

Chapter 6: Ensuring Inpatient Capacity

Inpatient Services Redefined: Reduced Capacity, Refined Expectations

With the increased reliance on ambulatory services noted in the preceding chapter, the role of VA inpatient facilities has not diminished, but rather has become more precisely defined. In the VA system, that role is to serve as the vital referral junction for acute and tertiary care, as well as a point of convergence for other health care services not available in ambulatory care facilities.

Background on Changing Inpatient Environment

The dramatic shift from inpatient to outpatient care in the VA system over the past few years was briefly described in the previous chapter of this plan. Several salient features of the concomitant changes VA has experienced in inpatient hospital care are discussed below.

The transition was begun in a gradual fashion when, between 1969 and 1994, there was a 56 percent decline in average daily census (ADC) from 91,878 to 39,953, respectively.¹ Overall, VA beds declined by about 50,000 over this 25-year period. Between 1995 and 2002, there was a further drop and even more striking shift to outpatient health care delivery. During this seven-year period, there was a drop in the ADC of about 60 percent to 14,925.² Acute operating beds fell by 63 percent (from about 52,000 in 1994 to about 19,000 in 2002). The period of most rapid decline in bed utilization and numbers of beds was 1997 to 1998. After 1998, the average occupancy rate started to rise to a high of 80 percent in 1999 (in 2002, about 75 percent compared to 71 percent in 1994). In addition, strengthening of primary care services, such as home care, case management, telemedicine, and patient self-help instruction has reduced the number of medicine bed days of care.

The changes from inpatient to outpatient care have also been coupled with and, to a large extent made possible by, rapid advances in medical technology, which require ongoing investment in imaging equipment.³ Applications include cardiac catheterization, invasive radiology (including angiography), sophisticated scanning (CT, MRI, and PET), and micro-vascular and minimally invasive surgical techniques that are highly dependent upon the use of expensive imaging equipment. Atypical anti-psychotics, second-generation anti-depressants, and better case management have decreased the need for hospitalization of mentally ill veterans. The focus on patient safety and outcomes in acute care settings and the volume-quality relationship are discussed further in Chapter 8, Small Facilities. Furthermore, a recent study conducted by the VA emphasized the need for early referral and intervention in patients with acute cardiovascular events.⁴ Conclusions of recent medical literature underscore the need to consolidate volume-dependent procedures in tertiary care hospitals and to refer patients

¹ GAO/HEHS-95-121, VA Health Care: Opportunities for Service Delivery Efficiencies [...]

² From the VA's KLF Menu Database.

³ Ludmerer, KM, *Time to Heal* [Oxford University Press: Oxford, New York, 1999], pp.176-177, 319.

⁴ The VA Report may be found at: http://www.va.gov/opp/eval/1_Table%20of%20Contents.pdf See also: American College of Cardiology/American Heart Association Practice Guidelines, 2002 <http://www.circulationaha.org/> - which emphasize an "early invasive" approach to cardiovascular care.

with complex medical conditions (e.g., requiring ICU care) as early as possible. The appropriate functioning of VA hospitals as a part of a health care delivery network (rather than stand-alone, full-service hospitals) is critical to the provision of the highest quality of care for our veteran patients.

Referral Patterns More Important Than Ever

In view of the dramatic increase of patients who have gained access to VA health care through the greatly expanded number of community based clinics, it is clearly more important than ever to have dependable referral patterns to robust inpatient services. In this context, the CARES process examined the size, placement and configuration of existing inpatient services. Inpatient capacity was compared to future projections to identify markets that could expect significant future increases and/or decreases in inpatient medicine, surgery, and psychiatry services. The process then proceeded to develop possible solutions for managing the inpatient workload and capital needs in markets with capacity gaps.

CARES Criteria for Inpatient Capacity Planning Initiatives

Planning initiatives represent the most significant gaps in care on a national basis and will be a priority focus during the implementation phase of CARES. It is important to note, however, that CARES Market Plans address workload and space solutions for all gaps in all CARES categories regardless of whether a planning initiative was identified.

Inpatient Capacity Planning Initiatives were identified for each market of each VISN for workload gaps that met threshold criteria listed in Table 6.1. Both the size of the workload gap and whether the gap remained in both FY 2012 and FY 2022 were factors in identifying a planning initiative. The gap had to involve at least +/- 20 projected inpatient beds or represent a 25 percent change from FY 2001 to be considered for identification as a PI. Gaps that met these criteria in both FY 2012 and FY 2022 were considered more significant than those meeting the criteria in one year only. Of the 60 Inpatient Planning Initiatives identified, 37 represented gaps due to increasing workload and 23 represented gaps due to decreasing workload.

Table 6.1 Inpatient Gap Threshold Criteria

CARES Category	Threshold Criteria % Change from FY 2001	Workload Criteria (Beds)	# PIs with Increasing Demand	# PIs with Decreasing Demand
Medicine	25%	+/- 20	23	11
Surgery	25%	+/- 20	3	5
Psychiatry	25%	+/- 20	11	7

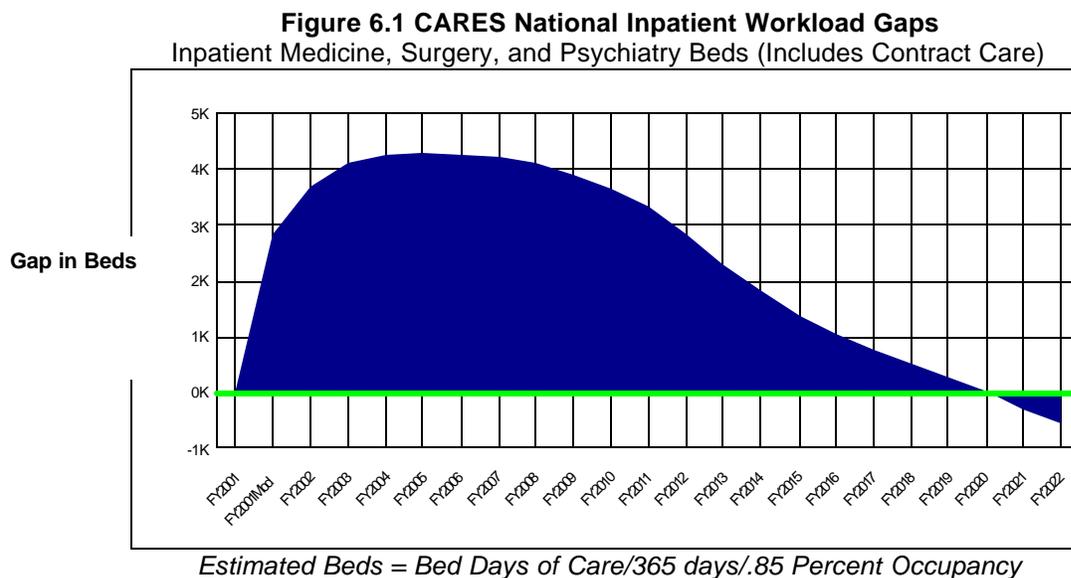
Inpatient Workload Trends

Gaps in Inpatient Beds

Figures 6.1 through 6.4 show the variance in inpatient workload (beds) projected for each year through FY 2022 compared with baseline workload (actual FY 2001). This variance between projected workload and baseline workload is referred to as a 'gap'. Beds were estimated by using projected 'bed days of care' from the CACI/Milliman demand model.⁵

As with outpatient care, the trend line for each category is impacted by the enrollment projections that decline over time (Chapter 5, Figure 5.1), and by continued changes in technology and health care practices that allow more treatment on an outpatient rather than an inpatient basis. Declining enrollees and inpatient stays contribute to the downward trends in later years.

The CARES forecasting model projects a modest national gap in bed days of care beginning in the base year FY 2001 that grows to FY 2004 and then declines gradually over the forecast period to projected a net decrease in bed days and related beds in FY 2022 as shown in the graph below.



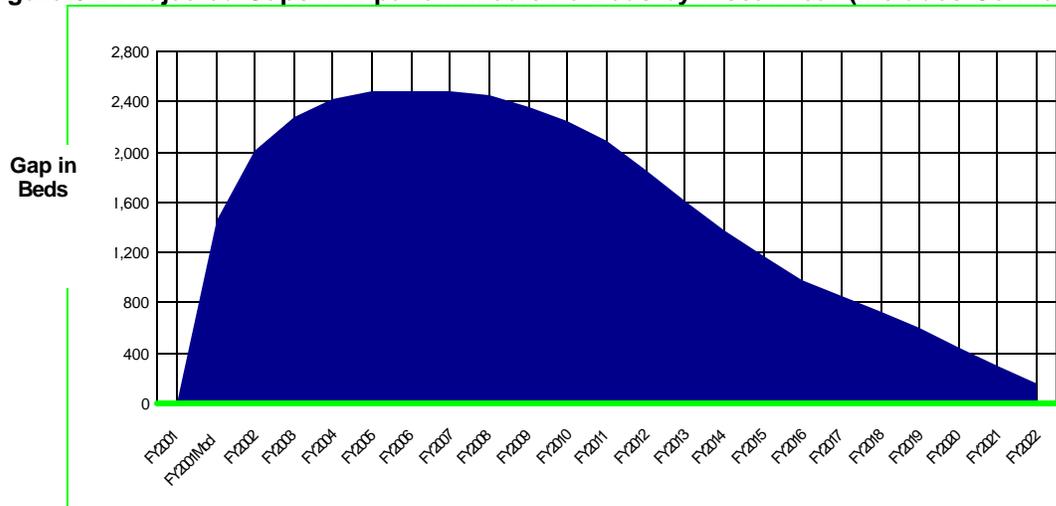
Because this trend line masks significant differences in projected gaps for the three inpatient CARES categories, each category and its trend line will be discussed separately.

⁵ Projected Beds are calculated as (projected bed days of care)/365 days a year/.85 percent occupancy)

Inpatient Medicine

National projected workload gaps, measured in projected beds, for inpatient medicine are shown in Figure 6.2. As seen with the outpatient trends in Chapter 5, a significant gap in workload occurs between the baseline year (FY 2001) and the first year of forecasted demand (FY 2002), a reflection of the demand model's implication that budget, capital and staffing constraints existed in FY 2001 and are removed from future workload projections. The positive inpatient medicine gaps peak in FY 2008 when the impact of enrollment levels and trends in inpatient medicine begin reducing demand. By FY 2022, inpatient medicine beds are only slightly higher than in FY 2001.

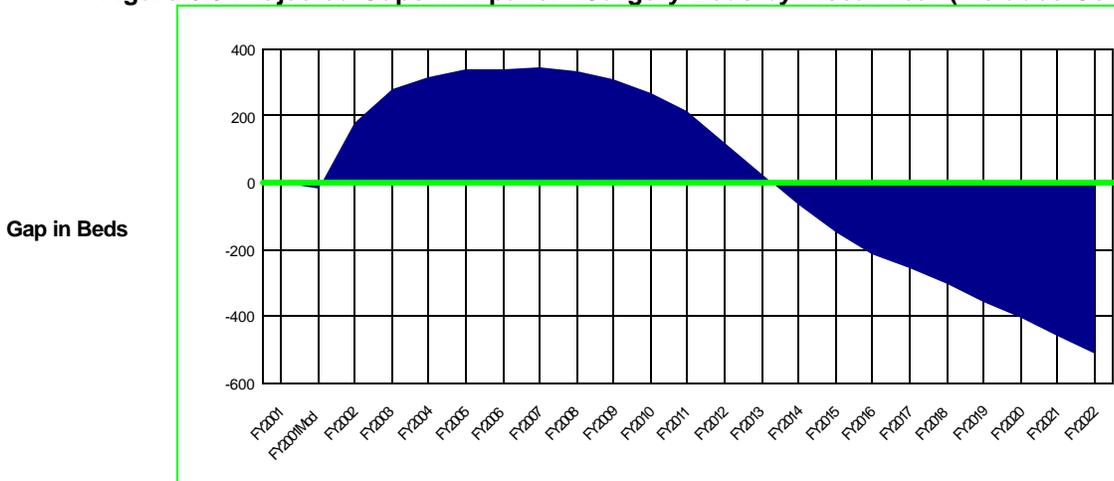
Figure 6.2 Projected Gaps in Inpatient Medicine Beds by Fiscal Year (Includes Contract Care)



Inpatient Surgery

Projected workload gaps for inpatient surgery show an opposite trend than for inpatient medicine (as shown in Figure 6.3 below). Actual FY 2001 baseline beds days of care for inpatient surgery are greater than the first year of forecasted demand (FY 2002) indicating a slight overcapacity of 4,907 bed days of care, or 16 beds for inpatient surgery on a national basis. However, the gap grows in a positive direction until FY 2007 when enrollment levels and trends in inpatient surgery, such as declines in lengths of stay and more treatments being provided on an outpatient basis, become significant factors. By FY 2022 inpatient surgical demand is significantly lower than in FY 2001.

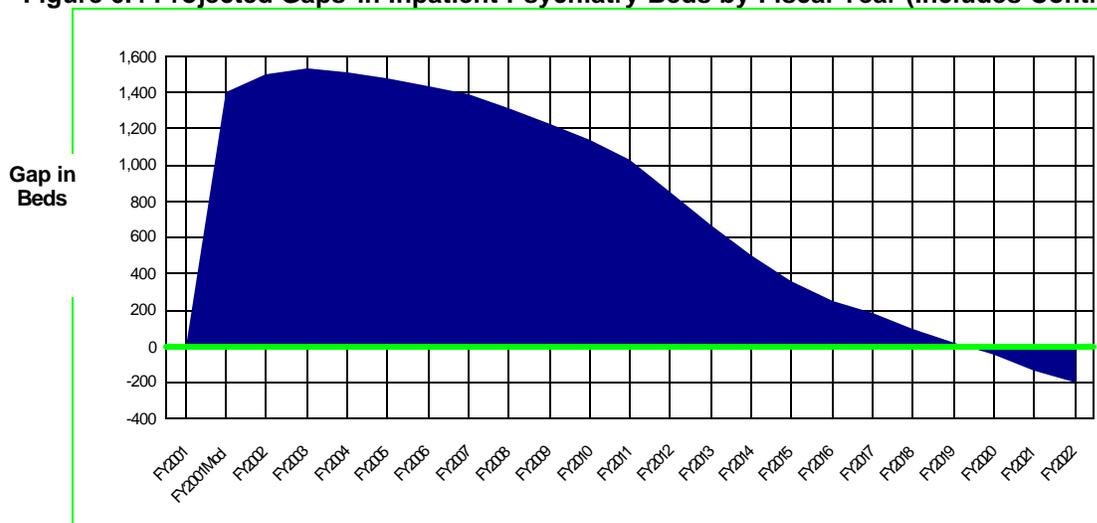
Figure 6.3 Projected Gaps in Inpatient Surgery Beds by Fiscal Year (Includes Contracts)



Inpatient Psychiatry

Inpatient psychiatry gaps indicate a current shortage of beds, but a rapid decline in demand beginning as early as FY 2004 that continues steadily until FY 2022 when demand drops below FY 2001 levels, as shown in Figure 6.4 below.⁵

Figure 6.4 Projected Gaps in Inpatient Psychiatry Beds by Fiscal Year (Includes Contracts)



⁵ Note: Inpatient Psychiatry projections are presently undergoing revision. Revised projections should be available for next year's strategic planning cycle.

Summary of Inpatient Capacity Solutions

VISN CARES Market Plans identified a variety of solutions to resolve all projected inpatient workload demand, including workload demand associated with Inpatient Capacity Planning Initiatives, and manage space requirements at each facility.

Tables 6.2 and 6.3 focus on inpatient Medicine, Surgery and Psychiatry solutions for two of the planning years – FY 2012 and FY 2022. Inpatient workload units in these tables represent the total number of bed days of care (not beds) projected for each facility in each VISN, rolled up to the national level. The total number of projected bed days of care in each CARES category was used to estimate the amount of space needed at each facility for each of the planning years. VISNs were required to solve each of their facilities' total space needs in each of the CARES categories.

By FY 2022, VHA will handle approximately 90 percent of all inpatient workload in-house. Contracting is used as a short-term solution to a greater extent in earlier years during workload peaks. Approximately 169 inpatient beds (52,522 bed days of care) are planned as joint ventures with the Department of Defense or other entities.

Table 6.2 Workload Solutions for Inpatient Categories – FY 2012

Workload Alternative	Medical Care		Surgical Care		Psychiatry Care	
	Bed Days of Care	Percent of Total	Bed Days of Care	Percent of Total	Bed Days of Care	Percent of Total
Contract	340,929	13.4%	83,021	8.6%	183,047	8.6%
Joint Venture	30,475	1.2%	5,112	0.5%	28,525	1.3%
In-Sharing	5,575	0.2%	6,506	0.7%	365	0.0%
Sell	0	0.0%	0	0.0%	0	0.0%
In-house	2,162,899	85.2%	867,449	90.2%	1,916,714	90.1%
Total Demand	2,539,878		962,088		2,128,651	

Table 6.3 Workload Solutions for Inpatient Categories – FY 2022

Workload Alternative	Medical Care		Surgical Care		Psychiatry Care	
	Bed Days of Care	Percent of Total	Bed Days of Care	Percent of Total	Bed Days of Care	Percent of Total
Contract	206,850	10.1%	51,185	6.6%	102,266	5.6%
Joint Venture	24,769	1.2%	4,284	0.6%	23,469	1.3%
In-Sharing	5,575	0.3%	6,394	0.8%	365	0.0%
Sell	0	0.0%	0	0.0%	0	0.0%
In-house	1,803,287	88.4%	714,929	92.0%	1,691,730	93.1%
Total Demand	2,040,481		776,792		1,817,830	

Table 6.4 presents inpatient space solutions for all planning years combined – through FY 2022. Overall, the capital investments needed for inpatient care are more reflective of the total volume of workload (bed days of care), and not in response to an increasing or decreasing workload gap. The proposed investments are indicative of the condition of the current space for inpatient wards across VHA and the need to upgrade or modernize existing clinical space.

Table 6.4 Space Solutions for Inpatient Categories – Cumulative through FY 2022

Space Alternative	Medical Care		Surgical Care		Psychiatry Care	
	Square Feet	% Total	Square Feet	% Total	Square Feet	% Total
Existing-Non Renovated	2,722,180	57.4%	1,029,718	61.4%	1,709,795	46.5%
Renovate Existing	839,754	17.7%	336,844	20.1%	677,858	18.4%
Convert Vacant	391,957	8.3%	109,430	6.5%	552,604	15.0%
New Construction	475,281	10.0%	158,302	9.4%	590,808	16.0%
Donate	110,558	2.3%	16,700	1.0%	49,000	1.3%
Lease	199,878	4.2%	26,900	1.6%	104,990	2.8%
Enhanced Use	7,000	0.1%	0	0.0%	0	0.0%
Total Space Proposed	4,746,608		1,677,894		3,685,055	

National CARES Plan

The CARES investment strategy is to ensure that the acute care infrastructure will be available to meet the current and future acute care requirements. As a result of this strategy, all markets with proposed capital requirements related to acute inpatient care are included in the National CARES Plan.