The Veterans Health Administration: An American Success Story?

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The Veterans Health Administration (VHA) provides health care for U.S. military veterans. By the early 1990s, the VHA had a reputation for delivering limited, poor-quality care, which led to health care reforms. By 2000, the VHA had substantially improved in terms of numerous indicators of process quality, and some evidence shows that its overall performance now exceeds that of the rest of U.S. health care. Recently, however, the VHA has started to become a victim of its own success, with increased demands on the system raising concerns from some that access is becoming overly restricted and from others that its annual budget appropriations are becoming excessive. Nonetheless, the apparent turnaround in the VHA's performance offers encouragement that health care that is both financed and provided by the public sector can be an effective organizational form.

Keywords: Veterans Health Administration, reform, quality, access.

The Veterans Health Administration (VHA) is the largest integrated health care system in the United States (Evans 2005) and provides public-sector care for honorably discharged veterans of the U.S. armed forces (for more details on the VHA eligibility requirements, see the appendix, part A). The VHA is financed mostly from general taxation, offers a broad range of health care services to meet veterans' needs, and can be characterized loosely as a veteran-specific national health service.

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Historically, particularly since the 1970s, the quality of the VHA's service was considered poor by almost all relevant stakeholders, which was significant, both because the VHA is a large and important system and because this offered a useful "consensus" for the opponents of integrated publicly financed and provided health care. In recent years, however, articles in the academic and popular press have reported quite a sharp turnaround in the VHA's performance (Asch et al. 2004; Gaul 2005; Jha et al. 2003; Krugman 2006; Longman 2005; Young 2000), indicating that U.S. health policymakers may have interesting things to learn from the VHA in the context of the high cost and apparent underperformance of the predominant, market-based sector.

The improvement in VHA performance is universally attributed to reforms introduced in 1995 that could perhaps be more readily implemented in an integrated, centrally controlled system than in the ordinary fee-for-service U.S. health care sector. To learn how the VHA achieved its improvements we must look at the content of the reforms, which is the main objective of this article. My analysis is based on published literature, governmental documents, and interviews and personal communications with key informants who are knowledgeable about the events that transpired in the VHA. The article is organized as follows: First, I examine the magnitude of the VHA's improved performance and then offer a very brief history of the system. This is followed by a description of the VHA's "agent for change" and a discussion of the specific content of the reforms and the circumstances that led to the undoing of the initial change agent. Next, I discuss the complexities in interpreting the VHA's achievements and finish with some policy implications and general conclusions.

The Improvement

A number of studies have been published that compare the VHA with other systems of care in the United States. For example, using data from 1998–1999, Kerr and colleagues (2004) reported that diabetes care in the VHA is generally better than that observed in commercial managed care, and according to 1994–1995 data, Petersen and colleagues (2001) found that VHA-hospitalized patients are more likely than Medicare patients are to receive angiotensin-converting enzyme inhibitors and thrombolysis after myocardial infarction. But also with 1994–1995 data, the VHA was not as good as the commercial sector at providing angiography

(Petersen et al. 2003), and according to 1993–1996 data, the VHA has higher mortality rates after coronary artery bypass grafting (Rosenthal et al. 2003). However, some evidence suggests that postoperative surgical outcomes in the VHA have improved since the introduction of its National Surgical Quality Improvement Program (NSQIP), which measures and disseminates information on risk-adjusted morbidity and mortality in all VHA hospitals that perform major surgery. Between the inception of NSQIP in 1994 and 2002, thirty-day postoperative mortality and morbidity in the VHA decreased by 27 percent and 45 percent, respectively (Khuri, Daley, and Henderson 2002). In mental health care services, 2001–2002 data show that the quality of the VHA's antipsychotic pharmacotherapy prescriptions and those for privately insured patients treated for schizophrenia was similar (Leslie and Rosenheck 2003).

These studies offer a mix of good and bad news for the VHA. However, some of the studies used data collected before the reforms, and all the studies compared specific sectors, conditions, or, in some cases, procedures, and thus do not offer a picture of the VHA's "overall" relative performance. Fortunately, the system's overall performance has been assessed as well. For example, an important study in 2004 by Asch and his colleagues used 348 quality indicators across twenty-six conditions and a broad spectrum of inpatient and outpatient services to compare the VHA's performance with the care of a national sample of non-VHA patients over a two-year period in the late 1990s. Since the system had been reformed only a few years earlier, the quality indicators that Asch and his colleagues used were process measures, which are easier to influence over the short term than are outcomes measures. Moreover, many factors other than the health care system influence health outcomes and therefore process measures may actually offer a clearer picture of the system's performance. Table 1 shows an example of a quality indicator for each type of service.

Asch and his colleagues sampled 596 VHA patients and 992 non-VHA patients, all of whom were men aged thirty-five and older, the typical VHA demographic. After adjusting for risk, they found no significant differences between the two samples in the age of the patients or in the number of chronic conditions, although the non-VHA sample had, on average, slightly more acute conditions. In regard to the quality indicators, the VHA patients received significantly better overall care, chronic care, and preventive care. Although the two samples did not

TABLE 1
Examples of Quality Indicators

Type of Service	Description of Indicator
Screening	If a patient presents with an initial infection of any sexually transmitted disease, HIV testing should be discussed and offered at presentation.
Diagnostics	Patients hospitalized for the diagnosis of myocardial infarction or to rule out myocardial infarction should have their blood pressure measured.
Treatment	Patients with diagnosed moderate-to-severe asthma should have been prescribed a β_2-agonist inhaler for symptomatic relief of exacerbations.
Follow-up	Patients with metastatic cancer to the bone should have the presence or absence of pain noted at least every six months.

Source: Asch et al. 2004. Available at www.annals.org (accessed June 21, 2006).

differ significantly in acute care, the VHA generally performed significantly better across the whole spectrum of care—screening, diagnostics, treatment, and follow-up. Tellingly, perhaps, the VHA's relative performance was far better than the non-VHA services for processes and conditions that are—as compared with those that are not—directly targeted as part of the VHA's performance measurement drive. Table 2 summarizes the VHA's and the non-VHA's performance for various categories of care and service.

Critics might point out that Asch and his colleagues' sample sizes were quite small and that the VHA patients were drawn from the relatively restricted geographical area of the U.S. Midwest and Southwest. Fortunately for those who have to "justify" the VHA, other evidence tends to support these findings. For instance, Jha and his colleagues (2003), again using process measures, assessed the change in the quality of the VHA between 1994 and 2000 and compared the quality of the VHA with that of fee-for-service Medicare between 1997 and 2000. The VHA sample was drawn from all Veterans Integrated Service Networks (there are twenty-one "VISNs" in the VHA, each responsible for health care planning and resource allocation in a particular geographical region), and each state was represented in the Medicare sample. Depending on

TABLE 2
Summary of VHA versus Non-VHA Performance

Category	VHA Sample		Non-VHA Sample	
	Number of Indicators	Mean Score (%)[a]	Number of Indicators	Mean Score (%)[a]
Overall*	294	67	330	51
COPD[b]	17	69	19	59
CAD[c]	31	73	37	70
Depression*	14	80	14	62
Diabetes*	13	70	13	57
Hyperlipidemia*	7	64	7	53
Hypertension*	24	78	24	65
Osteoarthritis	3	65	3	57
Chronic care*	202	72	222	59
Preventive care*	27	64	32	44
Acute care	60	53	76	55
Screening*	15	68	16	46
Diagnosis*	145	73	139	61
Treatment*	103	56	126	41
Follow-up*	37	72	43	58
VHA performance measures*	26	67	26	43
Conditions covered by VHA performance*	144	70	152	58
Conditions not covered by VHA performance	124	55	152	50

Notes: An asterisk (*) indicates that the VHA performed significantly better than the non-VHA in a particular category, according to 95% confidence intervals. For no category did the non-VHA services perform significantly better than the VHA.
[a]Mean percentage of patients complying with the performance indicators in the category.
[b]Chronic obstructive pulmonary disease.
[c]Coronary artery disease.
Source: Asch et al. 2004.

the year, there were between 48,505 and 84,503 patients in the VHA sample. Because the Medicare sample was taken from published sources, it was not possible to ascertain its exact size from Jha and his colleagues' article, but it amounted to many thousands. Table 3 gives an example of a quality indicator used by Jha and his colleagues in each of preventive care, outpatient care, and inpatient care, together with the sampling frame and criteria used in the VHA and Medicare.

TABLE 3
Examples of Quality Indicators

Type of Care	VHA	Medicare
Preventive		
Mammography	Sampling frame: female veterans 52–69 years old with no history of bilateral mastectomy. Criterion: mammogram in previous 24 months.	Sampling frame: female enrollees 52–69 years old. Criterion: mammogram in previous 24 months.
Outpatient		
Measurement of glycosylated hemoglobin in diabetics	Sampling frame: veterans < 75 years old with a diagnosis of diabetes mellitus. Criterion: measurement of glycosylated hemoglobin in previous 12 months.	Sampling frame: enrollees < 75 years old with 2 outpatient visits or 1 inpatient visit for diabetes in previous 12 months. Criterion: measurement of glycosylated hemoglobin in previous 12 months.
Inpatient		
Smoking cessation for patients with acute myocardial infarction	Sampling frame: veterans discharged with a diagnosis of acute myocardial infarction. Criterion: smoking cessation counseling during admission.	Sampling frame: enrollees with a primary discharge diagnosis of myocardial infarction. Criterion: smoking cessation counseling during hospitalization.

Source: Jha et al. 2003.

Table 4 summarizes many of Jha and his colleagues' results and shows both that the VHA's performance improved substantially on several criteria between 1994 (before the reforms) and 2000 and that by 2000 the VHA was performing significantly better than Medicare on twelve of thirteen quality indicators common to both programs at that time.

Table 5 compares the VHA with other sectors of U.S. health care on many of the indicators listed in table 4 for the most recent years for which these data are available. Although the data for some indicators are

TABLE 4
Summary of VHA and Medicare Performance

Type of Care	Percentage of Eligible Patients Experiencing the Quality Indicator		
	VHA (1994/95)	VHA (2000)	Medicare (2000/1)
Preventive care			
Mammography	64	90	77
Influenza vaccination	28	78	71
Pneumococcal vaccination	27	81	64
Outpatient care			
For diabetes:			
Annual measurement of glycosylated hemoglobin	51	94	70
Annual eye examination	48	67	74
Semiannual lipid screening	Not reported	89	60
Inpatient care			
For acute myocardial infarction:			
Aspirin within 24 hours	Not reported	93	84
Aspirin at discharge	89	98	84
Beta-blocker at discharge	70	95	78
ACE inhibitor if ejection fraction <40%	Not reported	90	71
Smoking cessation	Not reported	62	38
For congestive heart failure:			
Ejection fraction checked	Not reported	94	71
ACE inhibitor if ejection fraction <40%	Not reported	93	66

Notes: All differences in measured indicators between VHA (1994/95) and VHA (2000) are significant at 0.1%, and those between VHA (2000) and Medicare (2000/1) are significant at 1%. Clearly, both the VHA and Medicare could do better by offering smoking cessation advice to those with acute myocardial infarction, assuming that this advice represents a good use of resources.
Source: Jha et al. 2003.

not yet available for at least one of the reported sectors, the table shows that in 2004–2005 the VHA appeared to be outperforming (admittedly sometimes very marginally) the commercial health sector, Medicare and Medicaid on thirteen of the fifteen indicators for which a comparison can be made (Medicaid patients were given the worst-quality care on the basis of these indicators). At least in terms of process quality, therefore,

TABLE 5
Summary of VHA versus Non-VHA Performance in 2004/2005

	Percentage of Eligible Patients Experiencing the Quality Indicator			
Type of Care	VHA (2005)	Commercial (2004)	Medicare (2004)	Medicaid (2004)
Preventive care				
Mammography	86	73	74	54
Cervical cancer screening	92	81	Not reported	65
Colorectal cancer screening	76	49	53	Not reported
Influenza vaccination[a]	75	Not reported	75	68
Pneumococcal vaccination	89[b]	Not reported	Not reported	65[a]
Outpatient care				
For diabetes:				
Annual measurement of glycosylated hemoglobin	96	87	89	76
Poor control: glycosylated hemoglobin > 9% (lower is better)	17	31	23	49
Semiannual lipid screening	95	91	94	80
Cholesterol < 100	60	40	48	31
Cholesterol < 130	82	65	71	51
Annual eye examination	79	51	67	45
Annual renal exam	66	52	59	47
For hypertension:				
BP ≤ 140/90	77	67	65	61
For mental illness:				
30 day follow-up after hospitalization	70	76	61	55
Inpatient care				
For acute myocardial infarction:				
Beta-blocker at discharge	98	96	94	85

Notes: [a]For patients aged 65 years and over.
[b]For all ages at risk.
Sources: The VHA data are reported in VA Office of Quality and Performance 2005. The data for the commercial, Medicare and Medicaid sectors are Health Employer Data Information Set (HEDIS) data reported in National Committee for Quality Assurance 2005. The HEDIS data measure the quality of care provided by managed care plans for the commercial, Medicare, and Medicaid sectors. Since it is likely that managed care plans perform better in process quality than does fee-for-service health care, it is quite possible that the HEDIS data overestimate the overall performance of these sectors.

the VHA has improved substantially and now seems to be outperforming the rest of U.S. health care.

The reforms that underlie the VHA success were quite extensive, but before detailing them I shall describe a little of the history of the VHA and the circumstances that led to the reforms, because reforms can be implemented only when there is an opportunity, and

opportunities usually depend on the conjunction of "protracted" events and actions.

A Short History

Since colonial times the United States has offered some form of medical assistance to those suffering from injuries and illness related to military service (Kizer, Demakis, and Feussner 2000). A quotation from Abraham Lincoln is inscribed on the wall of the U.S. Department of Veterans Affairs headquarters in Washington, D.C.: "To care for him who shall have borne the battle, and for his widow and his orphan." The circumstances of Lincoln's presidency may have generated a particularly strong empathy for those who have "borne the battle," but it is noteworthy that the United States is at present unusual among industrialized countries in providing a health care service specifically for veterans, indicative perhaps of the general development of U.S. health policy, whereby publicly financed services have been introduced for those groups perceived to be the most "deserving."

In order to consolidate the various veterans' programs into a single agency, the Veterans Administration, the forerunner of the Department of Veterans Affairs, was established in 1930 to provide benefits and medical care to honorably discharged persons. In 1946 the aftermath of another major war created support for expanding medical care benefits, and a veterans' health care system was established more formally under the Veterans Administration's new Department of Medicine and Surgery (DeLuca 2000). Then, four decades later in 1988, the Veterans Administration became the Department of Veterans Affairs (VA) and was assigned cabinet status, making it the fourteenth U.S. government department, encompassing the VHA and the Veterans Benefit Administration (VBA).

In the 1970s and 1980s the seeds for significant organizational change within the VHA were sown. At that time, despite the recent war in Vietnam, it became increasingly clear that the veteran population was both aging and declining in number, raising the question of what purpose the VHA would serve in the future (Paul Shekelle, personal communication, January 10, 2006). This concern was compounded by the fact that the VHA was mainly a hospital service with very few primary care facilities and that access to any form of outpatient care was dependent

on first being admitted for an episode of inpatient care. Thus, the VHA did not cater well to the then, as now, predominantly chronic rather than acute health care needs of the veteran population, and it was also poor at providing preventive services. In addition, many veterans and their representatives in Congress were voicing dissatisfaction with what they perceived to be the VHA's poor quality, restricted eligibility, and relatively limited services compared with those of the private sector. Moreover, Congress was expressing a growing economic concern over whether the VHA offered good value for its money (Perlin 2006a). (In the 1940s, the perceived quality of Veterans Administration health care was also a concern, which was alleviated by developing affiliations with medical schools. See the appendix, part B.) Furthermore, in 1994 the newly elected Republican-controlled Congress was anxious to find ways to limit public-sector expenditures and, from an ideological perspective, to pass more responsibility to the individual.

Other events in the 1990s placed pressure on the VHA to change or be replaced by a voucher system allowing indigent veterans and those with service-related disabilities access to private-sector facilities. For instance, the eventually aborted Clinton plan to universalize health insurance would have extended private insurance to 50 percent of VHA-utilizing veterans (Young 2000). Clearly, the VHA hierarchy had to contend with the *possibility* of competing for, and potentially "losing," these patients, somewhat galling perhaps, in that the VHA is the nation's largest trainer of health care professionals, providing some financial support and clinical training to one-third of all medical residents in the United States (Young 2000). Moreover, the increasing reach of managed care and advances in medical technologies were to some extent undermining the inpatient care setting as the most appropriate environment in which to treat patients.

All of these factors, which broadly relate to concerns about the cost, quality, accessibility, and "need" for the prevailing hospital-based VHA, led to a window of opportunity for change in the mid-1990s. But an open window by itself is only an invitation. To escape through the window someone has to take the lead, and persuade others to follow.

The Change Agent

The principal agent for change came in the form of Kenneth W. Kizer, a physician in emergency medicine with extensive practical and academic

experience and a policy background in both the public and private sectors. Before joining the VHA, Kizer had at various times been director of the California Department of Health Services, chief of public health for California, director of California's Emergency Medical Services Authority, and a corporate board member of two managed care companies. When he was appointed undersecretary for health (the chief executive officer of the VHA) in 1994, Kizer was an "outsider" to the VHA and was thus independent of entrenched interest groups. For the VHA to survive, Kizer recognized that changing the *perception* of the VHA through public relations exercises was almost as important as improving its *actual* performance. For many people working at the VHA, Kizer was still a respected figure seven years after his departure in 1999, principally because he was perceived as a dynamic policy entrepreneur. Social institutionalists believe that such policy entrepreneurs help bring about change by persuading relevant actors to see it "their way," though sometimes to advance their own self-interest (Hall and Taylor 1996). Although Kizer no doubt spent innumerable hours in persuasion, his plans for the VHA were transparent, logical, and informed by many of those who had devoted many years to the system (James Burgess, personal communication, March 3, 2006) and were motivated by a genuine belief that they would work better than the existing organizational structure.

Most government policies in all countries generate winners and losers, and Kizer's policies were no exception. But in his initial years as undersecretary he was supported by a VA secretary who was held in great esteem by veterans, the Veterans Service Organizations (VSOs, the interest groups representing veterans), Congress, and the president. Jesse Brown, a former executive director of the Disabled American Veterans (a VSO) and an ex-marine who had been seriously wounded in Vietnam, had been appointed secretary in 1993. His standing was an important factor in the VHA reform process, and his appointment is a good example of the beneficial effects of involving in the policy process potential sources of opposition or figures whom the opposition respects.

In 1995, Kizer outlined his reform proposals in a blueprint for the future of the VHA entitled *Vision for Change* (Kizer 1995), a document that is actually quite inspirational, surprising in a world in which most government policy documents tend to be written in turgid civil-service language that seems almost designed to discourage the reading of them. Before detailing the reforms, it is important to identify their objective, as it is difficult to judge their success in terms of, for example, the improvements in process quality without knowing what they were

intended to do. However, identifying the core measurable goals of the reforms, and of the VHA more broadly, is not straightforward. Unlike most European models of health care (Oliver, Mossialos, and Maynard 2005), the primary objective of the VHA does not appear to be equal access for equal need, since the VHA, although now more "open" in its eligibility criteria compared with the pre-reform era when it was basically a service for only the indigent and those with service-related conditions, continues to have status-of-discharge and length-of-service enrollment requirements and still gives priority to patients with low incomes and those with service-related conditions, among other factors (see the appendix, part A). Other VHA objectives are often mentioned—for example, improving safety, health, quality, efficiency, access, and satisfaction/responsiveness (Perlin 2005b, 2006b)—but some of these tend not to be specifically defined and/or readily measurable. This article assumes that the VHA's core objectives are improving quality and at least maintaining access (objectives that can, incidentally, conflict). These fit loosely with Kizer's intention, given in the preface of *Vision for Change*, that the VHA should aim to "enhance both the access to care and the quality of care provided to veterans" (Kizer 1995, 8).

The Vision for Change

A major step in Kizer's grand plan was to replace four regions, thirty-three networks, and 159 independent medical centers with twenty-two (now twenty-one) VISNs. On paper, the pre-VISN structure appeared to be structured as a highly centralized downward chain of command. For example, in theory, to buy a new piece of medical equipment, the medical centers had to report to the higher-level management bodies. But the regional offices' limited capacity for managerial oversight meant that the medical centers in reality were free to undertake activities without the approval, and probably even the knowledge, of the regions and the VHA headquarters (James Burgess, personal communication, March 3, 2006). Thus, rather than being a system of command and control, the VHA at that time could perhaps be better described as one of exhortation and hope. In fact, the VHA more closely approximates a command system in the post-reform era, because the VISNs monitor and control the activities of the relatively few individual facilities in their jurisdictions. Also, in the pre-reform era, the medical centers did little to alter or integrate

their service patterns to better comply with the changing needs of local veteran populations.

In order to provide a more integrated service, each VISN was given the task of budgeting and planning veterans' health care for a particular geographic area and was charged with overseeing the development of primary care and the downsizing of hospital care in the VHA. Capitation, although used in a relatively weak form before the reforms as a means of allocating health care resources, was strengthened, so that each VISN's budget better reflected the proportion of total VHA users nationally who were seen in the area that the VISN managed (for more on the development of resource allocation methods in the VHA, see the appendix, part C). This led to a reallocation of resources from some states to others; for example, Florida, which had a large and increasing (perhaps because of the warm climate) number of retired veterans, benefited to the detriment of previously relatively resource-rich New York, although this reallocation was ameliorated somewhat by adjustments to account for high-cost patients—of whom New York had a high proportion—and by arbitrary limits on how much money could be reallocated in any particular year (James Burgess, personal communication, March 3, 2006).

The senior leadership team emphasized the importance of collaborating with the VSOs to develop outpatient care, because some VSOs, and some key members of Congress wary of any possible negative impact on VHA care and thus their future electoral prospects in their own districts, were opposed to this direction on the grounds that it would direct attention away from veterans with acute care needs. Congress as a whole, however, ultimately agreed that the VHA's hospital-centric focus was anachronistic and in 1996 passed the Veterans Eligibility Reform Act (U.S. Congress 1996), which became effective on October 1, 1998. This act made the VHA more accessible for the nonindigent and for those without service-related disabilities. It also reinforced the earlier Primary Care Directive (1994) to allow VHA patients to be treated in a primary care setting without the previously prerequisite inpatient stay. The Primary Care Directive had substantially expanded primary care before the Veterans Eligibility Reform was enacted and thus demonstrates that at least some of Kizer's proposals built on, and perhaps to some extent took credit for, developments that were already occurring (Lisa Rubenstein, personal communication, March 4, 2006). Thus, although Kizer's contribution was important and probably essential, activities, research, and innovations that preceded his appointment and ran concurrently but

at a more localized level during his and later undersecretaries' tenures, were also important components of the VHA's transformation. The Veterans Eligibility Reform Act also offered access to pharmaceuticals in outpatient care, the cost of which the VHA keeps down by using its considerable bargaining power with the pharmaceutical companies (see the appendix, part D) and which at that time were excluded from the Medicare package.

The achievements required by VHA headquarters were based on performance criteria to which the VISN directors and, more recently, middle management throughout the whole system are held accountable. To reduce tension between the national and local leadership, headquarters and VISN managers decide on the exact content of the performance contract, which has varied slightly over time to reflect new priorities. Quite logically, Kizer considered the best measures to be simple and related to the organization's objectives. His *Vision for Change* cites examples relating to inpatient and ambulatory quality of care (e.g., the risk-adjusted cardiac surgery mortality rate, the number of outpatients being prescribed more than two neuroleptics, and other process-quality indicators of the type discussed earlier), patients' satisfaction and responsiveness (e.g., general indices of patients' satisfaction, waiting times), financial management and efficiency (e.g., ratio of inpatient-to-outpatient care costs, cost per inpatient stay), and External Peer Review Program measures (e.g., adherence to established guidelines), among others (Kizer 1995).

Both financial and nonfinancial incentives exist to improve performance in line with these criteria. For example, senior VISN and facility managers are eligible to receive performance-related bonuses, which typically amount to about 10 percent of their salaries (most VHA staff, including physicians, receive salaries). Moreover, details of the performance of each VISN and facility are disseminated throughout the VHA, which encourages performance-enhancing efforts, not only because of the greater decisional autonomy or managerial scrutiny that can follow from good or bad performance, but also because nobody wants to be perceived as a poor performer (Perlin 2006b; Lisa Rubenstein, personal communication, January 11, 2006). The individual facilities' response to these nonfinancial incentives has been one of the main drivers of the performance improvements and highlights the importance of competitive forces in the VHA's command structure, although it is also said that many

physicians found the sudden increase in expectations and accountability demoralizing (Stephen Fihn, personal communication, March 9, 2006).

Kizer wrote that "a renewed emphasis on data capture and information management will provide the vehicle for meaningful performance measurement and resultant accountability" (1995, 74). Until quite recently, most of these data were held on paper-based charts (Stephan Fihn, personal communication, March 9, 2006), but now they are captured on the VHA's electronic health record (EHR) system, which was mandated nationally in 1999. Much has been made of the EHR (Brown et al. 2003; Evans, Nichol, and Perlin 2006; Kolodner 1997; Perlin, Kolodner, and Roswell 2004), and anyone who has been exposed to a demonstration of its capabilities cannot fail to be impressed. The EHR is remarkable in the level of detail it provides on, for example, medical charting, providers' orders, and patients' progress notes. The EHR is accessible and largely integrated across the whole health care system, so that a physician can look at a patient's records in his or her office and, in theory, on a laptop computer at the patient's bedside. Hence, the availability of patients' charts at the point of clinical encounter increased from 60 to 100 percent between 1995 and 2004 (Perlin, Kolodner, and Roswell 2004). Whereas, outside the VHA, at least 20 percent of medical tests in the United States are repeated due to lost patient records (PITAC 2004), lost records are no longer an issue in the VHA (Perlin 2006a). Besides acting as the vehicle for the accumulation of standardized performance data, the EHR provides real-time error checking and a reminder system, clinical decision support functions, and a wealth of information about health events over the life course, all of which can generate benefits (note, however, that much of the improvement in the VHA's process quality performance actually occurred soon after 1995, *before* the EHR was used extensively, so its benefits should not be exaggerated).

Perhaps the main perceived drawback of the EHR is that it consumes physicians' time in their having to input patient data (Peter Glassman, personal communication, January 10, 2006), although some evidence suggests that the time that physicians spend per patient when using an EHR is no longer than when using a paper-based system (see Pizziferri et al. 2005). The EHR may present a challenge for older doctors who were not brought up using computers as part of their daily lives. The system, however, was developed by—and therefore aims to cater to the needs of—physicians. This is a crucial point: the development of

the infrastructure on which the VHA's EHR was built was initiated on a small scale with just a few computers in the 1970s and was incrementally developed and enlarged by identifying a few physicians who would "champion" the benefits of the technology (Robert Kolodner, personal communication, December 16, 2005). Deploying the EHR on a national level between 1997 and 1999 was immensely challenging, and this process is continuing, but the EHR would probably not have succeeded at all if a system had simply been imposed on physicians without their being closely involved in its development. These are lessons for other systems that are developing electronic health records, not least the English national health service (NHS), which recently allocated approximately $10 billion of public finance to the private sector to develop an EHR.

It is reasonably easy to speculate on the possible benefits of the VHA's EHR, but other than the physicians' time, what have been the costs? In direct financial terms, the expansion of the system in the late 1990s is estimated to have cost about $300 million in wiring and $450 million in computers (Robert Kolodner, personal communication, December 16, 2005), and its upkeep costs $485 million per annum, this latter figure being equivalent to about $90 per patient, the cost of a relatively inexpensive laboratory test (Perlin 2006b). Given the VHA's overall budget, these outlays do not appear to be unmanageable, but it is perhaps instructive that even if the cost-benefit equation were skewed considerably more toward the cost side, it would be very difficult for the VISN managers to disband the EHR, even if it were technically possible, which is debatable, since the paper-based system has now been dismantled (James Farsetta, personal communication, November 17, 2005). The VHA staff members now *expect* the EHR to be at their disposal, and if for some reason it were taken away, there would be considerable dissatisfaction among them.

Just as the lengthy investment in the EHR's development was important to its eventual success, the VHA's twenty-year investment in health services research was also important in helping to identify both the kinds of reforms needed and the ways in which they could be carried out. For example, VHA headquarters chose to focus on indicators of process quality where a research evidence base showed that they could be recorded with some reliability and that demonstrated their link to health outcomes. Moreover, VHA-funded research had assessed the benefits that might be attained by developing the primary care sector and looked at ways that physicians' behavior could be changed. Kizer was

fortunate in being able to draw on the two decades of VHA-sponsored health services research on issues that were central to his reform proposals, which in turn had created sufficient human resources to enable him to implement his plans (Steven Asch, personal communication, March 4, 2006; Paul Shekelle, personal communication, March 27, 2006). He was also fortunate in that the Physicians' Pay Bill of 1991 had substantially raised physicians' salaries, which served to attract high-quality staff to the VHA and probably contributed to the turnaround in the system's performance (Thomas Craig, personal communication, May 24, 2006), although it ought to be acknowledged that the bill was not fully operational until 1993 and Kizer took full advantage of it to recruit physicians.

The Undoing of the Change Agent

Between 1995 and 1999, the direct VHA federal appropriation rose only slightly, but Kizer hoped that the VHA would soon be able to draw on the Medicare insurance of elderly veterans by enacting what was known as "Medicare subvention," which would have substantially increased the funds available to the VHA. However, the proposal to draw on Medicare insurance failed because the VA could not reach an agreement with the Centers for Medicare & Medicaid Services (CMS) on an acceptable price to be paid by CMS to the VHA for services provided to Medicare patients (James Burgess, personal communication, April 25, 2005). The failure to secure this additional source of funds weakened Kizer's hand, particularly in the face of VSO complaints regarding the VHA's funding restrictions.

Furthermore, the Paralyzed Veterans of America (PVA, one of the VSOs) persistently criticized the reform efforts by maintaining that services for the injured, particularly spinal care, were being eclipsed by primary care. Although before the reforms the VHA had admitted too many patients to hospitals and kept them there too long, and the system needed to be "rebalanced" away from hospital care and toward primary care, the PVA's concern was not totally unjustified. All PVA members have spinal cord injuries or a dysfunctional central nervous system, and the PVA considers the VHA's twenty-three spinal cord injury centers, compared with services offered in the private sector, to be models of excellence in providing interdisciplinary acute, prosthetic, rehabilitation, and long-term care (John Bollinger, personal communication, April 11,

2006). Indeed, in order to survive, most PVA members live in clusters around the twenty-three centers. It is not surprising, therefore, that the PVA regarded the downsizing of the acute sector as a serious threat to many of the services that the spinal cord injury centers supplied.

At the end of Kizer's first four-year term, a number of senators tried to extract assurances that the VHA facilities in their districts would not be changed, in return for their reconfirmation votes. But these were assurances to which Kizer would not agree. Although Congress agreed to extend his contract for nine months during which these issues were resolved, other senators made demands in exchange for their votes. Matters were probably not helped by the fact that Jesse Brown, Kizer's influential supporter, resigned in 1997 because of a degenerative neurological condition (he died in 2002) and was replaced first by Hershel Gober (1997–1998, who also served between 2000 and 2001) and then by Togo West (1998–2000), both of whom commanded less respect among politicians than their predecessor had. It seemed as though a conjuncture of events very different from those that had opened the window for reform were conspiring against Kizer's leadership. To place Kizer's tenure in context, no undersecretary for health has ever been reconfirmed by the Senate for a second term, and Kizer is the only undersecretary ever to have been renominated by the White House, which indicates that he did still have the support of some senior politicians. Nonetheless, at the end of the nine-month extension of his contract, he resigned.

Leadership that commands great respect is probably quite rare in any large health care organization, and Kizer's departure could have been highly detrimental to the VHA. But Thomas Garthwaite, who had been Kizer's deputy undersecretary, maintained the momentum of the reforms during his tenure as (initially acting) undersecretary between 1999 and 2002. Garthwaite resigned over disagreements about policy direction with Anthony Principi, the first VA secretary appointed by the Bush administration, and was replaced by Robert Roswell, who himself resigned in 2004 owing to problems with a multimillion-dollar computer system that the VHA had been testing in Florida. From then until August 2006, Jonathan Perlin served as undersecretary. Even though it is inevitable that some staff will be dissatisfied with personal leadership styles and no undersecretary will be universally admired, my impression from those with whom I corresponded and interviewed is that the VHA has had at least three able leaders (i.e., Kizer, Garthwaite, and Perlin)

since the mid-1990s and that their impact on morale and performance, albeit impossible to isolate and quantify, is likely to have been positive.

Complexities in Interpreting the Evidence

VHA patients tend to be poorer, older, sicker, more likely to have social problems and mental illnesses, and, of course, more likely to have injuries associated with war than people using private facilities. Therefore, the VHA's "special" scope necessitates caution when comparing its performance with that of other systems. But since VHA patients are relatively poor, elderly, and sick, its relatively good performance, as seen in table 5, is perhaps all the more remarkable. In 2005, according to the American Customer Satisfaction Index (http://www.theacsi.org/overview.htm, accessed September 7, 2006), patient satisfaction with the VHA also exceeded that with private health care for the sixth consecutive year. We must, however, be careful when interpreting subjective measures of satisfaction, because VHA patients may have a different conception of what constitutes "satisfaction" than do those cared for outside the VHA.

It could be contested that the recent improvements in the VHA may have come at a "price." In monetary terms, for example, although the VHA's annual appropriation remained fairly stable at around $20 billion between 1995 and 1999, it jumped to approximately $30 billion by 2005. On the basis of this evidence, one might conclude that the improvement in VHA performance may have depended on extra money, but two rejoinders can be made. First, the quality improvements observed by Asch and Jha and their colleagues occurred before the VHA appropriation was substantially increased. Second, although the budget has grown recently, the number of patients visiting the VHA each year has risen dramatically too, from 2.5 million patients in 1995 to 5.3 million patients in 2005 (Perlin 2005a), although it is noteworthy that many of the new patients are relatively inexpensive, having enrolled in the VHA simply to receive the low-cost pharmaceuticals (John Bollinger, personal communication, April 11, 2006). For example, in 2002, 900,000 veterans used the VHA solely to gain access to inexpensive prescription drugs (see http://veterans.house.gov/democratic/budget/impact.htm, accessed September 7, 2006).

Thus the increase in patients to some extent hides a shift from inpatients to relatively inexpensive outpatients, which makes the fairly

constant per patient VHA appropriation seem less impressive because the average patient burden on the system has fallen. Moreover, the VHA was able to direct more resources to its targeted areas—where many of the performance improvements have been recorded—even when the overall appropriation was not increasing, by downsizing some aspects of inpatient care. Nonetheless, this reallocation of resources would not have been possible without the changes in the VHA's organizational structure. It is really these changes, then—rather than "extra" money—that account for its improved overall performance. Accordingly, although the above stated caveats should not be ignored, a reasonably strong case can be made that generally relatively high levels of process quality in the VHA have been achieved in an era when overall patient-adjusted expenditures have been quite tightly constrained by the government.

On balance, since the mid-1990s the VHA seems to have improved its performance as measured by various indicators of process quality, but it is important that a continued focus on quality improvements measured through health services research does not draw attention away from concerns regarding access to services, concerns that may be better addressed by political analysis. Merely in terms of sites of care, access to the VHA does not appear to have deteriorated over the past decade. For instance, in 2005 the VHA had 1,400 care sites, which included 171 medical centers, 870 clinics, and 207 counseling centers, a substantial increase over 1995, principally because even though the inpatient aspect of the medical centers was downsized, the number of clinics rose during that decade by 350 percent (Perlin 2005a). Nonetheless, changing perceptions and regulations regarding *who* is eligible to receive VHA care and how quickly that care is supplied, as opposed to *where* VHA care is available, have placed access under the spotlight. For instance, primarily because of the remarkable increase in VHA patients in the post-reform era, the VHA retightened its eligibility criteria in 2003, barring first-time entry to veterans without service-related problems who have an above-median income for the geographic area in which they live (see the appendix, part A), a move that worries the VSOs.

Concerned about the rising VHA appropriations over recent years, some Republicans want still tighter eligibility criteria, re-restricting the VHA entirely to the poor and those with service-related disabilities. Democrats appear to be opposed to greater explicit restrictions on access, but it is important to recognize that the reform process, by perhaps

overemphasizing primary care and underemphasizing the hospital sector, has probably led to greater implicit restrictions on access to specialist care in the VHA, which, in part, have generated the pressures on the VHA headquarters to introduce the explicit restrictions. For instance, the development of primary care contributed to the more than doubling of annual VHA patients, but the nominal dollar expenditure on physician specialty care has been flat and, in recent years, has actually decreased slightly (James Burgess, personal communication, March 3, 2006). This could cause further concern when keeping in mind the anticipated demands of future veterans of the wars in Afghanistan and Iraq. Consequently, although the *average* burden of illness has fallen, the pressures on the VHA's specialty care have risen. This has created bottlenecks to the hospital sector and has increased the incentives for those veterans who can, to use Medicaid, Medicare, or commercial insurance when inpatient care is necessary (the exact size of this problem is currently unknown, but James Burgess at Boston University is currently analyzing the issue in a VHA-funded project entitled *Dual Use, Continuity of Care and Duplication in the VA and Medicare*). Admittedly, this problem is likely to flow both ways, in that Medicare's managed care programs, which receive an annual Medicare payment for each patient whom they agree to cover, may make accessing care so difficult that a substantial number of VHA-eligible Medicare patients seek VHA care (and the government ends up paying twice). Nonetheless, some of the experts whom I interviewed felt quite strongly that the main trend is for VHA-eligible patients to seek specialty care outside the VHA. Moreover, the related perceived problem of lengthening waiting times (see http://thomas.loc.gov/cgi-bin/cpquery/T?&report=sr143&dbname=108&, accessed September 7, 2006) that is also consequent on demand increasingly outstripping supply (Yaisawarng and Burgess 2006) is likely to be of considerable concern for many politicians and the VSOs for the foreseeable future, and probably requires a refocus on acute care.

The probable trend for an increasing number of VHA patients to rely on, for example, Medicare insurance when requiring relatively expensive specialist care also necessitates caution when interpreting the trend in per-patient VHA costs. At face value, per-patient VHA costs remained quite stable at around $5,000 between 1996 and 2004, while per-patient Medicare costs rose from approximately $5,000 to about $6,800 over the same time period, with much of this increase occurring after 2000 (Evans, Nichol, and Perlin 2006). However, when factoring in the likely

tendency for VHA-eligible patients to rely more on Medicare for expensive procedures, it is plausible that these trends offer a somewhat distorted picture. Specifically, it is probable that the VHA's at-face-value per-patient costs somewhat underestimate the historical trajectory of VHA patient costs, and if the proportion of VHA-eligible patients who relied on Medicare for their inpatient care had remained constant, the difference in the VHA and Medicare per-patient costs would be somewhat diminished. Moreover, the VHA enjoys other cost advantages over the private sector. For example, rather than having to make significant interest payments on bonds issued to buy new hospitals, the VHA received many of its buildings from the military. Nonetheless, although few definitive conclusions can be drawn without adjusting for case mix, there is a general feeling, even among those who acknowledge these possible distortions and urge caution when interpreting the at-face-value figures, that the VHA's "undistorted" per-patient costs are unlikely to be higher than those in the Medicare system (Ashish Jha, personal communication, April 21, 2006).

Implications and Conclusions

Wherever governments are directly accountable to the electorate for the financing and performance of a health care system, they face considerable political pressure to maintain strict control over the system's operation. For example, in the English NHS, similar to the VHA, encouragement of greater autonomy for local health care planners has been accompanied by more extensive national performance criteria (Oliver 2005), and in Denmark, greater centralization of decision making has been the response to widening regional differentials in waiting times and treatment patterns (Pedersen, Christiansen, and Bech 2005). Owing to such factors as lengthening waiting times, problems of access, and the now substantial VHA appropriations, the U.S. government is shifting some direct decision-making powers from the VISNs to the center, with the center in this instance defined as the political leadership in the U.S. government rather than the VHA headquarters. The debate over this centralization of authority has so far encompassed national make-buy decisions, decisions about the opening of additional clinics, and funding priorities for information technologies. The VHA leadership considers the centralization

of decision making over these issues as potentially demoralizing to VHA staff and ultimately damaging to the performance of the system (Perlin 2006b).

Despite these concerns, over the last ten years, under the admittedly quite strong assumption that the measures of process quality offer an acceptable picture of overall system performance, the VHA has quite possibly outperformed all other aspects of U.S. health care. It has also performed much better than it did before its reforms and has done so within a reasonably tight patient-adjusted appropriation. How has it achieved this? As indicated earlier, there is no single explanation, as a multitude of factors have probably contributed in a variety of complex ways, including good national and local leadership with a clear vision and a compelling case for change, the transformation of the VHA from a hospital system to a broader health care system, the development of regionally financed and planned integrated health care networks, the introduction of performance management and its associated financial and nonfinancial incentives for competition, the gradual development and eventual implementation of a sophisticated electronic health record, and, preceding the reforms, two decades of VHA-funded health services research and technical and human capacity development. It is important to keep in mind, however, that most of these developments relied on a window of opportunity for change, itself dependent on a variety of factors culminating in the shared belief that if the VHA did not change for the better, it would be replaced entirely.

The different objectives of health care systems, both in the rest of U.S. health care and around the world, necessitates caution when drawing lessons from the VHA. But the VHA's experience does offer some general, potentially transferable, and useful policy directions. For example, in thinking about the future challenges for the VHA, we have learned that it may be dangerous to focus too much on primary care and lose sight of acute care and that we should not overlook the changing pressures on access to specialty care. In this respect, in order to tackle the problems of accessing specialty care and at the same time to maintain and perhaps even improve quality in this area, the VHA appropriation, specifically that targeted to inpatient care, may have to increase. The VHA leadership may have to some extent overlooked access to hospital care, but on a more positive note the VHA's experience suggests that a successful implementation of an electronic health record probably requires a

gradual process during which the instrument is developed around the stated needs of physicians, rather than assuming that a technologically sophisticated instrument can be more or less "imposed" on them, with the expectation that they will adopt it immediately and enthusiastically. The VHA's investment in health services research and the introduction of nonfinancial competitive incentives are further lessons that could perhaps be applied in other health care systems.

Finally, it may be somewhat ironic, to both Americans and non-Americans, that through the VHA the United States has implemented a model of integrated public-sector health care that appears, on balance, to work quite well. And therein lies perhaps the most potent message of the VHA story.

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Appendix
The Structure of the VHA

Part A

With a $30 billion appropriation from the U.S. Congress and 198,500 employees, including 14,500 physicians and 58,000 nurses, the VHA now provides about 5.3 million individual patient care episodes annually and has 7.6 million enrollees from a total U.S. veteran population of about 27 million (Perlin 2005a). The appropriation is supplemented with around $2 billion received from such sources as copayments, claims from the third-party insurance of veterans who also have private-sector coverage, and carryover funds. The total VHA expenditure is about one-tenth that of Medicare. Eligibility for enrollment in the VHA requires that a veteran was not dishonorably discharged from the armed services. Moreover, veterans who began their active duty after 1980 must in most cases have had at least twenty-four months of continuous active military service. Former enlisted persons who started their active duty before 1980—or 1981 for former officers—and those who request benefits for only a service-related condition or disability, face no length-of-service requirement, and the requirement is less than twenty-four months for those who served during wartime. For more information on the basic eligibility requirements, go to http://www.va.gov/healtheligibility/eligibility/determining_eligibility.asp (accessed September 7, 2006). Veterans who meet the discharge and length of service requirements are then considered for one of the VHA's eight enrollment priority groups, with "priority" influencing the time in which it takes to enroll a veteran in the system and whether he or she will be charged copayments. The highest-priority patients (priority 1 veterans, who are exempt from copayments) have service-related disabilities that are rated at least 50 percent disabling or that have rendered them unemployable. Low-income veterans who qualify for Medicaid insurance are eligible to enroll in the VHA but are placed in the priority 5 group and therefore must agree to pay some copayments. Priority 8 veterans, who are the lowest-priority patients, have no service-related conditions and have an above-median income for the geographic area in which they live. Priority 7 veterans are classified in the same way as priority 8 patients except that they have a below-median income for the geographic area in which they live. Purely

on the basis of the income levels in particular geographic areas, the incomes of some veterans in the priority 8 group may actually be lower than some of those in the priority 7 group, and yet will be given lower priority. Moreover, from 2003, new enrollment of veterans assigned to the priority 8 group was terminated, although those assigned to the priority 8 group before 2003 remained enrolled and eligible for VHA care. A full categorization of all eight priority groups is available at http://www.va.gov/healtheligibility/eligibility/epg_all.asp (accessed September 7, 2006).

Part B

The VHA currently has affiliations with 107 of the 128 academic health systems in the United States, and the VHA provides the salaries of many faculty who use the veterans hospitals as teaching facilities. These important affiliations with the private academic medical schools mean that the VHA is not an entirely public system (Victor Rodwin, personal communication, March 28, 2006). After World War II, this arrangement was beneficial to both parties, because the Veterans Administration needed the medical schools and their residents, and the medical schools needed the resident slots that the Veterans Administration was able to provide (Rashi Fein, personal communication, March 6, 2006; Thompson and Campbell 1981). Unfortunately, the medical schools' acute specialist care preferences contributed to the mismatch between the VHA's provision and the aging veterans' needs, although the VHA's affiliations with the medical schools, in relation to, for example, the medical schools' contributions to developing new programs to improve care and the "quality" of physicians, continues to be one of the VHA's strengths.

Part C

Before 1985, the resources allocated to the individual facilities were largely based on historical costs, but the VHA patients' changing demographic structure as they aged, declined in number, and moved meant that this system had become increasingly inappropriate. In 1985, the VHA introduced the Resource Allocation Methodology (RAM), in which the resources that each facility received were based on the number of episodes of care that it provided and which tended to reward facilities that relied on more complex modes of care. RAM failed, mainly because it

led to excessive cost escalation and an incentive to overlook relatively simple modes of care. In 1990, the VHA began developing a new method of budgeting called the Resource Planning and Management (RPM) medical facility resource allocation process, which it introduced in 1994. The RPM was a capitation-based allocation system in which the facilities' prospective budgets were based on past and projected workloads. The idea behind the RPM was that it would reallocate resources away from less efficient facilities and toward more efficient ones. But the radical reallocation of resources that a strict application of the RPM would have required would have threatened the viability of some facilities, and thus the RPM, which was perhaps too complex, was implemented too gradually to make much difference in the short term. For example, in 1995, there was a maximum real decrease of 1 percent in the budget allocation to any facility. The Kizer reforms were implemented before the RPM could reach its full potential, and a new, relatively simple, and still operating capitation-based allocation process, known as Veterans Equitable Resource Allocation (VERA), was introduced in 1997. VERA was created to tackle more immediately the persisting regional funding imbalances. It is used to allocate resources to the VISNs rather than the individual facilities (although originally used to allocate resources to the facilities, the RPM was used for allocating resources to the networks in 1996), and the VISN directors have flexibility in deciding allocations to the facilities. VERA was phased in over three years, and no network lost more than 5 percent of its 1996 fiscal year funding in the first year, but its cumulative effect over the years has probably instituted fairer resource allocations across the system. The VERA risk adjusters currently cover the number of eligible VHA "users"—that is, patients who have used the VHA within the previous three years—and are determined by the level of service-related disability, income, and other special eligibility conditions such as being a former prisoner of war (Yaisawarng and Burgess 2006).

Part D

In 1995, the VHA introduced the National Pharmacy Benefits Management Program (VAPBM) to reduce the geographic variability in the use of pharmaceuticals, to promote appropriate pharmaceutical therapy, and to reduce acquisition costs (Sales et al. 2005). Incidentally, Congress has forbidden Medicare from using its potential bargaining strength for

the new Medicare pharmaceutical benefit (Medicare part D). In 2006, the VHA's pharmaceutical copayment was set at $8 for a thirty-day (or less) prescription in outpatient care, up from $7 in 2005. Copayments for medications are charged only in outpatient care, and even there, veterans in the priority 1 group (see the appendix, part A) are exempt from charges. Patients in priority groups 2 to 6 receive a cap of $960 on the total amount of medication copayments they can be charged each year.