

7. COST ANALYSIS

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7.1 THIS CHAPTER PRESENTS THE RESULTS OF BOOZ-ALLEN’S COST ANALYSIS OF THE PROPOSED SERVICE DELIVERY OPTIONS FOR VISN 12.

This chapter provides the overall economic analysis of each of the nine proposed service delivery options (SDO). A key element of this cost analysis is the detailed life-cycle cost (LCC) projections for each option over the next 20 years (FY 2001 to FY 2020). These LCC estimates identify *all* resources that will be consumed by the VISN, including facility operations and maintenance costs, as well as any non-recurring acquisition costs (i.e., one-time costs that will be incurred to implement an option, such as facilities construction/disposal, concurrent operations during transition/switch-over). LCC is the primary determinant of cost-effectiveness from the Office of Management and Budget’s (OMB) perspective of maximizing taxpayer resources.

Another key objective of the cost analysis is to identify how each option affects the Veteran Integrated Service Network’s (VISN) annual expenditures. That is, how the VISN or facilities’ annual costs will increase or decrease—relative to the status quo—from implementing an option. When examining annual costs, it is important to compare options against a common baseline that provides the

same level of service across all alternatives. Using this method allows savings or cost avoidance to be correctly attributed to improved efficiencies in the delivery of services, and not attributed to decreases in workload that have occurred over time.

The cost analysis provides insight into both the major cost contributors and the key cost drivers. The major cost contributors are those cost elements that have the largest magnitude. For VISN 12, direct medical costs are a major cost contributor. Cost drivers, on the other hand, are those components that most greatly affect the consumption of resources. For VISN 12, the labor necessary to provide clinical care is a cost driver.

This chapter presents the findings for each SDO in a format that is responsive to the five discriminating criteria identified under “Optimizing Use of Resources,” while a detailed presentation of the methodologies, data sources, and lower-level output tables are provided in a Appendix L.

7.1.1 Current VISN 12 annual costs total \$963.1M, with direct medical costs totaling \$644.8M (67 percent) and facilities operations and maintenance costs totaling \$145.2M (15 percent).

VISN 12 currently expends just under \$1 billion annually to support its many missions. Approximately 73 percent of VISN 12 current expenditures vary with patient workload. These expenditures comprise mostly labor costs related to direct medical services (\$644.8M or 67 percent) and medical administration support (\$59.5M or 6 percent). Approximately 17 percent of current expenditures remain constant regardless of changes in patient workload. These comprise mainly facilities operations and maintenance costs (\$145.2M or 15 percent) and non-recurring acquisition costs (\$14.5M or 2 percent). These costs include expenses for labor and utilities to maintain and operate physical structures as well as capitalized costs for construction, renovation, and disposal, respectively. The remaining expenditures (\$99.1M or 10 percent) are for VA-unique operations and have varied cost drivers.

7.1.2 In addition to the above annual operating costs, the Capital Asset Realignment Plans identified approximately \$332M in capital asset investments needed to enhance existing facilities’ environment of care.

As mentioned in the introduction to the Capital Asset Realignment (CAR) Plan, a key component of this LCC analysis is the \$332M in capital asset investments necessary to bring the status quo configuration into compliance with the Americans with Disabilities Act (ADA) and Joint Commission on Accreditation of Healthcare Organizations (JCAHO) standards (i.e., the baseline against which the SDOs are compared). This means that the VA will have to spend significant funds to operate and maintain VISN facilities regardless of Capital Asset Realignment for Enhanced Services (CARES). Therefore, a key component driving the selection of an SDO should be LCC, or more specifically avoiding costs inherent in maintaining the status quo.

7.2 THE COST OF CURRENT OPERATIONS SERVES AS THE STARTING POINT FOR PROJECTING FUTURE BASELINE AND SDO COSTS.

The VISN 12 costs for FY 2000 were approximately \$963.1M. This cost was incurred by the VA Medical Centers (VAMC) as listed in Exhibit 7-1. For every dollar spent by VISN 12, 67 cents were spent on direct medical costs, 15 cents were spent on operating and maintaining VA facilities, 6 cents were spent on medical administration support costs, 10 cents were spent on VA-unique operations, and the remaining 2 cents were spent on non-recurring acquisition costs.

Exhibit 7-1. VISN 12 FY 2000 Costs (Then-Year \$s)

	Direct Medical Costs	Medical Administration Support Costs	Facility Operations & Maintenance Costs	VA-Unique Operations Costs	Non-Recurring Acquisition Costs	Total 2000 Cost
Hines	\$157.7M	\$11.4M	\$35.5M	\$38.5M	\$3.7M	\$246.8M
CHCS	\$152.1M	\$17.6M	\$32.2M	\$19.7M	\$2.9M	\$224.5M
North Chicago	\$72.6M	\$6.6M	\$23.3M	\$8.3M	\$2.1M	\$112.9M
Madison	\$73.4M	\$5.0M	\$11.8M	\$11.8M	\$1.2M	\$103.2M
Milwaukee	\$121.1M	\$10.5M	\$26.4M	\$18.3M	\$2.9M	\$179.2M
Tomah	\$37.4M	\$5.3M	\$10.3M	\$1.2M	\$.9M	\$55.1M
Iron Mountain	\$30.4M	\$3.1M	\$5.8M	\$1.3M	\$.8M	\$41.4M
VISN 12 Total	\$644.8M	\$59.5M	\$145.2M	\$99.1M	\$14.5M	\$963.1M

Costs for categories of care varied on a unit cost basis for each of the VISN 12 VAMCs¹. Factors that affect the unit cost include the volume of service being provided (i.e., a facility may enjoy economies of scale if it provides enough of a certain service), quality of service, local cost factors (e.g., cost of living, labor rates, transportation costs), and the method by which management accounts for healthcare costs. It is assumed in this report that the latter factor is uniform across the VISN 12 facilities.

To illustrate how unit costs were typically derived in this analysis, Exhibit 7-2 lists five selected services and the associated FY 2000 direct medical unit costs. The unit costs were computed as the FY 2000 total cost divided by the FY 2000 total quantity delivered. The impact of using FY 2000 unit costs by facility is evident in options where workload shifted from one facility to another. In these cases, the cost of care delivery will shift according to the change in unit cost. For example, if 100 Bed Days of Care (BDOC) of *Inpatient Medical* are moved from CHCS to Hines, the total cost of that option will increase by \$4,492² while workload will remain constant. These costs should not be used as benchmarks because they are for direct medical costs only and do not include the associated costs such as administration and facilities operations.

¹ CHCS includes two VAMCs; Lakeside and West Side

² $(\$705.35 - \$660.43) \times 100 \text{ BDOC} = \$4,492$

Exhibit 7-2. Selected Services and Associated FY 2000 Direct Medical Unit Costs

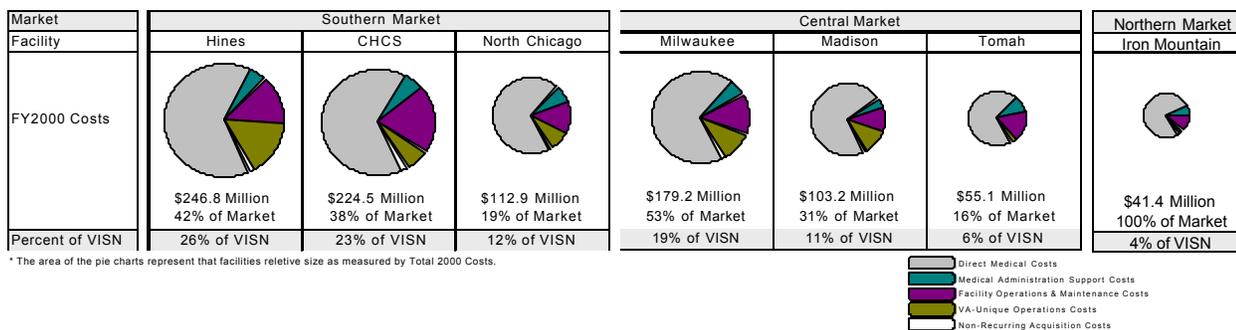
VISN 12 Selected Direct Medical Unit Costs					
Domain Area	Inpatient Medical (per BDOC)	Inpatient Surgical (per BDOC)	Inpatient Psychiatric (per BDOC)	Outpatient Costs (per Clinic Stop)	Dental - VAMC (per CTV)
Hines	\$705.35	\$1,351.90	\$436.50	\$114.76	\$7.64
CHCS	\$660.43	\$3,191.35	\$943.17	\$102.51	\$18.45
North Chicago	\$782.91	\$638.20	\$269.90	\$74.79	\$12.62
Madison	\$880.15	\$2,231.31	\$340.20	\$82.75	\$24.33
Milwaukee	\$622.71	\$1,697.78	\$407.90	\$93.42	\$14.00
Tomah	\$738.16	-	\$367.64	\$97.71	\$12.98
Iron Mountain	\$755.66	\$1,163.00	-	\$92.49	\$16.89
Weighted Average	\$695.87	\$1,931.56	\$434.31	\$96.39	\$14.17

* Unit costs are for direct medical costs only and do not include medical administration support costs, facility operations & maintenance costs, VA-unique operations costs or non-recurring acquisition costs

Market FY 2000 Cost Details

The proportion of total FY 2000 costs that each VAMC within VISN 12 incurred are depicted in Exhibit 7-3. Generally, the cost profile (i.e., the percentage breakdown among cost categories) was similar among all VAMCs. Slight variations can be seen graphically in Exhibit 7-3 where the relative size of each facility based on FY 2000 expenditures is depicted by proportional pie chart areas. Although the baseline costs presented in this report were not originally defined by three separate geographical markets, the facilities are shown grouped together by market as described in the option analyses of this report for the purpose of showing impact to each given facility when an option is implemented.

Exhibit 7-3. Percentage Breakdown of Cost by Facility



7.2.1 All Southern Market SDOs provide cost savings or cost avoidance opportunities.

This section compares the impact of each SDO on the annual costs and five resources criteria measures. Within the Southern Market, comparison of the options to the baseline is not appropriate at the market level. To make meaningful economic comparisons between an SDO and the baseline for a given market, the total amount of healthcare delivered under the baseline must equal the amount of healthcare delivered under the SDO. Although this is the case at the VISN level, it is not the case at the

market level. Under the baseline scenario, each medical center is assumed to serve the same percentage of the overall VISN demand as it did in FY 2000. The market-based approach of the SDOs results in a slightly different workload at each medical center (i.e., the SDOs include workload serviced by facilities in other markets under the baseline scenario). Therefore, at the market level, cost differentials in direct medical, medical administration support, and VA-unique operations between the baseline and an SDO may be attributable to workload differences and do not necessarily reflect cost or savings from different efficiencies of operations. Comparison to the baseline can be made at the VISN level. To do this, one SDO from each market must be combined and the totals compared to the baseline. This comparison is made in Section 7.2.4.

Impact on Annual Costs

Annual operating costs for FY 2010 show what it will cost to deliver healthcare in the Southern Market after CARES-related investments have been made. Exhibit 7-4 shows the FY 2010 annual cost of operations for Options A through D in “then-year” dollars. **This table does not include any non-recurring acquisition investments (above current levels) or one-time revenues generated through the sale of excess assets.** The full accounting of total LCCs, upon which long-term decision making should be based, are provided in the next section. This table is constructed to explicitly highlight the ongoing cost of operations.

Exhibit 7-4 shows a few notable differences among Options A through D. The Enhanced Use arrangement at Lakeside in Options A through D will lower the cost of facilities operations and maintenance at CHCS by approximately \$22 million annually. Under the Enhanced Use arrangement, VA will no longer be responsible for maintenance and operation of the 609,000 square-foot facility. VA will incur lease costs for any space that is leased back. In accordance with VA accounting practices, these lease costs are included in direct medical costs. In conjunction with the Enhanced Use of the Lakeside facility and construction of new facilities at West Side, direct medical costs for acute inpatient care at CHCS are assumed to decrease by 10 percent in Options A through D. This decrease is a conservative estimate of industry efficiency improvements derived from implementing modern facility-related processes.

Direct medical costs in Option D are slightly lower than in the other options. This difference is due to a shift in some inpatient workload from CHCS to Hines where FY 2000 unit costs for acute care were slightly lower on average than unit costs at CHCS. Because the cost model predicts direct medical costs based on each medical center’s FY 2000 actual unit costs, the shift of workload to Hines results in slightly lower direct medical costs. Direct medical costs in Option B are slightly lower than in Options A and C because of similar shifts in workload from CHCS to Hines but to a lesser extent than in Option D.

Exhibit 7-4. Impact on Total Annual Costs

Domain Area		Medical Administration Support Costs	Facility Operations & Maintenance Costs	VA-Unique Operations Costs	Non-Recurring Acquisition Costs	Total 2010 Cost
Hines	\$278.1M	\$19.2M	\$49.1M	\$60.9M	\$5.1M	\$412.5M
CHCS	\$303.5M	\$30.4M	\$44.5M	\$35.5M	\$4.0M	\$418.0M
North Chicago	\$104.2M	\$8.4M	\$32.2M	\$12.3M	\$2.9M	\$160.0M
Baseline*	\$685.9M	\$58.0M	\$125.9M	\$108.7M	\$12.1M	\$990.5M
Hines	\$302.7M	\$20.5M	\$46.5M	\$63.1M	\$4.8M	\$437.7M
CHCS	\$270.4M	\$28.3M	\$24.9M	\$31.3M	\$2.0M	\$357.0M
North Chicago	\$111.9M	\$9.1M	\$32.2M	\$12.9M	\$2.9M	\$169.1M
Option A	\$685.0M	\$57.9M	\$103.7M	\$107.4M	\$9.8M	\$963.7M
Hines	\$312.3M	\$21.0M	\$46.5M	\$63.9M	\$4.8M	\$448.5M
CHCS	\$251.4M	\$27.4M	\$25.3M	\$30.0M	\$2.1M	\$336.2M
North Chicago	\$111.9M	\$9.1M	\$32.2M	\$12.9M	\$2.9M	\$169.1M
Option B	\$675.5M	\$57.6M	\$104.0M	\$106.8M	\$9.8M	\$953.7M
Hines	\$305.3M	\$20.7M	\$46.5M	\$63.4M	\$4.8M	\$440.7M
CHCS	\$267.4M	\$27.9M	\$23.9M	\$31.0M	\$1.9M	\$352.2M
North Chicago	\$111.9M	\$9.1M	\$32.2M	\$12.9M	\$2.9M	\$169.1M
Option C	\$684.6M	\$57.7M	\$102.7M	\$107.2M	\$9.7M	\$961.9M
Hines	\$339.7M	\$22.8M	\$46.5M	\$66.1M	\$4.8M	\$480.0M
CHCS	\$209.3M	\$24.9M	\$24.9M	\$26.8M	\$2.0M	\$287.9M
North Chicago	\$111.9M	\$9.1M	\$32.2M	\$12.9M	\$2.9M	\$169.1M
Option D	\$660.9M	\$56.8M	\$103.7M	\$105.8M	\$9.8M	\$936.9M

because SDO markets cross baseline facilities domain areas.

Impact on Total LCCs (Including Non-Recurring Acquisition Costs)

Exhibit 7-5 provides the total cost for VISN operations for Options A through D, including any non-recurring acquisition costs resulting from SDO implementation, over the 20-year life cycle of the planning horizon (FY 2001–FY 2020). Both present value and then-year costs are shown.

Exhibit 7-5. Impact on Life-Cycle Costs

Southern Market 20-Year Cost by Facility by CES (Present Value Dollars)						
Domain Area		Medical Administration Support Costs	Facility Operations & Maintenance Costs	VA-Unique Operations Costs	Non-Recurring Acquisition Costs	Total 20-Year Cost
Hines	\$3,146.7M	\$217.3M	\$578.4M	\$707.4M	\$126.6M	\$4,776.4M
CHCS	\$3,385.5M	\$335.3M	\$524.7M	\$403.0M	\$87.9M	\$4,736.5M
North Chicago	\$1,171.8M	\$93.6M	\$379.9M	\$140.7M	\$93.2M	\$1,879.2M
Baseline*	\$7,704.0M	\$646.3M	\$1,483.0M	\$1,251.0M	\$307.8M	\$11,392.2M
Hines	\$3,343.3M	\$226.8M	\$558.4M	\$725.4M	\$83.4M	\$4,937.3M
CHCS	\$3,116.7M	\$319.2M	\$350.7M	\$367.5M	(\$18.8M)	\$4,135.3M
North Chicago	\$1,245.2M	\$100.1M	\$379.9M	\$146.6M	\$39.7M	\$1,911.5M
Option A	\$7,705.2M	\$646.1M	\$1,288.9M	\$1,239.5M	\$104.3M	\$10,984.1M
Hines	\$3,424.2M	\$231.4M	\$558.4M	\$731.9M	\$83.5M	\$5,029.5M
CHCS	\$2,956.0M	\$312.0M	\$352.4M	\$356.2M	(\$32.5M)	\$3,944.1M
North Chicago	\$1,245.2M	\$100.1M	\$379.9M	\$146.6M	\$39.7M	\$1,911.5M
Option B	\$7,625.4M	\$643.5M	\$1,290.7M	\$1,234.7M	\$90.8M	\$10,885.1M
Hines	\$3,366.4M	\$228.7M	\$558.4M	\$727.3M	\$83.5M	\$4,964.4M
CHCS	\$3,091.3M	\$315.9M	\$342.1M	\$364.4M	(\$22.2M)	\$4,091.6M
North Chicago	\$1,245.2M	\$100.1M	\$379.9M	\$146.6M	\$39.7M	\$1,911.5M
Option C	\$7,702.9M	\$644.7M	\$1,280.4M	\$1,238.3M	\$101.1M	\$10,967.4M
Hines	\$3,658.6M	\$246.7M	\$558.4M	\$751.0M	\$83.9M	\$5,298.6M
CHCS	\$2,601.0M	\$290.1M	\$350.7M	\$329.1M	(\$29.7M)	\$3,541.1M
North Chicago	\$1,245.2M	\$100.1M	\$379.9M	\$146.6M	\$39.7M	\$1,911.5M
Option D	\$7,504.8M	\$636.9M	\$1,288.9M	\$1,226.7M	\$93.9M	\$10,751.2M

Southern Market 20-Year Cost by Facility by CES (Then-Year Dollars)						
Domain Area		Medical Administration Support Costs	Facility Operations & Maintenance Costs	VA-Unique Operations Costs	Non-Recurring Acquisition Costs	Total 20-Year Cost
Hines	\$5,406.8M	\$373.0M	\$1,015.7M	\$1,244.9M	\$194.6M	\$8,235.0M
CHCS	\$5,702.1M	\$565.8M	\$921.3M	\$692.1M	\$137.5M	\$8,018.9M
North Chicago	\$2,022.8M	\$160.6M	\$667.0M	\$246.5M	\$138.9M	\$3,235.9M
Baseline*	\$13,131.8M	\$1,099.5M	\$2,604.0M	\$2,183.6M	\$471.0M	\$19,489.8M
Hines	\$5,763.6M	\$389.2M	\$974.6M	\$1,277.5M	\$132.6M	\$8,537.6M
CHCS	\$5,211.2M	\$537.5M	\$581.3M	\$625.4M	(\$2.1M)	\$6,953.3M
North Chicago	\$2,166.9M	\$173.1M	\$667.0M	\$258.1M	\$66.2M	\$3,331.2M
Option A	\$13,141.7M	\$1,099.8M	\$2,223.0M	\$2,161.0M	\$196.7M	\$18,822.1M
Hines	\$5,913.5M	\$397.8M	\$974.6M	\$1,289.6M	\$132.6M	\$8,708.1M
CHCS	\$4,914.3M	\$524.1M	\$585.6M	\$604.6M	(\$19.8M)	\$6,608.8M
North Chicago	\$2,166.9M	\$173.1M	\$667.0M	\$258.1M	\$66.2M	\$3,331.2M
Option B	\$12,994.6M	\$1,095.1M	\$2,227.3M	\$2,152.2M	\$179.0M	\$18,648.2M
Hines	\$5,807.0M	\$392.8M	\$974.6M	\$1,281.1M	\$132.7M	\$8,588.3M
CHCS	\$5,164.0M	\$531.3M	\$564.4M	\$619.4M	(\$7.3M)	\$6,871.7M
North Chicago	\$2,166.9M	\$173.1M	\$667.0M	\$258.1M	\$66.2M	\$3,331.2M
Option C	\$13,137.9M	\$1,097.2M	\$2,206.0M	\$2,158.6M	\$191.5M	\$18,791.3M
Hines	\$6,349.7M	\$426.4M	\$974.6M	\$1,325.0M	\$133.2M	\$9,208.9M
CHCS	\$4,257.0M	\$483.1M	\$581.3M	\$554.2M	(\$15.6M)	\$5,860.1M
North Chicago	\$2,166.9M	\$173.1M	\$667.0M	\$258.1M	\$66.2M	\$3,331.2M
Option D	\$12,773.6M	\$1,082.6M	\$2,223.0M	\$2,137.3M	\$183.7M	\$18,400.2M

* For informational purposes only. The baseline configuration does not service the same enrollees as the options and therefore costs should not be compared. Any comparison to the "baseline" should only occur at the VISN Level because SDO markets cross baseline facilities domain areas.

Exhibit 7-5 highlights the cost impacts of non-recurring acquisitions on Options A through D. The Enhanced Use arrangement at Lakeside will result in revenues of approximately \$98M in each of Options A through D. The cost differences for non-recurring acquisitions at CHCS are dependent on the amount of space that must be built-out as part of the Enhanced Use agreement at Lakeside. For instance, Option C involves building 88,498 square feet of acute and ambulatory care space at a cost of \$35.3M (FY 2001 dollars), while Options B and D only involve building 36,880 square feet of ambulatory space at a cost of \$14.7M (FY 2001 dollars). Refer to the CAR Plans for more details on non-recurring acquisition costs.

The differences in 20-year facility operations and maintenance costs are driven by the same factors described in the *Impact on Annual Costs* analysis above.

Impact on Unit Costs

The FY 2010 projected unit cost per enrollee for Southern Market operations under Options A through D is shown in Exhibit 7-6.

Exhibit 7-6. Impact on Unit Costs

Domain Area	FY2010 Total Costs	FY2010 Market Enrollees	2010 Cost per Enrollee
Option A	\$963.7M	109,535	\$8,798
Option B	\$953.7M	109,535	\$8,707
Option C	\$961.9M	109,535	\$8,782
Option D	\$936.9M	109,535	\$8,554

Exhibit 7-6 presents unit costs for each option for the Southern Market. Because the number of enrollees is constant among each option, the unit costs are driven by the total annual cost of the options. The differences in annual costs are described in the *Impact on Annual Costs* section above.

Impact on Community Integration

There is no incremental contracting (over the levels experienced in FY 2000) with the community planned in the Southern Market. As such, there is no impact on community integration for Options A through D.

Impact on Marketing Excess Service or Program Capacity

There is no marketing of excess service or program capacity considered under Options A through D.

Impact on Supplemental Revenue Through Enhanced Use or Sale of Capital Assets

The CAR Plan, as presented previously, identifies the estimates of option-specific revenues that might be generated from the “sale” of excess assets through the Enhanced Use program.

7.2.2 All Central Market SDOs provide cost savings or cost avoidance opportunities.

This section compares the impact of each SDO in the Central Market on the annual costs and five resource criteria measures. Comparison of the options to the baseline is not appropriate at the market level. To make meaningful economic comparisons between an SDO and the baseline for a given market, the total amount of healthcare delivered under the baseline must equal the amount of healthcare delivered under the SDO. Although this is the case at the VISN level, it is not the case at the market level. Under the baseline scenario, each medical center is assumed to serve the same percentage of the overall VISN demand as it did in FY 2000. The market-based approach of the SDOs results in a slightly different workload at each medical center (i.e., the SDOs include workload serviced by facilities in other markets under the baseline scenario). Therefore, at the market level, cost differentials in direct medical, medical administration support, and VA-unique operations between the baseline and an SDO may be attributable to workload differences and do not necessarily reflect cost or savings from different efficiencies of operations. Comparison to the baseline can be made at the VISN level. To do this, one SDO from each market must be combined and the totals compared to the baseline.

Impact on Annual Costs

Annual operating costs for FY 2010 show what it will cost to deliver healthcare in the Central Market after CARES-related investments have been made. Exhibit 7-7 shows the FY 2010 annual cost of operations for Options E through G in “then-year” dollars. **This table does not include any non-recurring acquisition investments (above current levels) or one-time revenues generated through the sale of excess assets.** The full accounting of total LCCs, upon which long-term decision making should be based, is provided in the following section. This table is constructed to explicitly highlight the ongoing cost of operations.

Exhibit 7-7. Impact on Total Annual Costs

Central Market 2010 Cost by Facility by CES (Then-Year Dollars)						
Domain Area		Medical Administration Support Costs	Facility Operations & Maintenance Costs	VA-Unique Operations Costs	Non-Recurring Acquisition Costs	Total 2010 Cost
Madison	\$108.0M	\$6.3M	\$16.3M	\$17.8M	\$1.7M	\$150.0M
Milwaukee	\$198.6M	\$16.2M	\$36.5M	\$28.9M	\$3.9M	\$284.1M
Tomah	\$53.8M	\$6.5M	\$14.3M	\$1.8M	\$1.2M	\$77.7M
Baseline*	\$360.4M	\$29.0M	\$67.0M	\$48.5M	\$6.9M	\$511.7M
Madison	\$98.2M	\$6.4M	\$2.3M	\$14.0M	\$0.0M	\$120.8M
Milwaukee	\$174.1M	\$15.5M	\$36.5M	\$25.3M	\$3.9M	\$255.3M
Tomah	\$57.4M	\$7.7M	\$14.3M	\$1.8M	\$1.2M	\$82.4M
Option E	\$329.7M	\$29.5M	\$53.0M	\$41.1M	\$5.2M	\$458.5M
Madison	\$105.1M	\$6.5M	\$2.3M	\$15.9M	\$0.0M	\$129.7M
Milwaukee	\$175.8M	\$15.5M	\$36.5M	\$27.2M	\$3.9M	\$259.0M
Tomah	\$53.0M	\$7.1M	\$14.3M	\$1.8M	\$1.2M	\$77.5M
Option F	\$333.9M	\$29.2M	\$53.0M	\$44.9M	\$5.2M	\$466.2M
Madison	\$109.6M	\$6.5M	\$16.3M	\$18.1M	\$1.7M	\$152.2M
Milwaukee	\$175.8M	\$15.5M	\$36.5M	\$27.2M	\$3.9M	\$259.0M
Tomah	\$51.7M	\$7.1M	\$14.3M	\$1.8M	\$1.2M	\$76.1M
Option G	\$337.1M	\$29.2M	\$67.0M	\$47.1M	\$6.9M	\$487.3M

because SDO markets cross baseline facilities domain areas.

The primary difference in annual costs among Options E through G relate to the Enhanced Use arrangement at the Madison VAMC in Options E and F. The Enhanced Use arrangement will lower the cost of facilities operations and maintenance at Madison by approximately \$14 million annually. Under the Enhanced Use arrangement, VA will no longer be responsible for operation and maintenance of the 618,517 square-foot facility. VA will incur lease costs for any space that is leased back. In accordance with VA accounting practices, these lease costs are included in direct medical costs.

While Option E contracts for 37 acute care beds, this appears to have little effect on direct medical costs. However, this outsourcing of care reduces the VA staffing levels thereby lowering education and training costs to the VA. This impact can be seen in the VA-unique operations cost category.

Impact on Total LCCs (Including Non-Recurring Acquisition Costs)

Exhibit 7-8 provides the total cost for VISN operations for Options E through G, including any non-recurring acquisition costs resulting from SDO implementation, over the 20-year life cycle of the planning horizon (FY 2001–FY 2020). Both present value and then-year costs are shown.

Exhibit 7-8. Impact on Life-Cycle Costs

Central Market 20-Year Cost by Facility by CES (Present Value Dollars)						
Domain Area		Medical Administration Support Costs	Facility Operations & Maintenance Costs	VA-Unique Operations Costs	Non-Recurring Acquisition Costs	Total 20-Year Cost
Madison	\$1,206.5M	\$71.2M	\$191.8M	\$203.4M	\$30.9M	\$1,703.7M
Milwaukee	\$2,211.8M	\$182.3M	\$429.7M	\$331.3M	\$118.5M	\$3,273.5M
Tomah	\$603.1M	\$73.2M	\$168.0M	\$21.4M	\$51.9M	\$917.5M
Baseline*	\$4,021.3M	\$326.6M	\$789.4M	\$556.1M	\$201.2M	\$5,894.7M
Madison	\$1,130.7M	\$72.0M	\$55.7M	\$169.8M	(\$30.1M)	\$1,398.1M
Milwaukee	\$2,007.3M	\$175.3M	\$429.7M	\$301.2M	\$60.6M	\$2,974.1M
Tomah	\$633.4M	\$83.2M	\$168.0M	\$21.4M	\$25.4M	\$931.4M
Option E	\$3,771.4M	\$330.4M	\$653.3M	\$492.5M	\$55.9M	\$5,303.6M
Madison	\$1,189.5M	\$73.7M	\$55.7M	\$185.7M	(\$21.8M)	\$1,482.8M
Milwaukee	\$2,019.9M	\$175.9M	\$429.7M	\$317.1M	\$61.7M	\$3,004.3M
Tomah	\$597.0M	\$78.8M	\$168.0M	\$21.4M	\$25.4M	\$890.6M
Option F	\$3,806.5M	\$328.3M	\$653.3M	\$524.2M	\$65.3M	\$5,377.7M
Madison	\$1,228.0M	\$73.7M	\$191.8M	\$207.1M	\$27.9M	\$1,728.5M
Milwaukee	\$2,019.9M	\$175.9M	\$429.7M	\$317.1M	\$61.7M	\$3,004.3M
Tomah	\$585.0M	\$78.8M	\$168.0M	\$21.1M	\$21.7M	\$874.5M
Option G	\$3,833.0M	\$328.3M	\$789.4M	\$545.3M	\$111.4M	\$5,607.4M

Central Market 20-Year Cost by Facility by CES (Then-Year Dollars)						
Domain Area		Medical Administration Support Costs	Facility Operations & Maintenance Costs	VA-Unique Operations Costs	Non-Recurring Acquisition Costs	Total 20-Year Cost
Madison	\$2,062.1M	\$119.3M	\$336.7M	\$354.0M	\$49.7M	\$2,921.8M
Milwaukee	\$3,784.2M	\$312.1M	\$754.4M	\$579.4M	\$177.8M	\$5,607.9M
Tomah	\$1,043.0M	\$125.8M	\$294.9M	\$38.0M	\$75.4M	\$1,577.1M
Baseline*	\$6,889.3M	\$557.2M	\$1,386.1M	\$971.5M	\$302.8M	\$10,106.8M
Madison	\$1,920.5M	\$121.1M	\$79.0M	\$290.7M	(\$33.5M)	\$2,377.8M
Milwaukee	\$3,396.7M	\$298.4M	\$754.4M	\$522.5M	\$98.7M	\$5,070.7M
Tomah	\$1,099.0M	\$144.5M	\$294.9M	\$37.9M	\$38.4M	\$1,614.8M
Option E	\$6,416.2M	\$564.1M	\$1,128.3M	\$851.1M	\$103.6M	\$9,063.3M
Madison	\$2,030.4M	\$124.3M	\$79.0M	\$320.4M	(\$23.3M)	\$2,530.7M
Milwaukee	\$3,422.9M	\$299.7M	\$754.4M	\$552.5M	\$99.9M	\$5,129.5M
Tomah	\$1,031.5M	\$136.3M	\$294.9M	\$38.0M	\$38.4M	\$1,539.2M
Option F	\$6,484.8M	\$560.3M	\$1,128.3M	\$910.9M	\$115.0M	\$9,199.4M
Madison	\$2,108.8M	\$124.3M	\$336.7M	\$361.8M	\$45.2M	\$2,976.8M
Milwaukee	\$3,422.9M	\$299.7M	\$754.4M	\$552.5M	\$99.9M	\$5,129.5M
Tomah	\$1,008.0M	\$136.3M	\$294.9M	\$37.3M	\$34.0M	\$1,510.5M
Option G	\$6,539.7M	\$560.3M	\$1,386.1M	\$951.6M	\$179.2M	\$9,616.9M

* For informational purposes only. The baseline configuration does not service the same enrollees as the options and therefore costs should not be compared. Any comparison to the "baseline" should only occur at the VISN Level because SDO markets cross baseline facilities domain areas.

Exhibit 7-8 shows the cost impacts of non-recurring acquisitions on Options E through G. The Enhanced Use arrangement at Madison will result in revenues of approximately \$47 million each in Options E and F. The cost differences for non-recurring acquisitions between Options E and F are dependent on the amount of space that must be built-out as part of the Enhanced Use agreement at Madison. Option E involves building 50,673 square feet at a cost of \$10.5M

(FY 2001 dollars), while Option F involves building 86,811 square feet at a cost of \$19.7M (FY 2001 dollars). Refer to the CAR Plans for more details on non-recurring acquisition costs.

The differences in 20-year facility operations and maintenance costs are driven by the same factors described in the *Impact on Annual Costs* analysis above.

Impact on Unit Costs

The FY 2010 projected unit cost per enrollee for Central Market operations under Options E through G is shown in Exhibit 7-9.

Exhibit 7-9. Impact on Unit Costs

Domain Area	FY2010 Total Costs	FY2010 Market Enrollees	2010 Cost per Enrollee
Option E	\$458.5M	74,064	\$6,190
Option F	\$466.2M	74,064	\$6,294
Option G	\$487.3M	74,064	\$6,580

Exhibit 7-9 presents unit costs for each option for the Central Market. Because the number of enrollees is constant among each option, the unit costs are driven by the total annual cost of the options. The differences in annual costs are described in the *Impact on Annual Costs* analysis above.

Impact on Community Integration

Option E contracts for approximately 11,500 bed days of acute care with community hospitals in FY 2010. This contracting impacts the level of renovations that are required at Milwaukee, the number of beds that must be preserved through Enhanced Use lease at Madison, and administrative and operations and maintenance costs. Thus, the most meaningful measure of the cost impact of contracting is to compare the LCC of Option E with the LCC of Option F, which is the lowest cost option without incremental contracting. Exhibit 7-8 shows that community integration in Option E results in an estimated **present value** savings of \$74M over a 20-year period. The objective of the contracting in Option F is to improve access to care for enrollees located long distances from a VAMC, rather than as a cost-cutting measure. In fact, the contracting has very limited effect on the capital assets. The best potential for large cost savings would occur when contracting with the community is combined with the elimination of capital assets that must be operated and maintained by VA.

Impact on Marketing Excess Service or Program Capacity

There is no marketing of excess service or program capacity considered under Options E through G.

Impact on Supplemental Revenue Through Enhanced Use or Sale of Capital Assets

The CAR Plan, as presented previously, identifies the estimates of option-specific revenues that might be generated from the “sale” of excess assets through the Enhanced Use program.

7.2.3 All Northern Market SDOs provide cost savings or cost avoidance opportunities.

This section compares the impact of each SDO in the Northern Market on the annual costs and five resource criteria measures. Comparison of the options to the baseline is not appropriate at the market level. To make meaningful economic comparisons between an SDO and the baseline for a given market, the total amount of healthcare delivered under the baseline must equal the amount of healthcare delivered under the SDO. Although this is the case at the VISN level, it is not the case at the market level. Under the baseline scenario, each medical center is assumed to serve the same percentage of the overall VISN demand as in FY 2000. The market-based approach of the SDOs results in a slightly different workload at each medical center (i.e., the SDOs include workload serviced by facilities in other markets under the baseline scenario). Therefore, at the market level, cost differentials in direct medical, medical administration support, and VA-unique operations between the baseline and an SDO may be attributable to workload differences and do not necessarily reflect cost or savings from different efficiencies of operations. Comparison to the baseline can be made at the VISN level. To do this, one SDO from each market must be combined and the totals compared to the baseline.

Impact on Annual Costs

Annual operating costs for FY 2010 show what it will cost to deliver healthcare in the Northern Market after CARES-related investments have been made. Exhibit 7-10 shows the FY 2010 annual cost of operations for Options H and I in then-year dollars. **This table does not include any non-recurring acquisition investments (above current levels) or one-time revenues generated through the sale of excess assets.** The full accounting of total LCCs, upon which long-term decision making should be based, are provided in the following section. This table is constructed to explicitly highlight the ongoing cost of operations.

Exhibit 7-10. Impact on Total Annual Costs

Northern Market 2010 Cost by Facility by CES (Then-Year Dollars)						
Domain Area		Medical Administration Support Costs	Facility Operations & Maintenance Costs	VA-Unique Operations Costs	Non-Recurring Acquisition Costs	Total 2010 Cost
Iron Mountain	\$49.4M	\$5.2M	\$8.0M	\$2.0M	\$1.1M	\$65.7M
Baseline*	\$49.4M	\$5.2M	\$8.0M	\$2.0M	\$1.1M	\$65.7M
Iron Mountain	\$59.2M	\$5.8M	\$8.0M	\$1.9M	\$1.1M	\$76.0M
Option H	\$59.2M	\$5.8M	\$8.0M	\$1.9M	\$1.1M	\$76.0M
Iron Mountain	\$57.0M	\$5.8M	\$8.0M	\$2.0M	\$1.1M	\$73.9M
Option I	\$57.0M	\$5.8M	\$8.0M	\$2.0M	\$1.1M	\$73.9M

because SDO markets cross baseline facilities domain areas.

Differences in annual costs between Options H and I are minimal. Option H contracts for 26 acute care beds and 15 nursing home beds. Using contracted acute care rates provided by the VA Management Science Group, contracting under Option H has little effect on direct medical cost, with Option H being only slightly higher. The cost of education and training is only minimally affected by the reductions in VA staffing levels because of the contracting under Option H. This impact can be seen in the VA-unique operations cost category. There are no changes to facility square footage between Options H and I and therefore facility operations and maintenance costs do not change.

Impact on Total LCCs (Including Non-Recurring Acquisition Costs)

Exhibit 7-11 provides the total cost for VISN operations for Options H and I, including any non-recurring acquisition costs resulting from SDO implementation, over the 20-year life cycle of the planning horizon (FY 2001–FY 2020). Both present value and then-year costs are shown.

Exhibit 7-11 shows the cost impacts of non-recurring acquisitions on Options H and I. Although both options renovate nursing home care wards, only Option I provides for significant renovations to acute care wards. There are no differences in 20-year facility operations and maintenance costs.

Exhibit 7-11. Impact on Life-Cycle Costs

Domain Area		Medical Administration Support Costs	Facility Operations & Maintenance Costs	VA-Unique Operations Costs	Non-Recurring Acquisition Costs	Total 20-Year Cost
Iron Mountain	\$543.0M	\$56.6M	\$94.0M	\$23.2M	\$20.9M	\$737.7M
Baseline*	\$543.0M	\$56.6M	\$94.0M	\$23.2M	\$20.9M	\$737.7M
Iron Mountain	\$630.7M	\$61.9M	\$94.0M	\$22.7M	\$17.2M	\$826.6M
Option H	\$630.7M	\$61.9M	\$94.0M	\$22.7M	\$17.2M	\$826.6M
Iron Mountain	\$612.2M	\$62.1M	\$94.0M	\$23.7M	\$19.9M	\$811.8M
Option I	\$612.2M	\$62.1M	\$94.0M	\$23.7M	\$19.9M	\$811.8M

Northern Market 20-Year Cost by Facility by CES (Then-Year Dollars)						
Domain Area		Medical Administration Support Costs	Facility Operations & Maintenance Costs	VA-Unique Operations Costs	Non-Recurring Acquisition Costs	Total 20-Year Cost
Iron Mountain	\$934.2M	\$97.0M	\$165.1M	\$41.2M	\$33.4M	\$1,270.9M
Baseline*	\$934.2M	\$97.0M	\$165.1M	\$41.2M	\$33.4M	\$1,270.9M
Iron Mountain	\$1,098.1M	\$106.9M	\$165.1M	\$40.3M	\$27.9M	\$1,438.3M
Option H	\$1,098.1M	\$106.9M	\$165.1M	\$40.3M	\$27.9M	\$1,438.3M
Iron Mountain	\$1,065.7M	\$107.4M	\$165.1M	\$42.1M	\$30.9M	\$1,411.2M
Option I	\$1,065.7M	\$107.4M	\$165.1M	\$42.1M	\$30.9M	\$1,411.2M

* For informational purposes only. The baseline configuration does not service the same enrollees as the options and therefore costs should not be compared. Any comparison to the "baseline" should only occur at the VISN Level because SDO markets cross baseline facilities domain areas.

Impact on Unit Costs

The FY 2010 projected unit costs per enrollee for Northern Market operations under Options H and I are shown in Exhibit 7-12.

Exhibit 7-12. Impact on Unit Costs

Domain Area	FY2010 Total Costs	FY2010 Market Enrollees	2010 Cost per Enrollee
Option H	\$76.0M	16,989	\$4,473
Option I	\$73.9M	16,989	\$4,352

Exhibit 7-12 presents unit costs for each option for the Northern Market. Because the number of enrollees is constant among both options, the unit costs are driven by the total annual cost of the options. The differences in annual costs are described in the *Impact on Annual Costs* analysis above.

Impact on Community Integration

Option H contracts for approximately 8,066 bed days of acute care with community hospitals in FY 2010. Option H also contracts for 4,927 more nursing home care bed days of care than Option I.

This contracting has an impact on the level of renovations that are required at Iron Mountain VAMC. The objective of the contracting in Option H is to improve access to care for enrollees located long distances from the Iron Mountain VAMC, rather than as a cost-cutting measure. Because the VAMC at Iron Mountain continued to operate as an acute care provider, there were very minimal cost impacts related to the outsourcing. In fact, as can be seen in the annual costs shown in Exhibit 7-10 and the LCC in Exhibit 7-11, there are no VA cost savings resulting from the outsourcing with the community in Option H as compared to Option I.

Impact on Marketing Excess Service or Program Capacity

There is no marketing of excess service or program capacity considered under Options H and I.

Impact on Supplemental Revenue Through Enhanced Use or Sale of Capital Assets

The CAR Plan, as presented previously, identifies the estimates of option-specific revenues that might be generated from the “sale” of excess assets through the Enhanced Use program.

7.2.4 Comparison of the highest and lowest cost combination of options from each market to the VISN 12 baseline shows the potential cost savings related to CARES initiatives.

Throughout this chapter cost data for the baseline scenario has been presented, but no comparisons have been made to the options. As noted earlier, comparison of costs between the options and the baseline are appropriate at the VISN level where the same workload is serviced. To make cost comparisons, one option from each market must be combined and the total cost of the options compared to the baseline.

As noted in the CAR Plan, the baseline assumes all current VISN 12 facilities remain open. In addition, approximately \$332 million in capital asset investments is needed to enhance existing facilities' environment of care, even though the current configuration of facilities is not optimal to meet shifting future demand. Under the baseline, each VAMC services the same percentage of the overall VISN demand as it did in FY 2000. As with the options, the FY 2000 unit costs for each VAMC were the basis for estimating future costs for the baseline scenario.

Exhibit 7-13 compares the lowest and highest combination of option LCCs to the baseline. The range of potential overall cost savings is also shown.

Exhibit 7-13. Comparison of 20-Year Life Cycle Costs

Comparison of 20-Year Cycle Costs		
	Present Value Dollars*	Then-Year Dollars*
Baseline	\$18,025 Million	\$30,868 Million
Low Cost Scenario		
Option D	\$10,751 Million	\$18,400 Million
Option E	\$5,304 Million	\$9,063 Million
Option I	\$812 Million	\$1,411 Million
Total Low Cost Scenario	\$16,867 Million	\$28,874 Million
Baseline	\$18,025 Million	\$30,868 Million
High Cost Scenario		
Option A	\$10,984 Million	\$18,822 Million
Option G	\$5,607 Million	\$9,617 Million
Option H	\$827 Million	\$1,438 Million
Total High Cost Scenario	\$17,418 Million	\$29,877 Million
Savings Range	\$607 to \$1,158 Million	\$991 to \$1,994 Million

* Facilities costs are escalated using 3.3% annually
 Medical costs are escalated using 4.2% annually
 Present Value is discounted using 5.4% annually