

investment in imaging equipment.²⁸ 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.²⁹ Conclusions of recent medical literature underscore the need to consolidate volume-dependent procedures in tertiary care hospitals and to refer patients 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.^{29a}

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.

²⁸ Ludmerer, KM, Time to Heal [Oxford University Press: Oxford, New York, 1999], pp.176–177, 319.

²⁹ 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.

^{29a} Projected Beds are calculated as (projected bed days of care)/365 days a year/.85 percent occupancy).