

8. SENSITIVITY ANALYSIS

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The analyses in the preceding chapters focus on determining demand for veteran healthcare services in FY 2010 and providing options for services, facilities, and costs to meet FY 2010 demand. However, the health service delivery patterns, facilities, and options for FY 2010 will last far beyond FY 2010. This chapter examines the sensitivity of the Service Delivery Options (SDO) in terms of their flexibility and scalability to handle unforeseen events over the next decade and the possible and likely events in the following decade, FY 2010–FY 2020; these are legitimate concerns of long range planners, OMB, the Congress, GAO, and other senior decision makers. This sensitivity analysis attempts to answer the following key questions:

1. How flexible is the supply of facilities for FY 2010, especially the inpatient acute beds, to respond to changes in demand?
2. What factors will impact demand, and what is their likelihood of occurrence?
 - a. Can the SDOs meet veteran enrollee demand through FY 2020?

- b. Can the SDOs accommodate current levels of unmet demand?
- c. Can the SDOs accommodate the Medicare-eligible veterans who are not currently receiving VA healthcare benefits?
- d. Can the SDOs respond to changes in demand resulting from veterans' preferences that are influenced by macro-economic conditions?
- e. Can the SDOs meet increased demand for healthcare services resulting from military conflicts similar to other post-Vietnam engagements?
- f. Can the SDOs accommodate active-duty service men and women should they be eligible to enroll?
- g. Are the SDOs crafted to allow for likely changes in medical practice and technological advances?

Broadly speaking, the answer to these questions is that the SDOs can meet veteran healthcare needs over a wide range of environmental conditions. Because they are scalable and VA has the authority to prioritize service-connected and low-income veterans, no single factor jeopardizes the long-term viability of the SDOs.

8.1 TO ENSURE APPROPRIATE CAPACITY, UPWARD AND DOWNWARD SCALABILITY ARE DESIGNED INTO THE SDOs.

Scalability is the measure of an option's capacity to handle significant fluctuations in demand. Unpredictable events, such as military conflicts, Medicare or Department of Defense (DoD) policy changes, economic changes, or a decline in the veteran population, may generate these fluctuations. Upward scalability measures an option's ability to adapt to increases in demand. Upward scalability can be achieved by leveraging a facility's existing space by adding extra beds or by purchasing needed services in the private sector. Downward scalability measures an option's ability to adjust to reductions in demand. It is generally achievable only when beds are "leased back" in Enhanced Use arrangements, or when inpatient services are purchased in the private sector.

This analysis focuses primarily on the scalability of acute beds. These are the most capital intensive to build, and the most expensive to maintain. Furthermore, it is currently common practice to contract for long-term-care beds, making this category of beds inherently scalable. Our analysis suggests there is substantial excess capacity of long-term-care beds in the private sector.

Scalability is designed into the SDOs in several ways. It is demonstrated by existing space that could be reconfigured to accommodate more patients, as well as by the ability to renegotiate Enhanced Use agreements to acquire more space for VISN 12 patient care activities. Sharing agreements with academic affiliates and DoD facilities also offer scalability. Finally, our research found that community resources can absorb a significant portion of VISN 12's workload during periods of peak demand. Exhibit 8-1 shows the scalability of the SDOs.

Exhibit 8-1. SDOs Scalability

OPTIONS	BEDS ⁽¹⁾	UPWARD SCALABILITY	DOWNWARD SCALABILITY ⁽²⁾
Southern Market		+172 (or 39%) to +70 (or 16%)	-128 (or 29%) to 0
A	439	+169 (or 38%)	-79 (or 18%)
B	439	+129 (or 29%)	0
C	439	+172 (or 39%)	-128 (or 29%)
D	439	+70 (or 16%)	0
Central Market		+42 (or 24%) to +12 (or 7%)	-81 (or 46%) to 0
E	178	+42 (or 24%)	-81 (or 46%)
F	178	+28 (or 16%)	-62 (or 35%)
G	178	+12 (or 7%) ⁽³⁾	0
Northern Market		+26 (or 77%) to +0	-26 (or 77%) to 0
H	34	+26 (or 77%)	-26 (or 77%)
I	34	0	0
VISN		+240 (or 37%) to + 82 (or 8%)	-235 (or 36%) to 0

(1) Includes Medical, Surgical, and Acute Psychiatry beds

(2) Downward scalability of "0" means that VA owns and operations the assets, which does not allow them to readily scale-down capacity. However, downward scalability could be achieved through selling excess capacity, which is not reflected in the scalability estimates.

(3) Additional upward scalability could be achieved by moving 75 nursing home beds back to Tomah, thereby increasing acute capacity at Madison by 75 beds.

The scalability of each SDO is discussed in detail in Appendix M.

If current assumptions are correct, the projected decline in workload resulting from the large decline in veteran enrollment will provide VA with substantial excess capacity between FY 2010 and FY 2020. However, a large number of factors could affect veteran demand for care; these factors could potentially offset the projected decline in enrollment and increase use of VA facilities. These factors are discussed in the following section.

8.2 THE SCALABILITY OF THE SDOS IS CRITICAL IN MEETING FLUCTUATING DEMAND OVER TIME.

Seven sensitivity factors and a hypothesis for each factor are developed to provide a framework for this analysis. Recognizing that a large number of potential factors could affect healthcare demand by FY 2020, the Booz·Allen CARES Team worked with VA staff to identify those factors with the greatest potential of significantly affecting VISN 12 demand and to develop the hypotheses describing the effects. Exhibit 8-2 identifies the sensitivity factors, the hypotheses, and the drivers affecting future changes in veteran demand for healthcare.

Exhibit 8-2. Sensitivity Factors, Hypotheses, and Drivers

SENSITIVITY FACTOR	HYPOTHESIS	DRIVERS
1. FY 2010–FY 2020 Expected Demand	Without changes to eligibility, VA FY 2010–FY 2020 workload will decrease from FY 2001–FY 2010 workload	<ul style="list-style-type: none"> • Aging veteran population • Caring for veterans with service-connected injuries and disabilities • Decrease in overall veteran population
2. Unmet Demand	Significant numbers of veterans are eligible for VA care who do not use VA healthcare resources	<ul style="list-style-type: none"> • VA's eligibility system • Homeless veterans • Veteran preference
3. Changes in Medicare Policy	Allowing Medicare-eligible veterans to receive care in VA facilities will increase demand for VA services	<ul style="list-style-type: none"> • Medicare subvention • Pharmacy benefits
4. Economy	Veterans' use of VA facilities will increase when the economy experiences a downturn	<ul style="list-style-type: none"> • Unemployment
5. Military Conflicts	Military conflicts increase the number of service-connected disabilities and lead to an increase in demand for VA services	<ul style="list-style-type: none"> • VA's mission requirements • Decrease in available beds for DoD • Contingency roles of medical centers • Ability to care for military conflict casualties • Ability to care for veterans with service-connected injuries
6. VA-DoD Resource Sharing	Increased VA and DoD resource sharing will lead to a reduction of required operating beds for VA and DoD to meet FY 2010 and FY 2020 demand	<ul style="list-style-type: none"> • Millennium Act • National Defense Authorization Act • Presence of DoD medical treatment facilities in the VISN 12 service area • Transition Commission recommendations
7. Changes in Medical Practice and Technology	New technologies, medical advances, and the changing healthcare environment will impact how medical care will be provided in the future	<ul style="list-style-type: none"> • Human genome mapping • Nanotechnology • Internet • Telemedicine • Caring for the aging population • Health system integration

The demand for VA care depends on many interrelated factors such as an individual's health status, income, service connection, and age. These factors are captured in the actuarial projections. This analysis uses the actuarial projections as the baseline and analyzes the potential impact of key policy and economic changes, as well as the occurrence of an unforeseen military conflict.

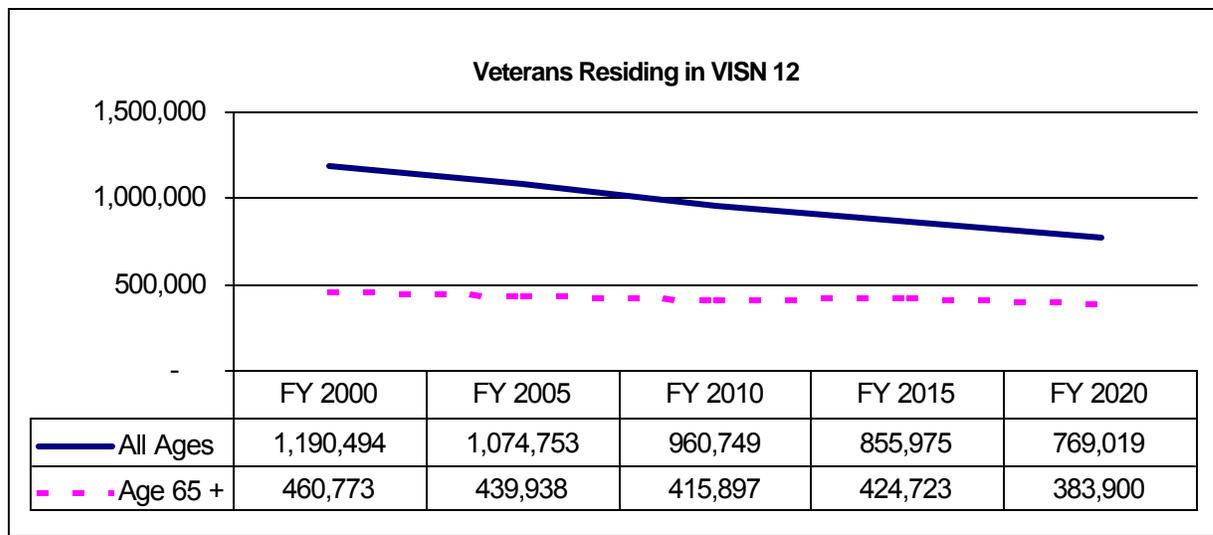
8.2.1 Downward scalability is required to respond to the 44-percent projected decline in enrollment between FY 2000 and FY 2020.

Actuarial projections are used to test the hypothesis that without major changes to eligibility, VA FY 2010–FY 2020 workload will decrease from FY 2001–FY 2010 workload. Drivers of FY 2010–FY 2020 demand are the aging veteran population, caring for service-connected veterans, and the overall decrease in the number of veterans.

The Aging Veteran Population

The number of veterans in the VISN 12 service area represents the highest possible number of potential users of VISN 12 services if there were legislative changes to make VA healthcare services highly attractive relative to other healthcare alternatives. There are 1,190,449 veterans residing in the VISN 12 service area, of which 19 percent (or 219,960) are enrolled, and 13 percent (or 158,173) have used VISN 12 services. Exhibit 8-3 shows a steady decline in the veteran population from FY 2000 to FY 2020; over this time period, the veteran population is projected to decline by 35 percent. However, the number of veterans aged 65 or older decreases by 17 percent. These veterans are also important to monitor because they are Medicare-eligible and could be impacted by changes in Medicare policy.

Exhibit 8-3. Veteran Population



The over-65 age group generally uses healthcare services at the highest intensity of any other age group. With such a large number of veterans approaching their 70s and 80s, the need for geriatric services, including extended care, becomes increasingly important for VA. The aging of veterans coincides with the aging of the baby boom generation, which will also require more geriatric healthcare services; this concomitant demand might limit veteran’s access to community alternatives to VA care.

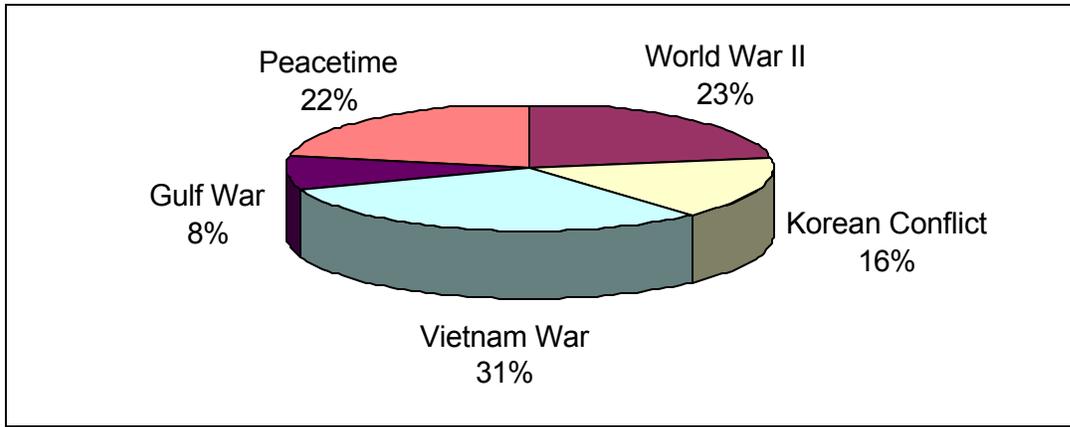
Caring for Veterans with Service-Connected Injuries and Disabilities

The VA’s mission is to implement our Nation’s promise to care for those who have served in the U.S. military, particularly those veterans who have suffered injury or disability during war. A GAO study found that more than 70 percent of veterans with no service-connected disabilities had never used VA healthcare services, compared with only 30 percent of those with service-connected disabilities not using the VA.¹

¹ VA Health Care, Issues Affecting Eligibility Reform Efforts, General Accounting Office (GAO-HEHS-96-160), September 1996.

The current veteran population, especially those that use VA services, is largely composed of World War II, Korean Conflict, and Vietnam-era veterans. (See Exhibit 8-4.) Many of these veterans have service-connected injuries. However, as these veterans age, their numbers will decline due to mortality; the last large influx of VA patients with service-connected injuries came from the Vietnam War, which ended more than 25 years ago. The Persian Gulf War, which took place approximately 10 years ago, did not produce the large numbers of service-connected veterans associated with previous wars.

Exhibit 8-4. Veteran Population's Wartime Experience

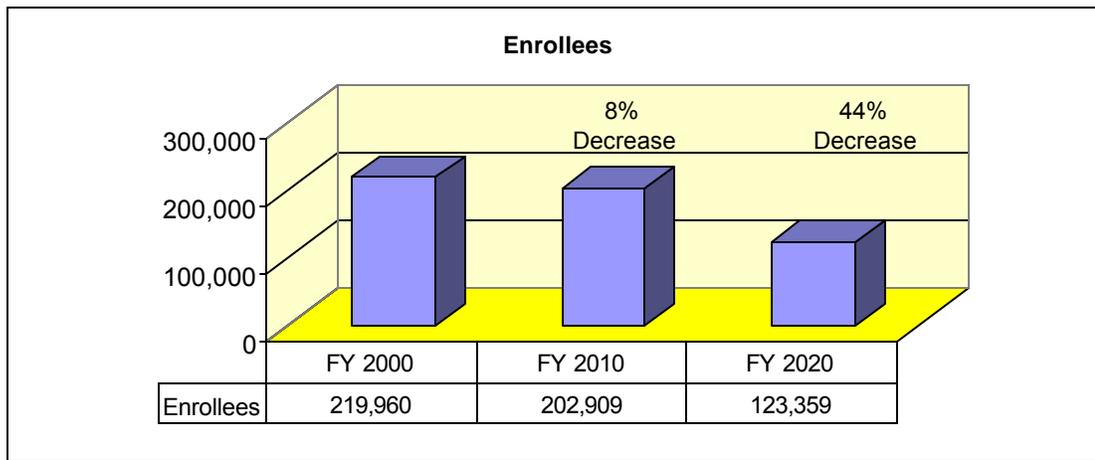


The specialized services required of service-connected veterans often differ from the healthcare needs of the nonservice-connected veteran. The VA faces the unique challenge of balancing the reduction in demand for specialized healthcare services for new service-connected veterans with the needs of existing service-connected veterans who are aging. Often, veterans with service-connected needs do not have convenient access to alternatives to the specialized care that VA provides them.

Impact of Decrease in Overall Veteran Population

Actuarial projections show a 44-percent decrease in VISN 12 veteran enrollment from FY 2000 to FY 2020. From FY 2010 to FY 2020, there is a 39-percent decrease. This reduction in enrollment is due to a substantial decrease in the overall veteran population. Exhibit 8-5 shows the reduction in enrollment from FY 2000 to FY 2020.

Exhibit 8-5. FY 2000–FY 2020 Veteran Enrollment



Impact of Morbidity on Workload

The large decrease in enrollment propels VISN 12’s overall reduction in demand for services and inpatient capacity requirements. The demand projections take into account the increased intensity of inpatient use that comes with aging. Exhibit 8-6 shows the FY 2010 and FY 2020 projected admissions and BDOCs for VISN inpatient acute services and the percentage of decrease from FY 2000.

Exhibit 8-6. FY 2001–FY 2020 Projected Demand—Inpatient Acute Services

INPATIENT SERVICES ¹		FY 2001	FY 2010	FY 2020	FY 2010 CHANGE FROM FY 2001	FY 2020 CHANGE FROM FY 2001	FY 2020 CHANGE FROM FY 2010
Medicine	Admissions	24,141	19,306	11,651	- 20%	- 52%	- 40%
	BDOCs	143,009	107,430	61,548	- 25%	- 57%	- 43%
Surgery	Admissions	6,309	5,277	3,146	- 16%	- 50%	- 40%
	BDOCs	68,159	52,952	30,012	- 22%	- 56%	- 43%
Psychiatry	Admissions	5,288	4,403	2,524	- 17%	- 52%	- 43%
	BDOCs	71,622	57,156	30,983	- 20%	- 57%	- 46%
Substance Abuse	Admissions	4,309	3,348	1,664	- 22%	- 61%	- 50%
	BDOCs	41,131	30,302	14,586	- 26%	- 65%	- 52%

(1) No adjustments have been made to the actuarial projections for the Residential Rehabilitation Treatment Program to provide consistency from FY 2001 to FY 2020.

Given the large decrease in admissions, the VA is faced with the potential of having a large number of unused beds (excess capacity) in the future if changes are not made to VISN 12’s healthcare delivery system. Even though in recent years the VA has modified its enrollment processes and opened more outpatient clinics to make it easier for veterans to access VA’s healthcare services, the large decrease in enrollment more than offsets any increase from additional recruiting. However, the per-

enrollee use of outpatient services is expected to increase, driven primarily by the increased intensity that comes with aging. Ambulatory care services include procedures, consults, visits and examinations. Ambulatory care projections for FY 2020 are presented in Exhibit 8-7.

Exhibit 8-7. FY 2001–FY 2020 Projected Demand—Ambulatory Care Services

AMBULATORY CARE SERVICES	FY 2001	FY 2010	FY 2020	FY 2010 CHANGE FROM FY 2001	FY 2020 CHANGE FROM FY 2001	FY 2020 CHANGE FROM FY 2010
Use Rate/Enrollee	24.4	25.8	27.5	+ 6%	+ 13%	+ 7%
Total Services	5.317 M	5.227 M	3.392 M	- 2%	- 36%	- 35%

The significant reduction in ambulatory care services is less difficult than inpatient services for the VA to absorb because there are fewer capital assets (buildings, equipment) associated with these services. However, VA's SDOs must be designed to allow for the expansion and reduction of ambulatory services, including relocating outpatient clinics closer to the using veteran population, and the addition and reduction of the number of primary and specialty care contracts.

Impact of the Decrease in Overall Veteran Population on SDOs

Veteran enrollment is projected to decline by 44 percent between FY 2000 and FY 2020, driving the reduction of inpatient and ambulatory utilization. The SDOs have been sized based on FY 2010 demand projections that are higher than FY 2020 projections in all of VA's clinical service areas (as demonstrated in Exhibit 8-6). In 2020, VISN 12 is more likely to experience excess capacity than excess demand if changes are not made to its delivery system. The SDOs should begin to adjust VISN 12 capacity to better reflect long-term demand projections.

8.2.2 The SDOs are sized to absorb the workload of unmet demand that could be realistically captured.

Unmet demand is the overall healthcare demand of veterans residing in the VISN 12 service area less the demand of those that are enrolled. The unmet demand factor is calculated in the actuarial projection as the number of veterans who are eligible for VA care and would benefit from VA services, but who do not use the VA system. Drivers influencing veteran unmet demand include the VA eligibility system and the under-utilization of VA services by homeless or seriously mentally ill veterans.

Eligibility for VA services is based on the presence and extent of service-connected disability, the incomes of veterans with non-service disabilities, and the type and purpose of care needed. To reach more veterans, eligibility reform efforts have focused on eliminating restrictions on veterans' access to outpatient care, making more veterans eligible for comprehensive VA outpatient services. Additionally, the Millennium Act (PL 106-117) was enacted, expanding the availability of a broad array of health services to veterans and establishing a high priority for nursing home care for the most severely disabled and those needing nursing home care for service-connected disability. The act also enhanced VA's home- and community-based extended care programs.

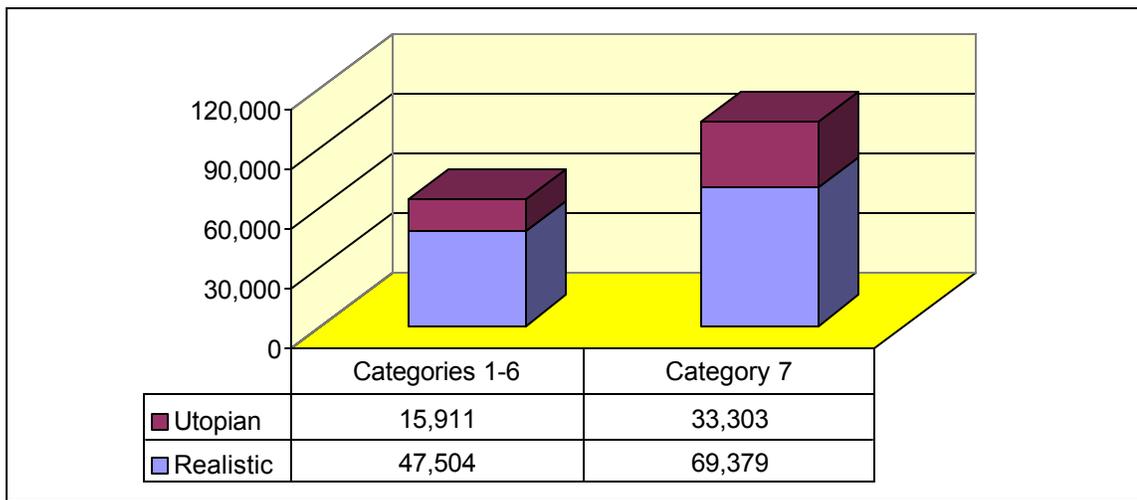
Homeless Veterans

Approximately 22 percent of the homeless population in the United States are veterans, and 89 percent of these are veterans who received an honorable discharge from the military. Homeless veterans typically qualify for VA care because they have low incomes. Historically, the homeless population has experienced high rates of chronic medical conditions, mental health conditions, drug and alcohol abuse problems, and early mortality. This population is more likely to be admitted to the hospital with a longer length of stay. Despite their higher burden of illness, homeless persons have fewer medical encounters in the ambulatory setting than non-homeless persons. For the homeless, healthcare competes with more immediate needs, such as obtaining adequate food and shelter. However, given the opportunity, homeless persons are willing to obtain healthcare for chronic conditions if they believe such care is important.² Over the years, VA has attempted to address this challenge by conducting outreach efforts to attract more homeless veterans to its facilities. However, given the characteristics of this population, the challenge continues.

Unmet Demand Projections

Unmet demand is the overall healthcare demand of veterans residing in the VISN 12, less the demand of those that are enrolled. The actuaries provided two sets of projections; one called “utopian” and the other called “realistic.” In a utopian situation all veterans would have equal access to VA care and choose to use VA services. In a realistic situation, those veterans who need VA services most (especially Categories 1–6 veterans), but are not doing so, would start seeking care from VA. Exhibit 8-8 shows actuarial projections for VISN 12 unmet demand (potential enrollees).

Exhibit 8-8. VISN 12 Unmet Demand Projections



² Kushel, Margot M.D. et al. *Factors Associated with the Health Care Utilization of Homeless Persons*; *Journal of the American Medical Association*. January 10, 2001, Volume 285, No. 2.

Exhibit 8-9 shows the potential impact of capturing the unmet demand on VISN 12's admissions and BDOC.

Exhibit 8-9. Potential Impact on FY 2010 Unmet Demand

INPATIENT SERVICES ¹		FY 2010 BASELINE	REALISTIC UNMET DEMAND	REALISTIC INCREASE	UTOPIAN UNMET DEMAND	UTOPIAN INCREASE
Medicine	Admissions	19,306	4,388	23%	5,863	30%
	BDOCs	107,430	26,267	24%	32,858	31%
Surgery	Admissions	5,277	1,243	24%	1,705	32%
	BDOCs	52,952	12,461	24%	15,762	30%
Psychiatry	Admissions	4,403	1,421	32%	2,002	45%
	BDOCs	57,156	15,892	28%	21,738	38%
Substance Abuse	Admissions	3,348	881	26%	1,341	40%
	BDOCs	30,302	7,210	24%	10,771	36%

(1) No adjustments have been made to the actuarial projections for the Residential Rehabilitation Treatment Program to provide consistency from FY 2001 to FY 2020.

Capturing unmet demand has been an ongoing challenge for VA. The challenge comes from attracting potential enrollees who are either not aware of their eligibility for VA services for a wide variety of reasons, or have decided not to use the VA because they have alternative sources of care, the VA is not convenient, or a multitude of other reasons. The actual number of enrollees that VA is more likely to attract is a subset of the “realistic” unmet demand projections.

Impact of Unmet Demand Projections on SDOs

The SDOs are not sized to serve all “utopian” unmet demand because capturing all unmet demand is unrealistic. However, the SDOs are sized to absorb the “realistic” workload of unmet demand that could be realistically captured. The scalability of the SDOs allows for the absorption of new enrollees as they use healthcare services.

8.2.3 Forty-eight percent of VISN 12 enrollees are Medicare-eligible and could be affected by changes in Medicare policy, yet the potential impact on demand for VA services is uncertain.

The hypothesis that allowing Medicare-eligible veterans to receive care in VA facilities will increase demand for VA facilities was tested through an analysis of the over-65 veteran population. Participation by VA in Medicare subvention and changes in Medicare's pharmacy coverage are potential drivers impacting future veteran use of VA facilities. A GAO study found that approximately 26 percent of veterans have healthcare coverage from Medicare and VA.³ Eligibility for Medicare coverage is primarily aged-based, whereas eligibility for VA services is based on a veteran's service-connected injury or income. For veterans aged 65 and older with service-connected injuries, Medicare provides an alternative to VA care.

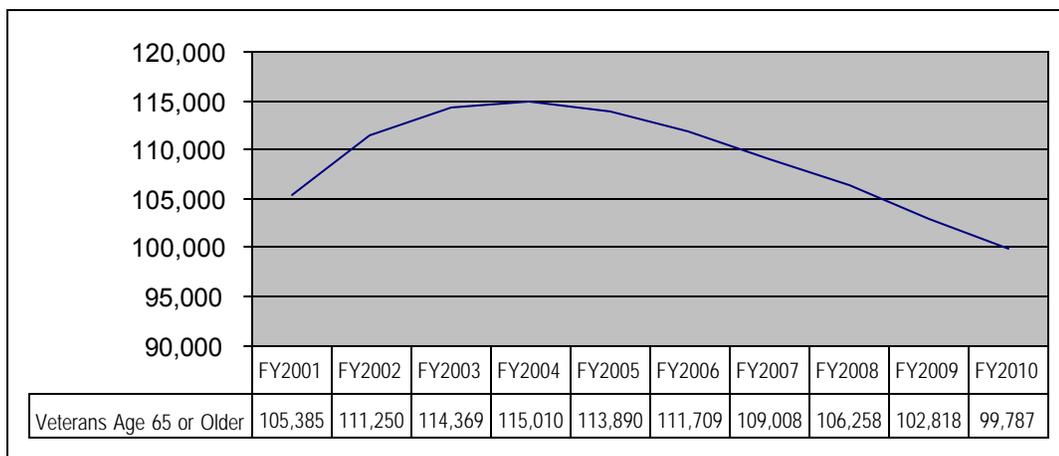
³ VA Health Care, Issues Affecting Eligibility Reform Efforts, General Accounting Office (GAO-HEHS-96-160), September 1996.

Medicare subvention

A 3-year Medicare subvention pilot is being tested involving DoD and the Department of Health and Human Services (HHS). Under this pilot, HHS is reimbursing DoD for care that is provided to Medicare-eligible military beneficiaries receiving care through DoD. If the Congress passed Medicare subvention legislation for VA, HHS, acting under a coordinated care health plan model would reimburse VA for Medicare healthcare services furnished to Medicare-eligible veterans. VA would provide Medicare Part A and B (inpatient and outpatient) services to Medicare-eligible veterans, regardless of their service-connected disability or income level.

Approximately 105,385 Medicare-eligible veterans in VISN 12 service area are enrolled with VA. Enrolled veterans are the veterans that are most likely to take advantage of potential Medicare subvention legislation because they may be currently coming to VA facilities for some, or all, of their healthcare. Although more veterans will be eligible to receive their care under the potential legislation, there is no reason to believe that large numbers of veterans who have not used VA prior to turning age 65 will leave their current providers without significant incentives. Additionally, competition for Medicare-eligible patients is intense because these patients represent a substantial and steady source of revenue for other health systems and hospitals. Exhibit 8-10 shows the projected number of VISN 12 Medicare-eligible veterans who would most likely to take advantage of Medicare subvention legislation.

Exhibit 8-10. Medicare-Eligible Veteran Enrollees



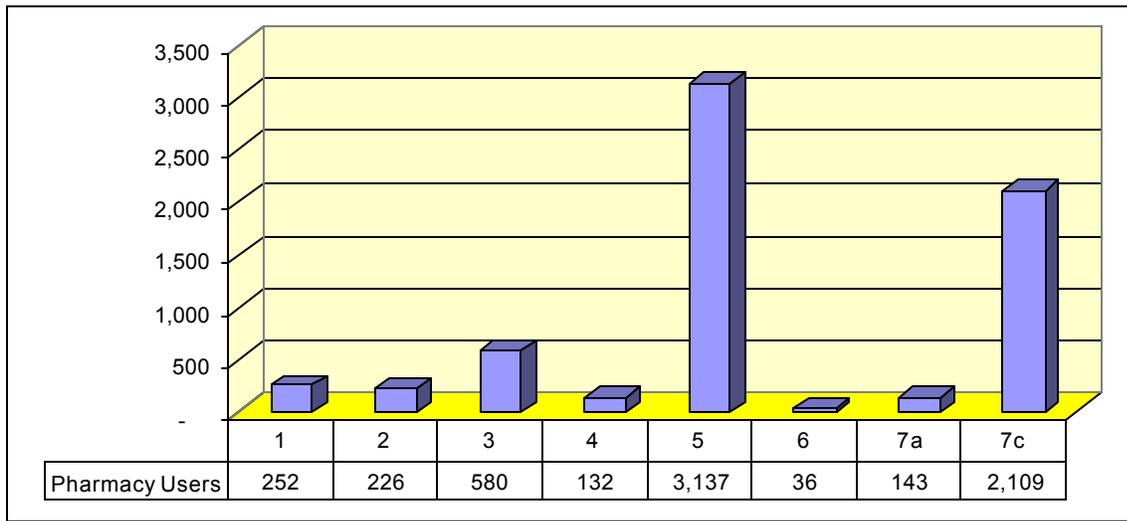
In the next 10 years, between 99,787 and 115,010 veterans could take advantage of the Medicare subvention legislation. The primary advantage of Medicare subvention for VA is the potential revenue that could be derived, increasing the base that could be used to attract more Medicare-eligible veterans to VA.

Changes to Medicare's Pharmacy Benefits

Because VA's prescription drug coverage is attractive to veterans, an improvement to Medicare's coverage could potentially pull veterans away from VA. To assess the potential impact on

VISN 12, pharmacy utilization data was used. Currently, approximately 6,615 Medicare-eligible veterans use VISN 12 pharmacy services, with minimal use of outpatient or other VA healthcare services. Exhibit 8-11 shows the number of Medicare-eligible veterans who selectively use VA pharmacy services but not other clinical services.

Exhibit 8-11. Medicare-Eligible Pharmacy Users



As clearly shown in the exhibit, Category 5 (low-income) and Category 7 (fee-for-service users) are the veterans who selectively use VA's pharmacy services. In total, these 6,615 veterans are the most likely to get their healthcare coverage from Medicare if there were an improvement in Medicare's pharmacy benefits. However, this number is subject to change based on the attractiveness of Medicare's pharmacy benefits relative to those of VA.

Impact of Changes in Medicare Policy on SDOs

Forty-eight percent of VISN 12 enrollees are Medicare-eligible and could be affected by changes in Medicare policy. Enrolled veterans are the veterans who are most likely to take advantage of potential Medicare subvention legislation because they may be currently coming to VA facilities for some, or all, of their healthcare. More veterans could be eligible to receive their care under the potential legislation; however, they would have to be lured from their existing providers. This would be difficult because competition for Medicare patients is intense. If the Congress improves the Medicare pharmacy benefits, VISN 12 has the potential of losing 3 percent of its enrollees.

8.2.4 The SDOs can absorb historical variances in demand resulting from changing economic conditions.

The impact of unemployment on VA demand was used to test the hypothesis that veterans' use of VA facilities will increase when the economy experiences a downturn. The unemployment rate was used as a surrogate for the economy because it could be more closely associated with the veteran population, specifically low-income veterans who are most likely to be affected by a downturn in the

economy. If veterans are employed, they are more likely to have access to their employer's health plan; if a low-income veteran is unemployed their reliance on the VA for care is higher. This premise is supported by a 1996 GAO study finding that more than 88 percent of veterans with incomes of \$40,000 or more had never used VA services, compared with 63 percent of veterans with incomes under \$10,000. That study also found that approximately 90 percent of veterans have alternative sources of health insurance coverage, including overlapping coverage from other federal programs and coverage provided by the veteran's employer.⁴

To test the hypothesis, the Booz·Allen CARES Team performed a simple regression analysis on the relationship between the number of patients treated by the VA healthcare system and the national unemployment rate between FY 1971 and FY 1995. The analysis found that nationally as the unemployment rate increases by 1 percent, approximately 65,000 more patients are treated in VA facilities. This represents a 5.9 percent increase over the average number of patients treated. However, the direct cause and effect relationship between the unemployment rate and the number of patients treated by VA may be influenced by other economic factors, VA outreach efforts to the underserved population, changes in the eligibility system, or veterans having alternative sources for care.

There is also a strong and positive correlation between the national annual unemployment rate and the annual unemployment rate for the Midwest region between FY 1978 and FY 1995. This means that the part of the country where VISN 12 is located has experienced economic periods relatively similar to the United States as a whole.

Over the last 25 years, FY 1973 had the lowest unemployment rate of 4.9 percent. In that year, approximately 985,000 patients were treated in VAMCs. FY 1982 recorded the highest unemployment rate of 9.7 percent and the number of patients treated in this year was approximately 1.24 million. The average annual unemployment rate has been approximately 6.8 percent and the average number of patients treated in VA facilities has been 1.1 million. These averages occurred in different years, also indicating that other influences are impacting veterans use of VA facilities. Exhibit 8-12 shows the variance from the 25-year average employment rate and number of patients treated.

Exhibit 8-12. 25-Year High and Low Unemployment Rates

25-YEAR	UNEMPLOYMENT RATE	PATIENTS TREATED IN VAMCS
Low	4.9%	985,351
High	9.7%	1,242,544
Average	6.8%	1,105,146
Variance from Mean	-1.9% to +2.9%	-10.8% to +12.4%

This 25-year historical perspective on unemployment rates and the number of patients treated by VA indicates that the SDOs must be scalable to meet potential periods of economic change. In the past during high periods of unemployment, the number of patients treated annually in VA facilities has

⁴ VA Health Care, Issues Affecting Eligibility Reform Efforts, General Accounting Office (GAO-HEHS-96-160) September 1996.

increased by approximately 12 percent above the average. On the other hand, during low periods of unemployment, the number of patients treated in VA facilities decreased by approximately 11 percent below the average.

8.2.5 The SDOs will allow VISN 12 to meet VA’s contingency mission requirements and provide available beds in the event of a military conflict or national emergency.

To test the hypothesis that military conflicts increase the number of service-connected disabilities and lead to an increase in VA facility workload, VA’s contingency mission was analyzed to identify specific requirements, and an assessment of VISN 12’s ability to absorb military casualties was conducted. This approach was taken because DoD does not provide information about the likelihood of a military conflict, estimates of potential casualties, and the routing of potential casualties as they return to the United States. This information is not provided to VA’s Emergency Management Strategic Healthcare Group, which advised Booz·Allen CARES Team conducting the sensitivity analysis.

VA’s Contingency Mission Requirements

VA’s commitment to meeting the contingency mission requirement is well established. The *VA and DoD Health Resources Sharing and Emergency Operations Act of 1982* gave the VA its mission to be the principal healthcare backup to DoD in the event of war or national emergency. Plans were developed jointly by VA and DoD to implement the law by establishing a Contingency Hospital System. Two key provisions of the legislation and the subsequent Memorandum of Understanding signed by the Secretary of Defense and the Administrator of Veterans Affairs in 1982 helped define VA’s role:

- “During and immediately following a period of war...the (VA) Administrator may furnish hospital care, nursing home care, and medical services to members of the Armed Forces on active duty. The Administrator may give a higher priority to the furnishing of care and services under this section than to the furnishing of care to any other group of persons eligible for care and services...with the exception of veterans with service-connected⁵
- “VA’s contingency plan will be based on a bed availability assessment projecting the number, type, and location of available beds which could be made available to support the treatment of military personnel in the event or war or national emergency. This bed availability assessment will take into account the impact upon VA operations of a call-up to active duty (mobilization) of VA employees who are members of the Ready Reserves.”⁶

⁵ *Public Law 97-174. Veterans’ Administration and Department of Defense Health Resources Sharing and Emergency Operations Act. May 4, 1982.*

⁶ *Memorandum of Understanding Between the Veterans Administration and the Department of Defense: Regarding the Furnishing of Health-Care Services to Members of the Armed Forces in the Event of a War or National Emergency. 1982.*

VA's contingency mission does not require that VA set aside a given number of beds for potential use during a military conflict or emergency. Prior VA guidance for facility planning was to have 25 percent of facility beds readily available in case they were needed by DoD. However, this has not been the case for many years. Although there is no guidance on the number of beds that VA should have available to DoD; there are directions on how to report bed availability.

Planning Guidance

DoD's planning guidance assumes two nearly-simultaneous major theater wars outside of the United States, potentially involving chemical weapons.⁷ VA's backup role is part of DoD's preparedness efforts, and when considering the SDOs, determining what a prudent organization would do is the overriding guidance. Key considerations include—

- Overall number of beds than can be made available to DoD
- Ability of the VISN to absorb casualties in DoD's evacuation categories
- Ability of VISN to absorb veterans with service-connected injuries.

Two factors have lead to a reduction in the number of beds currently available to DoD since the Persian Gulf War (1990–1991). The first is the high cost of excess capacity. Economic and budgetary pressures have forced DoD, VA, and hospitals that are part of the National Disaster Medical System (NDMS) to reduce the number of beds available to DoD since 1991. The second factor is the relative number of Persian Gulf War casualties. Early estimates of potential casualties were as high as 40,000, which was consistent with the Vietnam War, the Korean Conflict, and World War II casualties. The VA received fewer than 120 injured veterans from the Persian Gulf War. As a result of these two factors, the reported number of available beds to DoD has decreased by 48 percent, and VA decreased available beds by 69 percent since the Persian Gulf War. Exhibit 8-13 shows the decrease in beds available to DoD.

Exhibit 8-13. Beds Available to DoD

ORGANIZATION	PERSIAN GULF WAR	FY 2001	DECREASE SINCE PERSIAN GULF WAR
DoD	19,000	7,672	60%
VA	25,000	7,802	69%
NDMS	110,000	65,000	41%
Total	154,000	80,474	48%

VA's role extends beyond supporting DoD during overseas conflicts, VA can receive casualties from in the event of a internal threat to the United States (Homeland Defense), and other national emergencies. VISN 12 currently has three Primary Receiving Centers (PRC) that provide backup to DoD if casualties are evacuated to the VA. The Secondary Support Centers (SSC) would provide

⁷ Presentation provided by VA's Emergency Management Strategic Healthcare Group. Excerpt from the Integrated CONUS Medical Operations Plan.

backup to the PRCs by accepting transfers of patients or providing resources. VISN 12 currently has four SSCs. The Chicago area VA facilities are also Installation Support Centers (ISC), assisting the Great Lakes Naval Hospital with medical needs during a military mobilization. Additionally, the Milwaukee VAMC serves as a Federal Coordinating Center (FCC) in the event of war or national emergency. VISN 12's commitment to meeting the VA's contingency mission requirements and roles does not change under the SDOs.

In their most recent contingency plans, the VISN 12 medical centers reported that collectively they could make 471 staffed beds available to DoD. This means that the VISN could absorb approximately 146,000 annual BDOCs. Achieving this number would require that some existing patients be discharged to home or be transferred to a SSC or a community provider. Depending on the bed type, the projected time period to have these beds available ranged from 3 to 30 days. (See Exhibit 8-14.)

Exhibit 8-14. Maximum Number of Beds Available to DoD—Current

	CHICAGO HEALTHCARE SYSTEM	HINES VAMC	IRON MOUNTAIN VAMC	MADISON VAMC	MILWAUKEE VAMC	NORTH CHICAGO VAMC	TOMAH VAMC	BDOCs
Medicine	65	60	11	20	21	30	2	64,842
Psychiatry	30	38	0	10	8	20	23	40,022
Surgery	28	11	1	14	6	0	0	18,615
Orthopedics	0	4	0	1	2	0	0	2,172
Spinal Cord Injury	0	34	0	0	4	0	0	11,790
Burns	0	0	0	0	0	0	0	0
OB/Gyn	0	0	0	0	0	0	0	0
Pediatrics	0	0	0	0	0	0	0	0
Neurosurgery	0	4	0	1	1	0	0	1,862
Maxillofacial	0	2	0	1	1	0	0	1,241
Ophthalmology	0	2	0	0	1	0	0	931
Thoracic Surgery	0	2	0	1	4	0	0	2,172
Urology	0	4	1	1	2	0	0	2,482
Total	123	161	13	49	50	50	25	146,128

There is no industry standard to assist in determining the number of patients who can be discharged in the event of a war or national emergency because these decisions are based on individual patient needs, the clinical judgement of the provider, and VA and community care alternatives. However, the SDOs were developed based on 85 percent capacity, leaving 15 percent available to absorb high periods of demand and normal bed turnover. As shown in Exhibit 8-15, this percentage provides the basis for determining the number of beds that VISN 12 could make available to DoD in 24 to 72 hours.

Exhibit 8-15. Beds Available to DoD 24-72 hours—Service Delivery Options

DOD EVACUATION CATEGORY	CURRENT		SERVICE DELIVERY OPTIONS			
	BEDS	BDOC	A-D	E-G	H-I	BDOC ²
Medicine	209	64,842	35	13	3	15,823
Psychiatry	129	40,022	15	7	1	7,136
Surgery ¹	95	29,474	16	6	2	7,446
Spinal Cord Injury	38	11,790	10	6	0	4,964
Burns	0	0	0	0	0	0
OB/Gyn	0	0	0	0	0	0
Pediatrics	0	0	0	0	0	0
Total	471	146,128	76	32	6	35,058

(1) Includes other DoD Evacuation Categories: Orthopedics, Neurosurgery, Maxillofacial Surgery, Ophthalmology, Thoracic Surgery, and Urology.

(2) BDOC is calculated without including the 15 percent operating efficiency industry standard.

VISN 12 could most likely have 114 beds available for DoD during a military conflict or national emergency in 24 to 72 hours. Reconfiguring existing space and terminating Enhanced Use agreements could generate further capacity. In addition, community resources could be used to absorb workload during peak periods of demand. The additional beds that could be made available for extended periods are presented in Exhibit 8-16. Depending on the combination of SDOs selected, the number of beds that could be made available for an extended period ranges from 240 to 120.

Exhibit 8-16. Beds Available to DoD for an Extended Period—Service Delivery Options

OPTION	BEDS ¹	UPWARD SCALABILITY	BDOC	MARKET
A	439	+169 (or 38%)	52,432	+ 172 to + 70 beds
B	439	+129 (or 29%)	40,022	
C	439	+172 (or 39%)	53,363	
D	439	+70 (or 16%)	21,718	
E	178	+42 (or 24%)	13,030	+ 42 to 12 beds
F	178	+28 (or 16%)	8,687	
G	178	+12 (or 7%)	3,723	
H	34	+26 (or 77%)	8,067	+26 to 0 beds
I	34	0	0	
VISN	651	+240 (or 37%) to +82 (or 8%)	74,460 to 25,441	+240 to + 82 beds

(1) Medical, Surgical, and Acute Psychiatric beds

VA’s Special Disability Programs are services designed to meet the unique needs of veterans, particularly service-connected veterans. During a military conflict or national emergency it is expected that service-connected injuries will increase, thereby increasing the demand for VA’s disability programs. Special Disability Beds are presented in Exhibit 8-17.

Exhibit 8-17. Special Disability Program Beds

DISABILITY PROGRAM	CURRENT		SERVICE DELIVERY OPTIONS	
	FY 2000 BEDS	FY 2000 BDOC	FY 2010 BEDS	FY 2010 BDOC
Spinal Cord injury	126	33,047	136	52,049
Blind Rehabilitation	30	9,316	34	11,169
Medical/Surgical <ul style="list-style-type: none"> • Traumatic Brain Injury • Amputee 	Included with inpatient medical and surgical beds	722 7,586	Included with inpatient medical and surgical beds	
Psychiatry <ul style="list-style-type: none"> • PTSD • Homeless • Seriously Mentally Ill • Substance Abuse 	Included with inpatient medical and surgical beds	87,458	Included with inpatient psychiatry beds	

The SDOs provide for 57 percent more spinal cord injury BDOCs in FY 2010 than was experienced in FY 2000. Similarly, 20 percent more blind rehabilitation BDOC are available. The other Special Disability Program BDOC are included with medical, surgical, and psychiatry beds.

Impact of VA's Contingency Mission on SDOs

VISN 12 will be able to meet VA's contingency mission requirements and provide available beds in the event of a military conflict or national emergency. Because the SDOs are scalable, VISN 12 will have at least 114 beds available to DoD within 24–72 hours. Although not required by its mission, VISN 12 can increase the number of beds substantially by discharging patients to home or SSCs. If necessary, space can be reconfigured and Enhanced Use agreements renegotiated to generate between 210 and 60 additional beds for extended periods. Community resources could be used to absorb workload during peak periods of demand. Because the SDOs keep the Special Disability Programs at current or increased levels, VISN 12 will be able to meet the long-term needs of service-connected veterans.

8.2.6 The SDOs would allow VISN 12 to absorb the Great Lakes Naval Hospital's inpatient workload.

The number of available DoD military treatment facility beds in the VISN 12 service area was used to test the hypothesis that increased VA and DoD resource sharing will lead to an optimization of operating beds needed to meet VA and DoD FY 2010 and FY 2020 demand. Drivers of future VISN 12 VA-DoD resource sharing efforts include the Millennium Act, the National Defense Authorization Act, the presence of DoD facilities in the VISN 12 service area, and the recommendations of the Congressional Commission on Service members and Veteran Transition Assistance (commonly referred to as the "Transition Commission").

PL 97-174, the *VA and DoD Health Resources Sharing and Emergency Operations Act of 1982*, instituted VA-DoD resource sharing. This law was enacted to promote cost-effective use of

Federal healthcare resources by minimizing duplication and underuse while benefiting both VA and DoD beneficiaries. The act defined health resources sharing as the buying, selling, or exchange of healthcare services, benefiting both parties in the agreement and helping contain healthcare costs by better utilizing medical resources. This act provides for cooperative sharing agreements between the respective departments' facilities and explicitly defines the care to be provided on a reimbursable basis.

The foundation exists for bilateral multilevel sharing of healthcare resources among the Great Lakes Naval Hospital and VISN 12. An agreement was signed in March 2000 between the VA and DoD that allows military active duty and dependent beneficiaries to receive specialty care at VA facilities and veterans to receive care at the Great Lakes Naval Hospital. This agreement is aimed at taking advantage of the excess capacities existing in the two healthcare systems.

The Millennium Act

The Millennium Act allows the VA and DoD to enter into agreements where VA would be reimbursed for the provision of medical care to eligible military retirees. Reimbursement would be based on the rates agreed on by the VA and DoD, and would be made by DoD directly or by TRICARE Managed Care Support contractors. To enter into such an agreement, the VA must ensure that its costs are recovered and that it has adequate capacity. The Millennium Act would allow military retirees to obtain their healthcare services through the VA. To date, this aspect of the Millennium Act has not been implemented.

Enrolled retirees are the retirees most likely to take advantage of this provision of the Millennium Act because they are currently using VA for some or all of their healthcare. Although there has been no definitive study to determine the number of new military retirees who would use the VA if given the choice, approximately 9,463 military retirees who enrolled with the VA reside in the VISN 12 service area. These are veterans who meet VA's eligibility requirements because they have service-connected injuries, are low-income, or they choose to use VA services on a fee basis. (See Exhibit 8-18.)

Exhibit 8-18. VISN 12 Military Retirees Who Are Enrolled in the VA System

AGE	NUMBER OF MILITARY RETIREES/ENROLLEES
Under age 65	3,556
Aged 65 and older	5,907
Total	9,463

Of these retirees, those aged 65 and older have coverage from VA and Medicare, whereas those under age 65 have DoD and VA coverage. These retirees have been counted in the baseline projections because they are currently enrolled, and were considered as the SDOs were developed.

The National Defense Authorization Act

As a result of the National Defense Authorization Act (PL 106-398), TRICARE becomes the second payer to Medicare for military retirees age 65 and older on October 1, 2001. The retiree must be enrolled in Medicare Part B, so that TRICARE may pay all Medicare co-payments when a Medicare provider treats a beneficiary for TRICARE-covered services. Medicare-eligible beneficiaries would only have co-payments for TRICARE-covered services that are not covered by Medicare.

Prescription drug coverage improves under the National Defense Authorization Act. In April 2001, DoD uniformed services beneficiaries 65 years of age and older began receiving pharmacy benefits. The new program will limit out-of-pocket costs and increase access to pharmacies. Beneficiaries who are 65 years of age and older will not pay enrollment fees or annual premiums for their TRICARE pharmacy benefits, but they will pay modest co-payment. This legislation affects approximately 5,907 enrollees in VISN 12 including those military retirees age 65 and older who are enrolled in the VA system.

The Great Lakes Naval Hospital

The Great Lakes Naval Hospital, which is located close to the North Chicago VA Medical Center, is the only DoD military treatment facility in the VISN 12 service area providing inpatient care services. Exhibit 8-19 shows this hospital's capacity and workload.

Exhibit 8-19. The Great Lakes Naval Hospital Capacity and Workload

THE GREAT LAKES NAVAL HOSPITAL	LICENSED BEDS	STAFFED BEDS	AVERAGE DAILY CENSUS	AVAILABLE BEDS	% STAFFED BEDS AVAILABLE	# CLOSED WARDS
Medical/Surgical Beds	104	51	24	27	51%	1
Acute Psychiatry	37	23	22	1	4%	0

The Great Lakes Naval Hospital operates approximately 49 percent of its licensed medical/surgical beds and has an average daily census of 24, which is approximately 47 percent of its staffed beds. It also has one permanently closed ward. This means that the Great Lakes Naval Hospital possesses relatively high excess capacity. However, this hospital does not have enough excess capacity without re-opening the closed ward to efficiently absorb much of VA's workload. On the other hand, under the proposed SDOs, VISN 12, with adequate planning and coordination, can absorb the Great Lakes Naval Hospital's medical/surgical workload. This would result in a 4 percent increase in VISN 12's annual medical/surgical workload, as illustrated in Exhibit 8-20.

Exhibit 8-20. VA-DoD Sharing of Medical/Surgical Beds

MEDICAL/ SURGICAL BEDS	LICENSED BEDS	AVERAGE DAILY CENSUS	AVAILABLE BEDS	% OF LICENSED BEDS AVAILABLE
Great Lakes Naval Hospital	104	24	80	77%
VISN 12	500 ¹	425 ²	75	15%
DoD workload (ADC) transferred to VA	504	449	55	11%

(1) This does not include SCI and blind rehabilitation beds

(2) Projected ADC based on 85 percent capacity

The Great Lakes Naval Hospital operates approximately 62 percent of its licensed acute psychiatry beds and has an average daily census of 22, which is approximately 96 percent of staffed beds. Because of its high daily census relative to its capacity, the Great Lakes Naval Hospital would be required to staff more of its licensed beds to absorb any VA workload. On the other hand, under the SDOs, VISN 12 could absorb DoD patients, increasing annual workload by 15 percent. (See Exhibit 8-21.) However, doing this would increase VA's acute psychiatry workload to full capacity, and VISN 12 would be required to closely manage this situation.

Exhibit 8-21. VA-DoD Acute Psychiatry Beds

ACUTE PSYCHIATRY	LICENSED BEDS	AVERAGE DAILY CENSUS	AVAILABLE BEDS	% OF LICENSED BEDS AVAILABLE
Great Lakes Naval Hospital	37	22	15	41%
VISN 12	151	128 ¹	23	15%
DoD workload transferred to VA	151	150	1	Less than 1%

(1) Projected ADC based on 85 percent capacity

Transition Commission's Recommendations

Public Law 104-275 required the Transition Commission to review programs that provide benefits and services to veterans and service members making the transition to the civilian sector. The Commission reviewed programs to ensure their adequacy and effectiveness in meeting current and future veteran and service member needs. The Commission envisioned a healthcare partnership for VA and DoD that provides beneficiaries a seamless transition from one healthcare system to the other, ensuring that taxpayer dollars are optimized.⁸ Exhibit 8-22 presents key aspects of their recommendations and their potential impact on future delivery of the VISN 12 healthcare services.

⁸ Report of the Congressional Commission on Servicemembers and Veterans Transition Assistance (Report in Brief).

Exhibit 8-22. Transition Commission Recommendations

COMMISSION RECOMMENDATION	POTENTIAL VISN 12 IMPACT
3b. Provide healthcare for Medicare beneficiaries	Would provide Medicare-eligible veterans with more healthcare alternatives— <ul style="list-style-type: none"> • Test the Federal Employee Health Benefits Program for Medicare-eligible military retirees • Test Medicare subvention
3f. Increase VA’s use of DoD’s TRICARE for selected VA medical services	Would provide veterans with the opportunity to receive care through DoD— <ul style="list-style-type: none"> • Test the provision of fee-basis care under TRICARE contracts, with the costs of VA patients borne by VA • Expand care options for CHAMPVA beneficiaries by using a TRICARE contract
3g. Coordinate DoD and VA medical research	Would increase the VA-DoD coordination potential in the provision of medical research, a VA mission requirement— <ul style="list-style-type: none"> • DoD and VA maintain research capacity • Joint DoD and VA research committee to develop integrated research agenda
3h. Deliver cost-effective services to homeless veterans	Would increase resources devoted to meeting unmet demand— <ul style="list-style-type: none"> • Employ Enhanced Use Lease Authority to support community-based residential care for the homeless
3i. Review how DoD and VA conduct graduate medical education	Would increase the VA-DoD coordination potential in the provision of medical education, a VA mission requirement— <ul style="list-style-type: none"> • Review VA/DoD education programs to determine if opportunities exist for greater collaboration
5a. Restructure budget appropriations, and DoD/VA policy processes to increase healthcare delivery	Would change how future resource decisions will be made and would increase current levels of VA-DoD coordination— <ul style="list-style-type: none"> • Expand VA/DoD partnering, allowing beneficiaries to receive care in VA or DoD healthcare systems • Share infrastructure and capital assets, and establish joint facilities • VAMCs would be recognized as TRICARE providers or the equivalent to military treatment facilities

The overall impact of the Transition Commission’s recommendations is potentially less than what it would be for many of the other VISNs because the Great Lakes Naval Hospital is the only DoD military treatment facility in the VISN 12 service area. The Commission’s recommendations were considered in the development of the SDOs, particularly when assessing VISN 12’s ability to absorb the medical, surgery, and acute psychiatry workload of the Great Lakes Naval Hospital.

Impact of VA/DoD Resource Sharing on SDOs

With adequate planning, VISN 12 can absorb the Great Lakes Naval Hospital’s inpatient acute workload. This workload includes medical, surgical, and psychiatric inpatient acute care. It would result in a 5-percent increase in VISN 12 medical and surgical workload, and a 15-percent increase in psychiatric care workload.

Additionally, if VA were to grant access to all VA services by military retirees, currently enrolled retirees are the retirees most likely to use VA services. Although there has been no definitive study to determine the number of new military retirees who would use the VA if given the choice,

approximately 9,463 military retirees who enrolled with the VA reside in the VISN 12 service area. The SDOs could readily absorb this 4-percent increase in enrollment.

8.2.7 Advances in medical practice and technology will lead to less inpatient care; the SDOs provide for extensive use of outpatient and extended care.

A literature review found that new technologies, medical advances, and the changing healthcare environment will impact how medical care will be provided in the future. However, the specific impacts on healthcare demand cannot be estimated without a large degree of speculation. Therefore, the Booz·Allen CARES Team is presenting the most significant changes, without associating a change in demand to them. From this review, biotechnology, nanotechnology, digital business solutions, telemedicine, caring for the aging population, and health system integration were identified as drivers.

The Internet has brought unprecedented medical information to the fingertips of many consumers. However, its most significant impact in the next 10 years will be on chronic disease management and home care. Increasing bandwidth will accommodate the increasing data needs of sophisticated interventions, such as telemedicine. Even with limited bandwidth there is evidence that Internet-based chronic disease management can be effective in improving adherence and care, while decreasing morbidity and hospitalizations. Telemedicine will allow more convenient consultation with subspecialties for patients residing in remote areas, allow patients to receive care in their home, and permit medical professionals to more readily exchange medical information. Ultimately, telemedicine has the potential to make outpatient clinics critical staging sites for more sophisticated levels of care, which can be more conveniently accessed. VA already has a strong telemedicine presence in many parts of the country. The use of this technology should disseminate rapidly throughout the VA over the next decade.

The growing number of elderly will propel the growth of long-term care through FY 2050, but not without major changes in the services, settings, and technologies of care. Assisted living facilities may care for all but the most critically ill residents in the future according to experts. In-home diagnostic and therapeutic technologies will enable more sophisticated medical care to be provided and monitored in long-term-care facilities or the patient's home. Skilled nursing facilities will provide more short-term rehabilitation services and less long-term custodial care.

After two decades of system building, some of the private sector's 350 integrated health delivery systems may come apart. Many of today's integrated delivery systems may change their model of affiliation from merger to network to accommodate the demand of local units to exercise more local control. This movement to more local control will occur in response to increased healthcare consumerism. Healthcare users are becoming more informed about their healthcare choices through the Internet, and payers are pursuing the most cost-effective care. However, experts predict that between 75 and 80 percent of all hospitals will remain in integrated delivery systems.⁹

⁹ Collie, Russell ; *A Millennium Mindset: The Long Boom*; *Journal of Health Care Management*; Chicago; March/April 2001.

The most significant discovery in biotechnology in recent years has been the mapping of the human genome, which has placed us on the verge of a new medical era. The genomic revolution will produce a shift in our approach to the diagnosis and treatment of disease. The full implications of this discovery are not clear but experts predict the following:

Gene Chips	Genetic devices, analogous to a computer chip, that will assist in predicting risk and disease probability
Pharmaco Genics	A new generation of antibiotics
Immunotherapy	New therapies derived from an understanding and modulation of the immune system on a genetic level
Gene Therapies	Therapies aimed directly at genetic lesions rather than their downstream effects.

Many obstacles must be overcome before gene therapy becomes a dominant approach to disease states, and according to experts these therapies will be commonplace by 2020. The treatment modalities can be applied to some of VA's most common diagnoses, such as coronary disease and cancer.

Following behind the genomic revolution is the era of nanotechnology that may also produce a sizeable shift in the approach to diagnosis and treatment of disease. A consensus is emerging that practical technology constructed on a molecular and atomic scale may be possible. These atomic "machines," which will be measured by billionths of a meter, will have the capacity to repair the body at a cellular, subcellular, and genetic level. However, healthcare futurists place this well beyond the year 2020.

These advances in medical practice and technology may lead to less inpatient care. The SDOs provide for extensive use of outpatient and extended care services. VA is a leader in the use of telemedicine, health services research and development, and caring for the elderly. It will obviously use cost-effective means of caring for veterans in the most appropriate settings.

8.2.8 The long-term viability of the SDOs is not jeopardized by key sensitivity factors.

The sensitivity analysis examined the flexibility and scalability of the SDOs relative to possible and unforeseen events over the next two decades; this was done to address legitimate concerns of long-range planners, OMB, the Congress, GAO, and other senior decision makers. Broadly speaking, the analysis found that the SDOs can meet veteran healthcare needs over a wide range of environmental conditions. Because they are scalable and VA has the authority to prioritize service-connected and low-income veterans, no single factor jeopardizes the long-term viability of the SDOs. Exhibit 8-22 presents the summary findings of the sensitivity analysis.

Exhibit 8-23. Sensitivity Analysis Summary Findings

SENSITIVITY FACTOR	FINDINGS	SERVICE DELIVERY OPTIONS
<p>FY 2010–FY 2020 Expected Demand</p>	<ul style="list-style-type: none"> • Enrollment: <ul style="list-style-type: none"> – 44% decrease in enrollment from FY 2000–FY 2020 – 39% decrease in enrollment from FY 2010–FY 2020 • Inpatient Demand <ul style="list-style-type: none"> – 22-26% decrease in Medicine, Surgery, Psychiatry, and Substance Abuse BDOCs from FY 2000–FY 2010 – 56-65% decrease in Medicine, Surgery, Psychiatry and Substance Abuse BDOCs from FY 2000–FY 2020 • Ambulatory Care <ul style="list-style-type: none"> – 2% decrease in demand from FY 2000–FY 2010 – 36% decrease in demand from FY 2000–FY 2020 	<ul style="list-style-type: none"> • Facilities were sized to meet veteran demand using FY 2010 projections <ul style="list-style-type: none"> – Inpatient Acute – Extended Care/Long-Term Care – Special Disability Programs – Ambulatory Care • SDOs were designed at 85% capacity for inpatient acute care and 90% capacity for extended care
<p>Unmet Demand</p>	<ul style="list-style-type: none"> • Approximately 22% of the homeless population are veterans • Unmet demand could increase current enrollment by approximately 20–25% 	<ul style="list-style-type: none"> • SDOs maintains homeless, seriously mentally ill, and substance abuse programs at current levels • SDOs are scalable <ul style="list-style-type: none"> – SDOs are designed with 10–15% flexibility – Reconfigure existing space – DoD and academic affiliation sharing agreements exist – Enhanced Use space could be made available – Community resources are available
<p>Changes in Medicare Policy</p>	<ul style="list-style-type: none"> • Economic pressures have intensified the competition for Medicare patients, and substantial capacity exists in the private sector • The 105,385 Medicare-eligible veterans who are currently enrolled are the most likely users of VA’s services if Medicare subvention legislation were passed by the Congress (or approx. 48% of FY 2000 enrollees) • The 6,615 Medicare-eligible veterans primarily use only VA pharmacy services and are the most likely veterans to leave the VA if there were changes to the Medicare pharmacy package (or approx. 3% of FY 2000 enrollees) 	<ul style="list-style-type: none"> • Enrolled Medicare-eligible veterans were included in the FY 2000–FY 2020 projections • SDOs are scalable (see Unmet Demand) • VA would provide input into potential policy changes affecting the veteran population
<p>Economy</p>	<ul style="list-style-type: none"> • FY 1971–FY 1995 Unemployment Rate <ul style="list-style-type: none"> – Average was 6.8% – Variance from mean –1.9 to +2.9% • FY 1971–FY 1995 Patients Treated by VA <ul style="list-style-type: none"> – Average was 985,351 – Variance from mean –10.8 to +12.4% 	<ul style="list-style-type: none"> • SDOs are scalable beyond –10.8 to +12.4%
<p>Military Conflicts</p>	<ul style="list-style-type: none"> • VA Mission Requirements <ul style="list-style-type: none"> – VA can give priority to active-duty personnel, with the exception of service-connected veterans – VA is required report bed availability, not set beds aside • DoD does not release casualty projections • VISN 12 reports that it can make 471 beds available within 30 days 	<ul style="list-style-type: none"> • At a minimum, 114 beds could be made available within 24–72 hours • Between 210 and 60 additional beds could be made available for extended periods • Special Disability Programs are maintained at current levels or above <ul style="list-style-type: none"> – Increased SCI & blind rehab beds – Other programs remain intact • SDOs are scalable (see Unmet Demand)

SENSITIVITY FACTOR	FINDINGS	SERVICE DELIVERY OPTIONS
VA-DoD Resource Sharing	<ul style="list-style-type: none"> Great Lakes Naval Hospital <ul style="list-style-type: none"> 104 authorized medical/surgical beds with an ADC of 24 37 authorized psychiatry beds with an ADC of 22 Bilateral multilevel sharing exists between DoD & VISN 12 The 9,463 currently enrolled military retirees are the most likely users of VA services if military retirees were given access to all VA services 	<ul style="list-style-type: none"> With adequate planning, VISN 12 could absorb the Great Lakes Naval Hospital's medical/surgical/psychiatry inpatient acute workload without changes to the SDOs VA would provide input into policy changes affecting the veteran population
Changes in Medical Practice and Technology	<ul style="list-style-type: none"> VA is a leader in the use of telemedicine, health services R&D, and caring for the elderly Impact of human genome mapping on service delivery will become more prevalent between FY 2010 and FY 2020; precise impact unclear Impact of nanotechnology on service delivery will occur after FY 2020; precise impact unclear 	<ul style="list-style-type: none"> SDOs are based on cost-effective use of outpatient care and extended care SDOs assume that VISN 12 maintains many of its working relationships with DoD, affiliated medical centers, and community providers

The SDO's scalability is key to meeting the varying potential impacts on veterans' demand. Scalability is designed into the SDOs in several ways. It is present in the SDOs through existing space that could be reconfigured to accommodate more patients, and renegotiating Enhanced Use agreements that would free-up more space for VISN 12 patient care activities. Sharing agreements with academic affiliates and DoD facilities also offer scalability. Finally, our research has found that community resources can absorb a significant portion of VISN 12's workload during periods of peak demand. Exhibit 8-2 shows the scalability of the SDOs.

Exhibit 8-24. SDOs' Scalability

OPTIONS	BEDS ⁽¹⁾	UPWARD SCALABILITY	DOWNWARD SCALABILITY ⁽²⁾
Southern Market		+172 (or 39%) to +70 (or 16%)	-128 (or 29%) to 0
A	439	+169 (or 38%)	-79 (or 18%)
B	439	+129 (or 29%)	0
C	439	+172 (or 39%)	-128 (or 29%)
D	439	+70 (or 16%)	0
Central Market		+42 (or 24%) to +12 (or 7%)	-81 (or 46%) to 0
E	178	+42 (or 24%)	-81 (or 46%)
F	178	+28 (or 16%)	-62 (or 35%)
G	178	+12 (or 7%) ⁽³⁾	0
Northern Market		+26 (or 77%) to +0	-26 (or 77%) to 0
H	34	+26 (or 77%)	-26 (or 77%)
I	34	0	0
VISN		+240 (or 37%) to + 82 (or 8%)	-235 (or 36%) to 0

(1) Includes Medical, Surgical, and Acute Psychiatry beds

(2) Downward scalability of "0" means that VA owns and operations the assets, which does not allow them to readily scale-down capacity. However, downward scalability could be achieved through selling excess capacity, which is not reflected in the scalability estimates.

(3) Additional upward scalability could be achieved by moving 75 nursing home beds back to Tomah, thereby increasing acute capacity at Madison by 75 beds.

This scalability designed into the SDOs should allow VA to meet future veteran demand. However, if there is ever an unprecedented situation where the SDOs cannot meet veteran demand, the Veterans' Healthcare Eligibility Reform Act of 1996 authorizes VA to prioritize service-connected and low-income veterans' access to services. This act established an eligibility system that allows VA to prioritize the workload of these veterans over the workload of Category 7 veterans, who are more likely to have access to alternative sources of healthcare.

If current assumptions are maintained, the projected decline in workload resulting from the large decline in veteran enrollment will provide VA with substantial excess capacity between FY 2010 and FY 2020. However, between today and FY 2010, many factors could impact veteran demand for care; these factors could potentially offset the decline in enrollment and increase use of VA facilities.