other factors (such as having service-connected disabilities or satisfying a means test), those veterans will be moved into priority group 8, but their enrollment will be "grandfathered"—they will remain eligible for health care notwithstanding the freeze on new enrollments for that priority group (see Box 1 for a description of the priority groups).[3]

As of April 2007, about 320,000 active-duty veterans of Operation Iraqi Freedom and Operation Enduring Freedom had separated from military service and become eligible for health care provided by VA. In addition, about 370,000 members of the Reserve or National Guard had returned from those theaters of operation and become eligible, even though many of them remained affiliated with the military. Among those eligible veterans, about 110,000 of those who were on active duty and 115,000 of the reservists have received health care from VA thus far.

2. Department of Veterans Affairs, Veterans Health Administration, "Combat Veterans Are Eligible for Medical Services for Two Years After Separation from Military Service, Notwithstanding Lack of Evidence for Service Connection," VHA Directive 2002-049, September 11, 2002.

3. H.R. 612, the Returning Servicemember VA Healthcare Insurance Act of 2007, would amend title 38 of the U.S. Code to extend the period of eligibility for health care for combat service in the Persian Gulf War or future hostilities from two years to five years after discharge or release. In May 2007, CBO prepared a cost estimate for that bill, which is available at www.cbo.gov/ftpdocs/81xx/doc8129/hr612.pdf. The bill passed the House and was referred to the Senate for further action.

have been shown to improve health outcomes.[9] Another is the Prevention Index II, which VA uses to track compliance with clinical guidelines for preventive care that research has tied to improved health and well-being.[10] In 2006, VA reported average scores of 87 percent on the Clinical Practice Guidelines Index and 90 percent on the Prevention Index II, exceeding the department's targets of

9. The Clinical Practice Guidelines Index is "a composite measure comprised of the evidence and outcomes-based measures for high-prevalence and high-risk diseases that have significant impact on overall health status. The indicators within the Index are comprised of several clinical practice guidelines in the areas of ischemic heart disease, hypertension, diabetes mellitus, major depressive disorder, schizophrenia, and tobacco use cessation. The percent compliance is an average of the separate indicators." See Department of Veterans Affairs, *FY 2006 Performance and Accountability Report* (November 2006), p. 184.

10. The Prevention Index II is "an average of nationally recognized primary prevention and early detection interventions for nine diseases or health factors that significantly determine health outcomes. The nine diseases or health factors include: rate of immunizations for influenza and pneumococcal pneumonia; screening for tobacco consumption, alcohol abuse, breast cancer, cervical cancer, colorectal cancer, and cholesterol levels; and prostate cancer education. Each disease has an indicator. Each indicator's numerator is the number of patients in the random sample who actually received the intervention they were eligible to receive. The denominator is the number of patients in the random sample who were eligible to receive the intervention." Ibid.

Box 3.

Factors Affecting Medical Spending by the Department of Veterans Affairs

A few news articles and publications have noted that the cost per patient or enrollee has remained relatively stable for the Department of Veterans Affairs (VA), while the costs faced by Medicare and other health plans have risen faster than general inflation.[1]

By one measure—the budget authority per enrollee for the Veterans Health Administration (VHA)—the cost fell by 29.0 percent in real (inflation-adjusted) terms between 1999 and 2005, reflecting an annual decrease of 5.6 percent. However, those figures do not take into account the changing mix of patients within the VA system, which has seen rapid growth in the overall number of patients and particularly in the enrollment by veterans whose care, on average, is less expensive than that for previous patients. Those less costly enrollees include patients who are younger, who are less disabled, or who seek only a small portion of their care from VA, as well as some enrollees who do not seek any care from the department in a given year.

Adjusting for the changing mix of patients (using data on reliance and relative costs by priority group), the Congressional Budget Office (CBO) estimates that VHA's budget authority per enrollee grew by 1.7 percent in real terms from 1999 to 2005 (0.3 percent annually).[2] Though not the decline in cost per capita that is suggested by the unadjusted figures, that estimate still indicates some degree of cost control when compared with Medicare's real rate of growth of 29.4 percent in cost per capita over that same period (4.4 percent per year).

One factor that has enabled VA to hold down its costs is the fact that federal law enables the department to purchase pharmaceutical products at prices that are less than those available to nearly any other purchaser.[3] In addition, VA uses a restrictive formulary to reduce its pharmaceutical costs even further.

However, in 2006, pharmaceuticals made up 13.5 percent of VA's medical expenditures, compared with 10.1 percent of total national health expenditures. The higher percentage for the department despite its lower acquisition costs may reflect its older population of patients and the fact that some veterans rely on VA disproportionately for pharmaceuticals because of its relatively low copayment rate of $8 per prescription.

Until allowed by the Veterans' Health Care Eligibility Reform Act of 1996, VA was prohibited by statute from providing outpatient care to many patients. So the department lagged behind other providers in moving health care from an inpatient to an outpatient setting. Providing care in an outpatient setting

1. See, for example, Phillip Longman, *Best Care Anywhere: Why VA Health Care Is Better Than Yours* (Sausalito, Calif.: PoliPointPress, 2007), p. 5; "The Best Medical Care in the U.S.," *BusinessWeek*, July 17, 2006; and David Brown, "VA Takes the Lead in Paperless Care," *Washington Post*, April 10, 2007, p. F4.

2. CBO used information provided by VA from its actuarial model of enrollment in its system. CBO applied estimated rates of reliance and costs of care for VA patients by priority group (provided by the model and shown in Figures 2 and 3 on pages 4 and 5) to the numbers of enrolled veterans in each priority group in 1999 and 2005 in order to isolate the effect of the changing composition of the population of veterans on VA's cost growth. VA's spending data reflect total costs, including collections and supplemental appropriations, and Medicare data reflect net federal costs. CBO used total costs for VA because the growth in the department's net costs reflects, in part, increased billing efforts in recent years rather than changes in the level of spending on patients. (VA's collections have increased over 250 percent since 1999.)

3. For more information, see Congressional Budget Office, *Prices for Brand-Name Drugs Under Selected Federal Programs* (June 2005).

Box 3.

Continued

reduces the costs of many medical services, although not necessarily the total cost of care, as convenient access to VA outpatient care may increase the overall demand for medical services from VA (and perhaps from all sources). If the shift toward outpatient care has resulted in a reduction in per capita spending, it could have benefited VA more than Medicare during the period being analyzed here, 1999 to 2005, particularly if many of those seeking care from VA's outpatient clinics were receiving medical services from other sources as well.

While VHA's real per capita spending has increased little in recent years, the agency's overall spending has grown rapidly. The agency's medical budget has doubled in the past decade, rising from $17 billion in 1996 to $36 billion in 2007, reflecting an annual compound growth rate of 7.4 percent in nominal terms (or 5.2 percent after accounting for inflation). That growth in the agency's budget can be traced in large part to a rapidly expanding population of patients since the passage of the Veterans' Health Care Eligibility Reform Act of 1996, from 4.2 million enrollees in 1999 (the first year in which the enrollment system established by that law was fully operational) to 7.9 million in 2006. However, in any given year, some enrollees do not seek any medical care from VA, either because they do not become ill or because they rely on other sources of care. In 2006, about 5.0 million veterans received services from a VA hospital or clinic, up from 3.2 million in 1999 (see Figure 1).

Many new patients who have entered the VA system fall into priority groups 7 and 8—veterans with no service-connected disabilities and with income and/or net worth above established thresholds, who previously had very limited access to the department's medical services. Those groups differ in some ways from VA's traditional target population. Many enrolled veterans in those groups are older but have access to other sources of care, such as Medicare. On average, veterans in priority groups 7 and 8 receive only about 20 percent of their care from VA and the rest from other sources; as a result, the cost to VA of those enrollees is relatively small compared with the costs for veterans in priority groups 1 through 5 (see Box 1).

In addition to the influx of older veterans in priority groups 7 and 8, recent combat veterans are enrolling in much higher numbers than recently discharged veterans have traditionally, perhaps partly because of the special eligibility period currently in place that allows enrollment regardless of income or service-connected disability status (see Box 2). Those enrollees are younger than the average for VA patients. While some have serious injuries, most are relatively healthy; the average cost of patients with special eligibility status was only $2,600 in 2006, compared with about $5,800 for all VA patients.

VA has received supplemental appropriations in recent years that have contributed to the growth in its total medical budget. The Government Accountability Office has reported that 28 percent of VA's 2005 supplemental budget request ($273 million out of $975 million) was intended to meet the demand for medical treatment of recent combat veterans. The remainder went (in descending order of funding) to long-term care, unexpected numbers of patients in priority groups 1 through 6 (even omitting those who served in the Iraq or Afghanistan theater), unexpected increases in enrollees' use of medical services, efforts to reduce waiting lists, and rapid growth in spending by the Civilian Health and Medical Program of the Department of Veterans Affairs.[4]

4. Government Accountability Office, *VA Health Care: Budget Formulation and Reporting on Budget Execution Need Improvement*, GAO-06-958 (September 2006).

77 percent and 88 percent, respectively.[11] For both measures, the scores have improved in recent years. From 2004, when the Clinical Practice Guidelines Index was put in place (replacing an older composite measure), to 2006, VA's score on the index rose 10 percentage points. VA's score on the Prevention Index II rose 8 percentage points from 2002 to 2006. CBO was unable to identify any directly comparable scores for other government providers or for private providers because, even though VA's indicators are composed of many individual measures that are commonly used throughout the health care industry, the indexes are composites developed specifically for VA. In 2008, VA is planning to adopt more quality measures that are industrywide, such as those in the Healthcare Effectiveness Data and Information Set (HEDIS), in order to improve comparability with other providers.[12]

Those key indexes used by VA focus on process measures of quality rather than outcome measures for several reasons. First, process measures are easier to track—for example, VA's electronic health information system can easily identify what percentage of heart patients had their blood pressure checked during their last primary care visit. Second, process measures are easier to compare among facilities; they do not need to be adjusted for differences in the risk of the population of patients. Third, the process measures that are tracked are drawn from published clinical guidelines, which in turn are based on published research regarding health outcomes for patients. Nevertheless, it is important to examine health outcomes in addition to process measures, as some process measures have been shown to have a relatively tenuous connection to health outcomes.[13]

Although some studies have compared outcomes for VA patients with those for patients treated by other providers, they have not allowed for drawing broad conclusions.[14] In such studies, adjusting for differences in the risks of the patients can be problematic. Also, VA patients may have other sources of health coverage (such as Medicare, Medicaid, or private insurance) and often seek some care outside of VA's system, complicating the distinction between a "VA patient" and a "non-VA patient." Thus, although it remains important to study the health outcomes of VA patients and to compare them to those for patients in other systems, VA is likely to continue to rely heavily on process measures in gauging and improving the quality of care in its facilities.

VA also tracks measures of access to care, particularly, waiting times for appointments or procedures. VA reported that, in 2006, 96 percent of all veterans seeking primary medical care and 95 percent of all veterans seeking specialty care were seen within 30 days of their desired dates.[15] However, according to a 2005 report by the VA Inspector General (IG), the department's data on waiting times were not accurate, and, in fact, many fewer patients were receiving appointments within the 30-day window than the figures cited by the department in its official reports.[16] In September 2007, in a follow-up audit, the VA IG found that established procedures were still not being followed and that, as a result, data on waiting times could not be relied upon.[17]

In addition to measuring quality and access, VA also tracks its performance in terms of patients' satisfaction, including using the American Customer Satisfaction

11. Ibid, p. 1.

12. HEDIS was designed by the National Committee for Quality Assurance and is used by most private health plans to measure performance in terms of quality of care and service.

13. According to a recent study, the process measures commonly used for acute myocardial infarction, for example, are only weakly correlated with risk-adjusted mortality rates. See E. Bradley and others, "Hospital Quality for Acute Myocardial Infarction: Correlation Among Process Measures and Relationship with Short-Term Mortality," *Journal of the American Medical Association,* vol. 296, no. 1 (July 5, 2006), pp. 72–78.

14. See, for example, Eve A. Kerr and others, "Diabetes Care Quality in the Veterans Affairs Health Care System and Commercial Managed Care: The TRIAD Study," *Annals of Internal Medicine,* vol. 141, no. 4 (2004), pp. 272–281; Mary Beth Landrum and others, "Care Following Acute Myocardial Infarction in the Veterans Administration Medical Centers: A Comparison with Medicare," *Health Services Research,* vol. 39, no. 6, part 1 (2004), pp. 1773–1792; and Laura A. Petersen and others, "Outcome of Myocardial Infarction in Veterans Health Administration Patients as Compared with Medicare Patients," *The New England Journal of Medicine,* vol. 343, no. 26 (December 28, 2000), pp. 1934–1941.

15. Department of Veterans Affairs, *FY 2006 Performance and Accountability Report,* pp. 120–121.

16. Department of Veterans Affairs, Office of the Inspector General, *Audit of the Veterans Health Administration's Outpatient Scheduling Procedures*, Report No. 04-02887-169 (July 8, 2005).

17. Department of Veterans Affairs, Office of the Inspector General, *Audit of the Veterans Health Administration's Outpatient Waiting Times*, Report No. 07-00616-199 (September 10, 2007).

Index (ACSI), which ranks customer satisfaction with a variety of federal programs and private-sector industries.[18] In 2005, VA achieved a satisfaction score of 83 (out of 100) on the ACSI for inpatient care and 80 (out of 100) for outpatient care, compared with averages for private-sector providers of 73 for inpatient care and 75 for outpatient care. In 2004, the ratings were higher for both VA and the private sector. For VA, the scores for inpatient and outpatient care were 84 and 83, respectively, while the average scores for the private sector were 79 and 81.[19] Starting in 2008, VA hopes to track its patients' satisfaction using the Consumer Assessment of Healthcare Providers and Systems (CAHPS), a set of standardized surveys developed by the Agency for Healthcare Research and Quality (AHRQ) that ask patients to evaluate their health care experiences. Using the CAHPS surveys could improve VA's ability to compare its performance to that of the Department of Defense and the private sector.

One potential concern about assessing the satisfaction of VA's patients is the impact that the department's low cost-sharing requirements may have on the ratings. Patients with service-connected disabilities receive care for those conditions free of charge. For the treatment of conditions not connected to service, VA may charge low copayments and can also bill veterans' private insurance plans. The copayments for prescription drugs, outpatient visits, and inpatient care are relatively modest when compared with those faced by most users of private-sector health insurance. It is possible that individuals who face low or no costs for their care may be more satisfied than those who pay higher costs. However, it is also possible that veterans have high expectations of the level of service they should receive from VA's health system as individuals who served their country in uniform, sometimes incurring disabilities in the process.

Another potential concern about how to interpret VA's satisfaction ratings is the fact that the ratings do not incorporate the satisfaction of veterans who cannot access the system (either because they are priority group 8 veterans who were not enrolled before the January 2003 freeze in enrollment for that group or because VA facilities are geographically inaccessible to them) or who choose not to use the system. However, for any health care system, satisfaction ratings reflect the views only of people who are patients within that system.

VA is not alone among government health care providers in tracking patients' satisfaction. In recent years, the Department of Defense's TRICARE system has increasingly emphasized improving its beneficiaries' satisfaction (see Box 4). Although TRICARE's overall satisfaction ratings compare favorably to civilian benchmarks, active-duty service members, who generally must use the in-house military health system, report lower satisfaction than do family members and retirees, who have better access to the civilian TRICARE network. Retirees report slightly higher levels of satisfaction with the system than active-duty personnel and their families do, despite the fact that retirees generally pay higher cost-sharing amounts.

The published literature includes a number of studies that address the quality of VA's health care. A 2003 study examined the issue for patients in VA's system in 1994 and 2000 (before and after the reengineering of the system) and compared that care with that received by patients in Medicare's fee-for-service program, in which patients can seek care from a wide variety of outpatient and inpatient providers.[20] The study found statistically significant improvements in quality after VA's reengineering. Moreover, it found that VA patients were more likely to have received "appropriate care," as defined by adherence to certain clinical guidelines. The medical care

18. See National Quality Research Center at the Ross School of Business at the University of Michigan, CFI Group, and the Federal Consulting Group, *Veterans Health Administration—Inpatients, Veterans Affairs Customer Satisfaction Study: Final Report* (prepared for the Department of Veterans Affairs, December 2006), and *Veterans Health Administration—Outpatients, Veterans Affairs Customer Satisfaction Study: Final Report* (prepared for the Department of Veterans Affairs, December 2006). More information about the ACSI is available at www.theacsi.org/index.php?option=com_content&task=view&id=46&Itemid=43.

19. Department of Veterans Affairs, *FY 2006 Performance and Accountability Report*, p. 29, and *FY 2005 Performance and Accountability Report* (November 2005), p. 42. VA reports ACSI ratings in the year after each study was conducted, so that VA's *FY 2006 Performance and Accountability Report* contains its ACSI ratings from 2005.

20. Ashish K. Jha and others, "Effect of the Transformation of the Veterans Affairs Health Care System on the Quality of Care," *The New England Journal of Medicine,* vol. 348, no. 22 (May 29, 2003), pp. 2218–2227. (It should be noted that three out of the four authors of the paper have a current or former affiliation with VA.)

Box 4.

Satisfaction with TRICARE, Another Federal Health System

The other large federal system that directly provides health care is run by the Department of Defense (DoD). (By contrast, the Medicare and Medicaid programs receive federal and, in the case of Medicaid, state funding but purchase care from the private sector rather than providing care in-house at government facilities.) DoD's TRICARE program supplies health care to military personnel and their families and to military retirees and their eligible family members, as well as to certain survivors. In 2006, TRICARE spent $15 billion on care purchased from the private sector and $20 billion (including overhead and administration costs) on care provided in-house at 70 military hospitals and medical centers (including 52 in the United States), another roughly 400 ambulatory medical clinics, and about 400 dental clinics.[1] TRICARE covered a total of 9.2 million beneficiaries worldwide, including nearly 1.5 million active-component uniformed service personnel and 320,000 members of the Guard and Reserve.[2]

DoD publishes a self-assessment of its TRICARE program each year that, among other things, compares its beneficiaries' satisfaction with civilian benchmarks.[3] The latest assessment compares data from the three most recent Health Care Surveys of DoD Beneficiaries (for 2004 through 2006), adjusted for beneficiaries' age and health status, to civilian

1. Funding for the TRICARE For Life Program is accrued via the Medicare-Eligible Retiree Health Care Fund (MERHCF), which received $10.8 billion from DoD's military personnel appropriation in 2006 to pay for the future benefits of current active-duty personnel. Payments out of the fund for current Medicare-eligible military retirees and family members totaled $6.4 billion. Those beneficiaries contributed $4.8 billion to the total of $15 billion spent on purchased care and $1.6 billion to the total of $20 billion spent on in-house care. See Office of the Assistant Secretary of Defense (Health Affairs), *Evaluation of the TRICARE Program: FY 2007 Report to Congress* (February 27, 2007), pp. 18 and 23, available at www.tricare.mil/ocfo/hpae/reports.cfm.
2. Guard and Reserve members become eligible for TRICARE when activated for a contingency operation for a period of more than 30 days. Further, if they receive advance notification, both they and their family members become eligible for up to 90 days prior to activation. About 32,000 Guard and Reserve personnel are covered even when not activated because they pay premiums to the TRICARE Reserve Select program.
3. See Office of the Assistant Secretary of Defense (Health Affairs), *Evaluation of the TRICARE Program: FY 2007 Report to Congress*.

received by VA patients rated significantly better on nearly all quality-of-care indicators than that received by patients covered by the Medicare fee-for-service program. For some settings and conditions, between 93 percent and 98 percent of VA patients were found to have met the criteria for appropriate care in 2000, while the highest score for Medicare patients was 84 percent.

The authors attributed VA's improvements in quality to its focus on measuring it:

> "We believe that the reengineering of VA health care, which included the implementation of a systematic approach to the measurement of, management of, and accountability for quality, was at the heart of the improvement. Routine performance measurements for high-priority conditions such as diabetes and coronary artery disease, emphasizing health maintenance and management of care, were instituted. Performance contracts held managers accountable for meeting improvement goals. Whenever possible, quality indicators were designed to be similar to performance measures commonly used in the private sector. Data gathering and monitoring were performed by an independent agency—the External Peer Review Program. Critical process improvements, such as an integrated, comprehensive electronic medical-record system, were instituted at all VA medical centers. Finally, performance data were made public and were widely distributed within the VA, among key stakeholders such as

Box 4.

Continued

benchmarks obtained from the national Consumer Assessment of Healthcare Providers and Systems (CAHPS) database. The major findings of the 2006 comparison are these:

- Users of the military health system were about as satisfied with their health plan as were civilians in the database used as a benchmark. For TRICARE, 55.9 percent were satisfied; in civilian plans, 59.4 percent.
- Military users were nearly as satisfied as their civilian counterparts with their primary care physicians—67.2 percent versus 73.5 percent—and with their specialty physicians—69.2 percent versus 73.5 percent.
- Military users were less satisfied with the health care they received—59.2 percent satisfied versus 72.4 percent—which may reflect dissatisfaction with the administration of the program rather than with TRICARE medical providers.
- Active-duty personnel consistently reported lower levels of satisfaction than did family members and retirees. In 2006, 51.3 percent of active-duty users reported satisfaction with their health plan. In that same year, 57.9 percent of family members of active-duty personnel reported being satisfied, while 59.9 percent of retirees and their family members were satisfied with their health plan. The difference may reflect the fact that active-duty personnel have fewer choices under TRICARE—generally, they must seek care from a military treatment facility unless they are specifically referred to a civilian provider in the TRICARE network.
- Military beneficiaries who enroll in TRICARE Prime, the managed-care option, are assigned a primary care manager (PCM)—a health care professional or team that the patient sees first for health care. Those with a military PCM are more likely to be referred to in-house military facilities, while those with a civilian PCM are more likely to use civilian TRICARE providers in the community. Some 59.3 percent of the military beneficiaries who were assigned a civilian PCM reported being satisfied with the health care they received, whereas 55.9 percent of those with a military PCM reported being satisfied.

veterans' service organizations, and among members of Congress."[21]

A 2004 study assessed the quality of care for VA patients and for patients in a national sample.[22] Employing a cross-sectional design, the study compared indicators for a sample of VA patients drawn from 26 facilities located in 2 VISNs and for a national sample of patients from 12 communities—using data collected between 1997 and 2000, a period during which performance measurement and electronic medical records had been implemented throughout VA's medical system. The authors chose to examine process measures, noting that such measures "are more readily actionable than outcomes measures, require less risk adjustment, and follow the structure of national guidelines."[23] Altogether, the study included 348 indicators drawn from national guidelines and the medical literature to address both inpatient and outpatient care, including screening, diagnosis, treatment, and follow-up activities.

The study found that, on average, 67 percent of VA patients received the care specified by the indicators,

21. Jha and others, p. 2224.

22. Steven M. Asch and others, "Comparison of Quality of Care for Patients in the Veterans Health Administration and Patients in a National Sample," *Annals of Internal Medicine*, vol. 141, no. 12 (December 21, 2004), pp. 938–945. (It should be noted that VA provided partial funding for this study and several of its authors have had an affiliation with the department.)

23. Asch and others, p. 939.

compared with 51 percent of the patients in the national sample. For both chronic care and preventive care, the ratings for VA patients were higher than for the others, but for acute care, slightly lower (although the difference was not statistically significant). For depression, diabetes, hyperlipidemia, and hypertension, VA patients received significantly better care.

VA's performance measurement system appears to play a key role in explaining some of those differences in adherence to clinical guidelines. The authors noted that while the average difference between the scores for VA patients and patients in the national sample was 24 percentage points for those quality indicators that the department had made a point of tracking, the difference on indicators that the department did not track "barely reached conventional levels of statistical significance."[24]

Such studies raise some questions, though, in that they are comparing the performance of systems with some fundamental differences; VA's integrated system is quite different from ones made up of a variety of independent medical providers. Moreover, the fact that many of VA's patients seek a substantial portion of their care outside of the department's system poses some complications (including tracking compliance with clinical guidelines). Medical records from the wide variety of providers outside of VA's integrated system may not fully reflect all services received. Also, such studies may focus on measures to which VA gives disproportionate weight, while neglecting to examine others.

Possible Explanations for VA's Achievements in Quality of Care

Observers have suggested a number of factors to explain VA's higher scores on many measures of health care quality compared with those of other systems. In particular, VA's structure as an integrated delivery system makes it easier for the department to apply two important tools:

- Incentives given to managers and providers to meet targets for quality of care and adherence to clinical guidelines and
- Health IT systems, which include reminders about tests and treatments recommended according to clinical guidelines.

Other factors may also be important in explaining VA's performance—for example, the low out-of-pocket costs for the department's health care reduce the disincentives for patients to seek medical care, thus potentially enhancing the department's performance in meeting clinical guidelines for preventive care and the management of chronic diseases.

In this interim paper, CBO addresses the incentives provided by VA's management structure and the features of the department's health IT.

Incentives for VA Providers and Facilities. Most payment systems for health care do not align incentives well with the aim of quality.[25] Instead, health insurance plans often pay providers on the basis of the number of services rendered rather than the quality of the care delivered. In fact, in most cases, providers are not directly reimbursed for investments in quality—for example, purchases of health IT to track adherence to clinical guidelines or spending on education and training to improve compliance with safety protocols. Although providers have some incentives to improve quality to gain accreditation, market their services, and improve their overall reputation, the return on investments in quality can often be elusive. By comparison, the return on investment is much more tangible for spending on equipment or facilities that create additional billing opportunities—for example, purchasing advanced radiological equipment or building a new surgical suite.

Students and advocates of VA's health system describe it as an industry leader in health care quality and point to the fact that VA faces a different set of incentives than most other health care providers.[26] Like some other government agencies, VA has a budgeting process that generates substantially different financial incentives from those encountered within private health systems. In addition, VA has implemented a system for assessing the performance of its personnel at all levels that focuses on indicators of quality of care, access, patients' satisfaction, and related areas.

24. Asch and others, p. 942.

25. For a discussion of the topic, see Institute of Medicine, Committee on Redesigning Health Insurance Performance Measures, Payment, and Performance Improvement Programs, *Rewarding Provider Performance: Aligning Incentives in Medicare* (Washington, D.C.: National Academies Press, 2007).

26. Phillip Longman, "The Best Care Anywhere," *Washington Monthly*, January/February 2005.

Incentives and Network Budgeting. When the VISNs were created in the 1990s, rather than allocating resources to the networks on the basis of historical budgets for the facilities in each network, VA implemented a capitation-based system called Veterans Equitable Resource Allocation (VERA). Under that system, networks were given a fixed amount per enrolled veteran for "basic care" patients and a higher fixed amount per enrollee for "complex care" patients. From 1997 to 1999, basic care patients made up 96 percent of the total number of patients but accounted for only 62 percent of VA's medical expenditures, while the remaining 4 percent of patients in the category for complex care (many of whom required long-term care or other high-cost services) accounted for 38 percent of the resources.[27] VERA has since been modified a number of times to define patient groups in greater detail but retains its basic structure as a capitated budgeting system.

VERA was designed to provide managers with incentives to provide care to patients in the most cost-effective and medically appropriate settings. Because the budgets allocated to VA facilities do not depend on the number of procedures performed, the facilities do not have incentives to sacrifice quality in order to increase their capacity to produce billable services.

Incentives for Managers. The regional managers of each VISN are held accountable for the performance of facilities within that region in providing preventive care and managing chronic conditions.[28] VA's key methodology for assessing the performance of managers was implemented first at the senior executive level and has now been expanded to include all management levels. The follow-on report to this one will provide details about the steps that VA uses to assess managers' performance, including the role that quality indicators play in rating performance.

Incentives for Providers. Physicians and other medical care providers are also given direct and indirect incentives to improve quality, access, and patients' satisfaction. The Department of Veterans Affairs Health Care Personnel Enhancement Act of 2004 created a new payment system for VA physicians that includes bonuses linked to improved performance in those areas. CBO's follow-on report will include additional information on monetary and nonmonetary incentives for VA providers.[29]

Health Information Technology. For every patient, VA has an electronic health record in an information system, the Veterans Health Information Systems and Technology Architecture (VistA). The system was developed by VA programmers beginning in the 1970s with the input of providers who would be using the system. VistA is integral to both VA's system for providing care and its management of both providers and executives. Moreover, VistA is often cited by VA officials as a key to the department's efforts to achieve high quality ratings and in helping to control medical care costs.

Research on the impact of health IT has highlighted some of its potential advantages—and raised many issues about the feasibility of implementing such IT systems in health care systems composed of diverse providers and payment mechanisms.

Most health care in the United States is delivered by independent providers, who may not be fully aware of the tests, examinations, procedures, and pharmaceuticals that have been prescribed to a patient by other providers. Most providers rely on paper records that give little information about the services that patients have received from other physicians or clinics. Moreover, results of laboratory tests or other information may be missing because of delays in filing information. As a result, laboratory tests might be repeated, a patient's history missed, or incompatible pharmaceuticals prescribed.

Some observers have suggested that electronic health records (EHRs) may address many such problems. The Institute of Medicine identified eight core functions that such a record can allow for or provide:

- Health information and data,
- Results management,
- Order entry/management,
- Decision support,
- Electronic communication and connectivity,

27. Kizer, Demakis, and Feussner, pp. I–11 to I–12.

28. Ibid., p. I-13.

29. P.L. 108-445; 118 Stat. 2636.

- Patient support,
- Administrative processes, and
- Reporting and population health management.[30]

In theory, an EHR could give providers up-to-date information about a patient at the point of care, including his or her history, allergies, and medications, along with relevant diagnoses and laboratory tests, enabling providers to, among other things, avoid duplicate tests and adverse drug interactions. Some research suggests that computerized provider order entry (CPOE)—in other words, electronic handling of prescriptions, laboratory tests, and radiological procedures—provides improvements in safety for patients and reduces errors.[31] Research also indicates that computer reminders and prompts can significantly improve adherence to clinical guidelines, particularly for preventive care.[32] Keyed to information in the patient's file (for example, age, sex, comorbid conditions), the computer program can remind the provider that specific vaccinations, screening, or counseling about health or diet issues are recommended. However, other studies have raised concerns about the potential for CPOE or other health IT systems to increase the risk of certain types of medical errors.[33]

To date, most information technology that has been adopted by health care providers has focused on financial transactions, such as insurance billing. The incentives for adopting such financial information systems are clear: Generally, a provider must use them in order to be paid for services. The incentives to implement other types of health information technology, such as an electronic health record system, are much less clear, so the development of health IT has lagged.

Many experts cite the potential for health IT to improve the quality of care. They argue that the coordination of care and the availability of complete medical information to all providers are key factors in improving the quality and safety of medical services, particularly in promoting adherence to clinical guidelines.[34] Improvements in efficiency may enable providers who use health IT to reduce costs as well, although the evidence about cost reduction is mixed.[35]

VA may be uniquely positioned to take advantage of health IT's potential. Independent providers, who interact with a variety of insurance systems, may have a harder time realizing those benefits. Issues of interoperability, the standardization of formats and records, privacy, ownership and control, and the education of and compliance by providers are all challenges to successful implementation that are far more difficult in a non-integrated environment.

An electronic health record is most useful when it is complete—that is, when it contains all relevant medical information about a patient, including treatments or examinations received by outside providers. However, the sharing of information is limited because many of the EHRs currently in use do not conform to recognized standards for interoperability. Even VistA, which has been in place for a number of years now, has a very limited ability to interact directly with or use information from other EHR systems, despite the fact that many VA patients receive a substantial portion of their care outside the department's system. VistA is able to draw some information from the Department of Defense's (DoD's) health information systems regarding the medical history of recently discharged veterans and patients receiving services from both military treatment facilities and VA hospitals or clinics. For non-DoD providers, such as private doctors and hospitals, information can be brought to VA by the patient or

30. Institute of Medicine, Committee on Data Standards for Patient Safety, *Key Capabilities of an Electronic Health Record System* (Washington, D.C.: National Academies Press, July 31, 2003).

31. See, for example, David W. Bates and others, "Effect of Computerized Physician Order Entry and a Team Intervention on Prevention of Serious Medication Errors," *Journal of the American Medical Association*, vol. 280, no. 15 (October 21, 1998), pp. 1311–1316.

32. See E. Andrew Balas and others, "Improving Preventive Care by Prompting Physicians," *Archives of Internal Medicine*, vol. 160, no. 3 (February 14, 2000), pp. 301–308.

33. See Ross Koppel and others, "Role of Computerized Physician Order Entry Systems in Facilitating Medical Errors," *Journal of the American Medical Association,* vol. 293, no. 10 (March 9, 2005), pp 1197–1203.

34. See Lucian L. Leape and Donald M. Berwick, "Five Years After *To Err is Human*: What Have We Learned?" *Journal of the American Medical Association,* vol. 293, no. 19 (May 18, 2005), pp. 2384–2390.

35. Basit Chaudhry and others, "Systematic Review: Impact of Health Information Technology on Quality, Efficiency, and Costs of Medical Care," *Annals of Internal Medicine*, vol. 144, no. 10 (May 16, 2006), pp. 742–752. See also Box 3.

sent by the outside provider and then entered into VistA manually. Paper records can be scanned in and attached to a VistA record, which allows providers to access them while reviewing the patient's file, but the information generally cannot be searched or used for the monitoring or quality systems within VistA.

How Other Systems Might Benefit from VA's Experience

Because the Department of Veterans Affairs provides a large integrated delivery system financed primarily by public budgets, drawing lessons from VA's experience may be easiest for other federal systems that provide services directly, such as the military treatment facilities run by the Department of Defense. Staff- or group-model health maintenance organizations may also find VA's experience to be useful with relatively little adjustment for differences in organizational structure. Other systems, too, may also be able to learn from VA's experience but would need to adjust the department's methods to their own organizational environment. For its part, VA has in the past learned from the experience of other health care providers of all types and undoubtedly will continue to do so. This interim report discusses a few early findings about how other systems might benefit from VA's experience with performance measurement and health information technology.

Potential Lessons from VA's Performance Measurement and Management Systems

VA's experience demonstrates the potential for improving a system's performance by sustained efforts to monitor indicators of quality, access, and satisfaction. Most of the criteria that VA uses for assessing the performance of senior-level executives, mid-level managers, and even health care providers relate directly to indicators of quality, access, and satisfaction for the facilities or units for which the individuals are responsible. The result has been notable improvements in many of the indicators, suggesting that tracking such indicators closely and consistently may be key to improving a health care system's performance in those areas.

VA's structure as a vertically integrated system that operates on an appropriation may have helped the system to focus on providing the best quality of care possible for a given amount of funds. As noted earlier, for many private providers, fee-for-service payment creates an incentive to perform more billable services and procedures. Although VA's integrated structure and capitated budgeting alone do not give providers or managers incentives to focus on quality, those attributes may have made it easier for the department to implement its management plan built around tracking and rewarding both managers and employees for improvements in performance.

Improvements in quality might also be encouraged in private settings through the development of more capitated payment systems or a blend of capitation and fee-for-service payment of physicians. Another alternative would be payment systems based on an aggregated physician-hospital unit, in which high volume is penalized. The Medicare Payment Advisory Commission has suggested changes to revamp Medicare's payment systems in order to improve incentives for quality of care.[36]

Additional lessons from VA's experience as well as the efforts of other systems to improve health care quality will be discussed in CBO's follow-on report.

Potential Lessons From VA's Health Information Technology

As described, VA's electronic health record system—VistA—was developed internally and incrementally over years, with considerable input from the medical providers and others using the information. The same is true of the health IT systems with which a few other institutions have had well-documented success.[37] Such development may be hard for other medical providers to emulate and may make "exporting" VistA to other health care systems difficult. VistA was developed to meet VA's specific needs and goals, so it may not provide the information or feedback desired by other health providers, whose patients, employees, management structure, and financial needs differ substantially from those at VA.

According to a 2005 study, "government hospitals are more likely than private nonprofit or for-profit hospitals

36. See statement of Glenn M. Hackbarth, Chairman, Medicare Payment Advisory Commission, *Improving Quality Through Medicare Payment Policy,* before the Subcommittee on Health, House Committee on Ways and Means (March 18, 2004), available at www.medpac.gov/publications/congressional_testimony/031804(WM)qualitytestimony.pdf).

37. They include the Regenstrief Institute at the Indiana University School of Medicine, Brigham and Women's Hospital/Partners HealthCare in Boston, and LDS Hospital/Intermountain Health Care in Salt Lake City. See Basit Chaudhry and others, p. E-14.

to report full implementation or good progress on CPOE [computerized provider order entry]."[38] That study included only city, state, and local government hospitals, not VA or other federal government facilities, but the conclusion may indicate that the incentives within government hospitals are more favorable to investments in quality-enhancing health IT than those within private hospitals. Moreover, VA's integrated structure may make providing the appropriate training on the use of health IT systems easier and thereby reduce the risks that may exist when providers are unfamiliar with a new system or when they have to work with multiple systems.

Additional lessons from VA's experience in developing and using health IT will be included in CBO's follow-on report.

38. David M. Cutler, Naomi E. Feldman, and Jill R. Horwitz, "U.S. Adoption of Computerized Physician Order Entry Systems," *Health Affairs*, vol. 24, no. 6 (November/December 2005), p. 1657.