# VA Health Care Study for Inpatient and Specialty Outpatient Services in the South Texas Valley-Coastal Bend Market

Department of Veterans Affairs

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# Executive Summary

## Introduction and Approach

The Department of Veterans Affairs (DVA) recognizes the current supply of VA health care services in parts of South Texas, specifically the Valley-Coastal Bend Market, is not optimally aligned to meet veteran health care needs.[1] This mismatch between the enrolled veterans' health care demand and the supply of local VA services places an excessive travel burden on veterans who live in these areas. The Office of Policy and Planning, Veterans Health Administration (VHA) has therefore engaged Booz Allen Hamilton (Booz Allen) to conduct an independent assessment of veteran inpatient and specialty outpatient health care needs in South Texas, and to recommend optimal approaches to meet those needs. This report, *The VA Health Care Study for Inpatient and Specialty Outpatient Services in the South Texas Valley-Coastal Bend Market* (The South Texas Study), describes that analysis and recommends service delivery strategies for the Valley-Coastal Bend Market. These strategies, if implemented, offer the potential to dramatically improve veteran access to care over the 30-year planning horizon considered in this study.

Booz Allen assembled a study team of senior health care experts with VA experience to complete the study. The study team used the following approach:

- Conducted a market-based analysis that considered current and future demand for inpatient and specialty outpatient care based on a 30-year planning horizon
- Determined the current supply of VA and non-VA health care resources available to address future demand requirements
- Developed a broad array of service delivery options, including both inpatient and specialty outpatient solutions, based on future demand projections, available health care resources, and veteran and stakeholder input
- Recommended the best options for the VA to consider based on quantitative and qualitative assessments.

## Market Challenges and Implications

### *Travel Times to Acute Inpatient and Specialty Outpatient Care Exceed VA Guidelines*

The South Texas Valley-Coastal Bend market (the study area) is within Veterans Integrated Service Network 17 (VISN 17) and covers 15 counties in South Texas, extending south along the Texas Gulf Coast and west to the Rio Grande Valley and Mexican border. For planning purposes, the VA divided the market into two sub-markets or sectors. Sector One, also called the Coastal Bend, covers the Corpus Christi area (13,000 enrolled veterans), while Sector Two, the Lower Rio Grande Valley, includes the Harlingen-Brownsville and McAllen areas (15,000 enrolled veterans).

[1] VISN 17 FY 2006–2101 Operating Plan–Phase II

Veterans in both sectors have access to VA-staffed Community Based Outpatient Clinics (CBOC) in Corpus Christi (Sector One), Harlingen (Sector Two), and McAllen (Sector Two). These CBOCs offer primary care, mental health, social work, laboratory and pharmacy services, and perform minor procedures. Because neither Sector One nor Two has a VA Medical Center (VAMC), veterans generally must travel to the San Antonio VAMC to obtain non-emergent, acute inpatient or subspecialty outpatient care. Round trip travel time from Sector Two to the San Antonio VAMC is up to ten hours, and from Sector One is approximately four to five hours—both exceeding VA drive time guidelines for acute care. Thus, there is currently a considerable gap between the veteran demand for acute inpatient and specialty outpatient care and the local supply of VA-provided services to meet that demand.

### *Gap Between Supply and Demand Expected to Widen for Specialty Outpatient Services*

The VA's Enrollee Projection Health Care Model (EPHCM), developed by Milliman Inc., provides the VA with projections of veteran enrollment and utilization that it can use for planning purposes.[2] This model is continually adjusted to reflect changes in the veteran population and health care system. For example, recent model adjustments capture demand generated by veterans of the current Middle East conflict. The model also accounts for certain veterans that reside in Mexico but seek care in Texas.

Future demand projections in this study show a decreasing demand for inpatient services (bed need) through fiscal year (FY) 2025 for both Sector One and Two veterans, slightly narrowing the gap between supply and demand over time. As shown in Table 1, the projected need for acute medical/surgical beds in Sector One is expected to decrease from a baseline of 14 beds in FY2005 to 11 beds in FY2025. During the same time period, demand for acute psychiatric beds in Sector One is expected to stay constant at 3 to 4 beds per annum. Similarly, demand for acute medical/surgical beds in Sector Two is expected to decrease from 18 to 14 beds between FY2005 and FY2025, while demand for acute psychiatric beds remain steady at 3 to 4 beds per annum.

**Table 1 - Comparison of Baseline to Projected Bed Need by Strategic Planning Category (SPC)**

| | Sector One—Coastal Bend | | | Sector Two—Valley | | |
|---|---|---|---|---|---|---|
| **SPC** | **FY 2005 Baseline** | **FY 2015 Modeled** | **FY 2025 Modeled** | **FY 2005 Baseline** | **FY 2015 Modeled** | **FY 2025 Modeled** |
| Inpatient (beds) | | | | | | |
| Inpatient: Medicine and Observation | 9 | 7 | 7 | 11 | 8 | 8 |
| Inpatient: Surgery | 5 | 5 | 4 | 7 | 7 | 6 |
| Subtotal Medical/Surgery only | 14 | 12 | 11 | 18 | 15 | 14 |
| Inpatient: Psychiatry | 4 | 4 | 3 | 3 | 4 | 4 |
| **Total Beds** | **18** | **16** | **14** | **21** | **19** | **18** |

In contrast to inpatient services, the demand for specialty outpatient services (clinic stops) is expected to increase approximately two-fold between FY2005 and FY2025 (Figure 1), dramatically widening the gap between specialty outpatient supply and demand. This is a significant finding because over 90 percent of trips from Sectors One and Two to the San Antonio VAMC are made to obtain specialty outpatient care.

[2] The model generates 20 year projections; however, plans and costs are generated for a 30 year period by assuming constant levels for workload from year 20 through year 30.

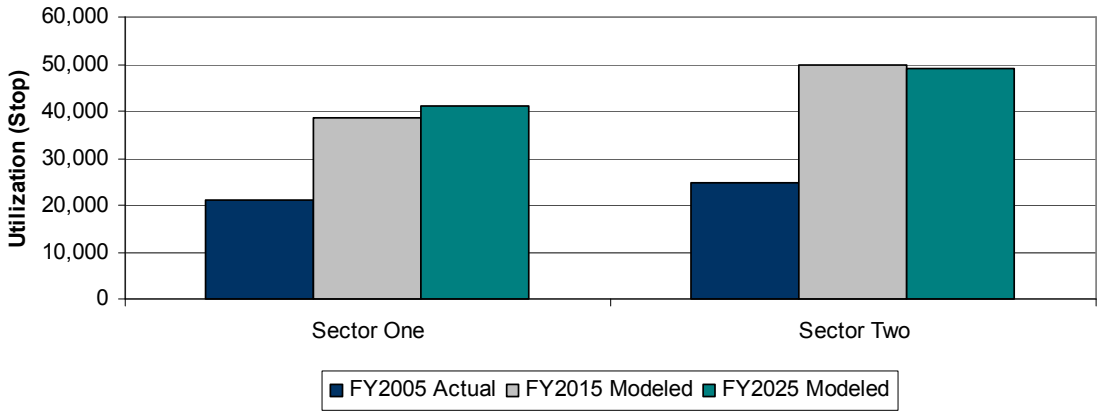



**Figure 1 -** Specialty Outpatient Utilization for the Valley-Coastal Bend by Sector
*Source: VA EHCPM, base year 2005*

The widening gap in specialty outpatient care has implications for the service delivery options. While there has been a great deal of advocacy to construct a hospital to address veteran needs, it is clear the greatest emphasis should be placed on specialty outpatient solutions. This includes medical, surgical, and mental health services. Expanded mental health capabilities must include increased capacity for specialized outpatient treatment of Post Traumatic Stress Disorder (PTSD) and other conditions that have dramatically increased in recent and current conflicts in Afghanistan and Iraq. When compared to specialty outpatient care, inpatient care represents a relatively small portion of the travel burden imposed on veterans. However, inpatient solutions are also important to consider and should address the full range of veteran inpatient needs. Consequently, all options should seek to maximize local access to a broad array of specialized outpatient and inpatient services.

## Option Development

The study team identified three strategies for delivering inpatient services—build a new VAMC, establish comprehensive contracts with private sector providers, and create a Community-Based Acute Care Center (CBACC). However, not all of these strategies are applicable to both sectors. The strategies are briefly described below.

**Build a new VAMC.** Veteran needs have motivated considerable advocacy to construct a new hospital. Building a VA hospital has considerable appeal as it represents the opportunity to develop a facility that meets veteran demand for inpatient services in an environment that embodies VA culture and is recognizable and comfortable to veterans. However, there is no single location that would serve the needs of veterans in both the Coastal Bend and the Lower Rio Grande Valley. Given the low and declining inpatient utilization projections in each sector, a new hospital would have very few beds and a very limited range of services.

**Establish Comprehensive Contracts with Private Sector Providers.** In both Sectors One and Two, there is a robust supply of community hospitals that veterans and their physicians hold in high regard and are willing to partner with the VA to provide inpatient and specialty outpatient services. However, the suitability of options involving contracted services is largely dependent on the nature of the contracts established. For this study, the study team assumes that all contracts will be comprehensive regarding the clinical conditions addressed and the financial coverage provided.

**Create a Community-Based Acute Care Center (CBACC).** Developed for veteran inpatient care, this strategy involves establishing a VA-dedicated inpatient ward on the floor of an existing private sector hospital. The CBACC would provide a care environment that embodies VA culture and that veterans recognize and find comfortable. A VA physician would be the primary inpatient attending physician, coordinating acute medical and surgical care for veterans.

**Outpatient Strategies.** Despite the advocacy for a hospital that emphasizes inpatient care, the greatest need is a robust supply of outpatient specialty care. The study team found that over 90 percent of the veteran travel burden is generated by trips to obtain outpatient specialty care. Sector Two veterans in particular described the frustrations associated with traveling 10 hours round trip for a 20 minute specialty outpatient visit in San Antonio.

For that reason, the study team focused sharply on providing outpatient solutions that would provide a broad array of specialty care while maximizing coordination with primary care and inpatient care. These solutions included a variety of pairings with the inpatient strategies described above. The study team also considered various approaches to building or leasing new clinic space, or expanding existing clinics.

## Sector One Options

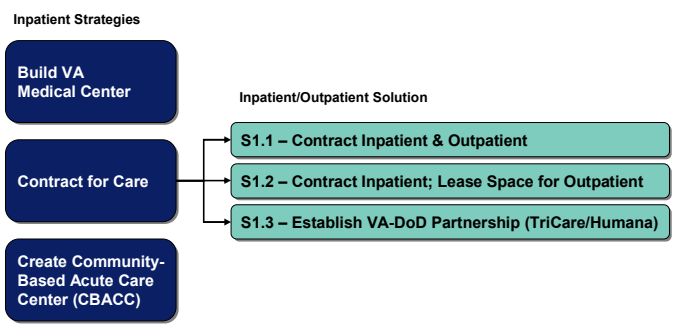
In Sector One, Booz Allen initially considered all three strategies to deliver inpatient care—build a new VAMC, contract with preferred community providers, or create a dedicated VA ward, a CBACC, within a community hospital. However, the inpatient utilization projections were particularly low in Sector One—approximately 12 acute medical/surgical beds and 4 acute psychiatric beds in 2015, declining to 11 and 3 beds, respectively, by 2025. This would not be sufficient volume to sustain a new inpatient facility and may be too low to sustain a CBACC. Even doubling the projected number of beds would not be sufficient to sustain an inpatient facility with the array of services routinely required by veterans.

Consequently, the only viable approach to supplying local *inpatient* services is through contracting with a private sector provider. In Sector One, the Christus Spohn System, the dominant provider, is frequently used by the VA for emergency care and is well regarded by veterans and VA clinical staff with whom the study team spoke. The two Christus Spohn hospitals most suited for veteran care based on capabilities, capacity, and location are Memorial and Shoreline. In addition, the study team considered establishing contracts with the Department of Defense (DoD) through the TriCare Humana contracts that are currently used by the nearby Naval Hospital.

Outpatient strategies included contracting with Christus Spohn or TriCare Humana, or creating a VA specialty outpatient clinic near or on the campus of the Christus Spohn inpatient facility.

The three viable options for providing inpatient and specialty outpatient care in Sector One are summarized below:

- **Option S1.1:** Contract with Christus Spohn Health System to provide inpatient and specialty outpatient care
- **Option S1.2:** Contract with Christus Spohn Health System for inpatient care and collocate leased space for a VA specialty outpatient clinic
- **Option S1.3:** Establish a VA-DoD partnership to use DoD Preferred Provider



Organization (PPO) Network (Humana Contract).

### *Sector One Recommended Option*

The recommended option for Sector One proposes that the VA contract for inpatient care with the Christus Spohn Health Care System and collocate a VA specialty outpatient clinic on the Christus Spohn Hospital campus. While it would have been preferable to expand the existing VA clinic so that outpatient specialty and primary care services could be offered at the same location, expansion is not feasible. Placing specialty outpatient services on the campus of the inpatient partner appears, at this time, to be the next best alternative.

Two Christus Spohn hospitals, Shoreline Hospital and Memorial Hospital, would best serve veteran needs. Both are large, high quality multispecialty facilities that would offer veterans access to a broad array of services. Shoreline appears to have enough capacity to host a VA outpatient facility for both primary and specialty care. Memorial can provide inpatient psychiatry services and can accommodate VA specialty care in leased space. Selection of the host hospital should occur during negotiations between Christus Spohn and the VA.

This option—contract inpatient services and collocate a VA outpatient specialty care clinic—enhances access to a full range of coordinated services at a quality institution. Though the most costly of the three options, the range between the options is no more than ten percent, and the benefits outweigh the additional cost. A VA physician could be responsible for care coordination, appropriate referral and consultation requests, and utilization management. Cost risk would also be mitigated by engaging the VA rather than private sector specialists in outpatient care.

Since Sector One is much closer to San Antonio than Sector Two, the VA may opt to contract for routine inpatient care and refer more complex cases to the San Antonio VAMC. Similarly, the VA may opt to provide higher volume outpatient specialty care such as cardiology, gastroenterology, orthopedics and urology, in Corpus Christi and provide lower volume and more specialized services in San Antonio. This option would require some travel but would substantially reduce the current travel burden faced by veterans.

This option scored higher than the other two options considered for Sector One—contracting with Christus Spohn or partnering with DoD TRICARE (Humana contract) for both inpatient and specialty outpatient care. The feature that distinguished the preferred option was collocation of VA specialty services on a Christus Spohn campus. Collocation provides a stronger link to the VA and improves coordination of care. However, the study team recommends the VA further explore the feasibility of partnering with DoD TRICARE since the Humana contract is up for renewal in the next two years. Otherwise, it would be difficult, if not impossible, for the VA to partner with the DoD until the contract is again up for renewal.

## Sector Two Options

Sector Two differs from Sector One in a number of ways. It is much further from the San Antonio VAMC and veterans living in Sector Two face a significantly greater travel burden than those in Sector One. Sector Two is home to a greater number of enrollees, and there is a broader spectrum of potential private sector partners. In Sector Two all three *inpatient* strategies—build a new VAMC, contract with preferred community providers, and create a dedicated VA ward (CBACC) in a community hospital—were used to develop service delivery options.

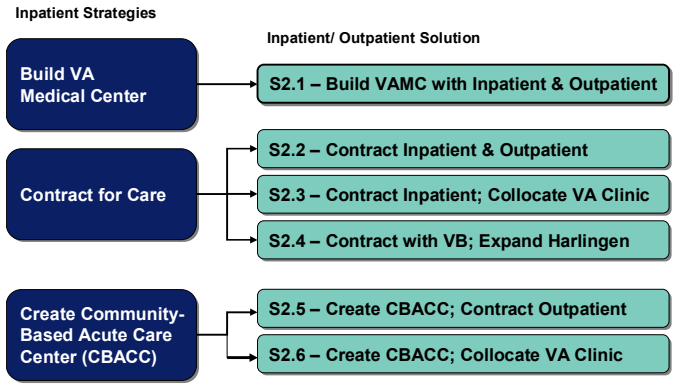
The preferred private sector providers identified by veterans and the VA physicians who care for them may be categorized by location. In the McAllen area, the preferred providers are McAllen Medical Center,

Rio Grande Regional Hospital, and Doctors Hospital at Renaissance. In the Harlingen-Brownsville area, the Valley Baptist system dominates and the Valley Baptist Hospital in Harlingen is the preferred facility.

All these hospitals are large and well regarded multispecialty facilities that can provide veterans with a full spectrum of services and should be considered viable partners. However, in the specific options listed below, McAllen Memorial and Valley Baptist are emphasized for several reasons. Valley Baptist's close affiliation with the University of Texas and the existing partnership with the VA CBOC make it particularly attractive in Harlingen. In the McAllen area, the McAllen Medical Center was particularly enthusiastic about partnering with the VA, is very close to the existing VA CBOC, is the facility where veterans are most frequently admitted for emergency care, and has experience creating a hospital within a hospital. As negotiations proceed, however, the VA should consider overtures from the other preferred hospitals previously cited.

The study team considered a spectrum of possibilities to pair outpatient specialty services with the inpatient strategies described above. These include expanding existing CBOCs to accommodate specialty services, leasing additional outpatient specialty space on or near the campus of an inpatient partner, or building new outpatient space. In each of these strategies, VA specialists would provide the bulk of outpatient specialty care. The study team also considered contracting for specialty outpatient care in the private sector.

The six options for providing inpatient and specialty outpatient care in Sector Two are grouped by the inpatient care delivery strategy below.




### Build a New VAMC

- **Option S2.1:** Build a small VA hospital with inpatient and specialty /primary care outpatient capabilities (Harlingen or McAllen).

### Contract for Care

- **Option S2.2:** Contract with a health system/health plan to provide inpatient and specialty outpatient care
- **Option S2.3:** Contract with McAllen Medical Center for inpatient care and collocate leased space for a VA specialty outpatient clinic
- **Option S2.4:** Contract with Valley Baptist in Harlingen for inpatient care and expand Harlingen VA CBOC/specialty outpatient facility.

### Create a CBACC

- **Option S2.5:** Create a hospital within a hospital (CBACC) with McAllen Medical Center for inpatient care and contract with McAllen for specialty outpatient care
- **Option S2.6:** Create a hospital within a hospital (CBACC) with McAllen Medical Center and collocate a leased VA specialty clinic.

The Booz Allen study team does not recommend building a small hospital in the Lower Rio Grande Valley. This is notable since there has been considerable advocacy to construct such a facility. The projections suggest that by 2015 there will be a need for 15 acute medical and surgical beds and 4

psychiatric beds, and by 2025 this will decline to 14 and 4 beds, respectively. A hospital of this size would be unable to provide the full array of inpatient services routinely required by veterans and travel to San Antonio or contracting with private sector hospitals would be necessary. The study team considered the unlikely scenario in which the projections underestimate demand by 100 percent or more. Such a scenario would double the projected inpatient demand. However, even doubling demand would still result in an extremely small hospital, about 30 medical and surgical beds that would not be able to meet the full range of veterans' needs. Access would not be optimized and the study team is concerned that in extremely low service lines the quality of care may be compromised.

### *Sector Two Recommended Option*

Booz Allen recommends contracting with Valley Baptist Hospital for inpatient care and expanding the VA Harlingen CBOC to accommodate a full spectrum of outpatient specialty services. This is the only option in which it is feasible to locate VA specialty outpatient care and primary care at the same site. This is notable because the highest priority in addressing veterans' travel burden is to provide a full array of coordinated *outpatient* services, and this option is further strengthened because these outpatient services are located adjacent to the campus of the inpatient partner—the Valley Baptist Hospital. This will contribute to the coordination of inpatient and outpatient care.

One of the challenges in creating a VA specialty clinic is recruiting and retaining specialists who may have more lucrative opportunities in private practice. However, Valley Baptist has a strong affiliation with the University of Texas School of Medicine, and specialist physicians with faculty appointments would be available to help staff the VA specialty clinic along with residents.

This option would build upon the strong relationship between the Valley Baptist Hospital, the University of Texas, and the existing VA clinic. Cementing a deeper relationship with the University of Texas residency training programs would complement the relationship between the San Antonio VAMC and the University of Texas, and would likely produce synergies to advance veteran care, education, and research.

All the community providers considered in the development of options were well regarded by veterans and local VA physicians, and all performed well when evaluated against the Agency for Health Care Research and Quality's (AHRQ) risk adjusted outcome measures. However, Valley Baptist performed particularly well in process measures that are available through Hospital Compare. Some of these process measures, such as timely and appropriate administration of beta blockers, aspirin, and ACE inhibitors, are the same as those used by VA.

This option may be further enhanced by designating a fulltime VA physician from the clinic to be the primary attending physician for all admitted patients. This responsibility may rotate among the full time clinic staff. A primary VA inpatient attending physician would enhance care coordination, quality, and utilization control. The VA may also consider extending the hours of operation of the clinic and establishing a 24 hour clinic that provides observation beds. Alternatively, the VA may explore collaborating with Valley Baptist to provide an after hours clinic in the Valley Baptist emergency department (ED) and using Valley Baptist inpatient beds for observation purposes when necessary. This may be helpful when a longer period of time is required, whether for medical or psycho-social reasons, to determine veteran dispositions. A VA ombudsman or case worker that visits hospitalized veterans during their stay would help make veterans feel at home and could help address non-medical issues that arise. If feasible, a VistA terminal may be placed in a central location in the hospital, such as the medical records department. This would facilitate transfer of key information, such as discharge summaries, to the VA system. It would also provide physicians easier access to relevant clinical information stored in VistA.

This option does have limitations. Valley Baptist does not have an inpatient psychiatric unit. Separate contracting arrangements would need to be created to address that need. Fortunately, McAllen Memorial can provide this service through the South Texas Behavioral Health Center. In addition, this option does not create the dedicated VA ward or the VA identity valued by veterans, which the CBACC option sought to replicate.

This option presents other opportunities which the VA may choose to pursue. For instance, there is potential to create a capitated contract for veteran care at Valley Baptist. Valley Baptist has its own medical plan with about 18,000 members and is anxious to boost enrollment. Enrolling veterans in this plan has value on multiple levels. First, it lowers the risks associated with contracting because risk is shared by the Valley Baptist plan. Second, it shields veterans from the lengthy and difficult approval processes that often accompany each step in contracted care; all care would be covered, although the VA could carve out particular services such as tertiary care and mental health. Finally, if actual demand exceeds expectations in the future, a CBACC may become more viable and its feasibility at Valley Baptist may be revisited.

As noted earlier, all Sector Two options are in the same cost range, only varying about four percent from the least costly to the most costly by net present value (NPV). This option falls approximately in the middle of that range and delivers the greatest overall benefit.

The feasibility of this option remains speculative until the VA, Valley Baptist, and the University of Texas arrive at mutually acceptable terms. At this point, the study team recommends this option as the preferred approach to provide comprehensive outpatient specialty care and inpatient services to veterans living in the Lower Rio Grande Valley.

# Introduction

The Department of Veterans Affairs (DVA) has recognized that the current supply of VA health care services in parts of South Texas, specifically the Valley-Coastal Bend Market, is not optimally aligned to meet veteran health care needs.[3] This mismatch between the enrolled veterans' health care demand and the supply of local VA services places an excessive travel burden on veterans who live in these areas. The Office of Policy and Planning, Veterans Health Administration (VHA) has therefore engaged Booz Allen Hamilton (Booz Allen) to conduct an independent assessment of veteran inpatient and specialty outpatient health care needs in South Texas, and to recommend optimal approaches to meet those needs. This report, *The VA Health Care Study for Inpatient and Specialty Outpatient Services in the South Texas Valley-Coastal Bend Market* (The South Texas Study), describes that analysis and recommends service delivery strategies for the Valley-Coastal Bend Market. These strategies, if implemented, offer the potential to dramatically improve veteran access to care over the 30-year planning horizon considered in this study.

This report summarizes the study in its entirety, but focuses on analyzing the nine viable and two recommended service delivery options. The remainder of this report is organized as follows:

- Brief overview of the study methodology
- Description of the baseline Valley–Coastal Bend market, including geographic characteristics, veteran demographics, current supply of health care services, cost, and barriers to access
- Projections of future veteran demand for health care
- Discussion and analysis of service delivery strategies to meet future demand
- Recommendations.
-

[3] VISN 17 FY 2006–2101 Operating Plan–Phase II

# Study Methodology

To optimize the care of veterans in the Valley–Coastal Bend market area, this study employed a market-driven approach to health care planning. This approach is based on Booz Allen's health care planning experience and the VA's approach to health care planning. A set of nine viable options were winnowed from a broader set of more general concepts. Concepts were screened so only those that improved access, satisfied quality requirements, and did not pose excessive risk advanced for more detailed analysis as viable service delivery options. In evaluating each service delivery option, the study team used a weighted scoring approach to assess, in a consistent fashion, important attributes that would be germane to the evaluation of all options. In addition, the team considered factors that may not fit in these categories but which may be relevant to a specific option. A brief overview of the general approach to the study and a discussion of the weighting and scoring methodology is presented below. A more detailed discussion is presented in the *Study of South Texas Veterans' Inpatient and Outpatient Specialty Health Care Needs: Study Methodology Report*.

## Overview

The VA South Texas Study of Veterans' Inpatient and Specialty Outpatient Health Care Needs consists of four phases (Figure 2):

1. The market assessment
2. The universe of options
3. A full analysis of the viable options
4. A final report that articulates the rationale for the recommended options.

In each phase, the Booz Allen study team consulted with a Technical Expert Panel (TEP) that was not part of the core study team. This panel, composed of experts both internal and external to Booz Allen, vetted ideas, methods, and products developed by the study team. VA staff were not part of the TEP.

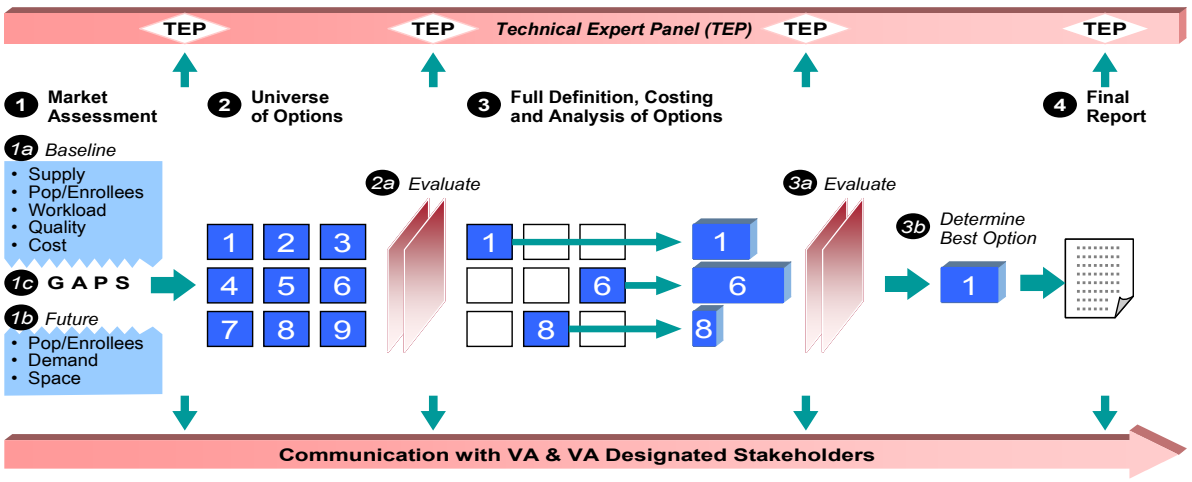



**Figure 2 - Study Methodology**

## Phases 1 and 2: The Market Assessment and The Universe of Options

To complete the market assessment, the study team examined the current health care environment for veterans in the Valley–Coastal Bend area. This assessment identified the current (baseline) state of the market, including the veteran population and enrollees; the current and projected enrollee demand for health care; a profile of current services in terms of access, cost, veteran satisfaction, and other relevant measures; and gaps in service. As suggested in Figure 2, the market assessment provides an understanding of future veteran needs (demand) as provided by the VA's projection model. The gap between current supply and future demand highlighted in the market assessment shaped the study's proposed service delivery options.

The study team developed an initial set of preliminary options or concepts to close the gap between the supply and demand for health care services. This initial set of concepts is called the Universe of Options. The goal in identifying this initial set of concepts was to produce a wide field of inpatient and outpatient options that could be narrowed down to a more viable set for in-depth analysis.

To narrow the options to a set of viable candidates, the study team applied the following screening criteria to the Universe of Options:

- **Access:** The extent to which the option complies with or exceeds the VA's access guidelines. Options that fail to meet VA guidelines were eliminated.
- **Quality:** Local veteran and clinician input was used to identify local institutions regarded as the best facilities in the community. Quality indicators were used to corroborate veteran and physician perspectives. A limited set of preferred facilities were used to construct viable options.
- **Risk to Implementation:** Options that appear unlikely to be implemented or that are perceived to have a high risk of failure were identified and eliminated from the Universe of Options.
- **Rough Order of Magnitude Estimates of Cost:** For each viable option in the Universe of Options, a rough order of magnitude (ROM) cost was developed.

Based on these screening criteria, the study team identified a set of nine viable options for full analysis.

## Phase 3: A Full Analysis of the Most Promising Options

The nine options were analyzed based on a spectrum of considerations and criteria. These criteria received different weights, or levels of emphasis, based on their relative importance in meeting the needs of veterans, the strategic objectives of the VA, and the measurability of each criterion. The following criteria were informed by Booz Allen health planning and measurement experience, prior experience from Phase I and II of Capital Asset Realignment for Enhanced Services (CARES), VA priorities, and site visits to Sectors One and Two:

- **Access:** Significant barriers to access, whether imposed by geography, disability, finances, or simply a lack of available services can compromise the quality, satisfaction, and coordination of care for veterans, resulting in poor health outcomes. Providing improved access to care was a principal driver of this study, and the importance of this objective was reinforced by site visits. The subcriteria used for evaluating access include travel burden measured by drive time, and the array of coordinated services that would be available to veterans under each option. These two subcriteria are important indicators of quality in prospective options and were weighted most heavily among all criteria and subcriteria.
- **Flexibility:** Because the future is, by definition, uncertain, the criterion of flexibility measures an option's ability to respond to change. This uncertainty can manifest itself in many ways. For instance, despite the observed reliability of the current utilization projection model, there may be higher or lower levels of veteran demand based on a variety of factors including substantial alteration in veteran migration patterns; the number, size, and duration of future conflicts; Medicare policy changes; or new approaches to covering the uninsured population in this country. Changes in technology may also drive changes in the way care is delivered and may accelerate the shift to outpatient venues of care, as well as to home-based care. Accordingly, the flexibility criterion is defined as the ability to accommodate fluctuations in demand.
- **Cost:** The level of benefits that an option provides comes at a cost. The study team developed life cycle cost estimates associated with implementing each option over a 30-year planning horizon. The life cycle cost estimates included any capital investment associated with implementing a particular option, as well as recurring costs over the 30-year planning horizon. The most commonly accepted financial tool, net present value (NPV), was used and each option's associated cash flow was discounted to fiscal year (FY) 2005. Options were then grouped based on the NPV cost, from least costly to most costly, to assess the cost impact to the VA.
- **Impact on Other VA Goals/Missions:** This criterion measures the impact on other VA goals and missions including research, education, and VA–Department of Defense (DoD) collaboration and sharing (such as DoD contingency/backup and emergency preparedness). While projected utilization of inpatient and specialty outpatient services suggests that the impact on VA missions may be small when viewed on a national scale, the benefits that local veterans may glean by gaining greater access to shared providers, services, and care networks may be significant. An option is considered favorable to research if it supports the continuation and strengthening of research funding and contributes to both financial support and scholarly knowledge. Similarly, an option is considered favorable to education if it supports the continuation of resident training and other allied health training at VA facilities. An option is favorable to DoD sharing if it allows for collaboration between the two largest government agencies that support veterans and military personnel. Doing so builds intellectual and health care resource capital between the VA and DoD and supports the cost-efficient use of resources.

- **Implementation Risk:** This criterion is important because an option judged to be a high risk is not likely to be implemented and thus would also not be selected as the preferred option. Risks are identified along two dimensions: the probability that a risk will occur and the impact of that risk. The study team identified the universe of possible risks associated with each option. Twenty-five individual risks were identified in nine categories, including the following: organizational and change management, business, privacy, technology, strategy, security, project financials, schedule, and legal and contractual issues.

These five major criteria were then weighted in a facilitated session with the study team and the TEP. Using the Expert Choice decision support tool, the team compared criteria, resulting in the following weights for each criterion (see Table 2).

**Table 2 - Weights for Major Criteria**

| Major Criteria | Weight for Major Criteria |
|---|---|
| **Access** | 0.442 |
| **Flexibility** | 0.126 |
| **Cost** | 0.185 |
| **Impact on Other VA Goals/Missions** | 0.049 |
| **Risk of Implementation** | 0.199 |
| **Total** | **1.000*** |

** Difference due to rounding*

After assigning weights to the criteria, a similar process was conducted to weight the subcriteria (see Table 3). For a given major criterion, the sum of the weights assigned to subcriteria equals 1.00.

**Table 3 - Weights for Subcriteria**

| Major Criteria | Subcriteria | Weight for Subcriteria |
|---|---|---|
| **Access** | Travel burden (drive time) | 0.630 |
| | Array of coordinated services | 0.370 |
| **Flexibility** | Ability to accommodate fluctuations in demand | 1.000 |
| **Cost** | NPV | 1.000 |
| **Impact on Other VA Goals/Missions** | Research | 0.240 |
| | Education | 0.446 |
| | VA–DoD sharing | 0.315 |
| **Risk of Implementation** | Organizational and change management<br>Business<br>Privacy<br>Technology<br>Strategic<br>Security<br>Project revenues (financial/FTE)<br>Schedule<br>Legal and contractual | Separately evaluated |

Because each of the two sectors within the Valley–Coastal Bend market faces unique challenges, largely driven by geography, a preferred option was selected for each sector.

In addition to scoring each option against standardized criteria that were relatively quantifiable, the study team considered a broad set of advantages and disadvantages for each option. Consideration of these pros and cons augmented the evaluation by capturing nuanced considerations that might not fit neatly in the scoring categories, but contribute to health care planning judgments. The qualitative assessment of these factors did not alter the ranking of the options based on the scoring criteria, but enriched the assessment of each option and supported the rationale for selecting the recommended options.

## Phase 4: Final Report

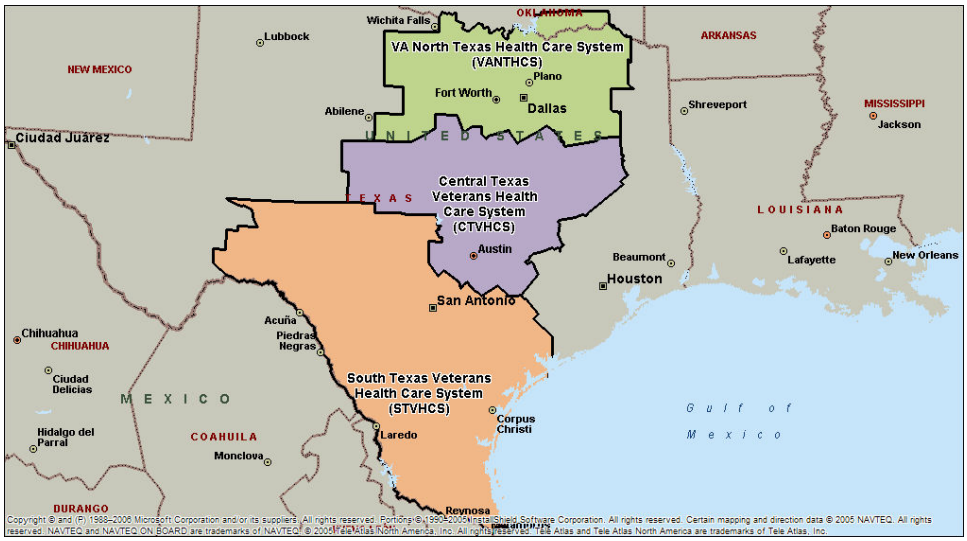
This report represents the final phase of the study. The final report summarizes the most salient features of the market assessment and full analysis of options so the rationale for selecting the recommended option for each sector is evident to stakeholders and decision makers.

# Baseline Market

This baseline market assessment describes the Valley–Coastal Bend market, which consists of the Coastal Bend (Sector One) and the Lower Rio Grande Valley (Sector Two). This assessment describes the geographic characteristics, veteran demographics, current cost of care, and supply of health care services. It also assesses access to care based on VA guidelines. This baseline market assessment, along with projections of future need, serves as the foundational analysis on which viable service delivery options were constructed.

## Market Geography

Veterans Integrated Service Network (VISN) 17, named the "VA Heart of Texas Health Care Network," is a comprehensive health care system spanning 131,534 square miles that stretches from the Oklahoma border in the north to the lower Rio Grande Valley in the south (see Map 1).




**Map 1 - VISN 17—VA Heart of Texas Health Care Network**

VISN 17 contains three health care systems—the VA North Texas Health Care System (VANTHCS), the Central Texas Veterans Health Care System (CTVHCS), and the South Texas Veterans Health Care System (STVHCS). This section describes the current market environment in the STVHCS and, more specifically, in the Valley–Coastal Bend area.

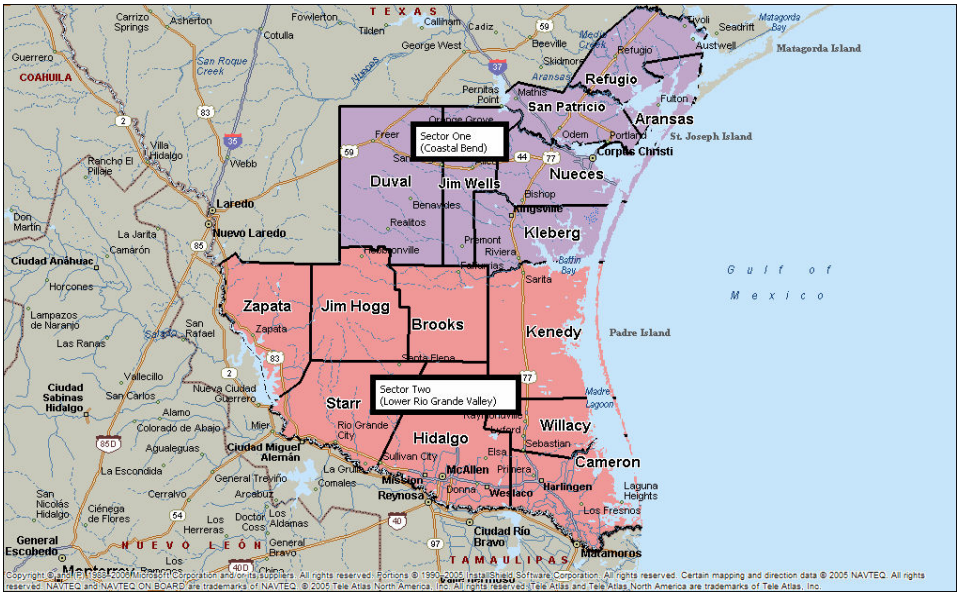
## *South Texas Veterans Health Care System*

The STVHCS was formed in March 1995 when the San Antonio VA Medical Center (VAMC) (Audie L. Murphy Memorial Veterans Hospital) and the Kerrville VAMC consolidated. This system consists of three divisions: the San Antonio VAMC, the Kerrville VAMC, and the Satellite Clinic Division, which includes VA-staffed clinics in South Texas. The STVHCS provides services to about 196,000 veterans, a 61 percent increase since 1998, across 55 counties.[4] In FY 2005, the STVHCS had an operating budget of $404.4 million.

Covering 45,452 square miles, the STVHCS serves one of the largest VA health care service areas in the nation. It consists of two geographic markets: the Southern and Valley–Coastal Bend markets. The Southern market contains 40 counties surrounding the San Antonio metropolitan area and the rural areas outside the city. In contrast, the Valley–Coastal Bend market consists of 15 counties: seven in the Coastal Bend and eight in the Lower Rio Grande Valley. All of the Valley–Coastal Bend counties are designated as medically underserved areas (MUA) by Department of Health and Human Services-established criteria.[5]

## *Valley–Coastal Bend Market*

The Valley–Coastal Bend market spans approximately 14,906 square miles, making it larger than several U.S. states including Maryland, Connecticut, Massachusetts, Delaware, and New Jersey. As of 2005, its mix of urban, rural, and very rural population areas totaled 1,499,325.[6] The VA divides the Valley–Coastal Bend market (see Map 2) into two sectors: the Coastal Bend market (Sector One) and the Lower Rio Grande Valley market (Sector Two).




**Map 2 - Valley–Coastal Bend Market Sectors**

4 VISN 17 FY 2006–2101 Operating Plan–Phase II

5 Guidelines for Medically Underserved Area and Population Designation. Retrieved on November 8, 2006, from U.S. Department of Health and Human Services Health Resources and Services Administration: http:/bhpr.hrsa.gov/shortage/muaguide.htm

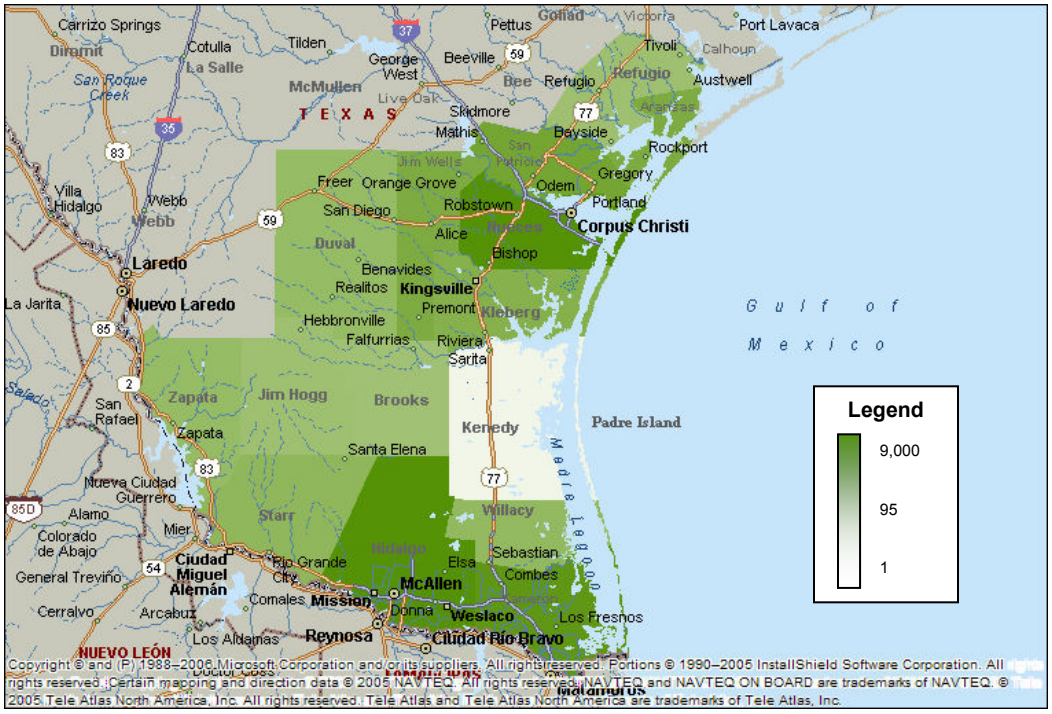
6 VISN Statistical Service Center data

The Coastal Bend market, or Sector One, consists of seven counties and has a civilian population totaling 495,103. The largest population centers, both civilian and veteran, are in Nueces and San Patricio Counties. The Corpus Christi Metropolitan Statistical Area (MSA) is located in Nueces and San Patricio counties and has a civilian population of 409,741.

The Lower Rio Grande Valley market, or Sector Two, consists of eight counties and has a civilian population of 1,004,222, about twice that of Sector One. The largest population centers in Sector Two are in southern Hidalgo and Cameron Counties.

## Veteran Population and Enrollment

The estimated 2005 veteran population in the Valley–Coastal Bend market is 90,257, with each sector containing about half of this population: 45,052 in Sector One and 45,205 in Sector Two. Like the general population, the veteran population and veteran enrollees are largely clustered in the large urban regions of four counties—Nueces and San Patricio in Sector One and Hidalgo and Cameron in Sector Two.





**Map 3 - Veteran Enrollee Population by County, FY 2005**

In FY 2005, a total of 27,975 veterans residing in the Valley–Coastal Bend market were enrolled and eligible for VA care. This represents 33 percent of the total veteran population in the Valley–Coastal Bend market, or a 33 percent market share. This market share is comparable to the STVHCS market share of 32 percent and the VISN 17 market share of 31 percent. Map 3 depicts the veteran enrollee population by county.

A total of 13,063 veterans are enrolled in Sector One. The majority of these enrollees (11,115 enrollees, or 85 percent) fall into VA priority groups 1 through 6, meaning they are assigned the highest level priorities when providing access to VA services. The remaining 1,948 enrollees (15 percent) in Sector One are in priority groups 7 and 8. Sector Two has 14,912 enrollees of which approximately 80 percent are in priority groups 1 through 6.

Table 4 details veteran population and enrollment by sector, county, and urban and rural designation. This data shows that most of the 2005 enrollees reside in the urban areas of Sectors One (64 percent) and Two (91 percent).

**Table 4 - Market Share Enrollment by Sector and County**

| Sector | County | Rurality | Veterans FY 2005 Population Estimate | Enrollment EOY 2005 Actual | Percent of Enrollees in Sector |
|---|---|---|---|---|---|
| **Coastal Bend** | Aransas | Rural | 3,256 | 990 | 8% |
| | Duval | Highly rural | 852 | 276 | 2% |
| | Jim Wells | Highly rural | 2,641 | 888 | 7% |
| | Kleberg | Rural | 2,316 | 679 | 5% |
| | Nueces | Urban | 29,492 | 8,379 | 64% |
| | Refugio | Rural | 670 | 193 | 1% |
| | San Patricio | Urban | 5,824 | 1,658 | 13% |
| | **Total** | | **45,052** | **13,063** | **100%** |
| **LRG Valley** | Brooks | Highly rural | 535 | 150 | 1% |
| | Cameron | Urban | 17,985 | 5,066 | 34% |
| | Hidalgo | Urban | 23,552 | 8,504 | 57% |
| | Jim Hogg | Highly rural | 300 | 166 | 1% |
| | Kenedy | Highly rural | 33 | 2 | 0% |
| | Starr | Highly rural | 1,128 | 412 | 3% |
| | Willacy | Rural | 980 | 323 | 2% |
| | Zapata | Highly rural | 692 | 289 | 2% |
| | **Total** | | **45,205** | **14,912** | **100%** |
| **Grand Total** | | | **90,257** | **27,975** | |

*Source: VA Enrollment Health Care Projection Model (EHCPM), base year 2005*

## Current Veteran Inpatient and Outpatient Demand

Current veteran inpatient demand for health care is measured by inpatient bed days of care (BDOC). Inpatient care for Sector One and Two enrollees is largely provided at the San Antonio and Kerrville VAMCs and at local community hospitals through contracted care. Outpatient demand is measured by outpatient clinic stops. Care is largely provided at Sector One and Two VA outpatient clinics and San Antonio and Kerrville VAMC outpatient clinics. Table 5 and Table 6 show the baseline FY 2005 inpatient and outpatient utilization by sector.

**Table 5 - Baseline FY 2005 Acute Inpatient Utilization (BDOC), by Strategic Planning Category (SPC)**

| Inpatient SPC | Sector One | Sector Two |
|---|---|---|
| Medicine and Observation Days | 2,920 | 3,404 |
| Surgery | 1,476 | 2,153 |
| Psychiatry and Substance Abuse | 1,466 | 1,206 |
| **Grand Total** | **5,862** | **6,763** |

*Source: VA EHCPM, base year 2005*

**Table 6 - Baseline FY 2005 Outpatient Utilization (Clinic Stops) by SPC**

| Outpatient SPC | Sector One | Sector Two |
|---|---|---|
| Primary Care | 31,706 | 50,845 |
| Specialty | 21,014 | 24,648 |
| Mental Health | 10,225 | 12,991 |
| Substance Abuse | 1,059 | 720 |
| Radiology | 6,583 | 7,355 |
| Laboratory | 23,301 | 39,295 |
| **Grand Total** | **93,888** | **135,854** |

*Source: VA EHCPM, base year 2005*

## Current VA Inpatient Supply

When the San Antonio and Kerrville VAMCs were integrated in 1995 to form the STVHCS, the large outpatient clinics in San Antonio, Corpus Christi and McAllen, and the satellite Community-Based Outpatient Clinic (CBOC) in the Coastal Bend and Rio Grande Valley markets became part of the system. This integration was intended to improve the coordination of health care services to veterans. Currently, veterans receive inpatient care from the following facilities, which are described below: the San Antonio VAMC, the Kerrville VAMC, and other VA hospitals outside the STVHCS area. Outpatient supply is discussed in the next section.

### *San Antonio VAMC*

The San Antonio VAMC, also known as the Audie L. Murphy VAMC, is a 335-bed facility that provides acute medical, surgical, psychiatric, geriatric, and primary and tertiary care services.[7] A 90-bed nursing home care unit (NHCU) and a 30-bed spinal cord injury unit also provide special treatment programs for veterans. The San Antonio VAMC's primary service area spans 40 counties in the South Texas market that cover the area immediately adjacent to metropolitan San Antonio and rural areas that extend to the borders of the southern market. In 2005, the San Antonio VAMC served 229,024 veterans in the service area.

The San Antonio VAMC's affiliation with the University of Texas Health Science Center contributes to the research and educational mission of the VA and enhances the quality of care provided to veterans. The San Antonio VAMC currently accommodates 183 residency and fellowship positions distributed across medical, surgical, and psychiatric specialties. Although most residents and fellows rotate through services located at the San Antonio VAMC, several also train in family medicine at the McAllen Outpatient Clinic

7 STVHCS Bed Status Report dated 9/27/2006

and in internal medicine at the Harlingen Outpatient Clinic, both located in the Lower Rio Grande Valley. Graduate medical education will also be supported by the expanded Harlingen Outpatient Clinic.[8]

Inpatient utilization of acute care medical, surgical, and psychiatric services at the San Antonio VAMC is shown in Table 7**.** The average daily census (ADC) for acute beds in FY 2006 was 156, yielding an annual occupancy rate of approximately 73 percent.

**Table 7 - San Antonio VAMC Utilization FY 2006**

| Service | Beds | ADC | Percent Occupancy | BDOC |
|---|---|---|---|---|
| Medicine | 109 | 80.0 | 73.0 | 28,951 |
| Surgery | 56 | 36.6 | 65.0 | 13,251 |
| Psychiatry | 50 | 39.8 | 79.6 | 14,401 |
| **Total** | **215** | | **72.7** | **56,603** |
| SCI | 30 | 23.3 | 77.6 | 8,444 |
| NHCU | 90 | 58.9 | 65.4 | 21,310 |

Source: STVHCS Bed Status Report dated September 27, 2006

With occupancy rates averaging 73 percent for medical inpatient care and 65 percent for surgical inpatient care, the San Antonio facility appears to have excess capacity. However, in reality, bed availability is more restricted because the San Antonio facility is frequently on diversion. This has been attributed to hospital staff shortages, particularly nurses, and the more limited availability of intensive care unit (ICU) and/or telemetry beds.

Although the San Antonio VAMC draws patients primarily from its own service area, it serves as the tertiary referral center for the STVHCS, providing for the inpatient and specialty outpatient needs of veterans across the Valley–Coastal Bend market. Table 8 describes inpatient utilization of the San Antonio VAMC by veterans from Sectors One and Two.

**Table 8 - San Antonio VAMC 2005 Inpatient Utilization by Valley–Coastal Bend Veterans**

| Inpatient Service (SPC) | Coastal Bend BDOC | Lower Rio Grande Valley BDOC | Valley-Coastal Bend Total BDOC |
|---|---|---|---|
| Medicine and Observation | 2,920 | 3,404 | 6,324 |
| Surgery | 1,476 | 2,153 | 3,629 |
| Psychiatry and Substance Abuse | 1,466 | 1,206 | 2,672 |
| **Total BDOC Acute Services** | **5,862** | **6,763** | **12,625** |

*Source: VA EHCPM, base year 2005*

## *Kerrville*

The STVHCS's Kerrville VAMC is a small 179-bed facility that provides acute inpatient medical care, long-term and residential rehabilitation, and domiciliary care. Located approximately 65 miles northwest of San Antonio, the Kerrville VAMC supports the needs of enrollees in Kerrville's service area, including residents of the Kerrville NHCU and Domiciliary, and referrals from Kerrville's urgent care and outpatient services.

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However, the small size of the Kerrville facility limits the range of inpatient services offered. Acute or complicated cases that require specialized inpatient or outpatient services are referred to the San Antonio VAMC. Kerrville, in turn, complements San Antonio's acute care services with its own geriatric, domiciliary, and residential rehabilitation programs.

As shown in Table 9, the Kerrville VAMC has excess capacity. The 20-bed medical unit averages a daily census of nine patients with an occupancy rate of only 45 percent. The 3 ICU beds average a daily census of 1.4 patients with an occupancy rate of only 39 percent.

**Table 9 - Kerrville VAMC Utilization FY 2006**

| Service | Beds | ADC | Percent Occupancy | BDOC |
|---|---|---|---|---|
| Medicine | 20 | 8.9 | 44.50 | 3,224 |
| ICU | 3 | 1.4 | 39.20 | 496 |
| Nursing Home | 154 | 120.6 | 78.30 | 43,663 |
| **Total** | **177** | **130.9** | **73.70** | **47,383** |
| Domiciliary | 40 | 15.6 | 60.50 | 5,664 |
| Residential Rehab (Substance Abuse) | 26 | 21.1 | 81 | 7,627 |
| **Total** | **66** | **36.7** | **70.80** | **13,291** |

*Source: Bed Status Report, September 27, 2006, San Antonio*

## *Other VA Hospitals Outside the South Texas Veterans Health Care System*

VA facilities in the Valley–Coastal Bend market occasionally refer patients to other VA facilities outside the STVHCS. Table 10 quantifies the use of other VA facilities by BDOC.

**Table 10 - Inpatient BDOC by Facility**

| Facility | Inpatient BDOC* |
|---|---|
| Houston, VAMC | 253 |
| Dallas VAMC | 139 |
| San Antonio VAMC | 9,383 |
| Kerrville VAMC | 227 |
| Temple VAMC | 131 |
| **Total** | **10,133** |

** Includes inpatient medicine, surgery, psychiatry, STAR (I, II, III) and substance abuse.*

*Source: VA EHCPM, base year 2005*

## Current VA Outpatient Supply

The STVHCS provides comprehensive primary and specialty outpatient care to veterans in the Valley–Coastal Bend market. While most specialty care is provided in San Antonio, primary care and limited specialty care is also provided at clinics in Corpus Christi, Harlingen, and McAllen. The STVHCS also has contracts with two CBOCs for primary care in Alice and Kingsville. All outpatient clinics are open only during daytime hours Monday through Friday. After hours, veterans have access to 24-hour "telecare," a

telephone medical advice service. Veterans who require emergency care are advised to call 911 or the local medical emergency department.[9] Table 11 shows the total outpatient clinic stop volume for the Valley–Coastal Bend market in FY 2005.

**Table 11 - Valley–Coastal Bend Utilization - FY 2005 Baseline**

| Outpatient SPC | FY 2005 Actual Clinic Stops |
|---|---|
| Primary Care | 82,551 |
| Specialty | 45,660 |
| Mental Health | 23,215 |
| Substance Abuse | 1,779 |
| Radiology | 13,938 |
| Laboratory | 62,596 |
| **Total** | **229,739** |

*Source: VA EHCPM, base year 2005*

This section describes the outpatient clinics serving veterans in the Valley–Coastal Bend market.

## *Sector One: San Antonio VAMC Ambulatory Services*

Given the paucity of VA specialty outpatient services in the Valley–Coastal Bend market, the San Antonio VAMC provides most of the specialty outpatient services for veterans in that market. Veterans receive outpatient services through a hospital-based ambulatory center and the freestanding Frank M. Tejeda satellite clinic located nearby. In FY 2005, Valley–Coastal Bend veterans generated 45,215 clinic stops, which were fairly evenly divided between Sector One and Sector Two veterans. Table 12 quantifies, by SPC, clinic stops at the San Antonio VAMC and the Frank M. Tejada outpatient clinic in FY 2005. Primary care, urgent care, geriatrics, and other medical specialties generated the highest volume, followed by surgical specialties, ophthalmology, and cardiology.

**Table 12 - San Antonio Workload from Valley–Coastal Bend, FY 2005**

| Market/Sector | SPC | San Antonio VAMC | Frank M. Tejeda Satellite |
|---|---|---|---|
| Valley–Coastal Bend | Primary Care | 11,928 | 1,017 |
| | Medical and Surgical Specialty Care | 24,510 | 1,447 |
| | Mental Health | 1,229 | 666 |
| | Substance Abuse | 230 | -- |
| | Radiology | 7,318 | 366 |
| | **Grand Total** | **45,215** | **3,496** |

Source: VA EHCPM, base year 2005

9 Harlingen VA Outpatient Clinic. Retrieved on October 20, 2006 from STVHCS Satellite Clinic Division: http://www.vasthcs.med.va.gov/scd/Harlingen.htm

## *Sector One: Corpus Christi VA Clinic*

The Corpus Christi VA clinic is a 27,000 square foot leased facility located in Nueces County. This clinic provides specialty care in cardiology, surgery, mental health, rehabilitation medicine, and substance abuse.[10] Audiology, optometry, and minor surgery services are provided 23 miles away at the DoD Naval Hospital Clinic. The Corpus Christi VA clinic is the only VA clinic in Sector One. As shown in Table 13, the clinic had an annual clinic stop workload of 55,951. Most of the care provided is primary care, laboratory testing (pathology), or mental health. Medical and surgical specialty care constitutes approximately ten percent of the total volume of outpatient workload.

**Table 13 - Corpus Christi VA Clinic Utilization by SPC**

| SPC | FY 2005 Actual Clinic Stops |
|---|---|
| Primary Care | 25,694 |
| Medical and Surgical Specialty Care | 6,884 |
| Mental Health | 8,164 |
| Substance Abuse | 565 |
| Radiology | 2,724 |
| Laboratory | 11,920 |
| **Grand Total** | **55,951** |

*Source: VA EHCPM, base year 2005*

## *Sector Two: McAllen VA Clinic*

The McAllen VA clinic occupies a 27,000 square foot leased facility that in addition to primary care, provides some specialty care services in mental health, orthopedics, nutrition, podiatry, and physical therapy.[11] Located in Hidalgo County, the McAllen VA clinic is the largest clinic in Sector Two, and its annual clinic stops total 79,041 (see Table 14). As shown, most of the care provided is primary care, laboratory testing (pathology), specialty care, and mental health.

**Table 14 - McAllen VA Clinic Utilization by SPC**

| SPC | FY 2005 Baseline |
|---|---|
| Primary Care | 33,015 |
| Specialty | 9,569 |
| Mental Health | 9,152 |
| Substance Abuse | 440 |
| Radiology | 2,797 |
| Laboratory | 24,068 |
| **Grand Total** | **79,041** |

*Source: VA EHCPM, base year 2005*

10 Corpus Christi VA Outpatient Clinic. Retrieved on October 20, 2006 from STVHCS Satellite Clinic Division: http://www.vasthcs.med.va.gov/scd/Corpus.htm

11 McAllen VA Outpatient Clinic. Retrieved on October 20, 2006 from STVHCS Satellite Clinic Division: http:/www.vasthcs.med.va.gov/scd/McAllen.htm

With 5 years left on a 15-year lease, the current clinic is at capacity, the location is landlocked, and the possibility of expanding the facility is limited. The current plan is for the clinic to relocate in 2012 at the end of its current lease.

### *Sector Two: Harlingen VA Clinic*

The Harlingen VA clinic is currently located in 10,000 square feet of temporary space near the University of Texas RAHC and the affiliated Valley Baptist Hospital in Harlingen. The STVHCS moved the Cameron County CBOC to Harlingen in FY 2003.[12] The STVHCS has approved plans to lease a 30,000 square foot clinic in newly constructed space closer to the University of Texas RAHC and Valley Baptist. With the activation of this new clinic, Harlingen will have the in-house capability to provide audiology, physical therapy, dental, pharmacy, laboratory, and radiology services. Medical and surgical subspecialty services will be provided in collaboration with the University of Texas training programs. Given its temporary location and limited space, the current Harlingen VA clinic provides very little specialty care; for FY 2005 annual clinic stops totaled 12,264. Table 15 shows the utilization of the Harlingen VA clinic by SPC.

**Table 15 - Harlingen VA Clinic Utilization by SPC**

| SPC | FY 2005 Baseline |
|---|---|
| Primary Care | 10,699 |
| Medical and Surgical Specialty Care | 410 |
| Mental Health | 1,155 |
| **Grand Total** | **12,264** |

*Source: VA EHCPM, base year 2005*

## Baseline Costs of VA Inpatient and Outpatient Care

In FY 2005, the VA's total cost of inpatient care for veterans in the Valley–Coastal Bend was $13,477,712, while the cost of outpatient care was $151,420,097. Most of the costs were incurred for care provided by the VA at VAMCs and CBOCs; however, there were significant expenditures for inpatient and outpatient care provided in non-VA facilities. The VA also incurred costs transporting and lodging Valley–Coastal Bend veterans who needed inpatient treatment at the San Antonio VAMC and Kerrville facilities. Table 16 summarizes FY 2005 inpatient and outpatient costs for Valley–Coastal Bend veterans.

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**Table 16 - VA FY 2005 Inpatient and Outpatient Costs for Valley–Coastal Bend Veterans**

| Cost Category | Sector One | Sector Two | FY 2005 Cost |
|---|---|---|---|
| Inpatient Care at VA Facilities | $6,508,728 | $6,968,984 | $ 13,477,712 |
| Outpatient Care at VA Facilities | $44,270,230 | $107,149,867 | $ 151,420,097 |
| Transportation and Lodging* | N/A | N/A | $ 817,000 |
| Care Provided at Non-VA Facilities | $1,475,064 | $3,445,963 | $ 4,921,026 |
| **Total** | | | **$ 170,635,836** |

**Estimated Cost*
*Source: STVHCS*
*Note: Total costs have been rounded to nearest dollar.*

The following sections provide a detailed breakout of the total inpatient and outpatient costs the VA incurred in FY 2005 to provide health care to veterans in the Valley–Coastal Bend market. The cost categories include basic inpatient and outpatient care, transportation and lodging, and non-VA facilities.

## Cost of Inpatient and Outpatient Care

Most of the inpatient care for veterans in both sectors is provided at the San Antonio VAMC and the Kerrville facility. A relatively small amount of inpatient care is provided at other VA facilities. In FY 2005, the cost of this inpatient care totaled $13,447,712.

The majority of outpatient care for Sector One veterans is provided at the Corpus Christi satellite clinic. The cost of care provided at this site in FY 2005 is estimated to be $25 million. A smaller, yet significant portion of outpatient care is provided at the San Antonio VAMC, which generated an additional $17 million of cost in FY 2005. Sector One veterans receive a relatively small amount of care at the Kerrville, McAllen, Frank. M. Tejeda, and Harlingen facilities. Outpatient care provided at VA facilities for Sector One veterans totaled $44,270,230.

For Sector Two veterans, the San Antonio VAMC provides the most outpatient care, particularly specialty care. The McAllen, Corpus Christi, and Harlingen facilities also provide a substantial amount of care. Outpatient care provided at VA facilities for Sector Two veterans totaled $107,149,867 (see Table 17).

**Table 17 - Breakdown of FY 2005 Outpatient Cost of Care in the Valley–Coastal Bend by Sector**

| Facility | Sector One Total Cost | Sector Two Total Cost | Valley–Coastal Bend Total Cost |
|---|---|---|---|
| San Antonio VAMC | $17,302,401 | $35,045,634 | $52,348,035 |
| Kerrville VAMC | $169,136 | $321,675 | $490,811 |
| McAllen Satellite | $400,375 | $28,304,342 | $28,704,717 |
| Frank M. Tejeda Satellite | $993,376 | $2,424,634 | $3,418,010 |
| Corpus Christi Satellite | $25,370,608 | $25,668,123 | $51,038,731 |
| Harlingen | $34,333 | $15,385,459 | $15,419,792 |
| **Total** | **$44,270,230** | **$107,149,867** | **$151,420,097** |

*Source: STVHCS*
*Note: Totals have been rounded to nearest dollar.*

## Cost of Transportation Including Van, Ambulance, Veteran Reimbursement, and Hotel Costs

Veterans in the Valley–Coastal Bend travel long distances to receive inpatient and outpatient specialty care at the San Antonio VAMC and Kerrville facilities. The VA provides van and ambulance service to transport patients to and from these facilities. The VA also reimburses some patients who provide their own transportation. In some cases, the VA will pay lodging costs for those who must stay overnight. Table 18 shows that the FY 2005 costs for these transportation services are estimated to be $817,000. The assumptions supporting these estimates can be found in the *Study of South Texas Veterans' Inpatient and Outpatient Specialty Health Care Needs: Market Assessment Report*.

**Table 18 - FY 2005 Transportation and Hotel-Related Costs**

| Cost Category | FY 2005 Cost |
|---|---|
| Van Service* | $67,000 |
| Ambulance Service | $550,000 |
| Lodging* | $200,000 |
| **Total** | **$817,000** |

** Estimated Cost*
*Source: STVHCS*

## Cost of Care Provided in Non-VA Facilities

Because of the long distances between the population centers of the Valley–Coastal Bend market and the San Antonio and Kerrville facilities, a significant portion of veterans' care is provided in non-VA hospitals and physician offices. In FY 2005, inpatient and outpatient care provided in non-VA facilities for Valley–Coastal Bend veterans accounted for $4,921,026. Table 19 provides a breakdown of these costs.

**Table 19 - Inpatient and Outpatient Care Provided in Non-VA Facilities in the Valley–Coastal Bend, by Sector**

| **Sector One** | |
|---|---|
| **Contract or Unauthorized** | **Disbursed Amount** |
| Inpatient: Authorized Claims | $ 508,220 |
| Inpatient: Unauthorized Claims | $ 195,117 |
| Outpatient: Authorized Claims | $ 720,464 |
| Outpatient: Unauthorized Claims | $ 51,263 |
| **Sector One Total** | **$ 1,475,064** |
| **Sector Two** | |
| **Contract or Unauthorized** | **Disbursed Amount** |
| Inpatient: Authorized Claims | $ 2,069,997 |
| Inpatient: Unauthorized Claims | $ 176,510 |
| Outpatient: Authorized Claims | $ 1,127,132 |
| Outpatient: Unauthorized Claims | $ 72,324 |
| **Sector Two Total** | $ 3,445,963 |
| **Grand Total** | **$ 4,921,026** |

*Source: STVHCS*
*Note: Totals rounded to nearest dollar.*

## Baseline Access to VA Inpatient and Outpatient Care

Significant barriers to access, whether imposed by geography, disability, finances, or simply a lack of available services can compromise the quality, satisfaction, and coordination of health care for veterans, resulting in poor outcomes. Because providing improved access to care was a principal driver of this study, this section discusses the current level of access the Valley–Coastal Bend veterans have to inpatient and outpatient specialty health care services. It covers the impact of travel burden on access, as well as levels of care (primary, acute, and tertiary) and financial barriers.

### *Current Compliance with VA Drive Time Guidelines*

To further understand access barriers, the study team examined drive time guidelines established by the CARES process. The CARES process defined three demographic environments—urban, rural, and highly rural—to establish drive time guidelines for different care settings.

These demographic categories are then applied to establish drive time guidelines for the different environments of care: primary care, acute inpatient care, and tertiary inpatient care. For example, it is expected that, in general, veterans living in urban areas travel no more than 30 minutes for primary care, 60 minutes for acute inpatient care, and 240 minutes for tertiary inpatient care. For veterans living in rural environments, the expectation is that they travel no more than 30 minutes for primary care, 90 minutes for acute inpatient care, and 240 minutes for tertiary inpatient care. For each category and site of care, there is a threshold of compliance based on the percentage of veterans that meet the guideline. The VA strives to achieve compliance at the market level, not the submarket or sector level. Table 20 summarizes these guidelines.

**Table 20 - CARES Commission Access Criteria**

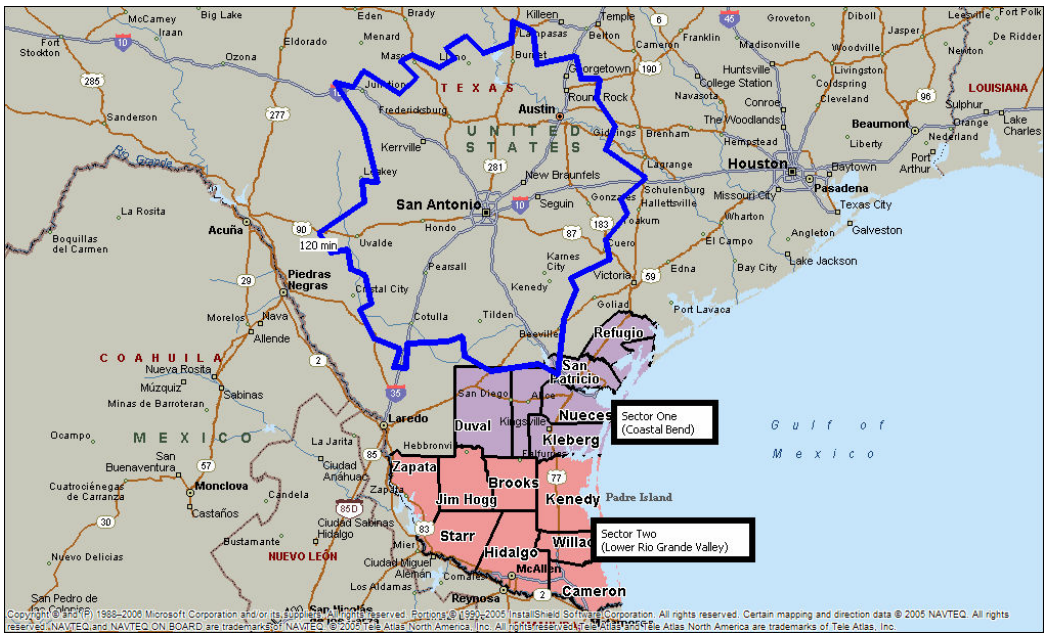
| Population Density | Primary Care Drive Time | Acute Care Drive Time | Tertiary Care Drive Time |
|---|---|---|---|
| Urban | 30 min | 60 min | 240 min |
| Rural | 30 min | 90 min | 240 min |
| Highly rural | 60 min | 120 min | Within VISN |
| Threshold criteria | 70% | 65% | 65% |

*Source: CARES Commission Report to the Secretary of Veterans Affairs, February 2004*

The following sections discuss current access from the Valley–Coastal Bend market for acute inpatient and tertiary inpatient care.

## Compliance with Acute Care Access Guidelines

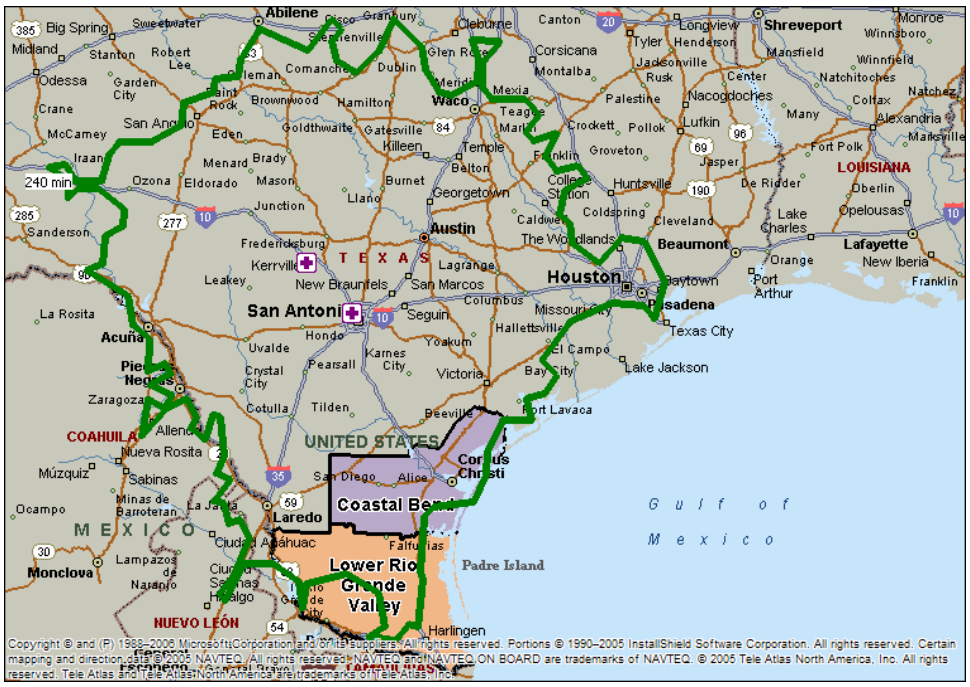
Given that the midpoints of all counties in the Valley–Coastal Bend area are in excess of two hours from San Antonio, of the 25,832 enrollees in the Valley–Coastal Bend market area, no enrollees in either sector are within the access standards for acute care (see Map 4). This is true for urban, rural and highly rural environments where the standards are 60, 90, and 120 minutes, respectively. This is a graphic representation of the travel burden articulated by veterans during study team site visits.




**Map 4 - Acute Care Access: 120-Minute Drive Time**

## Tertiary Care Access

Tertiary care is highly specialized and technologically advanced medical and surgical inpatient care provided primarily by subspecialists, including neurosurgeons, orthopedists, and cardiovascular surgeons. The tertiary care access standard for both urban and rural counties is 240 minutes. Map 5 displays a 240-minute drive time radius with the San Antonio VAMC as the midpoint.




**Map 5 - Tertiary Care Access Drive Times**

In the Coastal Bend area, 100 percent of veteran enrollees meet the access guidelines for tertiary care. As illustrated by Map 5 above, the 240 minute tertiary care perimeter extends deeply into the Lower Rio Grande Valley abutting the major population centers of Sector Two. Calculated drive times suggest that McAllen, Harlingen, and Brownsville are between 240 and 270 minutes from San Antonio, so that referring tertiary care to San Antonio, particularly when elective, remains reasonable.

## *Veteran Travel Burden*

Veterans requiring non-emergency inpatient care or subspecialty outpatient care not available locally must generally travel to San Antonio, which is approximately a five hour trip from the Lower Rio Grande Valley and a two and a half hour trip from the Corpus Christi area. In a limited number of cases, care is purchased in the community so that the long trip to San Antonio can be avoided. While shuttle service is provided with volunteer drivers, this transportation option is not optimal because the vans are not handicap accessible, do not have bathroom facilities, and make a limited number of trips each week. In addition to placing an undue travel burden on aging and often chronically ill veterans, such barriers to access compromise the coordination and quality of care. This section quantifies the travel burden that veterans face and estimates what proportion of that burden is generated by inpatient care as compared to outpatient care.

Based on clinic stop data, the study team calculated outpatient encounters to estimate the number of veteran trips from the Valley-Coastal Bend to San Antonio for outpatient care. The study team used discharge data to determine the number of inpatient trips. This yielded a total of 54,735 outpatient trips and 924 inpatient trips to San Antonio in FY 2005. An estimated 98 percent were for outpatient care (Figure 3).

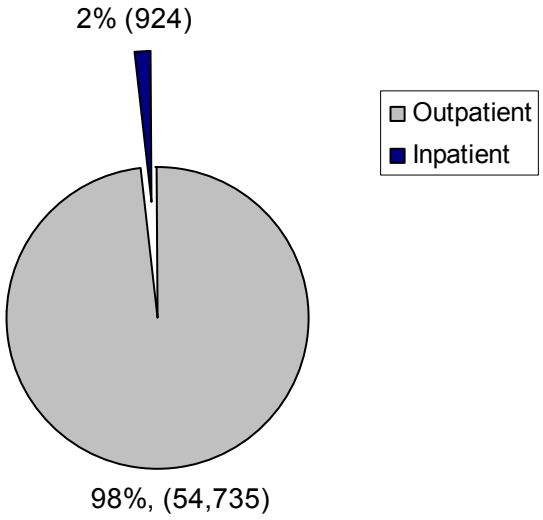



**Figure 3 - Inpatient and Outpatient Trips to the San Antonio Region**

Using roundtrip travel times of ten hours from the Valley and five hours from the Coastal Bend, the total roundtrip travel time is 526,589 hours for the Valley and 29,893 hours for the Coastal Bend. Therefore, the total estimated roundtrip travel burden for veterans traveling from the South Texas market to San Antonio or Kerrville is 556,482 person-hours, assuming one traveler per trip. This estimate does not include the time spent for overnight stays or traveling to catch the shuttle van.

This analysis, though an approximation, illustrates at a ROM the significant burden of travel imposed on veterans from the Valley–Coastal Bend. This burden places undue duress on veterans and compromises access, coordination, and quality of care. This analysis also illustrates that this burden of travel will not be alleviated by simply providing an inpatient solution. A satisfactory solution will have to include a robust set of options that address specialty outpatient services.

## *Financial Barriers to Access*

Financial barriers, like geographic barriers, can impede access, undermine coordination, and threaten the quality of care. During site visits, the financial barriers veterans cited were related primarily to the uncertainty of VA financial support when they receive care in private sector hospitals. Even when veterans are referred to a private hospital by VA physicians and the VA is likely to pay for the care, VA physicians cannot assure veterans that their care will be completely covered. Some veterans have been sent sizable invoices after being discharged from private sector institutions. These situations lead to significant veteran anxiety when private sector admissions are proposed, and may cause some veterans to refuse a recommended admission. For these reasons, future options to deliver care must address these sorts of financial barriers.

To understand the financial liabilities that enrolled veterans seeking care experience in the private sector, the study team analyzed contract care charge and payment data. The team also analyzed data on denied claims. Unauthorized claims, also called fee-basis care, occurs when veterans seek care that is not included in a previously arranged contract. For example, a veteran may seek care in an emergency department, and even though medically warranted, such care would be considered an unauthorized claim if not covered under an existing contract.

However, even contracted care, depending on how the contract is written, may leave veterans financially liable to some extent. Table 21 describes veteran liability for both contracted and unauthorized claims. This liability is depicted at an aggregate level and at a per capita level. The data suggests that, in the aggregate, veterans were personally responsible for approximately $690,000 of care received under a contracted arrangement. This total is approximately $1,873 dollars per veteran receiving care in the contracted environment. For unauthorized claims (or fee-basis care), the total is lower at about $322,000, but the per capita liability is much higher, with $4,351 per veteran receiving noncontract care.

**Table 21 - Amount Not Covered by the VA for Inpatient Care in FY 2005, by Sector**

| | Authorized Non VA (Total) | Authorized Non VA Average ( Per Veteran) | Unauthorized Claims Non VA (Total) | Unauthorized Claims Non VA Average (Per Veteran) |
|---|---|---|---|---|
| Coastal Bend | $52,697.94 | $752.83 | $177,167.63 | $5,061.93 |
| LRG Valley | $640,494.37 | $2,134.98 | $144,836.59 | $3,713.76 |
| **Market Total** | **$693,192.31** | **$1,873.49** | **$322,004.22** | **$4,351.41** |

*Source: STHCS*

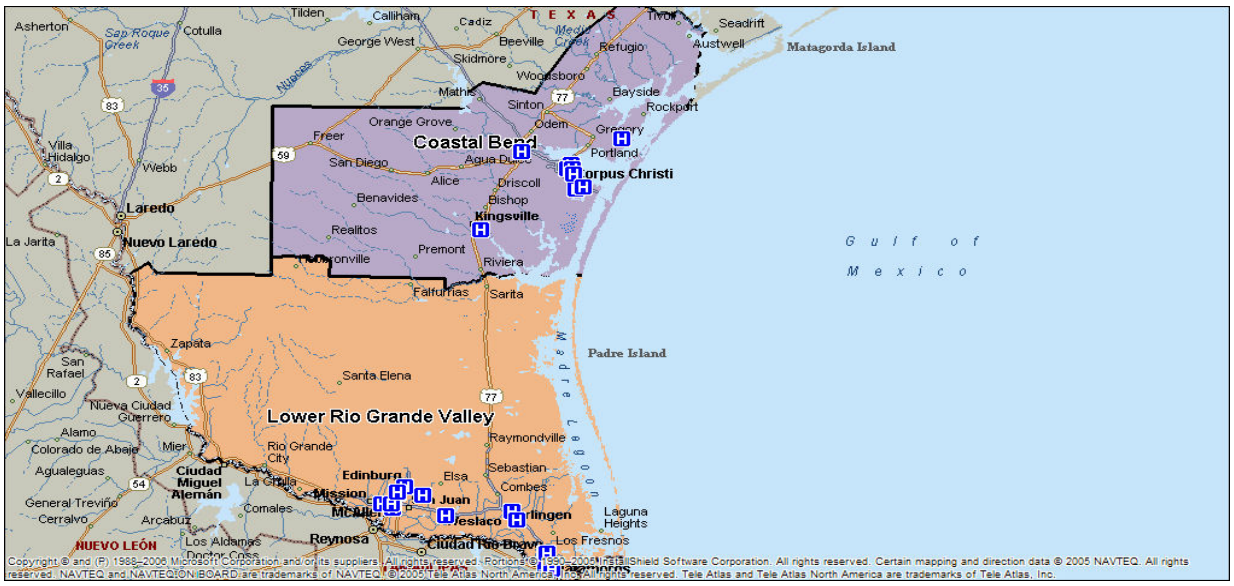
While these are gross estimates, they tend to corroborate veteran input during site visits and illustrate the financial risks that veterans may face when they receive care in the private sector. Stakeholders indicated that some of these debts might be reconciled when the VA intervenes to negotiate with private sector hospitals; however, significant exposure often remains. Ultimately, this analysis demonstrates that when contracts are established with the private sector, they must be structured to shield enrolled veterans from inappropriate financial risk. Such financial risk, or even the perception of it, produces barriers to care.

## Non-VA Providers of Care

An understanding of community hospital and DoD facility resources is essential to developing realistic service delivery options that will provide veterans with greater access to inpatient care in their own communities. The descriptions of these resources that follow are based on the following sources: utilization data from the American Hospital Association (AHA) guide, site visit discussions with veterans and Veterans Service Organizations (VSO), interviews with community hospital administrators, and quality measures. The discussions offered insights into perceptions of community hospital quality, helped identify the “likely to use or have used” hospitals, and provided information on hospital services, capacity, strategic plans, and extent of interest in collaborating with the VA to strengthen veteran health care delivery. Quality measures such as those provided by AHRQ and the hospital compared were used to corroborate the perspectives of local veterans and their physicians.

### *Community Hospitals*

According to the *AHA Guide: America's Directory of Hospitals and Health Care Systems*, 31 hospitals in the Valley–Coastal Bend market, representing five local or regional health systems, provided care in 2005. Of these 31 hospitals, 18 provide acute medical and surgical services. Map 6 shows that these are located in or near the Valley–Coastal Bend’s major population centers.

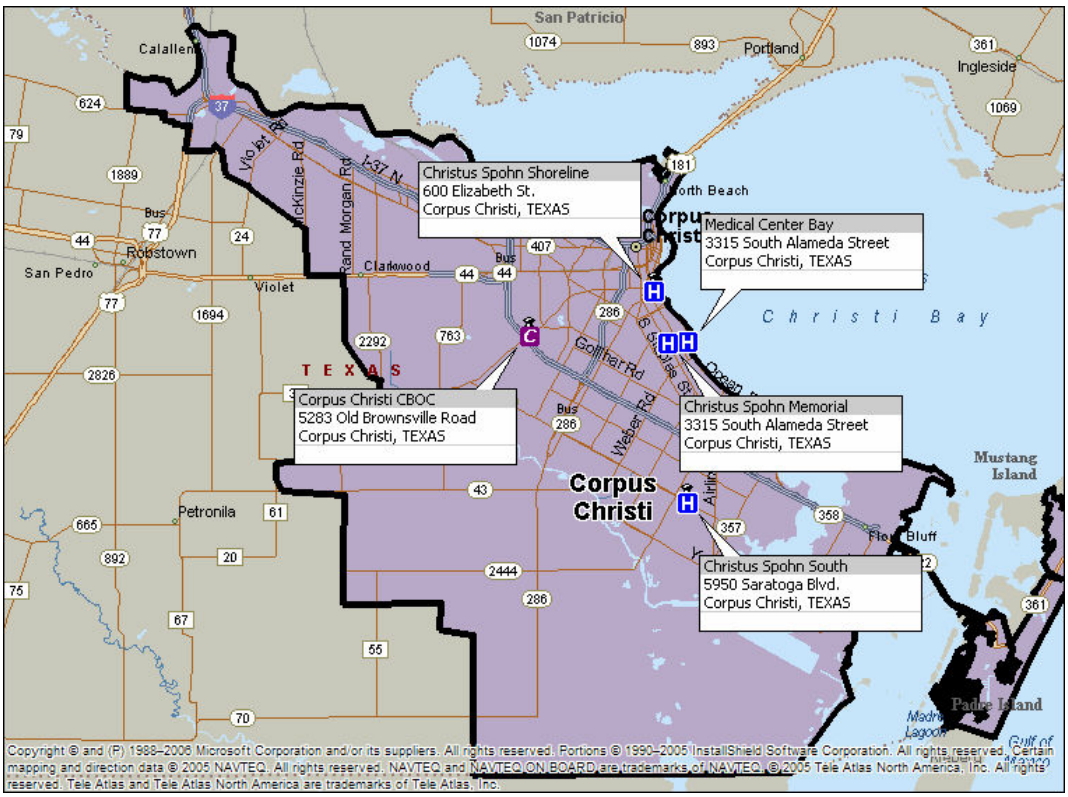



**Map 6 - Community Hospitals in the Valley–Coastal Bend Market**

During site visits, veterans and local VA physicians were asked which hospitals they would choose for themselves and their families. Although these questions were posed in separate meetings, in all cases the opinions of veterans and physicians converged on the same institutions, and these perspectives were also supported by the quality measures reviewed. The following sections describe each of these preferred private sector hospitals and hospital systems.

## Sector One: Preferred Community Hospitals

Veterans and physicians in Sector One consistently identified the Christus Spohn Health System as the preferred community-based system of care. Map 7 shows the locations of the preferred community hospitals in the Corpus Christi area.




**Map 7 - Preferred Corpus Christi and Surrounding Area Community Hospitals**

The Christus Spohn Health System, a faith-based, not-for-profit general medical and surgical hospital system provides health care to 13 counties with 6 campuses throughout the Valley. Generating $600 million in net revenue annually, the system serves 600,000 residents and captures 60 to 70 percent of the market share. Christus Spohn has its own health plan with 21,000 members and contracts with 212 specialists, many of whom are ex-military. The system's Halo-Flight air ambulance service provides rapid access to the trauma center and six of the system's hospitals. The Christus Spohn Health System and Texas A&M Health Science Center College of Medicine have partnered to develop a family practice medicine residency program to train physicians in South Texas.

Within the Corpus Christi area, veterans and their VA physicians generally identified two Christus Spohn Health System hospitals as their preferred hospitals: Spohn Memorial and Spohn Shoreline. Christus Spohn executives agreed that based on location, range of services and capacity, these hospitals would be most appropriate for veterans. Indeed these two, particularly Spohn Memorial, provide the bulk of private sector services to veterans today.

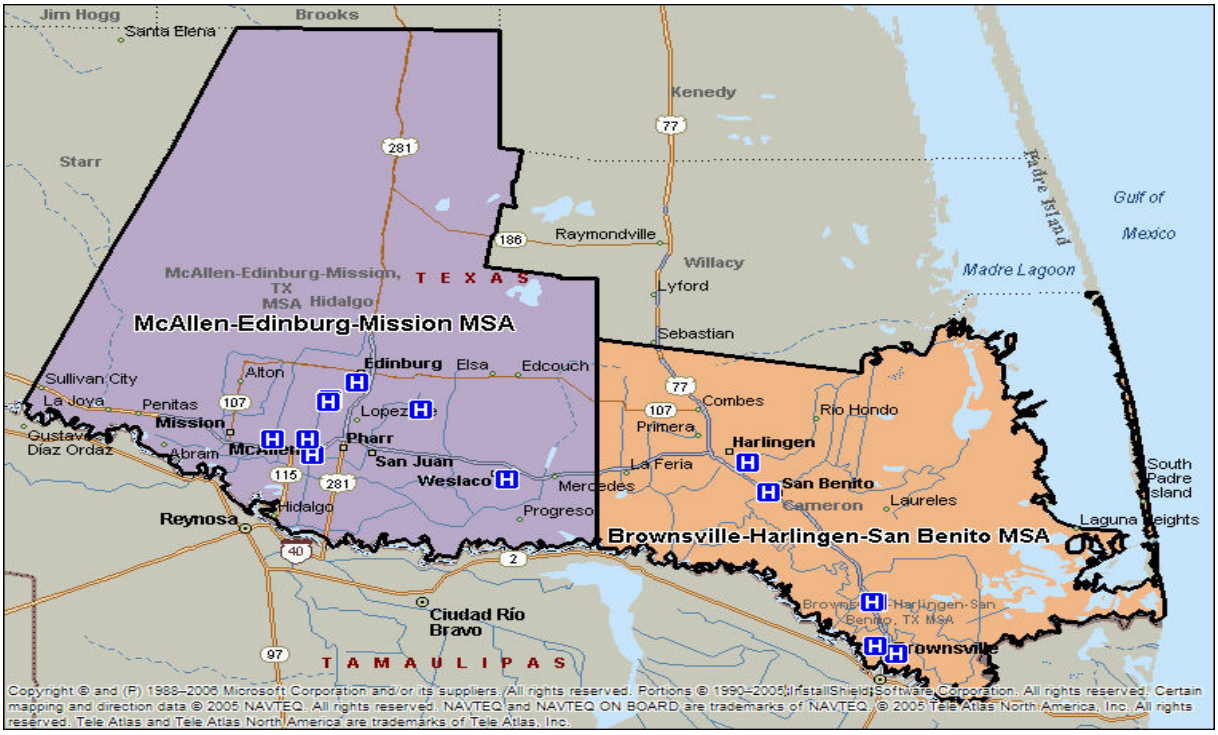
**Spohn Memorial** is located in the Corpus Christi Bay area, has 293 staffed beds, and provides a full array of acute and tertiary specialty and subspecialty services, including cardiology, orthopedics, oncology, surgery, physical rehabilitation, psychiatry, and trauma care. In partnership with the University of Texas A&M, Spohn Memorial also runs numerous primary and specialty care clinics. As the lead trauma hospital in the region, Spohn Memorial has board-certified emergency physicians available 24 hours a day. Formerly a county-run facility, Christus Spohn is operating through a 20-year contract with the county.

**Spohn Shoreline**, with 419 staffed beds, is the oldest and largest of the system's facilities in Corpus Christi. Considered the flagship hospital, with a 100-year history of service to the Corpus Christi

community, Shoreline has a senior demographic and a strong payer mix. Shoreline services include advanced diagnostics and medical and surgical services. Shoreline's Heart Network Institute offers advanced diagnostic, surgical, and rehabilitative services and is building a new medical office building to house its cardiology practice and expand its diagnostic services.

## Sector Two: Preferred Community Hospitals

In Sector Two, 12 community hospitals are located in or near the three major population centers: McAllen, Harlingen, and Brownsville. Seven are located in the McAllen MSA, the most populous area in the Lower Rio Grande Valley, and five are located in the Brownsville–Harlingen–San Benito MSA (see Map 8).




**Map 8 - Preferred Sector Two Community Hospitals, by MSA**

Within the McAllen–Edinburg MSA, veteran stakeholders consistently identified three hospitals as their preferred hospitals: McAllen Medical Center and the collocated McAllen Heart Hospital, Rio Grande Regional Hospital, and Doctors Hospital at Renaissance.

**McAllen Medical Center**, the largest and oldest of the area hospitals, provides a full array of acute and tertiary-level care services, including open heart surgery, neurosurgery, certified trauma care, orthopedics, and medical and surgical oncology. It owns the collocated McAllen Heart Hospital, one of the first freestanding hospitals specializing in cardiac care and cardiovascular services in the United States. It has also partnered with Solaris, a 53-bed, long-term acute care (LTAC) hospital, to create a "hospital within a hospital." This hospital provides pulmonary care, wound care, pain management, neurological services, geriatric services, and high acuity medicine/surgery.

**Rio Grande Regional**, also a full-service, tertiary-level hospital, provides all inpatient services, except organ transplants and severe burn care. Rio Grande received the 2004 and 2005 Distinguished Hospital Award for Patient Safety by HealthGrades, a voluntary, quality watchdog organization. Rio Grande executives, while amenable to discussing a more formal relationship with the VA, indicated that given its

current occupancy rate dedicating a hospital ward to veteran care would be less feasible than contracting for beds in the general hospital population.

**Doctors Hospital at Renaissance** is an acute care hospital that opened in 1997. Initially an outpatient surgical center, this physician-owned facility has grown to 180 beds, providing a full range of medical and surgical services. Doctors Hospital at Renaissance has four freestanding imaging centers in the Rio Grande Valley, a wound care center at Renaissance, and an acute care rehabilitation hospital. Construction for a 105-bed women's hospital at Renaissance began in June 2006. Expansion plans are underway for a larger emergency room, a heart and rehabilitation center, and more operating suites. A women's imaging center in South McAllen is scheduled to open in September 2006. Other expansion plans include a radiation oncology center, 80-bed behavioral health hospital, several medical office buildings, and a hotel.

Within the Harlingen and Brownsville areas, veterans and local VA physicians voiced a more limited range of endorsement, focusing primarily on the Valley Baptist System. The Valley Baptist System, a nongovernmental, not-for-profit, non-church-affiliated health care provider, has a hospital in both Brownsville and Harlingen, as well as a skilled nursing facility, home health care services, a hospice, several ambulatory surgical centers, and a physician hospital organization. Stakeholders strongly endorsed the larger tertiary Harlingen facility, which is located very close to the Harlingen VA clinic, is situated between McAllen and Brownsville, and has a strong affiliation with the University of Texas.

**Valley Baptist Medical Center (VBMC) in Harlingen** is the system's flagship facility, with 441 staffed beds and an ADC of 294, according to AHA data. The VBMC provides comprehensive acute and tertiary medical and surgical services (with the exception of inpatient psychiatry), including the following:

- A 39-bed joint replacement center rated "in the top five percent in the nation for joint replacement surgery"
- A rehabilitation center and amputee clinic
- A 42-bed oncology/nephrology unit.

VBMC serves as an important teaching site for the University of Texas; a broad complement of residents, fellows, and faculty provide care to patients. Across from the hospital and close to the planned multispecialty VA clinic is the RAHC, a cutting-edge educational facility with sophisticated electronic resources that supports the program in evidence-based medicine. Teaching faculty, residents, and other resources in this clinical and educational complex will support the planned VA clinic.

### *DoD Assets*

Possible DoD assets relevant to this study include the Naval Hospital Corpus Christi (NHCC), the Naval Hospital's inpatient contract with Christus Spohn Memorial, and the DoD's own utilization management capability:

- The NHCC, constructed in 1974, served beneficiaries stationed at the Naval Air Station, Corpus Christi. NHCC was formerly a fully staffed, full-function military hospital with operating rooms, surgical care, and emergency and delivery services, but in 1997 the hospital functions were removed. Since that time, the facility has been operating as an outpatient clinic without specialty services. According to NHCC officials, the possibility of renovating the 33-year-old structure for inpatient care was described as "daunting," not cost-effective, and unlikely to be feasible.
- The NHCC has established a contract with Christus Spohn Memorial to provide inpatient services. Two NHCC general surgeons and an orthopedic surgeon perform the majority of surgeries on NHCC

patients at Spohn Memorial. Cardiology and pulmonary specialty care is provided via contract negotiated through Humana via the DoD TriCare managed care contract.

- Leveraging the DoD's own utilization management capability, all referrals for both inpatient and outpatient care are reviewed prospectively for appropriateness and quality. The DoD described this capability as a possible sharing opportunity. If the VA were to enter into a contractual arrangement with Christus Spohn or a health plan, the DoD and VA could possibly develop a joint utilization management and case management program for the DoD and veterans. This partnership would be a novel approach, promoting sharing and providing a needed service.

# Future Market Demand

This section describes the future veteran demand for health care in the Valley–Coastal Bend market. It includes a description of the projection model used to calculate the demand estimates. It also provides the 20-year projections (FY2005 to FY2025) for both inpatient and specialty outpatient care, with the assumption that demand will remain stable for the remainder of the 30-year planning horizon. Like the baseline market assessment, this assessment of future demand serves as the foundational analysis on which viable service delivery options were constructed.

## Projecting Future Demand

VA's actuary, Milliman Inc., developed the VA Enrollment Health Care Projection Model (EHPCM) that provides the projections of veteran enrollment and utilization used in this study. These projections are based on a private sector model and are adjusted for the unique characteristics of the veteran population and health care system. Using a private sector model is important to avoid constraining projections of future demand based on current veteran utilization that may be limited by insufficient past and current VA supply of services. Demand is reported in use rates (units of service per 1,000 enrollees) for inpatient acute care and ambulatory services.

**Projection Model Characteristics**

**VA's Model Is Dynamic**

- Built at a detailed, submarket, and sector level
- Adaptable to changes in underlying assumptions
- Allows the VA to look at different views of the future based on changes in:
  - Veteran population
  - Veteran enrollment
  - Enrollee morbidity and mortality
  - Enrollee reliance on VA versus other health care providers
  - Health care access policies
  - Broader health care environment
  - VA's unique health care system dynamics
  - Economic trends
- On average, in recent years:
  - Patient projections have been within 0.1 percent of actual patients
  - Enrollee projections have been within 1.7 percent of actual enrollees.

Among the many inputs to this model, four factors are particularly notable:

- **Veteran enrollment.** Based on veteran population projections, the actuary generates an estimate of total veteran enrollment by member month and annualizes these projections to estimate annual enrollment projections. Once the enrolled population of veterans has been estimated, adjustments specific to the veteran population are made to project future utilization. As the composition of the enrolled population changes over time, so will utilization patterns. The estimated veteran population for the Valley–Coastal Bend market area for FY 2005 was 90,257 veterans, with 27,975 enrollees. The VA has projected the veteran population to decrease by approximately 25 percent to 64,888 over the next 20 years. Enrollment trends, however, are forecast to increase by three percent by the end of 2025.
- **Priority Level and Morbidity.** Veteran health care eligibility is determined by priority level that is assigned based on the type and severity of the veteran's medical condition, the relationship of the

condition to military service ("service connected"), the veteran's income level, and other factors. Priority level correlates with future demand and utilization and is therefore an important input to the projection model. Generally, veterans in priority levels 1 through 6 have the highest average utilization of health care services within the VA. Veterans in priority level 7 use fewer services on average. Because the veteran population has a substantially higher disease burden than an age- and gender-matched private sector population, the model further adjusts for veteran morbidity.

- **Reliance on VA services.** The model accounts for estimates of reliance on VA services—those with heavy reliance will use VA resources more intensely and those with lower reliance will use private sector resources less heavily.
- **Degree of care management.** The model also adjusts projections to reflect the degree of care management with the assumption that increased management of patient conditions will reduce the need for hospitalizations and will reduce the length of stay in acute care settings for those who are hospitalized.

## Projected Inpatient Demand

The demand for inpatient beds is expressed in terms of "bed-need," which is calculated by dividing the annual BDOC by the product of 365 days and 85 percent occupancy.[13] Figure 4 and Figure 5 display the projected demand for inpatient beds during the next 20 years for Sector One and Sector Two, respectively. There is a slight increase in bed need which plateaus between 2008 and 2011 and then declines gradually.

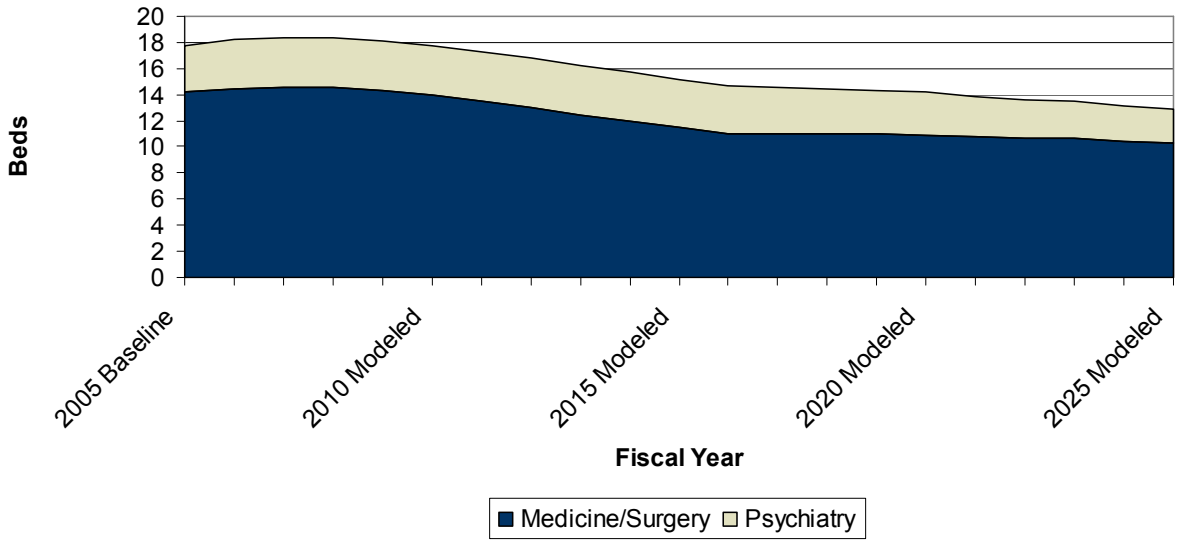



**Figure 4 - Projected Bed Need for Sector One from 2005 to 2025**

*Source: VA EHCPM*

13 The number of beds required = Annual BDOC / (365 days per year x 85 percent occupancy)

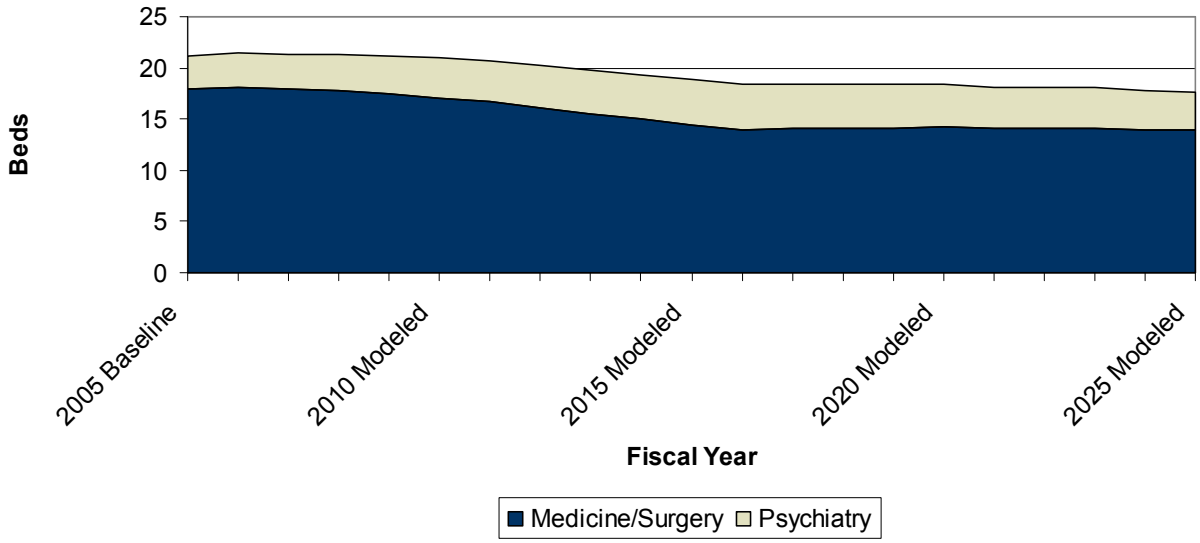



**Figure 5 - Projected Bed Need for Sector Two from 2005 to 2025**

*Source: VA EHCPM*

Although overall demand and bed need are projected to decline in both sectors, Sector Two is projected to continue to need more beds than Sector One given its larger veteran population. However, as noted in Table 22**,** bed need varies by SPC.

**Table 22 - Comparison of Baseline to Projected Bed-Need by SPC**

| | Sector One—Coastal Bend | | | Sector Two—Valley | | |
|---|---|---|---|---|---|---|
| **Strategic Planning Category (SPC)** | **FY 2005 Baseline** | **FY 2015 Modeled** | **FY 2025 Modeled** | **FY 2005 Baseline** | **FY 2015 Modeled** | **FY 2025 Modeled** |
| Inpatient (beds) | | | | | | |
| Inpatient: Medicine and Observation | 9 | 7 | 7 | 11 | 8 | 8 |
| Inpatient: Surgery | 5 | 5 | 4 | 7 | 7 | 6 |
| Subtotal Medical/Surgery Only | 14 | 12 | 11 | 18 | 15 | 14 |
| Inpatient: Psychiatry | 4 | 4 | 3 | 3 | 4 | 4 |
| **Total Beds** | **18** | **16** | **14** | **21** | **19** | **18** |

*Source: VA EHCPM, base year 2005*

In sum, the demand for beds is projected to fluctuate, rising and then declining, compared to the baseline, through FY 2025. The demand for beds is also uneven within SPCs. This pattern suggests the need for an option that is flexible over time to accommodate variations in demand. Even doubling the projections does not generate enough demand to exceed 30 medical/surgical beds in either sector. Therefore, even the most aggressive assumptions would yield an extremely small inpatient hospital with very limited capabilities.

## Projected Outpatient Demand

Although inpatient demand and the need for beds is projected to decline, the VA's actuarial model projects substantial increases in the need for outpatient care for most services, particularly those considered specialty care (see Figure 6 and Figure 7).

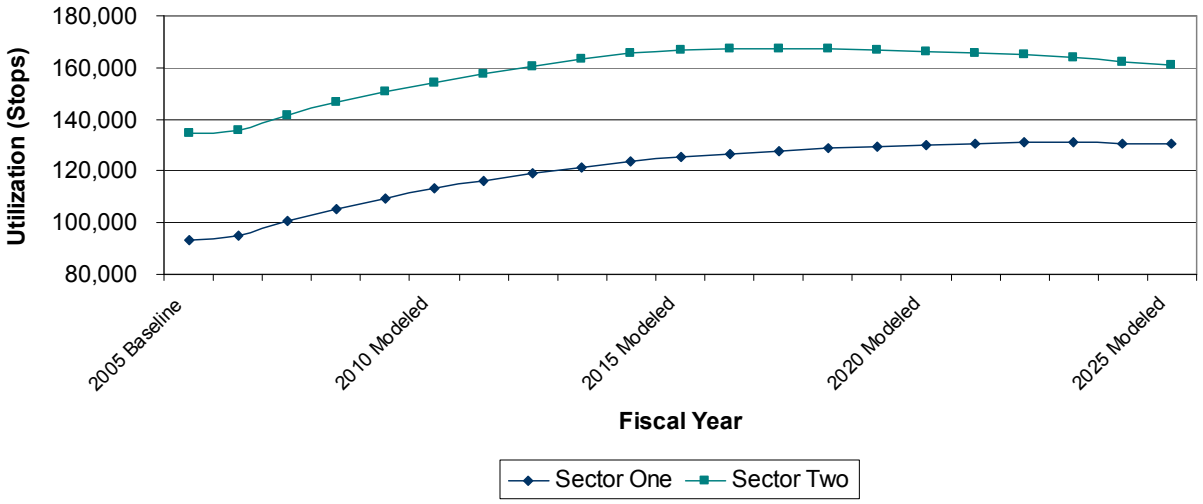



**Figure 6 - Projected Outpatient Utilization for South Texas**

*Source: VA EHCPM, base year 2005*

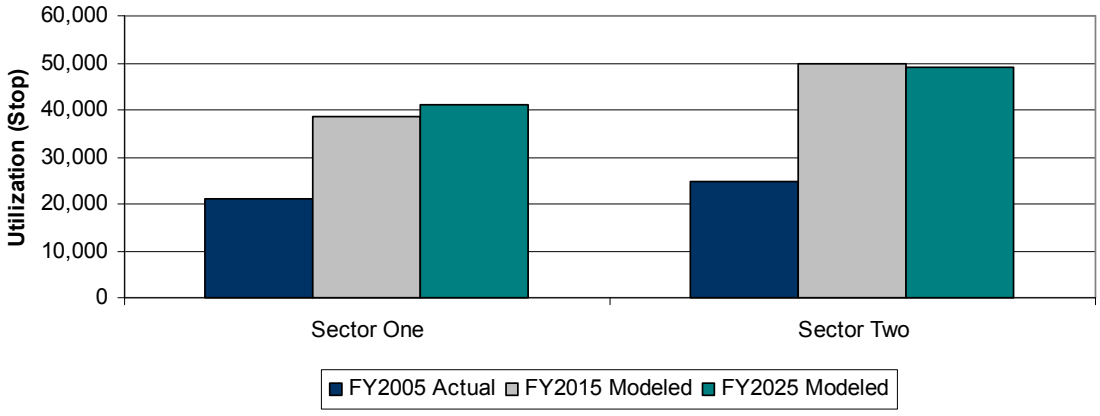



**Figure 7 - Specialty Outpatient Utilization for South Texas**

*Source: VA EHCPM, base year 2005*

In both sectors, the demand for outpatient specialty care is expected to approximately double and the demand for mental health services is expected to increase by approximately 55 percent between 2005 and 2025. In both sectors, the top four utilized specialties are projected to be podiatry, cardiology, orthopedics, and urology.

## Assumptions and Methods for Addressing Risk of Underestimating Demand

The projections made by the VA's actuary whose approach has been refined over the years and is validated by sound "observed-to-expected" ratios. However, during site visits veterans expressed skepticism that the model would accurately capture future demand. This skepticism focused on demand generated from three sources: veterans living in Mexico, veterans of the Iraq and Afghan conflicts, and demand generated by veterans who vacation in the area, the so-called "winter Texans."

Further investigation revealed that the model does capture demand generated by veterans of the current Mideast conflict and veterans living in Mexico who have the required separate mailing address in the US. Discussion with local providers suggested that winter Texans tend to be more affluent, have their own insurance, and tend to use the VA for outpatient services rather than inpatient services. Data suggests that in 2005, there were approximately 20 admissions to private sector hospitals that are likely attributed to winter Texans.

However, to further address stakeholder concerns the study team took two additional steps. Rather than use low end of the planning range 2025, as is customary, the study team used 2015 at which point the projections are somewhat higher. Additionally, when assessing the options, particularly the option to build a new VAMC, the study assessed the impact of doubling the projections on the feasibility of the option. While this does not have an impact on feasibility, it should allay stakeholder concerns regarding potential underestimation of demand.

# Gaps and Implications

This analysis illustrates the gaps between the health care needs of veterans living in the Valley-Coastal Bend market, and the supply of VA health care services available to them. The local clinics meet the primary care needs of Sector One and Sector Two enrollees; however, VA inpatient and outpatient specialty services are not available locally. Sector Two veterans face especially heavy travel burdens traveling approximately ten hours round trip to access inpatient and outpatient specialty care in San Antonio.

The gap in access to inpatient services will decrease somewhat over time as inpatient demand declines; however, the gap in access to specialty outpatient services will increase as demand increases dramatically over time. This is significant since it is the demand for outpatient services that places the greatest travel burden on veterans: Over 90 percent of veteran trips to San Antonio are for outpatient care—most of it specialty care.

The widening gap in specialty outpatient care has implications for the service delivery options. While there has been a great deal of advocacy to construct a hospital to address veteran needs, it is clear that the greatest emphasis should be placed on specialty outpatient solutions. This includes medical, surgical, and mental health services. Expanded mental health capabilities must include increased capacity for specialized outpatient treatment of Post Traumatic Stress Disorder (PTSD) and other conditions that have dramatically increased in the current conflict. Though inpatient care represents a relatively small proportion of the travel burden, inpatient solutions should also be considered and should address the full range of veteran needs, including inpatient specialty care. Strategies which fail to provide a full range of inpatient services will require veterans to travel to San Antonio for more sophisticated care.

A guiding principle of dominant importance is, therefore, that all options should seek to maximize local access to a broad array of specialized outpatient and inpatient services. This is reflected in the evaluation criteria which placed the heaviest weight on the access metric. In the following sections, we propose 9 options, 3 in Sector One and 6 in Sector Two, to address the health care needs of veterans in the Valley-Coastal Bend submarket over the next 30 years. We conclude with recommendations for a preferred option in each sector.

# Service Delivery Strategies for Inpatient and Specialty Outpatient Care

After assessing market conditions and examining demand projections, the study team identified three potential strategies for delivering inpatient and specialty outpatient services. However, not all of these strategies are applicable to both inpatient and specialty outpatient care in this particular health care market, and not all are applicable to both Sectors One and Two. This section contains a brief overview of the service delivery strategies and their limitations in the context of the Valley–Coastal Bend market.

## Build a VAMC

Building a new VAMC has great initial appeal; it presents an opportunity to develop a facility that meets veteran demand for inpatient services in an environment that embodies VA culture and is comfortable to veterans. Building a new facility also enables the VA to incorporate state-of-the-art principles in facility design, provide unique services that the veteran population requires, and enhance the safety and quality of care provided. Finally, a VA-owned and operated facility puts the VA in full control of systems and processes, potentially optimizing coordination of care and service delivery.

However, based on the projected peak demand for veteran inpatient services during the 30-year planning horizon—12 acute medical/surgical and 4 acute psychiatric beds in Sector One and 15 acute medical/surgical and 4 acute psychiatric beds in Sector Two—a new VAMC in either sector would be extremely small. Hospitals even twice the size of these proposed VAMCs, whether VA or non-VA, would face significant challenges in providing a full range of services and in maintaining high-quality care across multiple services.

Access to a broad array of specialties is of particular concern when caring for veterans, who have a greater severity of illness and more comorbidities than age-matched Medicare populations. Even younger veterans of the Iraq and Afghanistan conflicts often require multispecialty care because many are surviving previously unsurvivable injuries with multiple, severe disabilities. Subspecialists are more readily available in larger hospitals.

The quality of care in a facility that does not yet exist is impossible to predict. Systems, processes, structural elements, management, and leadership all need to be appropriately aligned to optimize the quality of care delivered in a medical setting. However, the preponderance of evidence suggests a positive correlation between the volume of a particular type of service offered and the quality provided, particularly with regard to surgical procedures.[14,15,16,17] Although some researchers refute this volume-

[14] Katz JN, Losina E, Barrett J, et al. Association between hospital and surgeon procedure volume and outcomes of total hip replacement in the United States Medicare population. J Bone Joint Surg Am. 2001 Nov;83-A(11)1622-1629.

quality relationship on methodological grounds[18,19,20], most agree that extremely small hospitals, in particular, are limited in the array of services they can offer, and services provided in very low volumes can expose patients to excess risk.

Although current research does not allow specific thresholds to be set for "extremely low volume," the volumes of service projected by the VA EHCPM are worrisomely low for Sectors One and Two. It would be very difficult to provide even a modest range of services without falling below extremely low thresholds of volume in some specialty services. Surgical and ICU care would be particularly difficult to provide in small hospital settings. For these reasons, a small new VA hospital would still need to be integrated into a wider care system and establishing a small VA hospital in Sector One or Sector Two, where other alternatives are available, may not be justified.

## Establish Comprehensive Contracts with Providers

The Valley–Coastal Bend market is geographically large and mostly rural. However, the veteran population is heavily concentrated in the major population centers of Corpus Christi for Sector One and Harlingen and McAllen for Sector Two. In each of these population centers, there is a robust supply of community hospitals that veterans and the physicians who care for them hold in high regard. Thus, options using a comprehensive contracting strategy would provide access to hospitals and specialty physicians closest to the areas where most veterans live.

However, the suitability of options involving contracted services is largely dependent on the nature of the contracts established. As previously described in the *Market Assessment Report*, the VA has contracts in place with community providers in the Harlingen–McAllen area. However, these contracts are either written or have been interpreted in a restrictive manner, making it difficult for clinicians to determine who is eligible for contracted care and making veterans anxious about their financial vulnerability if they are admitted to a private sector hospital. Because of the nature of these contracts, it is currently impossible to guarantee to veterans, prior to admission, that their care in private sector hospitals will be fully covered.

In developing contracting options, it was assumed that contracts would:

- Be comprehensive regarding the clinical conditions addressed and the financial coverage provided

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15 Birkmeyer JD, Siewers AE, Finlayson EV, et al. Hospital volume and surgical mortality in the United States. N Engl J Med. 2002 Apr 11;346(15):1128-1137.

16 Jain N, Pietrobon R, Hocker S, et al. The relationship between surgeon and hospital volume and outcomes for shoulder arthroplasty. J Bone Joint Surg Am. 2004 Mar;86-A(3):496-505.

17 Bach PB, Cramer LD, Schrag D, et al. The influence of hospital volume on survival after resection for lung cancer. N Engl J Med. 2001 Jul 19;345(3):181-188.

18 Kazmer A, Jacobs L, Perkins A, et al. Abdominal aortic aneurysm repair in Veterans Affairs Medical Centers. J. Vasc. Surg. 1996;23: 191–200.

19 Hannan EL, Kilburn H, Bernard H, et al. Coronary artery bypass surgery: the relationship between in hospital mortality rate and surgical volume after controlling for clinical risk factors. Med. Care 1991;26:1094–1107.

20 Khuri SF, Henderson WG. The case against volume as a measure of quality of surgical care. World J Surg. 2005;29;1222-1229.

- Be structured to ensure clinicians that referral guidelines would be easier to interpret and to assure enrolled veterans that, if referred to a designated private sector hospital, they would not be responsible for payment
- Provide inpatient services and access to specialty outpatient care, preferably through an all-encompassing "master" contract with a hospital/health system or health plan that includes the broadest array of services and providers. Alternatively, an arrangement might be to contract with a hospital for inpatient and emergency care and with physician groups for specialty care
- Carry the VA's long-term commitment to temper concerns about the permanence of available services. While comprehensive contracts might be established at a given point in time, the VA must counter veterans' worries that the scope of coverage could narrow in response to future budgetary pressures
- Address the VA's financial risk by considering alternative reimbursement models such as capitation or disease-specific per diem payments
- Identify mechanisms to streamline the authorization of services and address quality of care monitoring and reporting.

Comprehensive contracts would also vary by the overall contracting strategy employed, and the needs and characteristics of the local community. The options developed consider contracts with the following:

- A specified network or networks of care
- A single facility/health system or health plan in each sector to concentrate care within the local health system or at a particular provider site
- The DoD to use the DoD's Preferred Provider Organization (PPO) network (Humana contract).

While the preferred private sector hospitals are regarded as fine institutions by veterans, they do not offer the same VA culture or environment. In conversations with veterans, there was a diversity of opinion on the importance of this environment. While a minority of veterans were indifferent, most found the VA environment an attractive feature that could not be replicated in the private sector. However, when asked to choose between receiving care in a good local hospital and traveling to the closest VA facility in San Antonio, veterans generally expressed a strong preference for local private sector care.

VA identity and control over quality and utilization may be enhanced in contracted arrangements if the VA physicians obtain admitting privileges in the partner community hospital and supervise the care of patients admitted to that hospital. This may be further enhanced by placing a VistA terminal at a specified site, such as the medical records department, so the VA physician can access relevant clinical information.

Leaders from several other VA facilities provided additional insights about contracting provisions:

- The closer the VA CBOC is to the contracting facility, the easier it is to coordinate care. Communication between primary care physicians and specialists is enhanced, and veterans are most comfortable seeking care in a facility that is in close proximity to their primary care provider
- When entering into a contracting arrangement, the time and effort associated with coordination of the veteran's health record must be considered. The VA VistA system is unique in the health care industry, and to date, it has not been easily adapted or used in either the private sector or DoD hospital environment
- To promote quality of care, the desired quality outcomes must be addressed in the requirements documents so the winning contractor will understand and can be held accountable for ensuring a high quality of care
- Contracting care reduces fixed costs and provides the flexibility needed to deal with variable demand over time. However, it is often challenging to negotiate a price that is in the best interest of the VA that does not result in residual charges for the veteran. Contracting partners may be reluctant to accept the proposed price because of uncertainties about the future or may have previously experienced slow payment (or nonpayment) by the VA. As a result, negotiations may be time consuming or unfruitful.

These arrangements would be more feasible if there were one community partner located close to the VA CBOC or specialty care clinic.

## Create a VA Community-Based Acute Care Center

This inpatient care delivery strategy includes options to create dedicated VA inpatient wards or sections within existing community hospitals. This "hospital within a hospital," or VA Community-Based Acute Care Center (CBACC), strategy is intended to provide a care environment that embodies the VA culture and that veterans recognize and find comfortable. This "VA-like" environment would be created by renovating space leased from a host community hospital using motifs, symbols, and icons reminiscent of a VA hospital. The specific design would vary based on the architectural characteristics of the existing host facility. A VA physician would be the primary inpatient attending physician, coordinating all care for hospitalized veterans.

In some ways, this strategy can be viewed as a hybrid of the previously described strategies, "build a hospital" and "establish comprehensive contracts for care," because it shares some of their strengths and addresses some of their weaknesses. For example, unlike a small, newly-built VA hospital, a dedicated VA ward within an existing full service hospital, a CBACC, would give veterans access to a full complement of inpatient services, subspecialists, and ancillary services within a single facility. Unlike comprehensive contracting arrangements, a CBACC helps preserve VA identity and gives VA presence on the wards that may help coordinate care and manage utilization.

By "owning" a ward and potentially providing or supervising a core staff, the VA would also have greater control over quality of care. In the optimal scenario, VA-defined standards of care could be instituted and access to VistA could be enabled, making veteran health information readily available and coordination of care more effective and efficient.

Yet, challenges also exist with the CBACC approach. For example, it may be difficult to identify a willing partner that has sufficient extra space to dedicate to a separate ward or wing. Hospitals operating near capacity may find this approach less attractive because of potential logistical inefficiencies a dedicated ward may create. Open beds on that ward would not be filled with non-VA patients, and veterans would not be placed in open beds elsewhere in the hospital, resulting in a suboptimal use of total capacity.

Upfront costs would vary depending on whether an existing clinical ward merely needed to be reopened or whether nonclinical space would need to be renovated to meet clinical requirements. Staffing models (for example, nurse, physician, and support staff) would have to be negotiated at the individual hospital level to address issues of efficiency, autonomy, cost, and quality. Staffing models would also need to conform to VA standards and include VA personnel. Some physicians may be under contract and paid according to Medicare rates. Finally, inpatient services provided through a VA-dedicated ward would need to be coupled with outpatient specialty services to provide the full range of services addressed in this study.

While a CBACC is significantly more adaptable to fluctuations in demand than is new construction of a VA facility, it does have some limitations. Hospital capacity constraints may limit the maximum number of veterans placed on a single ward. Once that maximum is reached, additional veterans may be cared for on other wards if space is available. The more critical limit, however, is at the lower end of the spectrum. If the ward population drops too much, the veteran community becomes too small to create the desired environment. Staffing efficiencies also become problematic with regard to ward secretaries and optimal nurse to patient ratios. While an absolute minimum is difficult to define, an average daily census of about 15 to 18 patients would be the low end of the range that the study team recommends. A census of 12 to 15 is marginal, and a census that is consistently below 12 is probably too low to sustain the unit.

Compared to building a small hospital, however, the consequences of unexpectedly low volume are more easily addressed. In the case of the CBACC, the VA would have the option to dissolve the dedicated ward and revert to conventional contracting without expending significant capital.

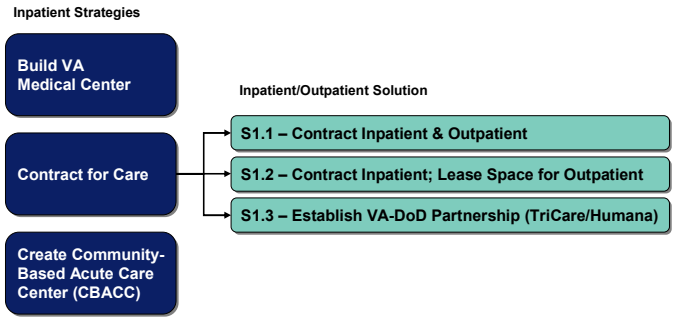
The CBACC is a relatively new model and all new concepts represent some risk. This risk is partly related to a lack of prior experience with the model; however, it is reassuring there is a hospital in Sector Two that has prior experience with this approach and can help the VA navigate these new waters. Since January 2005, McAllen Medical Center, one of the hospitals considered in Sector Two, has leased one of its floors to the Solara company, which provides longer term care and rehabilitative services. The Solara "hospital within a hospital" has 50 beds, including ICU and telemetry beds, and its own clinical staff. However, it leverages McAllen Medical Center for the wider spectrum of clinical services such as dialysis and surgical services, as well as nonclinical support like food services. McAllen's experience is valuable, and the study team leveraged that experience to provide greater detail in Appendix A-1 on how a CBACC might be implemented at McAllen Medical Center.

Since a CBACC would be a relatively novel arrangement, the VA may opt to take a more evolutionary approach to developing the "hospital within a hospital" concept. The first stage might be to establish a more conventional contracting arrangement. As relationships mature and utilization history develops, there could be a greater willingness to move on to the next stage: a full-fledged CBACC.

# Sector One Service Delivery Options

The three viable options for providing inpatient and specialty outpatient care in Sector One are as follows:

- **Option S1.1:** Contract with Christus Spohn Health System to Provide inpatient and Specialty Outpatient Care
- **Option S1.2:** Contract with Christus Spohn Health System for Inpatient Care and Collocate leased Space for a VA Specialty Outpatient Clinic
- **Option S1.3:** Establish a VA-DoD Partnership to use DoD PPO Network (Humana Contract).




All three options involve contracting for inpatient services. Options S1.1 and S1.3 involve contracting with a single provider system to secure both inpatient and specialty outpatient care. In Option S1.1, Christus Spohn Health System, the dominant health care system in Sector One, is the contracted provider, while in Option S1.3, Humana is the provider through a proposed partnership between the VA, DoD, and TRICARE. In Option S1.2, the inpatient contracting strategy is coupled with leasing a new VA specialty clinic to provide specialty outpatient services.

As mentioned earlier in this report, future bed need projected for Sector One using VA's Enrollment Projection Model was too low (12 acute medical and surgical beds and 4 acute psychiatric beds in 2015) to sustain a new VAMC or a CBACC in this sector. Accordingly, options involving these care delivery strategies were not sufficiently viable to be considered for this analysis.

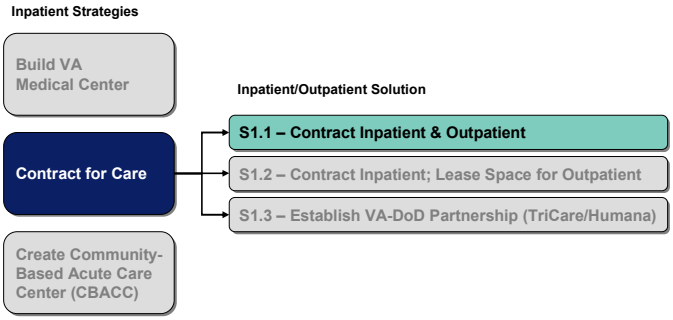
It would be optimal to provide specialty outpatient services at the same site as outpatient primary care services. Unfortunately, the existing VA CBOC in Corpus Christi is operating at capacity and cannot accommodate the future demand for outpatient specialty care. The study team explored options to expand the clinic but this is not feasible—the existing structure is landlocked and will not support additional floors. Consequently, if the VA pursues options to establish a VA specialty clinic, that clinic must be established in an alternate location.

All Sector One options greatly improve access to acute and specialty outpatient care based on drive time. In Options S1.1 and S1.2 involving Christus Spohn, drive times are equivalent no matter which Christus Spohn Hospital—Shoreline or Memorial—is chosen as the primary inpatient site. These hospitals are near one another in Corpus Christi, and access to both falls within drive time guidelines for 92 percent of veterans living in Sector One. Theoretically the Humana option, with its broad provider network, could provide better access because it is more likely that some providers will be closer to veterans' homes, including in the more remote Aransas County.

The NPV of the three Sector One options fall within a narrow cost range, with the highest cost Option S1.2 ($643,851 million) only about 5 percent higher than the lowest cost Option S1.3 ($612,472 million). All three options are less costly than the status quo which is estimated to be $729,739 million.

The costs described above assume that all care is provided in Corpus Christi and thus represent the highest end of the cost range. However, since Sector One is much closer to San Antonio than is Sector Two, the VA may choose to provide more specialized care at San Antonio and provide higher volume specialty care outpatient care such as cardiology, gastroenterology (GI), orthopedics, urology, and podiatry in Corpus Christi. The same principal may apply to inpatient care so that more routine services are provided locally and more sophisticated services are provided in San Antonio.

The following sections contain brief summaries and analyses of the three Sector One options, which are assessed based on access, flexibility, costs, impact on other VA goals and missions, and risk of implementation. Additional cost information is provided in **Appendix B-1**.




## Option S1.1: Contract with Christus Spohn Health System to Provide Inpatient and Specialty Outpatient Care

This option contracts for inpatient and specialty outpatient care from a single health system, Christus Spohn Health System, in Sector One.

### *Option S1.1 Description*

The approach to contracting care can be viewed on a continuum. At one end of that continuum, contracts may allow for a wide spectrum of geographically dispersed providers with very few restrictions on choice, while at the other end contracts allow for a much more limited set of providers concentrated in regional population centers. Option S1.1 involves contracting with a limited set of providers through a single health system to provide acute medical, surgical, and psychiatric inpatient care and specialty outpatient services. Inpatient services are concentrated in a single hospital that is widely recognized as a desirable facility whose staff provide high-quality care.

Both parties to the contract would benefit from concentrating care in a limited number of institutions. The private sector institutions would benefit from increased patient census and occupancy rates and from an assured revenue stream for the care provided in their facilities. By concentrating care with only a few providers,

**Option S1.1 Key Features**

- **Inpatient Care:** Would be concentrated at either Christus Shoreline or Memorial, though veterans would have the option of receiving care at one of the other four Christus Spohn hospitals under defined circumstances. This may include emergency care, access to special services, or other considerations as deemed appropriate by the VA. Memorial is better equipped for inpatient psychiatric services.
- **Specialty Outpatient Care:** Would be provided through contracts with Christus Spohn. Both Shoreline and Memorial have outpatient specialty centers on campus and additional outpatient resources exist within the community.
- **Primary Care:** Would continue to be provided by the VA CBOC. The current CBOC is quite close to Memorial; however, Christus Spohn executives indicated that VA could lease space at Shoreline to accommodate a VA CBOC.
- **Comment:** Both Shoreline and Memorial are attractive and it is difficult at this stage to state a preference with confidence. The study team leans toward Shoreline because of the capacity to collocate both specialty and VA primary care on the same campus.

the VA would have greater bargaining power to negotiate price and greater leverage to resolve clinical or quality issues should problems arise.

The Christus Spohn Health System appears to be the most suitable for such a contractual relationship in the Corpus Christi area based on the location and condition of its hospitals, the quality of care provided, and the willingness of its executives to establish comprehensive contracts for veteran care. Of the three Christus Spohn hospitals in Corpus Christi, Spohn Memorial and Spohn Shoreline are the most likely to provide the needed inpatient services. Several contracting scenarios have been proposed that provide for both inpatient and specialty outpatient care, including the following:

- Entering into a comprehensive contracting arrangement with the Christus Spohn Health System and allowing veterans to choose their preferred Christus Spohn hospital for inpatient care and subspecialty providers for specialty outpatient care
- Entering into a contracting arrangement with a specific Christus Spohn hospital and a subset of specialty care providers. In this scenario, Spohn Shoreline and Memorial hospitals are proposed, each of which has advantages and disadvantages. Spohn Shoreline could easily accommodate veterans with its excess capacity, and can provide specialty outpatient care in a medical office building on its campus. But, Shoreline is approximately five miles from the Corpus Christi CBOC. Memorial offers an array of comprehensive specialty clinics, has an academic affiliation with the University of Texas, and is located closer to the existing Corpus Christi CBOC. Memorial also has a long history of serving the working poor and vulnerable populations.

**Christus Spohn Health System Highlights**

- Faith-based, not-for-profit, medical, and surgical hospital system providing health care to 13 counties on 5 campuses throughout the Valley in (Sector One)
- Partnered with Texas A&M Health Science Center College of Medicine to develop a family practice medicine residency program to train physicians in South Texas
- Has its own health plan with 21,000 members, and contracts with 212 specialists, many of whom are ex-military medical practitioners
- All Christus Spohn hospitals have excess capacity ranging from 62 to 70 percent occupancy.

## *Option S1.1 Analysis*

This section analyzes this option against the criteria of access, flexibility, cost, impact to other VA goals/missions, and risk to implementation.

**Access.** This option significantly diminishes travel burden to access inpatient and specialty outpatient care. However, Christus Spohn's network offers a comprehensive array of services and the proposed collocation of inpatient services with a significant portion of outpatient services enhances the VA's ability to coordinate care.

**Flexibility.** The contracting arrangement with Christus Spohn affords the VA more flexibility to respond to fluctuations in demand compared to VA-provided services within VA-owned and operated facilities. Contracts can be modified more readily than can physical infrastructures.

**Cost.** Table 23 displays a summary of inpatient and outpatient costs associated with a Christus Spohn contracting arrangement to provide care in Sector One over the 30-year life cycle. The primary assumption driving this cost analysis is that tertiary and complex care (approximately 25 percent of surgical care) will be performed at the San Antonio VA facility. Routine, short stay inpatient care will be managed under a contract with Christus Spohn at 110 percent of Medicare Maximum Allowable Unit charges.

**Table 23 - Summary of All Costs, Life Cycle – Option S1.1**

| Summary of All Costs ($000) NPV | Total Cost (2006–2035) |
|---|---|
| Total Inpatient Cost (VA) | $52,847 |
| Total Outpatient Cost (VA) | $38,536 |
| Total Inpatient Cost (Contracting) | $213,610 |
| Total Outpatient Cost (Contracting) | $335,907 |
| Capital Cost | $0 |
| Facility/Leasing Cost | $0 |
| **Total Costs, Option S1.1** | **$640,901** |

*Notes: All inpatient and outpatient cost categories include costs from care provided during the status quo time frame, prior to the start of a contract with Christus Spohn Health System.*
*Totals rounded to the nearest thousand dollars.*

The total life cycle cost of Option S1.1 is estimated at $641 million. This cost is about equal to the cost of Option S1.2 (inpatient contracting and VA leased clinic). Though contracting rates in a community hospital are higher than variable costs in a VA facility, the reduction in the facilities-related costs more than offsets this. This option is more costly than Option S1.3 (DoD-Humana contract) because the scale of TriCare contracts allows the DoD to negotiate a lower billing rate equal to 90 percent of Medicare Allowable Charges for specialty outpatient care and 100 percent of Medicare Allowable charges for inpatient care.

**VA Mission.** As with all Sector One options, this option is expected to have limited impact on the research and education missions of the San Antonio VAMC because only a small volume of service would be diverted away from that teaching center. With Christus Spohn staff providing care, this option would not enhance the VA's research and education missions in Sector One, but may benefit Christus Spohn's training programs given the increased veteran workload and case mix. This option does not provide for a VA-DoD sharing arrangement.

**Implementation Risks.** In general, the risk associated with Sector One options is relatively low, yet some risks are notable. First, with care provided by non-VA staff in private sector facilities, providers would not have access to veteran electronic medical records. Second, although the private hospitals under consideration are of high quality, they do not measure quality as comprehensively as the VA. So, quality of care would be more difficult to track over time. Third, since contracts have not yet been negotiated, the comprehensiveness of this arrangement is uncertain. Fourth, without assurance of the VA's continued budget support and Christus Spohn's long term commitment, permanence of this arrangement is also uncertain. Finally, cost escalation is a risk, and will be driven by market conditions beyond VA control. This risk may be mitigated if a capitated arrangement could be negotiated.

**Other Considerations.** Under this option, the VA does not retain full governance or maintain VA identity in the inpatient and specialty outpatient facilities. The VA would not have long term control of the facility site or assets. It would also have less ability to impact clinical care with both inpatient and specialty outpatient services contracted to non-VA providers.

Table 24 summarizes the advantages and disadvantages of Option S1.1.

**Table 24 - Option S1.1 Advantages and Disadvantages**

| Assessment Criteria | Advantages | Disadvantages |
|---|---|---|
| **Access** | ▪ Improved access to care in terms of drive time<br>▪ Potential to provide complete array of services<br>▪ Enhanced coordination of care with inpatient services concentrated in a single facility and collocating a significant portion of specialty outpatient care<br>▪ Close proximity to VA CBOC for primary care services. | ▪ None identified |
| **Flexibility** | ▪ High flexibility to accommodate changes in demand compared to building options<br>▪ VA not responsible for maintaining facilities or equipment which may become obsolescent over time. | ▪ None identified |
| **Cost** | ▪ Costs slightly about equal to Option S1.2 (inpatient contracting and VA-leased clinic); higher contracting rate offset by lower facilities costs. | ▪ Costs slightly higher than Option S1.3 (DoD-Humana contract) because the scale of TRICARE contracts allows DoD to negotiate lower rates. |
| **Other VA Goals** | ▪ Limited impact on research and education mission in San Antonio<br>▪ Added veteran workload and case mix may benefit Christus Spohn training programs. | ▪ Limited impact on VA research and education mission locally<br>▪ No opportunity for VA-DoD sharing. |
| **Risk** | ▪ None identified | ▪ Inability of private sector facilities to have ready access to veterans' electronic health records (EHR)<br>▪ These non-veteran facilities do not measure quality in as many dimensions as does the VA<br>▪ Contract terms subject to negotiation and currently unknown<br>▪ Permanence of arrangement reduced compared to VA-owned and operated facility, contract may not be renewed over time<br>▪ Potential cost escalation over time. |
| **Other Considerations** | ▪ Satisfies projected inpatient bed needs. | ▪ VA does not retain full governance<br>▪ Does not retain VA identity<br>▪ No long term control of site or asset by VA<br>▪ Reduced ability for VA to impact clinical care with both inpatient and specialty outpatient services contracted to non-VA providers. |

## *Option S1.1 Summary*

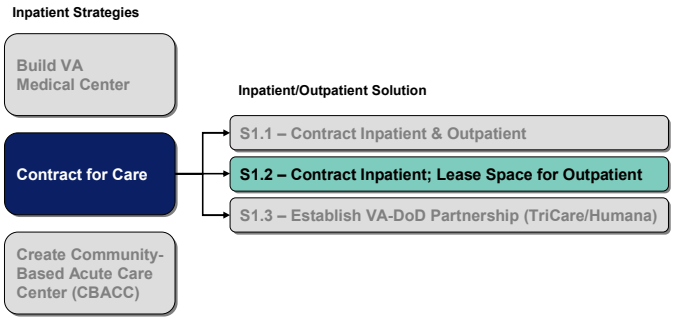
Table 25 summarizes the assessment of Option S1.1. Overall, this option rated the lowest of the three options for Sector One. Yet, its score is essentially comparable to Option S1.3 (DoD-Humana contract) Because of the full contracting arrangement negotiated by VA, this option affords the greatest flexibility to accommodate fluctuations in demand within Sector One.

**Table 25 - Summary Score for Option S1.1: Contract with Christus Spohn Health System to Provide Inpatient and Specialty Outpatient Care**

| Alternative | Total | Access | | Flexibility | Cost | Other VA Goals | | | Risk |
|---|---|---|---|---|---|---|---|---|---|
| Subcriterion | | Travel Burden | Array of Coordinated Services | Ability to Accommodate Fluctuations in Demand | NPV | Research | Education | VA/DoD Sharing | Risk |
| Effective Weight | | 27.8% | 16.4% | 12.6% | 18.5% | 1.2% | 2.2% | 1.5% | 19.9% |
| Sector 1 | | | | | | | | | |
| Option S1.1 | ◑ (3.56) | ◕ | ◑ | ● | ◑ | ◔ | ○ | ○ | ◑ |

○ 1.0-1.9 ◔ 2.0-2.9 ◑ 3.0-3.9 ◕ 4.0-4.9 ● 5.0

## Option S1.2: Contract with Christus Spohn Health System for Inpatient Care and Collocate Leased Space for a VA Specialty Outpatient Clinic




In this option, the VA contracts for inpatient services with Christus Spohn as described for Option S1.1. However, rather than also contracting for specialty outpatient services, VA staff would provide specialty outpatient services through a VA-managed multispecialty clinic in space leased from Christus Spohn.

**Option S1.2 Key Features**

- **Inpatient Care:** As in Option S1.1, care would be concentrated at either Christus Shoreline or Memorial, though veterans would have the option of receiving care at one of the other four hospitals under defined circumstances.
- **Specialty Outpatient Care:** This option differs from Option S1.1 as the VA would lease space to run a specialty care clinic. Shoreline has the capacity to lease space to the VA for this purpose and so it appears feasible to locate a VA specialty clinic at the Shoreline campus.
- **Primary Care:** Would continue to be provided by the VA CBOC. The current CBOC is quite close to Memorial should that facility be chosen as the inpatient partner. Christus Spohn executives indicated that VA could also lease space at Shoreline to accommodate the CBOC.
- **Comment:** By collocating the VA CBOC and the VA specialty clinic on the campus of a private sector partner, care is concentrated at a single location contributing to convenience and coordination.

## *Option S1.2 Description*

Sector One generates approximately 45,000 outpatient clinic stops annually, most of which occur at the San Antonio VAMC (33,000 stops). Over the next 20 years, the demand for specialty care (medical/surgical and mental health) in Sector One is estimated to increase to approximately 71,000 stops by 2025. This volume would require a multispecialty clinic of approximately 77,000 square foot of space.

It would be optimal to offer primary care and specialty outpatient services at the same location; however, as noted earlier the current Corpus Christi CBOC cannot accommodate this workload nor can the clinic be expanded. There may be other locations near the Corpus Christi CBOC that could accommodate this workload. Another alternative is to locate the specialty clinic on or near the campus of the hospital that the VA contracts for emergency and routine inpatient services. The study team pursued this possibility with Christus Spohn executives who responded favorably.

According to Christus Spohn Health System executives, there is space available on the campus of the Christus Spohn Shoreline Hospital to accommodate an outpatient clinic. The VA could lease space in an existing 85,000 square foot medical office building or in a new facility that could be built. It would be possible to locate both the specialty outpatient clinic and primary care CBOC at this site. This may also facilitate the use of shared laboratory and imaging services which may be more cost efficient for the VA. If the VA decided to partner with Christus Spohn for inpatient services, collocation of outpatient specialty services and possibly primary care services provide “one-stop shopping” for veterans on the campus of a high-quality institution and would facilitate the coordination of care. Christus Spohn also expressed a willingness to explore integration with the VA EHR through direct interfaces or other mechanisms to ensure electronic access to necessary health information. By collocating and integrating inpatient care, as well as outpatient primary and specialty care on a single campus, a “virtual” VAMC may be created.

It may be challenging for the VA to recruit and retain a full spectrum of specialists. It may be more feasible for the VA to provide the more high volume specialty services such as cardiology, (GI), orthopedics, urology, and podiatry. Lower volume, more specialized services may be provided at San Antonio or contracted in the community. Telemedicine may be used more aggressively to provide access to highly specialized VA physicians that may be more readily available in San Antonio. Also, an expanded telemedicine program my further reduce the travel burden for veterans.

Should negotiations to locate the VA specialty clinic on or near the grounds of the inpatient contractor fail, the VA would have to acquire space at an alternate location.

## *Option S1.2 Analysis*

This section analyzes this option against the criteria of access, flexibility, cost, impact on other VA goals/missions, and risk to implementation.

**Access.** This option also significantly diminishes travel burden to access inpatient and specialty outpatient care, although not to the degree of Option S1.3 (DoD Humana contract) which offers a broader network of providers that are more likely to practice closer to veterans' homes. This is the strongest of the three Sector One options in providing access to a complete array of coordinated services. As with Option S1.1, this option allows for collocation of inpatient services with a significant portion of outpatient services; however, care coordination is enhanced with VA staff presence in the outpatient clinic.

**Flexibility.** The contracting arrangement with Christus Spohn for inpatient services affords the VA more flexibility in responding to fluctuations in demand compared to a VA-staffed hospital. Accommodating changes to specialty outpatient demand is more difficult because of physical limitations of the single specialty outpatient facility in the face of increasing demand, and because of challenges recruiting VA specialists to the clinic. Such restrictions could be mitigated by contracting some portion of outpatient services to Christus Spohn if needed.

**Cost.** Table 26 displays a summary of life cycle costs for Option S1.2. This option assumes the VA would contract with Christus Spohn for 100 percent inpatient care (except for complex inpatient surgery provided at the VA's San Antonio facility), but would provide specialty outpatient care on the campus of Christus Spohn in leased space. Given industry-wide difficulty with recruitment of highly paid specialists (neurosurgeons, urologists, etc.) and relatively low workloads projected for some specialties, it is assumed that that the VA would provide 70 percent of specialty outpatient care and would elect to contract with Christus Spohn for selected specialties (approximately 30 percent of total specialty outpatient care).

**Table 26 - Summary of All Costs, Life Cycle - Option S1.2**

| Summary of All Costs ($000) NPV | Total Cost (2006–2035) |
|---|---|
| Total Inpatient Cost (VA) | $52,847 |
| Total Outpatient Cost (VA) | $202,233 |
| Total Inpatient Cost (Contracting) | $213,610 |
| Total Outpatient Cost (Contracting) | $132,382 |
| Capital Cost | $12,128 |
| Facility/Leasing Cost | $30,650 |
| **Total Costs, Option S1.2** | **$643,851** |

*Notes: All inpatient and outpatient cost categories include costs from care provided during the status quo time frame, prior to the start of a contract with Christus Spohn Health System and activation of a CBOC.*
*Totals rounded to the nearest thousand dollars.*

Of the three Sector One options, S1.2 has the highest NPV at $644 million. This is slightly higher than the NPV for option S1.1. The higher cost of leasing and moderate renovation of approximately 62,000 square feet of space is offset by lower variable costs in the CBOC when compared to option S1.1 which has no facility costs and higher outpatient care costs.

**VA Mission.** As with all Sector One options, this option is expected to have limited impact on the research and education missions of the San Antonio VAMC because only a small volume of service would be diverted away from that teaching center. With VA staff providing specialty outpatient care, this option may have a small impact on VA education and research missions locally and may promote collaboration between the VA and the Texas A & M Family Practice Residency. Christus Spohn's training

programs may also benefit from the additional veteran workload and case mix. Presence of VA specialty clinic may provide opportunities to offer services to Naval Hospital in the future.

**Implementation Risks.** In general, the risk of Sector One options is relatively low; however, this collocation arrangement has slightly lower risk than the other two Sector One options. Should Christus Spohn agree to enable access to veteran EHRs in the collocation arrangement, quality, and coordination of care may be enhanced. Although the private hospitals under consideration do not measure quality as comprehensively as the VA, the presence of VA staff on campus may allow the VA to impact quality and coordination of care even further. This option still poses the risk of uncertainty regarding the terms of a contract which has not yet been negotiated. The risk of cost escalation may be tempered somewhat by VA staff that can help manage utilization. As with the other options, cost risk may be further mitigated if a capitated arrangement could be negotiated. Some of these benefits would be diminished should VA elect not to collocate the outpatient facility with its inpatient partner.

**Other Considerations.** Depending on the arrangement with Christus Spohn, this option allows VA to retain full governance and maintain the VA identity in the specialty outpatient clinic, but not in the inpatient facility. With the contracting and leasing arrangement, the VA would also not have long term control of the facility site or assets. With this option, the VA has greater ability to impact clinical care with presence of VA-run specialty outpatient services.

Table 27 summarizes the advantages and disadvantages of Option S1.2.

**Table 27 - Option S1.2 Advantages and Disadvantages**

| Assessment Criteria | Advantages | Disadvantages |
|---|---|---|
| **Access** | ▪ Improved access to care in terms of drive time<br>▪ Potential to provide a more complete array of services<br>▪ Greatest potential to provide coordination of care with inpatient services concentrated in a single facility and collocating VA-managed outpatient facility<br>▪ Close proximity to VA CBOC for primary care services. | ▪ None identified |
| **Flexibility** | ▪ High flexibility to accommodate changes in demand compared to building options<br>▪ VA not responsible for maintaining facilities or inpatient equipment which may become obsolescent over time. | ▪ Challenges recruiting VA specialists to outpatient facility reducing the VA's ability to respond to increased demand<br>▪ The VA responsible for maintaining outpatient equipment which may become obsolescent. |
| **Cost** | ▪ None identified | ▪ Comparable to option S.1, facility costs are higher but outpatient care costs are lower. |
| **Other VA Goals** | ▪ Limited impact on research and education mission in San Antonio<br>▪ With the VA outpatient clinic, it may have a small impact on VA education and research mission locally<br>▪ Added veteran workload and case mix may benefit Christus Spohn training programs | ▪ None identified |

| Assessment Criteria | Advantages | Disadvantages |
|---|---|---|
| | ▪ Presence of VA specialty clinic may provide opportunities to provide services to the Naval Hospital in the future. | |
| **Risk** | ▪ With VA presence in the outpatient clinic, there is greater potential to enable access to veteran EHRs in inpatient facility<br>▪ Presence of VA specialists may mitigate risk of cost escalation over time<br>▪ VA presence may influence multi-dimensional quality measurement per VA standards. | ▪ Contract terms subject to negotiation and currently unknown<br>▪ Permanence of arrangement reduced compared to VA-owned and operated facility; contract may not be renewed over time<br>▪ Potential cost escalation over time<br>▪ Potential that outpatient clinic cannot be collocated on with Christus Spohn inpatient facility. |
| **Other Considerations** | ▪ Satisfies projected inpatient bed needs<br>▪ VA retains governance of outpatient clinic and services<br>▪ VA retains identity in outpatient clinic<br>▪ Greater ability for the VA to impact clinical care with presence of VA-run specialty outpatient services. | ▪ The VA does not retain full governance of inpatient facility<br>▪ It does not retain VA identity in inpatient facility<br>▪ There is no long term control of site or asset by the VA. |

## *Option S1.2 Summary*

Table 28 summarizes the assessment of Option S1.2. which was ranked highest of the three for Sector One. Option S1.2 is most notable for the VA presence provided through the collocated outpatient facility that may facilitate sharing of electronic health information, clinical practice guidelines, and quality measurement techniques with the non-VA inpatient facility. VA presence may also enhance coordination of care across the inpatient and outpatient settings.

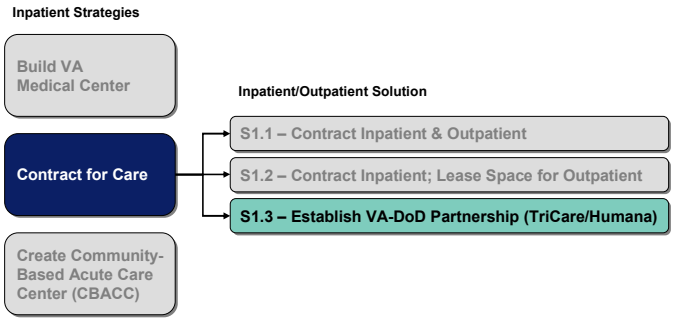
**Table 28 - Summary Score for Option S1.2: Contract with Christus Spohn Health System for Inpatient Care and Collocate Leased Space for a VA Specialty Outpatient Clinic**

| Alternative | Total | Access | | Flexibility | Cost | Other VA Goals | | | Risk |
|---|---|---|---|---|---|---|---|---|---|
| Subcriterion | | Travel Burden | Array of Coordinated Services | Ability to Accommodate Fluctuations in Demand | NPV | Research | Education | VA/DoD Sharing | Risk |
| Effective Weight | | 27.8% | 16.4% | 12.6% | 18.5% | 1.2% | 2.2% | 1.5% | 19.9% |
| **Sector 1** | | | | | | | | | |
| **Option S1.2** | ◕ (4.02) | ◕ | ◕ | ◕ | ◑ | ◑ | ◑ | ○ | ◕ |

○ 1.0-1.9 ◔ 2.0-2.9 ◑ 3.0-3.9 ◕ 4.0-4.9 ● 5.0

## Option S1.3: Establish a VA–DoD Partnership to use DoD PPO Network (Humana Contract)

This combined option proposes to contract for inpatient and specialty outpatient care in Sector One using the DoD PPO.




### *Option S1.3 Description*

The DoD Naval Hospital in Corpus Christi contracts with the TRICARE/Humana network to provide inpatient services in area hospitals and outpatient services using a network of over 100 community-based primary care physicians and specialists. Hospitals within the TRICARE/Humana network include all of the Christus Spohn hospitals. The DoD Naval Hospital prospectively monitors all hospitalizations to ensure the appropriateness of care. Within the last several years, the DoD has greatly enhanced its medical management and utilization function. The DoD is satisfied that the Humana contract arrangement, which expires in 2009, and its use of Christus Spohn hospitals meet its quality standards and expectations.

**Option S1.3 Key Features**

- **Inpatient Care:** Would be provided through a network of providers. Christus Spohn is part of that network.
- **Specialty Outpatient Care:** Would be provided by the TRICARE/Humana network of providers, which includes many of the specialists in the Christus Spohn network.
- **Primary Care:** Would continue to be provided by the VA CBOC.
- **Comment:** This network has over 100 providers that veterans could access. The current contract expires in 2009 so it is an opportune time to renegotiate this contract to include veterans. The VA could share the utilization oversight that the Naval Hospital provides.

Given the pending renewal, the VA could consider collaborating with the DoD to renegotiate the contract to include veteran enrollees residing in Sector One. This option would provide the VA with access to a broad array of inpatient and specialty outpatient services. The DoD has also expressed a willingness to provide medical and utilization management for veterans. If this renegotiation occurs, it is likely that the VA and the DoD could negotiate a preferred relationship given the leverage of additional volume, approximately 13,000 veteran enrollees in Sector One.

### *Option S1.3 Analysis*

This section analyzes this combined option using the criteria of access, flexibility, cost, impact on other VA goals/missions, and risk to implementation.

**DoD/TRICARE PPO through Humana**

- DoD Naval Hospital in Corpus Christi contracts with the TriCare/Humana network to provide inpatient services in area hospitals
- Network hospitals include all of the Christus Spohn hospitals
- Outpatient services are provided using a network of over 100 community-based primary care physicians and specialists
- The DoD Naval Hospital prospectively monitors all hospitalizations to ensure appropriateness of care
- The DoD arrangement expires in 2009.

**Access.** Among the three Sector One options, this option has the most significant impact on travel burden. With a broader network, it is likely that more of its providers practice closer to veterans' homes. However, unlike Option S2.1, this option does not offer the convenience of collocated inpatient and specialty outpatient services. With an unconnected informatics network or ties with a single health system, this option is least likely to facilitate coordination of care.

**Flexibility.** The contracting arrangement with DoD/TRICARE affords the VA more flexibility in responding to fluctuations in demand compared to VA-provided services within VA-owned and operated facilities. Contracts can be modified more readily than can physical infrastructures.

**Costs.** Table 29 displays a summary of life cycle costs for Option S1.3. This option assumes that the VA and DoD would jointly renegotiate the Humana-TRICARE contract to include Sector One veterans. The DoD has negotiated rates with Humana that are lower than the 110 percent of Medicare Allowable Charges that typically are negotiated with private sector partners. As a result, the Humana rates are assumed to be 100 percent of allowable charges for inpatient care, and 90 percent of allowable charges for specialty outpatient services. Consequently, the cost of Option S1.3, at $612 million is estimated to be lower than both S1.1 and S1.2.

**Table 29 - Summary of All Costs, Life Cycle - Option S1.3**

| Summary of All Costs ($000) NPV | Total Cost (2006–2035) |
|---|---|
| Total Inpatient Cost (VA) | $56,919 |
| Total Outpatient Cost (VA) | $38,536 |
| Total Inpatient Cost (Contracting) | $206,395 |
| Total Outpatient Cost (Contracting) | $310,622 |
| Capital Cost | $0 |
| Facility/Leasing Cost | $0 |
| **Total Costs, Option S1.3** | **$612,472** |

*Notes: All inpatient and outpatient cost categories include costs from care provided during the status quo time frame, prior to the start of a partnership between the VA and DoD.*
*Totals rounded to the nearest thousand dollars.*

**VA Mission.** As with all Sector One options, this option is expected to have limited impact on the research and education missions of the San Antonio VAMC because only a small volume of service would be diverted away from that teaching center. With a diffuse network of non-VA staff providing care, this option would not enhance the VA's research and education missions in Sector One. This option does provide an opportunity for VA and DoD to create a demonstration program to explore this novel sharing relationship.

**Implementation Risks.** As with other Sector One options, the risk associated with this option is low and the associated risks are similar to those of Option S1.1 which proposes full contracting with Christus Spohn. These include: inability to access veteran EHRs, less complete measurement of care quality, uncertainties in contract negotiations and in permanence of the relationship, and potential cost escalation over time. By partnering with DoD, this option may be faced with additional contractual, legal, and bureaucratic hurdles as well as potential resistance from some veteran groups and VA leaders. Since this type of arrangement has not been tested previously, the actual feasibility of this option is unknown.

**Other Considerations.** This option does not allow VA to retain governance or maintain VA identity in the inpatient and specialty outpatient facilities. VA would also not have long term control of the facility site or assets.

Table 30 summarizes the advantages and disadvantages of Option S1.3.

**Table 30 - Option S1.3 Advantages and Disadvantages**

| Assessment Criteria | Advantages | Disadvantages |
|---|---|---|
| **Access** | ▪ Most improved access to care in terms of drive time because of broadly distributed network<br>▪ Potential to provide complete array of services. | ▪ With unconnected informatics network or ties with single health system, less likely to coordinate care optimally<br>▪ Loss of close proximity to VA CBOC for primary care services. |
| **Flexibility** | ▪ High flexibility to accommodate changes in demand compared to build options<br>▪ The VA is not responsible for maintaining facilities or equipment which may become obsolescent over time. | ▪ None identified |
| **Cost** | ▪ Lowest NPV among three Sector One options because scale of TRICARE contracts allows DoD to negotiate lower rates. | ▪ None identified |
| **Other VA Goals** | ▪ Limited impact on research and education mission in San Antonio<br>▪ Opportunity to partner with DoD in a novel way to create demonstration program to understand the true advantages and disadvantages of this approach. | ▪ Limited impact on VA research and education mission locally. |
| **Risk** | ▪ None identified | ▪ Inability of private sector facilities to have ready access to veterans' EHRs<br>▪ These non-veteran facilities do not measure quality in as many dimensions as does the VA<br>▪ Contract terms subject to negotiation and currently unknown; DoD becomes third party in contract negotiations<br>▪ Permanence of arrangement reduced compared to VA-owned and operated facility, contract may not be renewed over time<br>▪ Potential cost escalation over time<br>▪ Potential contractual, legal, and bureaucratic hurdles in VA, DoD, and with private sector partner<br>▪ Potential resistance from veteran service organizations that have expressed opposition to TRICARE in the past<br>▪ Some VA leaders may also be resistant<br>▪ Actual feasibility is unknown at this time. |
| **Other Considerations** | ▪ Satisfies projected inpatient bed needs | ▪ The VA does not retain full governance<br>▪ Does not retain VA identity<br>▪ No long term control of site or asset by the VA<br>▪ Reduced flexibility for VA to impact clinical care with both inpatient and specialty outpatient services contracted to non-VA providers. |

## *Option S1.3 Summary*

Table 31 provides a summary of the assessment of Option S1.3. This option ranked second though it was essentially equivalent to Option S1.1 (contracting inpatient and outpatient services to Christus Spohn), which ranked third. Option S1.3 allows for collaboration with DoD, further increasing negotiating leverage to reduce service rates but increasing legal, regulatory, and contracting risks. With its broad network of providers, this option has the greatest potential to provide care closest to veterans' homes, but the least ability to coordinate care across providers or care settings.

**Table 31 - Summary Score for Option S1.3: Establish a VA-DoD Partnership to Utilize PPO Network (Humana Contract)**

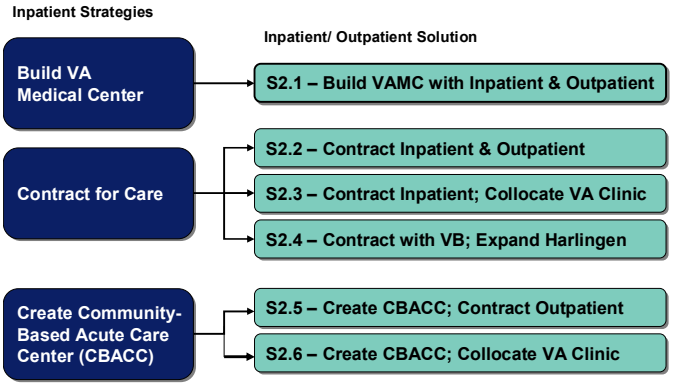
| Alternative | Total | Access | | Flexibility | Cost | Other VA Goals | | | Risk |
|---|---|---|---|---|---|---|---|---|---|
| Subcriterion | | Travel Burden | Array of Coordinated Services | Ability to Accommodate Fluctuations in Demand | NPV | Research | Education | VA/DoD Sharing | Risk |
| Effective Weight | | 27.8% | 16.4% | 12.6% | 18.5% | 1.2% | 2.2% | 1.5% | 19.9% |
| **Sector 1** | | | | | | | | | |
| **Option S1.3** | ◑ (3.59) | ● | ◔ | ◕ | ◑ | ○ | ○ | ◕ | ◑ |

○ 1.0-1.9 ◔ 2.0-2.9 ◑ 3.0-3.9 ◕ 4.0-4.9 ● 5.0

# Sector Two Service Delivery Options

The six options for providing inpatient and specialty outpatient care in Sector Two are grouped by inpatient care delivery strategy below.

### Build a New VAMC




- **Option S2.1:** Build a Small VA Hospital with Inpatient and Specialty/Primary Care Outpatient Capabilities (Harlingen or McAllen).

### Contract for Care

- **Option S2.2:** Contract with a Health System/Health Plan to Provide Inpatient and Specialty Outpatient Care
- **Option S2.3:** Contract with McAllen Medical Center for Inpatient Care and Collocate Leased Space for a VA Specialty Outpatient Clinic
- **Option S2.4:** Contract with Valley Baptist in Harlingen for Inpatient Care and Expand Harlingen VA CBOC/Specialty Outpatient Facility.

### Create CBACC

- **Option S2.5:** Create a Hospital within a Hospital (CBACC) with McAllen Medical Center for Inpatient Care and Contract with McAllen for Specialty Outpatient Care
- **Option S2.6:** Create a Hospital within a Hospital (CBACC) with McAllen Medical Center and Collocate a Leased VA Specialty Clinic.

Sector One and Sector Two differ in a variety of ways. The most significant difference is driven by geography. Sector Two enrollees live much further from San Antonio and therefore suffer a significantly greater travel burden when accessing VA outpatient specialty services and inpatient care. In developing options to address veteran needs, Sector Two also presents greater complexity than Sector One. There are at least two primary population centers to consider, McAllen and Harlingen, and a larger cohort of potential private sector providers. Of these providers, two seemed most motivated to participate—McAllen Medical Center and Valley Baptist—though others may step forward. There are also more approaches to consider including all three inpatient service delivery strategies—build, contract, and establish a CBACC. In addition, the contracting and CBACC options vary by different outpatient approaches.

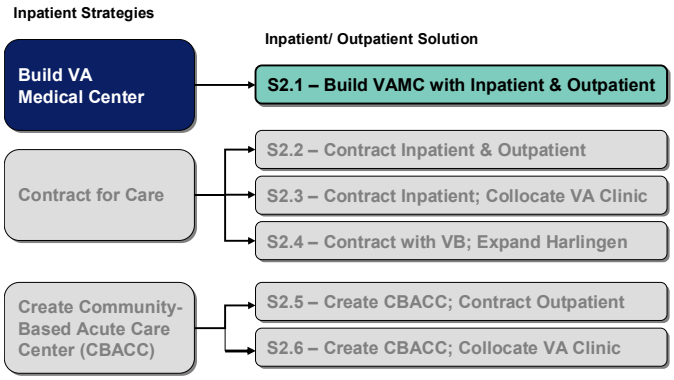
In this sector, as in Sector One, there are some overarching considerations relevant to access. All options in this sector fair well on drive time access and would be a dramatic improvement over the current state. The Harlingen and McAllen locations appear to be roughly equivalent based on drive time estimates. While McAllen is located in the more populous Hidalgo County, Harlingen, located in the heavily populated Cameron County, is strategically located between McAllen and Brownsville.

The NPV for all Sector Two options are in the same cost range, with the highest cost option S2.1 ($929,182 million) about 4 percent higher than the lowest cost option S2.5 ($893,387 million).

The following sections contain brief summaries and analyses of the six Sector One options, which are assessed based on access, flexibility, costs, impact on other VA goals and missions, and risk of implementation. Additional cost information is provided in **Appendix B-1.**

## Option S2.1: Build a Small VA Hospital with Inpatient and Specialty Outpatient Capabilities (Harlingen or McAllen)

This option proposes building a small VAMC in Sector Two, in either Harlingen or McAllen that accommodates both veteran inpatient and specialty outpatient needs.




### *Option S2.1 Description*

With a projected need for 15 acute medical/surgical beds and 4 acute psychiatric beds in 2015, the proposed hospital would be extremely small. Actual occupancy is likely to be even lower since a hospital of this size will be unable to supply a full range of necessary services and will have challenges attracting the needed subspecialists. Additional care would have to be purchased in the community or veterans would again face the prospect of traveling ten hours roundtrip to obtain routine inpatient and specialty outpatient care in San Antonio. Such a small facility would also face challenges in maintaining the quality of care for those service lines that were particularly low volume. This challenge is especially concerning because there is a robust supply of large, sophisticated, multispecialty, and high quality hospitals in the community.

**Option S2.1 Key Features**

- **Inpatient Care:** Would be provided in a new VAMC with approximately 15 acute medical and surgical beds.
- **Specialty Outpatient Care:** Would be provided in the clinic area of this small VAMC.
- **Primary Care:** Would be provided in the clinic area of this small medical center.
- **Comment:** This VAMC could be located in either Harlingen or McAllen and still meet drive time access guidelines.

The small size of this facility is driven by the projections of the VA Enrollment Health Care Projection Model. During site visits, veterans expressed skepticism regarding these projections even though the model has proven to be highly accurate in the past. To allay these concerns, the study team considered a scenario in which the projections are doubled—yielding approximately 30 medical and surgical beds in 2015. However, even with such aggressive assumptions, this would be a very small hospital with very limited capabilities that would render it inadequate to meet veterans' needs.

Because of these limitations, this option was slated for elimination during the initial screening of options, as was the corresponding option for Sector One. However, given the strong stakeholder advocacy for this approach in the Lower Rio Grande Valley, Option S2.1 was evaluated further.

The proposed hospital could be built in either McAllen or Harlingen as there are advantages and disadvantages to both locations. Although McAllen has a higher veteran population density, Harlingen is located between McAllen and Brownsville and is more accessible for some Sector Two veterans. Furthermore, the University of Texas Regional Academic Health Center (RAHC) and the VA are collaborating to build a new VA Clinic in Harlingen, so collocation with that facility may be attractive and may produce some cost savings.

## *Option S2.1 Analysis*

This section analyzes this option against the criteria of access, flexibility, cost, impact to other VA goals/missions, and risk to implementation.

**Access.** Although building a new VAMC may appear to significantly enhance access for enrolled veterans in Sector Two, this small hospital could not provide the complete range of inpatient services required by the veteran population. Veterans often have multiple medical problems requiring care from multiple disciplines that would demand a more complete spectrum of inpatient and outpatient services. This applies to older veterans suffering from multiple chronic illnesses, and younger veterans returning from Afghanistan or Iraq with multiple injuries and disabilities. The limitations of a very small hospital would necessitate continued travel to San Antonio or local contracting of health care in the community to access a full range of services.

**Flexibility.** New construction is the least flexible in adapting to significant fluctuations in demand. If utilization exceeds that for which the hospital has been built, the VA would have to make additional plans to address the unmet capacity needs. On the other hand, overestimating demand would lead to higher costs associated with an underutilized facility. Acquisition, maintenance, and retirement of equipment also present challenges to flexibility.

**Cost.** Table 32 summarizes the total life cycle costs of building a small VA hospital in Sector Two. Option S2.1 requires new construction of 154,000 Departmental Gross Square Feet (DGSF). Since this would be a small hospital with limited access to some specialties, the VA would still need to contract out at least 30 percent of both the inpatient and specialty outpatient care.

**Table 32 - Summary of All Costs, Life Cycle - Option S2.1.**

| Summary of All Costs ($000) NPV | Total Cost (2006–2035) |
|---|---|
| Total Inpatient Cost (VA) | $289,413 |
| Total Outpatient Cost (VA) | $291,169 |
| Total Inpatient Cost (Contracting) | $78,660 |
| Total Outpatient Cost (Contracting) | $190,149 |
| Capital Cost | $72,197 |
| Facility/Leasing Cost | $7,595 |
| **Total Costs, Option S2.1** | **$929,182** |

*Notes: All inpatient and outpatient cost categories include costs from care provided during the status quo time frame, prior to activation of a new hospital.*
*Totals rounded to the nearest thousand dollars.*

Due to the construction costs, Option S2.1 is among the most expensive of the options, totaling $929 million in NPV over 30 years.

**VA Mission.** As with all Sector Two options, this option will have little impact on education and research at San Antonio because the volumes of service that will be diverted away from that teaching center will be small. The proposed new VAMC provides an opportunity to make a small impact on the VA education and research mission in this locality. There are no opportunities for VA-DoD sharing in this sector.

**Implementation Risks.** The highest risks for Option S2.1 in Sector Two are related to quality of care, staff recruitment, and the time to completion of the project. Hospitals of this size are unable to provide a full spectrum of services and may lack a sufficient volume of care to maintain proficiency in key subspecialty areas. There are inherent difficulties in recruiting qualified clinical and technical staff in small communities especially when competing with larger well established institutions. The nursing shortage is especially acute in Sector Two. Another risk is associated with the length of time to complete the project—approximately ten years. This may lead to increased veteran dissatisfaction. The level of satisfaction may further deteriorate when veterans find that the limited range of service offered by this small facility will require continued trips to San Antonio or adjunctive care in the community. Other areas of moderate risk include obsolescence of the facility and equipment, inaccurate estimation of construction costs over a prolonged time, inaccuracy of demand projections and delays in construction. Given the spectrum of significant concerns, this option is unlikely to pass through the approval process for major construction projects, posing a very high risk to implementation.

**Other Considerations.** Under this option, the VA retains full governance and maintains VA identity in the inpatient and specialty outpatient facilities. The VA would have long term control of the facility site or assets. VA would also have more ability to impact clinical care with both inpatient and specialty outpatient services provided by VA staff. However, because of the need to construct a new facility, provision of needed services would be delayed.

Table 33 summarizes the advantages and disadvantages of Option S2.1.

**Table 33 - Option S2.1 Advantages and Disadvantages**

| Assessment Criteria | Advantages | Disadvantages |
|---|---|---|
| **Access** | ▪ Improved access to care in terms of drive time to facility<br>▪ Enhanced coordination of care managed by VA staff<br>▪ Inpatient and outpatient services, both specialty and primary care, provided within same medical complex. | ▪ Inability to provide full range of services due to small hospital size<br>▪ Veterans with multiple medical problems and those requiring low volume specialty care may require referral either to San Antonio or to other private sector hospitals. |
| **Flexibility** | ▪ None identified | ▪ Reduced flexibility to accommodate changes in demand compared to contracting options<br>▪ The VA is responsible for maintenance of facility and equipment which may become obsolescent over time. |
| **Cost** | ▪ None identified | ▪ One of the costliest among Sector Two options due to construction costs and need for additional contracted services. |

| Assessment Criteria | Advantages | Disadvantages |
|---|---|---|
| **Other VA Goals** | ▪ Limited impact on research and education mission in San Antonio<br>▪ Opportunity to impact on VA research and education mission locally. | ▪ No opportunity for VA-DoD sharing. |
| **Risk** | ▪ Ready access to veteran EHRs<br>▪ Ability to deploy VA quality management and accountability programs<br>▪ Permanence of facility and service lines. | ▪ Potential difficulty recruiting sufficient VA staff, particularly specialty physician and nursing<br>▪ Potential adverse effect on quality of care for low volume procedures<br>▪ Potential construction cost escalation over time<br>▪ May not pass approval process for major construction projects because of quality, staffing, and completion timeline<br>▪ Potential disruptions in construction timeline further delaying provision of needed services. |
| **Other Considerations** | ▪ Satisfies projected inpatient bed needs<br>▪ The VA retains full governance<br>▪ Retains VA identity<br>▪ VA controls site and asset long term<br>▪ Increased ability for VA to impact clinical care with both inpatient and specialty outpatient services provided by VA staff. | ▪ Delayed provision of needed services due to construction time. |

## *Option S2.1 Summary*

Table 34 provides a summary of the assessment of Option S2.1. Having a new VAMC allows the VA to own and operate its own facility, and better oversee the quality and coordination of care it provides to veterans at that site. However, the small size of the hospital proposed in this option will limit the array of services provided at the VAMC, requiring a significant portion of services to be referred to San Antonio or contracted with community providers. In addition, this option is the most expensive among the Sector Two options and would not be available to veterans for approximately eight years.

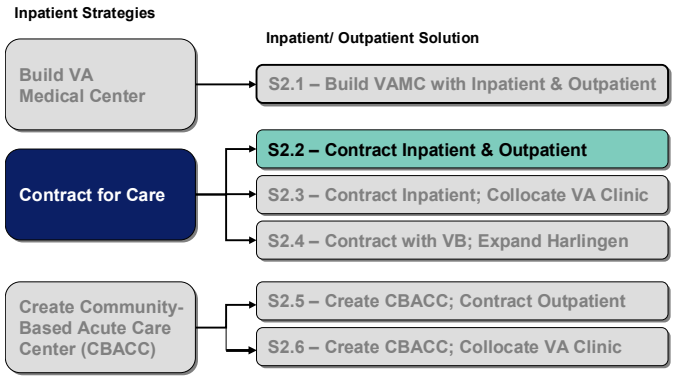
**Table 34 - Summary Score for Option S2.1: Build a Small VA Hospital with Inpatient and Specialty Outpatient Capabilities (Harlingen or McAllen)**

| Alternative | Total | Access | | Flexibility | Cost | Other VA Goals | | | Risk |
|---|---|---|---|---|---|---|---|---|---|
| Subcriterion | | Travel Burden | Array of Coordinated Services | Ability to Accommodate Fluctuations in Demand | NPV | Research | Education | VA/DoD Sharing | Risk |
| Effective Weight | | 27.8% | 16.4% | 12.6% | 18.5% | 1.2% | 2.2% | 1.5% | 19.9% |
| **Sector 2** | | | | | | | | | |
| **Option S2.1** | ◔ (2.15) | ○ | ○ | ○ | ◑ | ◔ | ◔ | ○ | ◑ |

○ 1.0-1.9 ◔ 2.0-2.9 ◑ 3.0-3.9 ◕ 4.0-4.9 ● 5.0

## Option S2.2: Contract with a Health System/Health Plan to Provide Inpatient and Specialty Outpatient Care

This option proposes to contract for inpatient and specialty outpatient care in Sector Two. The most likely partners at this stage appear to be McAllen Medical Center and Valley Baptist.




### *Option S2.2 Description*

This approach concentrates veteran care in specific facilities that are widely recognized as high-quality care sites. Under this option, both parties to the contract stand to benefit from concentrating care in a limited number of institutions. The private sector institutions benefit from a nontrivial increase to their patient census and occupancy rate and from an assured revenue stream for the care provided in their facilities. Because volume would be concentrated in only a few providers, the VA would have greater bargaining power that could be used to negotiate price, and if concerns about clinical or quality arise in the future, the VA would have greater leverage to resolve those issues.

Compared to Sector One, Sector Two has a greater number of candidate hospitals and systems and a more competitive hospital market. Candidate institutions or systems include Rio Grande Regional, Doctors Hospital at Renaissance, McAllen Medical Center in McAllen, and the Valley Baptist Health System with facilities in Harlingen and Brownsville.

The VA most commonly hospitalizes patients in McAllen Medical Center in McAllen and Valley Baptist in Harlingen. Executives representing McAllen Medical Center and Valley Baptist in Sector Two were enthusiastic about the prospects of working with the VA to establish comprehensive contracts for care. (An executive at Rio Grande Regional was very receptive and following the site visits a representative from Doctors Hospital at Renaissance also reached out to the study team). The VA has an existing service contract with Valley Baptist limited to providing inpatient care in 30 low-acuity diagnostic related groups (DRG), and providing laboratory and radiology services.

**Option S2.2 Key Features**

- **Inpatient Care:** Would be provided through contracts with a private sector partner. The most likely partners at this stage appear to be McAllen Medical Center and Valley Baptist in Harlingen
- **Specialty Outpatient Care:** Would be provided through the specialists affiliated with the inpatient providers described above. In each case, a substantial number of those specialists could be accessed at a specialty care clinic on the campus of the inpatient partner
- **Primary Care:** Would continue to be provided at the CBOCs in McAllen and Harlingen. McAllen Medical Center has offered to lease space to collocate the CBOC on its campus—though it is already quite close. Valley Baptist is adjacent to the Harlingen CBOC.

## Valley Baptist Health System

**The Valley Baptist Medical Center in Harlingen (VBMC)** is the system's flagship facility, with 441 staffed beds and an ADC of 294, according to AHA data. This ADC suggests a 66 percent occupancy rate. A senior administrator cited an occupancy rate in "the low 70s." Valley Baptist provides the full array of services one expects at a tertiary care center.

**Valley Baptist Health System Highlights**

- Close proximity to Harlingen CBOC
- Provides a full array of tertiary and acute medical and surgical services. Specialty services include:
  - A 39-bed joint replacement center
  - A rehabilitation center and amputee clinic
  - A 42-bed oncology/nephrology unit
- Serves as a University of Texas teaching site through the Regional Academic Health Center, an educational and research facility that is across from the VAMC and supports evidence-based medicine research
- VBMC's health plan, the Valley Baptist Health Plan currently has 18,000 members throughout Sector Two
- Via contract with Schaller Anderson, the health plan provides medical utilization and other third party administration functions.

The VBMC also serves as an important teaching site for the University of Texas; a broad complement of residents, fellows, and faculty provide care to patients. Across from the hospital and close to the planned multispecialty VA clinic is the University of Texas RAHC, a cutting-edge educational facility with sophisticated electronic resources that supports the program in evidence-based medicine. Teaching faculty, residents, and other resources in this clinical and educational complex will support the planned VA clinic. While all hospitals under consideration faired well according to risk adjusted outcome measures used by the Agency for Health Care Quality and Research (AHRQ), Valley Baptist scored particularly well in some of the same process measures used by VA. These process measures are reported by Hospital Compare.

To extend its services, leaders from the Valley Baptist Health System propose to provide a more comprehensive array of services through its 18,000-member health plan. This health plan includes physicians that cover the full spectrum of specialties in Sector Two. This demonstration project could either be based on a capitated fixed price arrangement or on a fee-for-service basis.

In this arrangement, the VA would maintain an oversight role, including review and approval of claims and procedures/admissions, as specified and negotiated in the contract arrangement. The VA CBOCs in Harlingen and McAllen would continue to serve as veterans' primary care provider and care coordinator. Their key responsibilities would be to provide primary care, communicate and refer veterans to a designated group of specialists for diagnostic consultation and specialty care, and maintain and update veterans' EHR. In addition, the VA CBOCs would administer veteran prescriptions. The Valley Baptist Health plan would then provide member services and medical, provider network, and financial management services.

## McAllen Medical Center

McAllen Medical Center, also in Sector Two, does not have an associated health plan, but it has expressed an interest in comprehensive master contracting that could include staffing a multispecialty clinic for the VA. In addition, McAllen has partnered with two hospitalist groups that could provide inpatient care for veterans referred to McAllen for care. McAllen also suggested creative ways to provide special attention and recognize the uniqueness of veteran culture and needs. McAllen executives have suggested that special veteran amenities could be provided, including the following:

- **A veteran ombudsman.** All admitted veterans would be visited by a veteran ombudsman who would coordinate veteran care throughout their stay. The ombudsman role would ensure coordination of services, appropriate transfer of records, and referrals and transfers to San Antonio or other providers. The ombudsman would also ensure that appropriate VA preauthorizations and approvals were obtained, thereby minimizing veteran concern over any potential financial burden.
- **A veteran lounge.** While veterans would be admitted to any available bed, McAllen has offered to create a separate veteran lounge, where veterans could greet each other and visit with family and friends.

**McAllen Medical Center Highlights**

- Provides a full array of acute and tertiary-level care services, including the following:
  - open heart surgery
  - neurosurgery
  - certified trauma care
  - orthopedics
  - medical and surgical oncology.
- Provides cardiovascular services at the McAllen Heart Hospital, located on the same campus, and provides inpatient psychiatric services at a nearby facility
- Contracts with hospitalists to provide inpatient services
- Partners with Solaris a 53-bed LTAC in a hospital within a hospital arrangement to provide:
  - pulmonary care
  - wound care
  - pain management
  - neurological services
  - geriatric service
  - high acuity medicine/surgery
- Offering to provide special veteran amenities including ombudsman, a designated lounge, and potentially a hospital within a hospital arrangement (See Options S2.5 and S2.6).

Because McAllen was enthusiastic about the concept of a CBACC, described in greater detail below, a contracting arrangement could be a first step in evolving toward a CBACC, which would create a dedicated veteran ward.

### *Option S2.2 Analysis*

This section analyzes this combined option against the criteria of access, flexibility, cost, impact to other VA goals/missions, and risk to implementation.

**Access.** As is the case with all options in this sector, this option reduces travel burden based on drive time analysis. Since Valley Baptist and McAllen Medical Center are large full service hospitals, this option offers access to a broad spectrum of services. Concentrating care in one inpatient facility and collocating a significant portion of outpatient specialty care at that site promotes coordination. This is further enhanced by the proximity of a VA CBOC to each location. However, if the inpatient partner and specialty clinic were in Harlingen, it would be less convenient for those using the McAllen CBOC and vice versa. There would be challenges in integrating VA VistA in contracted environments which would impact care coordination.

**Flexibility.** This option provides significant flexibility because contracts can be modified to accommodate fluctuations in utilization. VA does not have to maintain a physical infrastructure and equipment that could become obsolete.

**Cost.** Table 35 summarizes the total life cycle costs of contracting with a health system or health plan to provide inpatient and outpatient care in Sector Two. This option assumes that 100 percent of care, with the exception of complex inpatient surgery performed at the VA's San Antonio facility, would be contracted out to either Valley Baptist or McAllen Medical Center, though other preferred hospitals may be considered.

**Table 35 - Summary of All Costs, Life -Cycle - Option S2.2**

| Summary of All Costs ($000) NPV | Total Cost (2006–2035) |
|---|---|
| Total Inpatient Cost (VA) | $60,030 |
| Total Outpatient Cost (VA) | $46,202 |
| Total Inpatient Cost (Contracting) | $374,446 |
| Total Outpatient Cost (Contracting) | $421,606 |
| Capital Cost | $0 |
| Facility/Leasing Cost | $0 |
| **Total Costs, Option S2.2** | **$902,283** |

*Notes: All inpatient and outpatient cost categories include costs from care provided during the status quo time frame, prior to the start of a contract with a health system. Totals rounded to the nearest thousand dollars.*

The total life cycle cost of Option S2.2 is estimated at $902 million. This cost is among the lowest of the six Sector Two options, primarily because there are no facility costs associated with contracting.

**VA Mission.** As with all Sector Two options, this option will have little impact on education and research at San Antonio because the volumes of service that will be diverted away from that teaching center will be small. The current academic affiliation with Valley Baptist would benefit modestly from additional workload. There is no opportunity for VA-DoD sharing in this option.

**Implementation Risks.** Risks include challenges in accessing VistA and related challenges to care coordination. Additional risks are associated with the more limited quality measurement programs in the private sector. There is risk generated by the contractual uncertainties associated with this category of options. Because none of these contracts has yet been negotiated, it cannot be known with certainty the extent to which the contracts would be comprehensive. Without VA assurance of long-term budget support, the permanence of these arrangements is also uncertain; however, both of these risks can be mitigated by actions that are within the VA's control. The VA financial risk would be lower with a capitated arrangement providing a defined set of benefits to veterans for a defined per enrollee cost. This may benefit veterans as well, since capitated coverage could be comprehensive. Cost escalation is another

risk that is more difficult to mitigate, because it is driven largely by local market conditions beyond VA control.

**Other Considerations.** Under this option, the VA does not retain full governance or maintain VA identity in the inpatient and specialty outpatient facilities. The VA would not have long term control of the facility site or assets and would also have less ability to impact clinical care with both inpatient and specialty outpatient services contracted to private sector providers.

Table 36 summarizes the advantages and disadvantages of Option S2.2.

**Table 36 - Option S2.2 Advantages and Disadvantages**

| Assessment Criteria | Advantages | Disadvantages |
|---|---|---|
| **Access** | ▪ Improved access to care in terms of drive time<br>▪ Potential to provide complete array of services<br>▪ Enhanced coordination of care with inpatient services concentrated in a single facility and collocating a significant portion of specialty outpatient care<br>▪ Close proximity to VA CBOC for primary care services. | ▪ Potential reduction in care coordination using non-VA staff and limited or no access to veteran EHRs. |
| **Flexibility** | ▪ High flexibility to accommodate changes in demand compared to building options<br>▪ The VA is not responsible for maintenance of facility and equipment which may become obsolescent over time. | ▪ None identified |
| **Cost** | ▪ Among lowest cost options for Sector Two mainly because no facility costs. | ▪ None identified |
| **Other VA Goals** | ▪ Limited impact on research and education mission in San Antonio<br>▪ Current academic affiliation with Valley Baptist may benefit modestly from additional workload<br>▪ Additional workload and veteran case mix may benefit McAllen training programs. | ▪ Limited impact on VA research and education mission locally<br>▪ No opportunity for VA-DoD sharing. |
| **Risk** | ▪ None identified | ▪ Inability of private sector facilities to have ready access to veteran EHRs<br>▪ These non-veteran facilities do not measure quality in as many dimensions as does the VA<br>▪ Contract terms subject to negotiation and currently unknown<br>▪ Permanence of arrangement reduced compared to VA-owned and operated facility; contract may not be renewed over time<br>▪ Potential cost escalation over time. |

| | | |
|---|---|---|
| **Other Considerations** | ▪ Satisfies projected inpatient bed needs | ▪ The VA does not retain full governance<br>▪ Does not retain VA identity<br>▪ No long term control of site or asset by the VA<br>▪ Reduced ability for VA to impact clinical care with both inpatient and specialty outpatient services contracted to non-VA providers. |

## *Option S2.2 Summary*

Table 37 provides a summary of the assessment for Option S2.2. By contracting with high quality community hospitals, this option provides the VA a greater array of services within Sector Two and the additional flexibility to meet fluctuations in veteran demand. However, due to the lack of VA staff presence and inaccessibility of veteran EHRs, the potential for care coordination is diminished.

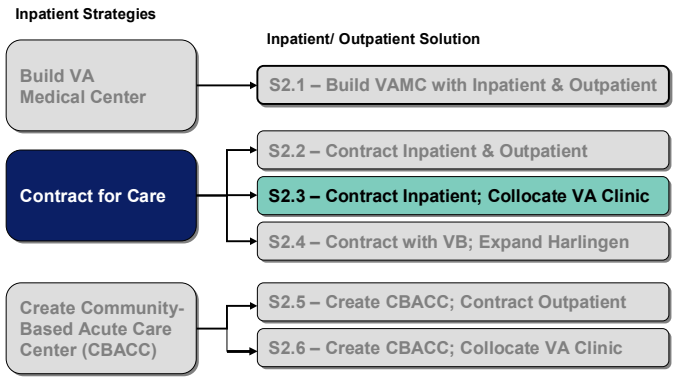
**Table 37 - Summary Score for Option S2.2: Contract with Health System/Health Plan to Provide Inpatient and Specialty Outpatient Care**

| Alternative | Total | Access | | Flexibility | Cost | Other VA Goals | | | Risk |
|---|---|---|---|---|---|---|---|---|---|
| Subcriterion | | Travel Burden | Array of Coordinated Services | Ability to Accommodate Fluctuations in Demand | NPV | Research | Education | VA/DoD Sharing | Risk |
| Effective Weight | | 27.8% | 16.4% | 12.6% | 18.5% | 1.2% | 2.2% | 1.5% | 19.9% |
| **Sector 2** | | | | | | | | | |
| **Option S2.2** | ◑ (3.36) | ◑ | ◑ | ◕ | ◑ | ◑ | ◑ | ○ | ◑ |

○ 1.0-1.9 ◔ 2.0-2.9 ◑ 3.0-3.9 ◕ 4.0-4.9 ● 5.0

## Option S2.3: Contract with McAllen Medical Center for Inpatient Care and Collocate Leased Space for a VA Specialty Outpatient Clinic

As with the previous option (S2.2), this option involves contracting with a provider in Sector Two for inpatient services. However, unlike Option S2.2, this option provides for a VA specialty care outpatient facility by leasing a VA clinic on the campus of the contracted inpatient service provider.



## Option S2.3 Description

The enrolled population in Sector Two currently generates a demand for 24,000 specialty care clinic stops, of which 14,000 are accommodated in San Antonio. It is reasonable to hypothesize that the current demand is constrained by a lack of supply in the Lower Rio Grande Valley. The VA Enrollment Health Care Projection Model estimates that demand for outpatient specialty services will reach more than 86,000 stops by 2020 and will stabilize thereafter. Approximately 89,000 square feet of clinic space would be required to meet this demand.

Executives of McAllen Medical Center in Hidalgo County have expressed a willingness to collocate specialty care services if the VA chooses to partner with McAllen Medical Center for inpatient services. McAllen has identified space where a multispecialty clinic could be built or leased on its campus, creating an opportunity to enhance care coordination across inpatient and outpatient settings. In addition, the current VA primary care clinic in McAllen (McAllen CBOC) is very close to the McAllen Medical Center, further enhancing convenience for veterans and contributing to coordination of care.

**Option S2.3 Key Features**

- **Inpatient Care:** Would be provided through contracts with McAllen Medical Center
- **Specialty Outpatient Care:** Would be provided through a VA clinic located on the McAllen campus
- **Primary Care:** Would continue to be provided at the CBOCs in McAllen and Harlingen. McAllen Medical Center has offered to lease space to collocate the CBOC on its campus—though it is already quite close
- **Comment:** Because McAllen has expressed willingness to host a VA ward, a CBACC, this contracting option could evolve to become a CBACC if a more incremental approach was preferred.

This collocated multispecialty facility may be staffed by VA physicians, by physicians of the inpatient partner, or both. For example, the VA may choose to hire specialists for very high volume services such as cardiology and contract with non-VA specialists for low-volume specialty services such as neurosurgery. In either case, the physicians' offices would be in the same building on or near the hospital campus where veterans receive inpatient services.

There are a number of advantages in partnering with McAllen Medical Center compared with other facilities in McAllen. It is very close to the existing VA CBOC, and is the facility to which VA physicians at that CBOC most frequently admit patients. McAllen Medical Center leadership is very enthusiastic about collaborating with the VA, and is very receptive to both contracting and creating a CBACC. This would give the VA the option of starting with a conventional contracting approach and evolving to a CBACC. Conversely, the VA could start with the CBACC and revert to more conventional contracting if preferred. Finally, McAllen hosts another hospital within its walls, the Solara Long Term Acute Care Center (LTACC). This would provide veterans access to this facility that focuses on chronic care and rehabilitation needs.

## Option S2.3 Analysis

This section analyzes this combined option against the criteria of access, flexibility, cost, impact to other VA goals/missions, and risk to implementation.

**Access.** As with all options in this sector, this option reduces travel burden based on drive time analysis. Because McAllen is a large full service hospital, this option also provides access to a broad spectrum of services. Concentrating care in one inpatient facility and collocating a significant portion of outpatient specialty care at that site promotes coordination. This is significantly enhanced by placing a VA specialty care clinic near both the VA CBOC and the inpatient partner.

**Flexibility.** This option provides significant flexibility because contracts can be modified to accommodate fluctuations in utilization. The VA does not have to maintain a physical infrastructure and inpatient equipment that could become obsolete, but would be responsible for outpatient equipment.

**Costs.** Table 38 summarizes the total life cycle costs of contracting with McAllen Medical Center for inpatient care and leasing space on McAllen's campus to provide specialty outpatient care. Given industry-wide difficulty with recruitment of highly paid specialists (neurosurgeons, urologists, etc.) and relatively low workloads projected for some specialties, it is assumed that that the VA would provide 70 percent of specialty outpatient care and would elect to contract with McAllen for highly selected specialties (approximately 30 percent of total specialty outpatient care).

**Table 38 - Summary of All Costs, Life Cycle - Option S2.3**

| Summary of All Costs ($000) NPV | Total Cost (2006–2035) |
|---|---|
| Total Inpatient Cost (VA) | $60,030 |
| Total Outpatient Cost (VA) | $241,888 |
| Total Inpatient Cost (Contracting) | $374,446 |
| Total Outpatient Cost (Contracting) | $196,559 |
| Capital Cost | $14,010 |
| Facility/Leasing Cost | $35,406 |
| **Total Costs, Option S2.3** | **$922,339** |

*Notes: All inpatient and outpatient cost categories include costs from care provided during the status quo time frame, prior to the start of a contract with McAllen Medical Center and activation of a CBOC.*
*Totals rounded to the nearest thousand dollars.*

In this option, the VA would be leasing and renovating approximately 71,000 square feet of space. When including the leasing and renovation facility cost, VA provided outpatient care is more expensive than contracting for outpatient care. As a result, the NPV cost of Option S2.3 is $922 million, which is slightly more expensive than option S2.2. (100 percent contracting).

**VA Mission.** As with all Sector Two options, this option will have little impact on education and research at San Antonio because the volumes of service that will be diverted away from that teaching center will be small. There is an opportunity to expand the academic mission at McAllen. There is no opportunity for VA-DoD sharing in this option.

**Implementation Risk.** There is risk generated by the contractual uncertainties associated with contracting options. Because none of these contracts have yet been negotiated, it cannot be known with certainty the extent to which they would be comprehensive. Without VA assurance of long-term budget support, the permanence of these arrangements is also uncertain. However, both of these risks can be mitigated by actions that are within the VA's control. The VA financial risk may be lowered by the presence of VA specialist physicians who would be able to exert more utilization control in both the outpatient and inpatient setting. Contracting risk would also be lower with a capitated arrangement providing a defined set of benefits to veterans for a defined per enrollee cost. This may benefit veterans as well, since capitated coverage could be comprehensive.

**Other Considerations.** Under this option, the VA does not retain full governance or maintain VA identity in the inpatient facility, but does in the specialty outpatient clinic. The VA does not have long term control of the facility site or assets. The VA has greater ability to impact clinical care with the presence of VA-run specialty outpatient services.

Table 39 summarizes the advantages and disadvantages of Option S2.3.

**Table 39 - Option S2.3 Advantages and Disadvantages**

| Assessment Criteria | Advantages | Disadvantages |
|---|---|---|
| **Access** | ▪ Improved access to care in terms of drive time<br>▪ Potential to provide complete array of services<br>▪ Greater potential to provide coordination of care with inpatient services concentrated in a single facility and collocating VA-managed outpatient facility<br>▪ Close proximity to VA CBOC for primary care services. | ▪ None identified |
| **Flexibility** | ▪ High flexibility to accommodate changes in demand compared to building options<br>▪ The VA is not responsible for maintaining facilities or inpatient equipment which may become obsolescent over time. | ▪ Challenges recruiting VA specialists to outpatient facility reducing VA's ability to respond to increased demand<br>▪ The VA is responsible for maintaining outpatient equipment which may become obsolescent over time. |
| **Cost** | ▪ None identified | ▪ When factoring in leasing and renovation costs of outpatient facility, VA-provided outpatient care is more expensive than contracting for outpatient services. |
| **Other VA Goals** | ▪ Limited impact on research and education mission in San Antonio<br>▪ With the VA outpatient clinic, it may have small impact on VA education and research mission locally<br>▪ Added veteran workload and case mix may augment McAllen education mission. | ▪ No opportunity for VA-DoD sharing |
| **Risk** | ▪ With VA presence in the outpatient clinic, there is greater potential to enable access to veteran EHRs in inpatient facility<br>▪ VA presence may influence multi-dimensional quality measurement per VA standards<br>▪ Presence of VA specialists may mitigate risk of cost escalation over time. | ▪ Contract terms subject to negotiation and currently unknown<br>▪ Permanence of arrangement reduced compared to VA-owned and operated facility; contract may not be renewed over time. |
| **Other Considerations** | ▪ Satisfies projected inpatient bed needs<br>▪ VA retains governance of outpatient clinic and services<br>▪ The VA retains identity in outpatient clinic<br>▪ The VA would have greater ability to impact clinical care with presence of VA-run specialty outpatient services. | ▪ The VA does not retain full governance of inpatient facility<br>▪ Does not retain VA identity in inpatient facility<br>▪ No long term control of site or asset by VA. |

## *Option S2.3 Summary*

Table 40 summarizes the assessment of Option S2.3. This option receives the second highest score of all Sector Two options across nearly all assessment criteria. This contracting option affords greater flexibility to accommodate changes in demand compared to Option S2.1, building a new VAMC. The presence of VA staff in a collocated outpatient clinic provides greater potential for coordinated care. Yet, because of upfront renovation costs, leasing an outpatient facility costs more than contracting for outpatient care.

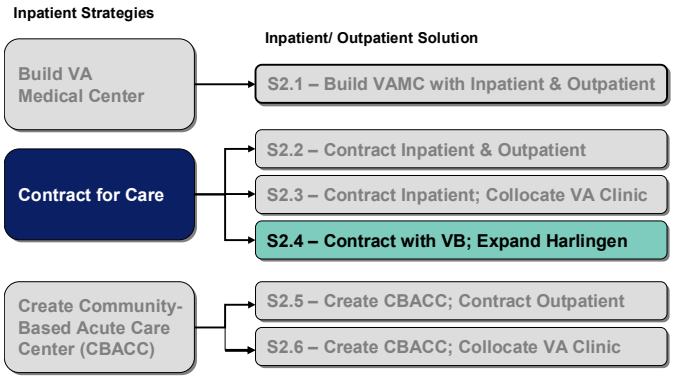
**Table 40 - Summary Score for Option S2.3: Contract with McAllen Medical Center for Inpatient Care and Collocate Leased Space for a VA Specialty Outpatient Clinic**

| Alternative | Total | Access | | Flexibility | Cost | Other VA Goals | | | Risk |
|---|---|---|---|---|---|---|---|---|---|
| Subcriterion | | Travel Burden | Array of Coordinated Services | Ability to Accommodate Fluctuations in Demand | NPV | Research | Education | VA/DoD Sharing | Risk |
| Effective Weight | | 27.8% | 16.4% | 12.6% | 18.5% | 1.2% | 2.2% | 1.5% | 19.9% |
| **Sector 2** | | | | | | | | | |
| **Option S2.3** | ◑ (3.95) | ◕ | ◕ | ◕ | ◑ | ◑ | ◑ | ○ | ◕ |

○ 1.0-1.9 ◔ 2.0-2.9 ◑ 3.0-3.9 ◕ 4.0-4.9 ● 5.0

## Option S2.4: Contract with Valley Baptist in Harlingen for Inpatient Care and Expand Harlingen VA CBOC/Specialty Outpatient Facility

This option is similar to Option S2.3 above which proposes contracting for inpatient services and collocating VA specialty services on the same campus. McAllen is the partner in Option S2.3; in this option Valley Baptist is the partner.



## *Option S2.4 Description*

As with the previous options (S2.2 and S2.3), this option involves contracting with a provider in Sector Two for inpatient services. However, to provide specialty outpatient services, this option calls for the VA to expand the existing CBOC in Harlingen and add multispecialty services.

The Harlingen CBOC has approved plans to lease a 30,000 square foot clinic in newly constructed office space close to Valley Baptist Hospital and the RAHC. With the activation of this facility, the Harlingen CBOC will have the in-house capability to provide audiology, physical therapy, dental, pharmacy, laboratory, and radiology services. With the new facility, Harlingen could more than triple its current workload volume from 12,000 to as many as 40,000 clinic stops per year.

**Option S2.4 Key Features**

- **Inpatient Care:** Would be provided by Valley Baptist in Harlingen
- **Specialty Outpatient Care:** Would be provided by VA physicians at the expanded Harlingen CBOC/specialty clinic. This space would be leased. Additional specialty support could be accessed through Valley Baptist's staff physicians, many of whom have teaching appointments at the University of Texas
- **Primary Care:** Would be provided at the same facility as specialty outpatient care in Harlingen. The McAllen CBOC would continue to provide primary care
- **Comment:** This option leverages the existing relationships between Valley Baptist, the existing Harlingen VA outpatient facility, and the University of Texas. Current Valley Baptist faculty and resident staff the Harlingen CBOC and this staffing model could be expanded to include other specialists.

By 2015, total specialty demand in the Valley is projected to be approximately 85,000 clinic stops for medical/surgical and mental health services. The planned Harlingen CBOC is insufficiently sized to meet the projected workload. However, it appears that there is sufficient land adjacent to the planned clinic to expand the clinic to meet future demand.

The capacity to expand the new VA Harlingen CBOC currently under construction presents an opportunity unique among all the options in this sector—the potential to locate primary care and outpatient specialty care at the same location. Not only is this most convenient for veterans, it has the potential to enhance coordination. Outpatient services are most important in relieving travel burden, therefore, this is an important distinguishing characteristic of this option. Coordination is further enhance by partnering with Valley Baptist to provide inpatient care.

Valley Baptist Hospital serves as an important teaching site for the University of Texas; a broad complement of residents, fellows, and faculty provide care to patients. Across from the hospital and close to the planned multispecialty VA clinic is the RAHC, a cutting-edge educational facility with sophisticated electronic resources that supports the program in evidence-based medicine. Teaching faculty, residents, and other resources in this clinical and educational complex could support the planned VA clinic.

In a number of the options proposed, one of the concerns in providing VA specialty outpatient care is the ability to attract and retain specialist staff. By partnering with a highly academic institution, the VA can provide part-time VA appointments so that these faculty members will staff the specialty clinic. This partnership mirrors the partnership between the Audie Murphy VAMC and the University of Texas Medical Center at San Antonio further enhancing the potential for collaboration in veteran care.

Under this option, the clinic in McAllen would continue to focus on primary care. The McAllen clinic would refer veterans to the newly expanded multispecialty clinic in Harlingen and specialists from the Harlingen facility could have periodic office hours at the McAllen CBOC.

## *Option S2.4 Analysis*

This section analyzes this combined option against the criteria of access, flexibility, cost, impact to other VA goals/missions, and risk to implementation.

**Access.** This option is particularly strong in reducing travel burden and providing a broad array of services at Valley Baptist. By expanding the existing clinic to supply specialty care, coordination is enhanced. This facility may be staffed by full time VA physicians or Valley Baptist staff with academic appointments at the University of Texas and the VA. To accommodate the specialty needs of the veterans in McAllen, it would be prudent to have high volume specialty staff (e.g. cardiologists) visit the McAllen CBOC.

**Flexibility.** This option provides significant flexibility for inpatient services because the VA does not have to maintain a physical infrastructure and equipment that could become obsolete or offer the flexibility to adapt to significant changes in technology and/or health care delivery. A contract is usually much easier to modify to meet changing needs and can be tailored more easily then a fixed facility can be renovated, relocated, or downsized. The clinic space is leased and the potential for expansion contributes to flexibility, although less so than when contracting for specialty outpatient services.

**Cost.** Table 41 summarizes the total life cycle costs of contracting with Valley Baptist Health System for inpatient care and expanding and leasing the existing Harlingen CBOC for specialty outpatient care. As with Option S2.3, it is assumed the VA would provide 70 percent of specialty outpatient care and would elect to contract with Valley Baptist for selected specialties (approximately 30 percent of total specialty outpatient care). For this option, it is assumed that the landlord will lightly renovate a portion of the existing space as well as expand the facility to fully accommodate the space needs for a multispecialty clinic. The costs associated with renovation and construction are based on the VA VISN Costing Guide for San Antonio. The cost of the improvements, along with a developer fee of 5 percent of the project cost and a facility sustainment cost of $2.48 per square foot per year are amortized over 30 years to develop the annual lease cost to VA. The study team also assumed a 6.5 percent interest rate to finance the cost of construction over the lease term. We assumed that VA will pay the annual operating and maintenance cost of the facility which is already included in the indirect cost of patient care.

**Table 41 - Summary of All Costs, Life Cycle - Option S2.4**

| Summary of All Costs ($000) NPV | Total Cost (2006–2035) |
|---|---|
| Total Inpatient Cost (VA) | $60,030 |
| Total Outpatient Cost (VA) | $266,366 |
| Total Inpatient Cost (Contracting) | $374,446 |
| Total Outpatient Cost (Contracting) | $193,255 |
| Capital Cost | $0 |
| Facility/Leasing Cost | $28,303 |
| **Total Costs, Option S2.4** | **$922,400** |

*Notes: All inpatient and outpatient cost categories include costs from care provided during the status quo time frame, prior to the start of a contract with Valley Baptist or activation of the expanded CBOC.*
*Totals rounded to the nearest thousand dollars.*

Compared with Option S2.3, there are minor differences in the cost of this option related to the construction timeline for the expanded Harlingen clinic. As a result, the NPV cost of Option S2.4 is $922 million, which is comparable to the cost of Option S2.3.

**VA Mission.** As with all Sector Two options, this option will have little impact on education and research at San Antonio because the volumes of service that will be diverted away from that teaching center will be small. The current academic affiliation with Valley Baptist would benefit modestly from additional workload. This option is rated somewhat higher than Option S2.3 because of the certainty of the Valley Baptist/University of Texas affiliation. There is no opportunity for VA-DoD sharing in this option.

**Implementation Risk.** There is risk generated by the contractual uncertainties associated with this category of options. Because none of these contracts has yet been negotiated, it cannot be known with certainty the extent to which they would be comprehensive. Without VA assurance of long-term budget support, the permanence of these arrangements is also uncertain; however, both of these risks can be mitigated by actions that are within the VA's control. The VA financial risk may be lowered by the presence of VA specialist physicians who would be able to exert more utilization control in both the outpatient and inpatient setting. Contracting risk would also be lower with a capitated arrangement providing a defined set of benefits to veterans for a defined per-enrollee cost. This may benefit veterans as well, since capitated coverage could be comprehensive. An additional risk pertains to the willingness of the current landlord, the University of Texas, to expand the clinic so that VA may lease additional space.

**Other Considerations.** Under this option, the VA does not retain full governance or maintain VA identity in the inpatient facility, but does in the specialty outpatient clinic. The VA does not have long term control of the facility site or assets. It does have greater ability to impact clinical care with presence of VA-run specialty outpatient services. Academic affiliation fosters adoption of evidence-based medical care.

Table 42 summarizes the advantages and disadvantages of Option S2.4.

**Table 42 - Option S2.4 Advantages and Disadvantages**

| Assessment Criteria | Advantages | Disadvantages |
|---|---|---|
| **Access** | ▪ Improved access to care in terms of drive time<br>▪ Potential to provide complete array of services<br>▪ Greater potential to provide coordination of care with inpatient services concentrated in a single facility and collocating VA-managed outpatient facility<br>▪ Close proximity to VA CBOC for primary care services<br>▪ Access to greater array of specialty physicians with academic affiliation. | ▪ None identified |
| **Flexibility** | ▪ High flexibility to accommodate changes in demand compared to building options<br>▪ Challenges recruiting VA specialists to outpatient facility mitigated by collaboration with University of Texas staff<br>▪ The VA is not responsible for maintaining facilities or inpatient equipment which may become obsolescent over time. | ▪ The VA is responsible for maintaining outpatient equipment which may become obsolescent over time. |

| Assessment Criteria | Advantages | Disadvantages |
|---|---|---|
| **Cost** | ▪ None identified | ▪ Includes renovation/construction costs. |
| **Other VA Goals** | ▪ Limited impact on research and education mission in San Antonio<br>▪ With the VA outpatient clinic, it may have small impact on VA education and research mission locally<br>▪ Added veteran workload and case mix may benefit current academic affiliation with Valley Baptist/University of Texas enhancing both research and education missions. | ▪ No opportunity for VA-DoD sharing. |
| **Risk** | ▪ With VA presence in the outpatient clinic, there is greater potential to enable access to veteran EHRs in inpatient facility<br>▪ VA presence may influence multi-dimensional quality measurement per VA standards<br>▪ Presence of VA specialists may mitigate risk of cost escalation over time. | ▪ Contract terms subject to negotiation and are currently unknown<br>▪ Permanence of arrangement reduced compared to VA-owned and operated facility; contract may not be renewed over time<br>▪ Successful implementation depends on the University of Texas, the current landlord, to agree to clinic expansion. |
| **Other Considerations** | ▪ Satisfies projected inpatient bed needs<br>▪ The VA retains governance of outpatient clinic and services<br>▪ The VA retains identity in outpatient clinic<br>▪ Greater flexibility for the VA to impact clinical care with presence of VA-run specialty outpatient services<br>▪ Academic affiliation fosters adoption of evidence-based medical care. | ▪ The VA does not retain full governance of inpatient facility<br>▪ It does not retain VA identity in inpatient facility<br>▪ No long term control of site or asset by the VA. |

## *Option S2.4 Summary*

Table 43 provides a summary of the assessment for Option S2.4. This option rates highest among all Sector Two options because of its strong access to an array of coordinated services, its generally lower risk profile, and its support of VA research and education missions.

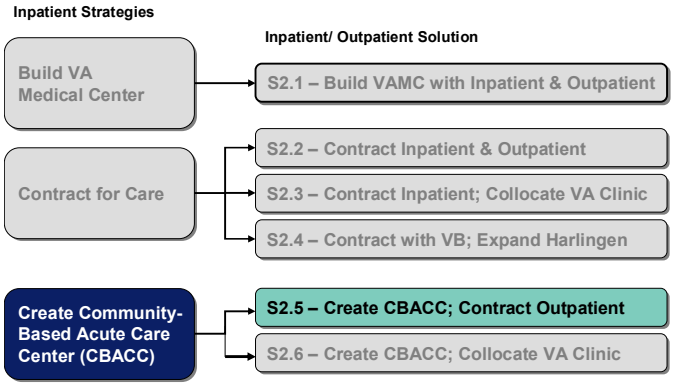
**Table 43 - Summary Score for Option S2.4: Contract with Valley Baptist in Harlingen for Inpatient Care and Expand Harlingen VA CBOC/Specialty Outpatient Facility**

| Alternative | Total | Access | | Flexibility | Cost | Other VA Goals | | | Risk |
|---|---|---|---|---|---|---|---|---|---|
| Subcriterion | | Travel Burden | Array of Coordinated Services | Ability to Accommodate Fluctuations in Demand | NPV | Research | Education | VA/DoD Sharing | Risk |
| Effective Weight | | 27.8% | 16.4% | 12.6% | 18.5% | 1.2% | 2.2% | 1.5% | 19.9% |
| **Sector 2** | | | | | | | | | |
| **Option S2.4** | ◕ (4.05) | ◕ | ◕ | ◕ | ◑ | ● | ● | ○ | ◕ |

○ 1.0-1.9 ◔ 2.0-2.9 ◑ 3.0-3.9 ◕ 4.0-4.9 ● 5.0

## Option S2.5: Create a Hospital within a Hospital (CBACC) with McAllen Medical Center for Inpatient Care and Contract with McAllen for Specialty Outpatient Care

This option creates a dedicated VA ward in a private sector hospital, also called a CBACC, and contracts for specialty outpatient services. Sector Two Option S2.6 also calls for a CBACC arrangement for inpatient services but proposes different outpatient specialty solutions.




### *Option S2.5 Description*

At this point, the most likely prospective CBACC partner appears to be McAllen Medical Center in McAllen whose leadership is eager to provide this arrangement and has experience creating such a relationship with another private sector provider. The leadership of Valley Baptist is reluctant because their hospital has less excess capacity and this may create operational inefficiencies. This does not preclude the possibility that, with further negotiations, Valley Baptist may re-evaluate its position. Rio Grande Regional also has space constraints at this time. Therefore, for purposes of this analysis, we assume that McAllen will be the inpatient partner.

**Option S2.5 Key Features**

- **Inpatient Care:** Would be provided on a single ward at McAllen hospital dedicated to veteran care. VA staff may be employed to provide inpatient services
- **Specialty Outpatient Care:** Would be provided through the specialists affiliated with McAllen—many could be accessed at the McAllen specialty clinic
- **Primary Care:** Would continue to be provided at the CBOC in McAllen which is very close to McAllen Medical Center. In addition, McAllen Medical Center has offered to lease space to collocate the CBOC on its campus. The Harlingen clinic would continue to provide services
- **Comment:** In addition to its enthusiasm to host a VA CBACC, McAllen has extensive experience hosting another hospital within its facility. It has successfully hosted Solara—an LTACC.

This option also proposes to contract for outpatient specialty care in the community. While it would be preferable to provide these specialty services at a single private sector multispecialty clinic, it is more common for private sector specialists to be dispersed in the community. McAllen has specialty office space on its campus and has offered to organize outpatient specialty care for veterans in this space. While all specialty services may not be

available at this single location, those that are located here would be more convenient for veterans to access. This would enhance the possibility of “one-stop-shopping” for veterans since the McAllen Clinic is located so close to McAllen Medical Center.

Establishing a CBACC arrangement with McAllen would have additional benefits. This dedicated VA ward would provide an opportunity to resume the relationship between the VA and the Texas A&M Family Practice Residency Program. In addition, the Solara LTACC, also collocated at McAllen, offers services that may be beneficial for veterans with chronic illnesses who need less acute but longer term care. Finally, this ward could also provide observation beds, which would be a useful complement to a VA clinic that has extended—potentially 24—hours of operation. (That clinic could also move to the McAllen Emergency Department after a certain time in the evening or on weekends).

One concern is whether the low projected volume is sufficient to maintain a CBACC. There is a projected need for approximately 15 medical/surgical beds; however, tertiary care and certain complex surgical cases will continue to go to San Antonio. After reviewing DRG data, the study team estimates this would account for approximately 8 percent of inpatient workload, reducing the projected CBACC workload to about 14 beds. In addition, some veterans will need to be on other wards such as the Coronary Care Unit (CCU), the Intensive Care Unit (ICU), or the post-operative orthopedics floor for some period of their hospitalization. This may reduce the average daily census of CBACC below ten beds, threatening the feasibility of this option. It may be more prudent to begin with conventional contracting and if workload exceeds expectations, evolve towards a CBACC.

### *Option S2.5 Analysis*

This section analyzes this combined option against the criteria of access, flexibility, cost, impact on other VA goals/missions, and risk to implementation.

**Access.** This option, as do all options in Sector Two, reduces travel burden based on drive time access. McAllen Medical Center and its affiliated Heart Hospital are full service hospitals providing broad access to a full array of services. While many outpatient specialty physicians may be available on site, veterans may have to venture into the community to access others. The presence of VA physicians and a VistA terminal on the inpatient ward would promote coordination of care.

**Flexibility.** This option would accommodate fluctuations in demand better than a newly constructed VA hospital; however, CBACCs have somewhat less flexibility than conventional contracting for care in the general hospital population. If space on a designated ward is constrained and demand goes up significantly, the additional volume may not be accommodated on that ward. If demand goes down, there may be insufficient numbers to justify staffing a dedicated ward. In this case, the more significant concern is the latter scenario—that the average daily census would be at the margins of what would be feasible and fluctuations that further lowered census would threaten the viability of the CBACC.

**Cost.** Table 44 summarizes the total life cycle costs of contracting with McAllen Medical Center for inpatient care by creating a CBACC and contracting with McAllen Medical center for specialty outpatient care. This option assumes that the VA would hire staff to provide case management and utilization control. As a result, for CBACC options, a slightly lower contracting rate of 105 percent of Medicare Allowable Unit Charges was used.

**Table 44 - Summary of All Costs, Life Cycle - Option S2.5**

| Summary of All Costs ($000) NPV | Total Cost (2006–2035) |
|---|---|
| Total Inpatient Cost (VA) | $60,030 |
| Total Outpatient Cost (VA) | $46,202 |
| Total Inpatient Cost (Contracting) | $365,549 |
| Total Outpatient Cost (Contracting) | $421,606 |
| Capital Cost | $0 |
| Facility/Leasing Cost | $0 |
| **Total Costs, Option S2.5** | **$893,387** |

Notes: All inpatient and outpatient cost categories include costs from care provided during the status quo time frame, prior to the start of a contract with McAllen Medical Center for a CBACC and outpatient care.
Totals rounded to the nearest thousand dollars.

As a result of the lower contracting rate, the NPV cost of Option S2.5 is $893 million, which is slightly lower than Option S2.2 (the 100 percent private sector contracting option).

**VA Mission.** This option has little impact on education and research at San Antonio because the volumes of service diverted away from that teaching center will be small. Because this option does not contribute as significantly to the affiliation with University of Texas in Harlingen, it scores somewhat lower in education and research. There is no opportunity for VA-DoD sharing in this option.

**Implementation Risk.** As with all contracts yet to be negotiated, there are risks associated with the outcome of those negotiations. There is a risk that budgetary fluctuations may affect the VA's commitment to support this unique contracting arrangement, or McAllen's interest may not endure over the long term, both decreasing the permanence of this arrangement.

There may be challenges in recruiting VA staff for the CBACC. To mitigate this, the VA might consider contracting, to some extent, with the hospital's medical and nursing staff to cover the VA's unit as well. Another potential risk may be that the host hospital and VA-dedicated unit would be unable to coordinate processes, care, and information systems as anticipated. This risk can be mitigated by anticipating needs, defining processes, and codifying working relationships through built-in review and mutual flexibility to define successful business processes. McAllen's experience with these contracting models lowers that risk. Finally there is a risk that the workload may drop below what is feasible to sustain a CBACC.

**Other Considerations.** Under this option, the VA does not retain full governance of either the inpatient or outpatient facility. But, the VA dedicated ward allows the VA to identity in inpatient setting. The VA does not have long term control of the facility site or assets, but has greater ability to impact clinical care with presence of VA staff on dedicated ward.

Table 45 summarizes the advantages and disadvantages of Option S2.5.

**Table 45 - Option S2.5 Advantages and Disadvantages**

| Assessment Criteria | Advantages | Disadvantages |
|---|---|---|
| **Access** | ▪ Improved access to care in terms of drive time<br>▪ Potential to provide complete array of services<br>▪ Enhanced coordination of care by concentrating inpatient services in a single facility, establishing a dedicated VA ward, collocating a significant portion of specialty outpatient care, and staffing unit with VA staff<br>▪ Close proximity to VA CBOC for primary care services. | ▪ None identified |
| **Flexibility** | ▪ Depending on the contractual arrangements, the VA may not be responsible for maintenance of the facility and equipment which may become obsolescent over time. | ▪ Flexibility to accommodate decreases in demand may be constrained by relatively low projected volumes of inpatient workload<br>▪ May be challenges recruiting VA staff; could be mitigated by contractual agreement and staffing contingencies. |
| **Cost** | ▪ Among lowest cost options for Sector Two mainly because of no facility costs. | ▪ None identified |
| **Other VA Goals** | ▪ Limited impact on research and education mission in San Antonio<br>▪ Limited impact on VA research and education mission locally<br>▪ Potential small benefit to McAllen's educational mission. | ▪ No opportunity for VA-DoD sharing<br>▪ Does not leverage ties with the University of Texas. |
| **Risk** | ▪ Dedicated VA ward brings access to veteran EHRs<br>▪ McAllen's experience with CBACC arrangements mitigates risk of new model<br>▪ VA presence may influence multi-dimensional quality measurement per VA standards<br>▪ Presence of VA specialists may mitigate risk of cost escalation over time. | ▪ Little VA experience with CBACC arrangement<br>▪ Contract terms are subject to negotiation and currently unknown<br>▪ Permanence of arrangement reduced compared to VA-owned and operated facility; contract may not be renewed over time<br>▪ Low projected volume creates uncertainty regarding feasibility. |
| **Other Considerations** | ▪ Satisfies projected inpatient bed needs<br>▪ Dedicated ward retains VA identity<br>▪ Increased ability for VA to impact clinical care with presence of VA staff. | ▪ VA does not retain full governance<br>▪ No long term control of site or asset by VA. |

## *Option S2.5 Summary*

Table 46 summarizes the assessment for Option S2.5. This option ranks fourth among the Sector Two options with moderate to high strength in reducing travel burden, providing access to a broad array of coordinated services, and flexibility to accommodate fluctuations in demand.

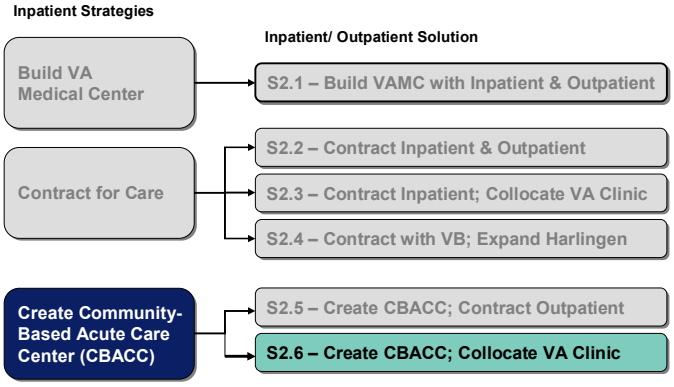
**Table 46 - Summary Score for Option S2.5: Create a Hospital within a Hospital (CBACC) at McAllen Medical Center and Contract with McAllen for Specialty Outpatient Care**

| Alternative | Total | Access | | Flexibility | Cost | Other VA Goals | | | Risk |
|---|---|---|---|---|---|---|---|---|---|
| Subcriterion | | Travel Burden | Array of Coordinated Services | Ability to Accommodate Fluctuations in Demand | NPV | Research | Education | VA/DoD Sharing | Risk |
| Effective Weight | | 27.8% | 16.4% | 12.6% | 18.5% | 1.2% | 2.2% | 1.5% | 19.9% |
| **Sector 2** | | | | | | | | | |
| **Option S2.5** | ◑ (3.54) | ◕ | ◑ | ◑ | ◑ | ◑ | ◑ | ○ | ◑ |

○ 1.0-1.9 ◔ 2.0-2.9 ◑ 3.0-3.9 ◕ 4.0-4.9 ● 5.0

## Option S2.6: Create a Hospital within a Hospital (CBACC) at McAllen Medical Center and Collocate a Leased VA Specialty Clinic

This option creates a VA ward in a private sector hospital, also called a CBACC. As with all CBACC options in this sector, McAllen Medical Center seems to be the most likely partner at this point. This option differs from Option S2.5 by using VA physicians to provide a significant complement of outpatient specialty care.




## *Option S2.6 Description*

Option S2.6 differs from Option S2.5 in terms of how outpatient specialty services are paired with the inpatient CBACC model. Rather than distributing outpatient specialty service contracts among providers in the community, this option calls for an outpatient VA clinic on or near the campus of the CBACC host hospital, in this case, McAllen Medical Center.

McAllen Medical Center has available space on its campus to lease to the VA for outpatient specialty care. This space is very attractive because the McAllen campus is also very close to the existing VA CBOC. If this approach were successfully pursued at McAllen Medical Center, veteran inpatient care, specialty care, and primary care could be concentrated in close proximity, creating a virtual “VAMC” on the campus of a community host hospital.

The primary concern with this option mirrors that described in Option S2.5—the workload would be marginally adequate to support a CBACC. With tertiary cases going to San Antonio and other hospitalized veterans spending portions of their stay in the ICU, CCU and other specialized wards, the CBACC census may be consistently below twelve beds. Further fluctuations in demand that lower the average daily

census would threaten the viability of the CBACC. As noted earlier, it may be preferable in Sector Two to begin with more conventional contracting approaches and, if demand appears sufficient, evolve towards a CBACC model.

## *Option S2.6 Analysis*

This section analyzes this combined option against the criteria of access, flexibility, cost, impact on other VA goals/missions, and risk to implementation.

**Access.** As with all options in this sector, this option significantly reduces travel burden based on drive time access. McAllen Medical Center and its affiliated Heart Hospital are full service hospitals that provide broad access to a full array of services. By providing VA specialists on site, it is less likely that veterans will have to visit office-based physicians for specialty care, and the array of services is likely to be better coordinated. With a VA VistA terminal on the inpatient ward, VA inpatient physicians can coordinate care with their outpatient VA colleagues.

**Option S2.6 Key Features**

- **Inpatient Care:** Would be provided on a single ward at McAllen hospital dedicated to veteran care. VA staff may be employed to provide inpatient services
- **Specialty Outpatient Care:** Would be provided by VA specialists in leased space provided by McAllen Medical Center
- **Primary Care:** Would continue to be provided at the CBOC in McAllen which is very close to McAllen Medical Center. In addition, McAllen Medical Center has offered to lease space to collocate the CBOC on its campus. The Harlingen CBOC would also continue to provide services
- **Comment:** In addition to its enthusiasm to host a VA CBACC, McAllen Medical Center has extensive experience in hosting another hospital within its facility. It has successfully hosted Solara, an LTAC. With VA physicians providing inpatient, specialty outpatient, and primary care on the same campus, a "virtual VAMC" would be created. While hesitant at this point, Valley Baptist and other preferred hospitals could propose a similar arrangement.

**Flexibility.** This option would accommodate fluctuations in demand better than a newly constructed VA hospital; however, CBACCs have somewhat less flexibility than conventional contracting for care in the general hospital population. In this case the concern is that the average daily census would be low, perhaps less than 10 beds, so that fluctuations which further lowered census would threaten the viability of the CBACC.

**Cost.** Table 47 summarizes the total life cycle costs of creating a CBACC with McAllen Medical Center for inpatient care and leasing space for specialty outpatient care on McAllen's campus.

**Table 47 - Summary of All Costs, Life Cycle - Option S2.6**

| Summary of All Costs ($000) NPV | Total Cost (2006–2035) |
|---|---|
| Total Inpatient Cost (VA) | $60,030 |
| Total Outpatient Cost (VA) | $241,888 |
| Total Inpatient Cost (Contracting) | $365,549 |
| Total Outpatient Cost (Contracting) | $196,559 |
| Capital Cost | $14,010 |
| Facility/Leasing Cost | $35,406 |
| **Total Costs, Option S2.6** | **$913,442** |

*Notes: All inpatient and outpatient cost categories include costs from care provided during the status quo time frame, prior to the start of a contract with McAllen Medical Center for a CBACC and activation of a CBOC.*
*Totals rounded to the nearest thousand dollars.*

The NPV cost of Option S2.6 is $913 million, slightly higher than Option S2.5 (CBACC plus contracting) due to facility costs associated with leasing and renovation of the VA specialty clinic space.

**VA Mission.** As with all Sector Two options, this option will have little impact on education and research at San Antonio because the volumes of service diverted away from that teaching center will be small. Because this option does not contribute as significantly to the affiliation with the University of Texas in Harlingen, it rates somewhat lower in education and research. However, by creating a virtual VAMC on the McAllen campus, there is the potential to create academic opportunities. There is no opportunity for VA-DoD sharing in this option.

**Implementation Risks.** As with all contracts yet to be negotiated, there are risks associated with the outcome of those negotiations. There is a risk that budgetary fluctuations may affect the VA's commitment to support this unique contracting arrangement, or McAllen's interest may not be long term, both decreasing the permanence of this arrangement. In contracted arrangements, there is risk of cost escalation, but this risk may be mitigated by engaging VA medical staff in both inpatient care and outpatient specialty care.

There may be challenges in recruiting VA staff for the CBACC and the outpatient clinic. To mitigate this, the VA might consider contracting, to some extent, with the hospital's physician and nursing staff to share some of this workload. Another potential risk may be that the host hospital and VA-dedicated unit would not be able to coordinate processes, care, and information systems as anticipated. This risk can be mitigated by anticipating needs, defining, processes, and codifying working relationships through built-in review and mutual flexibility to define successful business processes. McAllen's experience with these models lowers that risk. Finally there is a risk that the workload may drop below what is feasible to sustain a CBACC.

**Other Considerations.** Under this option, the VA does not retain full governance in the inpatient facility, but does in the outpatient clinic. The VA maintains identity on the dedicated ward and in the outpatient setting, and it has long term control of the facility site or assets. The VA has greater ability to impact clinical care with the presence of VA staff on the dedicated ward and in the specialty outpatient clinic.

Table 48 summarizes the advantages and disadvantages of Option S2.6.

**Table 48 - Option S2.6 Advantages and Disadvantages**

| Assessment Criteria | Advantages | Disadvantages |
|---|---|---|
| **Access** | ▪ Improved access to care in terms of drive time<br>▪ Potential to provide complete array of services<br>▪ Greater potential to provide coordination of care by concentrating inpatient services in a single facility, establishing a dedicated ward, collocating VA-managed outpatient facility, and staffing unit with VA staff<br>▪ Close proximity to VA CBOC for primary care services. | ▪ None identified |
| **Flexibility** | ▪ The VA is not responsible for maintaining facilities or inpatient equipment which may become obsolescent over time. | ▪ Challenges recruiting VA specialists to staff outpatient facility reducing the VA's ability to respond to increased demand<br>▪ Flexibility to accommodate |

| Assessment Criteria | Advantages | Disadvantages |
|---|---|---|
| | | decreases in demand may be constrained by low projected volumes of inpatient workload<br>▪ The VA is responsible for maintaining outpatient equipment which may become obsolescent over time. |
| **Cost** | ▪ None identified | ▪ When factoring in leasing and renovation costs of outpatient facility, VA-provided outpatient care is more expensive than contracting for outpatient services. |
| **Other VA Goals** | ▪ Limited impact on research and education mission in San Antonio<br>▪ With a VA dedicated ward and outpatient clinic, it may have a small impact on VA education and research mission locally<br>▪ Added veteran workload and case mix may augment McAllen education mission. | ▪ No opportunity for VA-DoD sharing<br>▪ Does not leverage ties with the University of Texas. |
| **Risk** | ▪ Dedicated VA ward brings access to veteran EHRs<br>▪ VA presence may influence multidimensional quality measurement per VA standards<br>▪ Presence of VA specialists may mitigate risk of cost escalation over time<br>▪ McAllen's experience with CBACC arrangements mitigates risk of new model. | ▪ Contract terms subject to negotiation and currently unknown<br>▪ Permanence of arrangement reduced compared to VA-owned and operated facility; contract may not be renewed over time<br>▪ Low projected volume creates uncertainty regarding feasibility. |
| **Other Considerations** | ▪ Satisfies projected inpatient bed needs<br>▪ VA retains governance of outpatient clinic and services<br>▪ VA retains identity in dedicated ward and outpatient clinic<br>▪ Increased flexibility to impact clinical care with presence of VA staff. | ▪ The VA does not retain full governance of inpatient facility<br>▪ No long term control of site or asset by the VA. |

## *Option S2.6 Summary*

Option S2.6 (summarized in Table 49) receives the third highest score among Sector Two option primarily because of the improved access to an array of coordinated services and reduction in travel burden. This score just slightly lower than Option S2.3 McAllen inpatient contracting with a collocated VA specialty clinic. The slightly lower CBACC score is due to the highest risk of implementing this novel approach. As described in Options S2.3 McAllen would be willing to begin with contracting and "evolve" to a CBACC if over time there was sufficient volume to support CBACC requirements.

**Table 49 - Summary Score for Option S2.6: Create a Hospital within a Hospital (CBACC) at McAllen Medical Center and Collocate a Leased VA Specialty Clinic**

| Alternative | Total | Access | | Flexibility | Cost | Other VA Goals | | | Risk |
|---|---|---|---|---|---|---|---|---|---|
| Subcriterion | | Travel Burden | Array of Coordinated Services | Ability to Accommodate Fluctuations in Demand | NPV | Research | Education | VA/DoD Sharing | Risk |
| Effective Weight | | 27.8% | 16.4% | 12.6% | 18.5% | 1.2% | 2.2% | 1.5% | 19.9% |
| **Sector 2** | | | | | | | | | |
| **Option S2.6** | ◑ (3.90) | ◕ | ◕ | ◑ | ◑ | ◕ | ◕ | ○ | ◑ |

○ 1.0-1.9 ◔ 2.0-2.9 ◑ 3.0-3.9 ◕ 4.0-4.9 ● 5.0

# Summary of Analysis

This section summarizes the analysis of options for Sector One and Sector Two by key evaluation criteria and cost.

## Sector One Options

The three options for providing inpatient and specialty outpatient care in Sector One are as follows:

- **Option S1.1:** Contract with Christus Spohn Health System to Provide Inpatient and Specialty Outpatient Care
- **Option S1.2:** Contract with Christus Spohn Health System for Inpatient Care and Collocate Leased Space for a VA Specialty Outpatient Clinic
- **Option S1.3:** Establish a VA–DoD Partnership to Utilize DoD Preferred Provider Organization Network (Humana Contract).

Table 50 summarizes each of the Sector One options relative to the key evaluation criteria. Options are listed in descending order of total score. Options S1.3 and S1.1 received similar scores.

**Table 50 - Summary of Sector One Options by Evaluation Criteria***

| Alternative | Total | Access | | Flexibility | Cost | Other VA Goals | | | Risk |
|---|---|---|---|---|---|---|---|---|---|
| Subcriterion | | Travel Burden | Array of Coordinated Services | Ability to Accommodate Fluctuations in Demand | NPV | Research | Education | VA/DoD Sharing | Risk |
| Effective Weight | | 27.8% | 16.4% | 12.6% | 18.5% | 1.2% | 2.2% | 1.5% | 19.9% |
| **Sector 1** | | | | | | | | | |
| Option S1.2 | 4.02 | ◕ | ◕ | ◕ | ◑ | ◑ | ◑ | ○ | ◕ |
| Option S1.3 | 3.59 | ◑ | ● | ◔ | ◕ | ◑ | ○ | ○ | ◕ | ◑ |
| Option S1.1 | 3.56 | ◑ | ◕ | ◑ | ● | ◑ | ◔ | ○ | ○ | ◑ |

*Note: Within a given sector, options are shown in descending order based on total score.

Table 51 provides the cost of each option in Sector One.

**Table 51 - Summary of All Costs By Option in Sector One (NPV)**

| Summary of All Costs ($000) NPV | Total Cost (2006–2035) | | | |
|---|---|---|---|---|
| | Status Quo | Option S1.1 | Option S1.2 | Option S1.3 |
| Total Inpatient Cost (VA) | $200,622 | $52,847 | $52,847 | $56,919 |
| Total Outpatient Cost (VA) | $381,400 | $38,536 | $202,233 | $38,536 |
| Total Inpatient Cost (Contracting) | $27,811 | $213,610 | $213,610 | $206,395 |
| Total Outpatient Cost (Contracting) | $119,905 | $335,907 | $132,382 | $310,622 |
| Capital Cost | $0 | $0 | $12,128 | $0 |
| Facility/Leasing Cost | $0 | $0 | $30,650 | $0 |
| **Total Costs, Sector One Options** | **$729,739** | **$640,901** | **$643,851** | **$612,472** |

*Notes: Totals rounded to nearest thousand dollars.*

## Sector Two Options

The six options for providing inpatient and specialty outpatient care in Sector Two are as follows:

- **Option S2.1:** Build a Small VA Hospital with Inpatient and Specialty Outpatient Capabilities (Harlingen or McAllen)
- **Option S2.2:** Contract with a Health System/Health Plan to Provide Inpatient and Specialty Outpatient Care
- **Option S2.3:** Contract with McAllen Medical Center for Inpatient Care and Collocate Leased Space for a VA Specialty Outpatient Clinic
- **Option S2.4:** Contract with Valley Baptist in Harlingen for Inpatient Care and Expand Harlingen VA CBOC/Specialty Outpatient Facility
- **Option S2.5:** Create a Hospital within a Hospital (CBACC) with McAllen Medical Center for Inpatient Care and Contract with McAllen for Specialty Outpatient Care
- **Option S2.6:** Create a Hospital within a Hospital (CBACC) with McAllen Medical Center and Collocate a Leased VA Specialty Clinic.

Table 52 summarizes each the Sector Two options relative to the key evaluation criteria. Options are listed in descending order of total score.

**Table 52 - Summary of Scores of all Options by Sector***

| Alternative | Total | Access | | Flexibility | Cost | Other VA Goals | | | Risk |
|---|---|---|---|---|---|---|---|---|---|
| Subcriterion | | Travel Burden | Array of Coordinated Services | Ability to Accommodate Fluctuations in Demand | NPV | Research | Education | VA/DoD Sharing | Risk |
| Effective Weight | | 27.8% | 16.4% | 12.6% | 18.5% | 1.2% | 2.2% | 1.5% | 19.9% |
| **Sector 2** | | | | | | | | | |
| Option S2.4 | 4.05 | ◕ | ◕ | ◕ | ◑ | ● | ● | ○ | ◕ |
| Option S2.3 | 3.95 | ◕ | ◕ | ◕ | ◑ | ◑ | ◑ | ○ | ◕ |
| Option S2.6 | 3.90 | ◕ | ◕ | ◑ | ◑ | ◕ | ◕ | ○ | ◑ |
| Option S2.5 | 3.54 | ◕ | ◑ | ◑ | ◑ | ◑ | ◑ | ○ | ◑ |
| Option S2.2 | 3.36 | ◑ | ◑ | ◕ | ◑ | ◑ | ◑ | ○ | ◑ |
| Option S2.1 | 2.15 | ○ | ○ | ○ | ◑ | ◔ | ◔ | ○ | ◑ |

*Note: Within a given sector, options are shown in descending order based on total score.

Table 53 provides the cost of each option in Sector Two.

**Table 53 - Summary of All Costs By Option in Sector Two (NPV)**

| Summary of All Costs ($000) NPV | Status Quo | Option S2.1 | Option S2.2 | Option S2.3 | Option S2.4 | Option S2.5 | Option S2.6 |
|---|---|---|---|---|---|---|---|
| Total Inpatient Cost (VA) | $242,432 | $289,413 | $60,030 | $60,030 | $60,030 | $60,030 | $60,030 |
| Total Outpatient Cost (VA) | $452,403 | $291,169 | $46,202 | $241,888 | $266,366 | $46,202 | $241,888 |
| Total Inpatient Cost (Contracting) | $52,521 | $78,660 | $374,446 | $374,446 | $374,446 | $365,549 | $365,549 |
| Total Outpatient Cost (Contracting) | $172,599 | $190,149 | $421,606 | $196,559 | $193,255 | $421,606 | $196,559 |
| Capital Cost | $0 | $72,197 | $0 | $14,010 | $0 | $0 | $14,010 |
| Facility/Leasing Cost | $0 | $7,595 | $0 | $35,406 | $28,303 | $0 | $35,406 |
| **Total Costs, Sector Two Options** | **$919,955** | **$929,182** | **$902,283** | **$922,339** | **$922,400** | **$893,387** | **$913,442** |

*Notes: Totals rounded to nearest thousand dollars.*

# Recommendations and Rationale

Based on the data and analysis in this study, the study team recommends the following preferred options for Sector One and Sector Two. These options offer the “best approach” to meeting the inpatient and specialty outpatient care needs of veterans in the Valley–Coastal Bend market.

## Sector One Recommendation

The recommended option for Sector One is S1.2, which proposes that VA contract for inpatient care with the Christus Spohn Health Care System and collocate a VA specialty outpatient clinic on a Christus Spohn Hospital campus. While it would have been preferable to expand the existing VA clinic so that outpatient specialty and primary care services could be offered at the same location, expansion is not feasible. Placing specialty services on the campus of the inpatient partner appears, at this time, to be the next best alternative.

Two Christus Spohn hospitals, Shoreline Hospital and Memorial Hospital, should be considered. Both are large, high quality multispecialty facilities that would offer veterans access to a broad array of services. Shoreline appears to have enough capacity to host a VA outpatient facility for both primary and specialty care. Memorial can provide inpatient psychiatry services and can accommodate VA specialty care in leased space. Memorial is also close to the existing VA CBOC. Selection of the host hospital should occur during negotiations between Christus Spohn and the VA.

Since Sector One is much closer to San Antonio than Sector Two, the VA may opt to contract for routine inpatient care and refer more complex cases to the San Antonio VAMC. Similarly, the VA may opt to provide higher volume outpatient specialty care, such as cardiology, gastroenterology, orthopedics, and urology in Corpus Christi, and provide lower volume, more specialized services in San Antonio. While requiring some travel, this would substantially reduce the current travel burden faced by veterans.

This option—contract inpatient services and collocate a VA outpatient specialty care clinic—enhances access to a full range of coordinated services at a quality institution, is flexible to fluctuations in demand, and does not present excessive risk. Although this option is the most costly of the three options, the range between the options is not more than ten percent, and the benefits outweigh the small additional cost. The risk of cost escalation may be mitigated by assigning a VA physician as the primary attending physician for each patient admitted. The VA physician would be responsible for care coordination, appropriate referral and consultation requests, and utilization management. Cost risk would also be mitigated by engaging VA rather than private sector specialists in outpatient care.

This option scored higher than the other two options considered for Sector One: S1.1 contracting with Christus Spohn or S1.3 partnering with DoD TRICARE (Humana contract) for both inpatient and specialty outpatient care. These two options scored similarly. The feature that distinguished the preferred option was collocation of VA specialty services on a Christus Spohn campus. Collocation provides a stronger

link to the VA, improves coordination of care, and as noted above, mitigates some risk associated with cost. However, while the VA pursues Option S1.2, Booz Allen recommends VA further explore the feasibility of partnering with DoD TRICARE since the Humana contract will be renewed in the next two years. Otherwise, it would be difficult, if not impossible, for the VA to partner with DoD until the contract is eligible for renewal again.

## Sector Two Recommendation

Scoring highest among options, Option S2.4—contract with Valley Baptist Hospital for inpatient care and expand the existing VA CBOC/specialty facility—is the preferred option. This is the only option in which it is feasible to locate VA specialty outpatient care and primary care at the same site. This is notable because the highest priority in addressing travel burden is to provide a full array of coordinated *outpatient* services, and it is further strengthened because these outpatient services are located adjacent to the campus of the inpatient partner—the Valley Baptist Hospital. This will contribute to the coordination of inpatient and outpatient care.

One of the challenges creating a VA specialty clinic is recruiting and retaining specialists who may have more lucrative opportunities in private practice. However, because Valley Baptist has a strong affiliation with the University of Texas School of Medicine, physicians with faculty appointments would be available to help staff the VA specialty clinic along with residents.

This option would build upon the strong relationship between the Valley Baptist Hospital, the University of Texas, and the existing VA clinic. Cementing a deeper relationship with the University of Texas residency training programs would complement the relationship between the San Antonio VAMC and the University of Texas, and would likely produce synergies to advance veteran care, education, and research.

All the community providers considered in the development of options were well regarded by veterans and local VA physicians, and all performed well when measured against AHRQ's risk adjusted outcome measures. However, Valley Baptist performed particularly well in process measures that are available through Hospital Compare. Some of these process measures, such as timely and appropriate administration of beta blockers, aspirin and ACE inhibitors, are the same as those used by VA.

This option may be further enhanced by designating a fulltime VA physician from the clinic to be the primary attending physician for all admitted patients. This responsibility may rotate among the full time clinic staff. A primary VA inpatient attending physician would enhance care coordination, quality, and utilization control. The VA may also consider extending the hours of operation of the clinic, including establishing a 24 hour clinic that provides observation beds. Alternatively, the VA may explore collaborating with Valley Baptist to provide an after hours clinic in the Valley Baptist ER and using Valley Baptist inpatient beds for observation purposes when necessary. This may be helpful when a longer period of time is required, whether for medical or psycho-social reasons, to determine veteran dispositions. A VA ombudsman or case worker that visits hospitalized veterans during their stay would help make veterans feel at home and could help address non-medical issues that arise. If feasible, a VistA terminal may be placed in a central location in the hospital, such as the medical records department. This would facilitate transfer of key information, such as discharge summaries, to the VA system. It would also provide physicians easier access to relevant clinical information stored in VistA.

This option does have limitations. Valley Baptist does not have an inpatient psychiatric unit, and separate contracting arrangements must be created to address that need. Fortunately, McAllen Memorial can provide this service through one if its affiliate hospitals. In addition, this option does not create the dedicated VA ward or the VA identity valued by veterans, which the CBACC option sought to replicate.

This option presents other opportunities the VA may choose to pursue. For instance, there is potential to create a capitated contract for veteran care at Valley Baptist. Valley Baptist has its own medical plan with about 18,000 members and is anxious to boost enrollment. Enrolling veterans in this plan has value on multiple levels. First, it lowers the risks associated with contracting because risk is shared by the Valley Baptist plan. Second, it shields veterans from the lengthy and difficult approval processes that often accompany each step in contracted care; all care would be covered although the VA could carve out particular services such as tertiary care and mental health. Finally, if actual demand exceeds expectations in the future, a CBACC may become more viable and its feasibility at Valley Baptist may be revisited.

As noted earlier, all Sector Two options are in the same cost range, only varying about four percent from the least costly to the most costly by net present value (NPV). This option falls approximately in the middle of that range and delivers the greatest overall benefit.

The feasibility of this option remains speculative until the VA, Valley Baptist, and the University of Texas arrive at mutually acceptable terms. However, at this point the study team recommends this option as the preferred approach to provide comprehensive outpatient specialty care and inpatient services to veterans living in the Lower Rio Grande Valley.

# Appendix A: Sample CBACC Model with McAllen Medical Center

To make the concept of the CBACC more concrete, the study team explored with McAllen Medical Center how a VA "hospital within a hospital" could be implemented. The key elements of the CBACC arrangement include facilities, equipment and furnishings, patient care staffing, ancillary and support services, information technology services, and cost and payment methods. Staffing and payment models are the key differentiators among CBACC scenarios.

This section discusses the assumptions underlying the CBACC relationship, the key elements of the arrangement, and the ramifications of different staffing and payment models. (Note: This discussion is provided for illustrative purposes only; the scenarios discussed do not constitute a proposal from McAllen Medical Center.)

The following discussion is based on these general assumptions:

- The CBACC would need to provide general medical-surgical care, generating services for approximately 12–14 patients per day on average (ADC)
- The unit would be dedicated exclusively to veterans and would require 18 beds to allow for fluctuations in ADC, particularly during the winter months
- Observation beds could be provided for patients seen in the clinic, which may have extended hours, for whom disposition needs to be determined
- ICU services would not be included on this ward, but would be available elsewhere in the hospital
- Behavioral health services would be provided in McAllen's psychiatric hospital, located less than five miles from the Medical Center.

## Facilities

The dedicated unit would encompass 12,000 square feet of clinical and nonclinical space that would accommodate 18 beds as described above, as well as a nurse's station and medication room; utility, storage, and meeting/conference rooms; an isolation room with a negative pressure monitoring device; a dedicated family waiting room; and three offices. Although not currently available, some rooms could be renovated to enable telemetry.

Veterans would generally be admitted through the McAllen Medical emergency department (ED), and all admitting procedures would be handled by ED physicians and staff. Direct admissions authorized by the

McAllen VA Clinic would pass through either the ED or the main admitting department. The ability for admitted veterans to go directly to the VA floor, bypassing the ED or main admitting, could be considered but is not current practice. Bed placement on the VA floor would be managed by the house supervisor/bed placement coordinator. The ICU is located on a different floor from the cardiac care unit in the McAllen Heart Hospital.

## Equipment and Furnishings

As part of the CBACC agreement, the VA could secure equipment for patient rooms, administration, clinical offices, the nursing station, the waiting area, the staff lounge, respiratory therapy, nursing, nutrition areas, and the pharmacy room. Such equipment would include furniture, TVs, refrigerators, shelving, nebulizers, regulators, defibrillators and stocked crash carts, gloves, needle disposal and trash cans, Gomco suction machines, linen carts, nurse call systems, examination tables, computers for order entry and physician data retrieval, printers, medical dispenser systems, an ice machine, and microwave.

## Patient Care Staffing

Staffing requirements of the unit would depend on the ADC and expected acuity of the ward. For a standard medical and surgical unit with 18 beds, a ratio of one nurse to five patients would be required as this is the national standard for telemetry patients. A lower ratio (fewer patients per nurse) may be required if this unit is established as a high acuity unit, for example, an ICU step-down unit. The unit would also require a unit secretary for 16 hours per day, a telemetry monitoring technician, a social worker, a case manager, and pharmacist services. It is likely that the VA would provide a physician and a medical and social services case manager. The unit secretary and telemetry monitoring technician positions may be staffed by VA or contracted with McAllen.

The staffing strategy for physicians and nurses would drive the CBACC working relationship. Greater use of VA staff would help create an atmosphere of care familiar to veterans and may enhance continuity of care from the inpatient to the outpatient settings. Use of VA staff would also give the VA more control over practice guidelines, quality standards, and service utilization. Accordingly, in this CBACC relationship, VA physicians would staff this ward, serving as the primary attending physicians for VA patients. These VA physicians would be responsible for coordinating care, referrals, and consultations. The VA physician would play an important role in managing utilization, working closely with a dedicated case manager and a core nursing staff primarily assigned to this unit. This arrangement would promote access to a full array of services that would be as well coordinated as possible outside of an actual VAMC.

Specialty consultations would be provided by local VA subspecialists, if available. Otherwise, specialty services would be provided by McAllen staff. The VA may also consider contracting with McAllen staff to provide additional coverage as needed, particularly at night and on weekends.

With its inpatients gathered on a dedicated ward in a single facility, the VA might explore using telemedicine to permit consultation with specialists from other VA locations, for example, specialists in San Antonio, to decrease dependence on private sector consultations. This network may also benefit the local VA specialty clinic and CBOCs in Harlingen and McAllen. However, the utility of telemedicine would depend on anticipated case mix, the types of remote specialty consultations required, and the quality and cost of specialty consultation services offered by McAllen specialists.

Nursing services in this scenario could be provided by the VA, McAllen, or both. To create a VA-like atmosphere, it would be beneficial to have some VA nursing staff. However, fluctuations in ADC and acuity would make VA nurse staffing a challenge. If staffed by McAllen nurses and the ADC drops on any

given day, some nurses could be deployed to other wards in the hospital. If the VA provides all nurse staffing, redeployment would not be possible and some nurses would go idle. To avoid this occurrence, the VA should explore hybrid arrangements in which there is some VA nursing representation or should work with McAllen to create a core set of McAllen nurses who would be dedicated to this unit and oriented to VA approaches.

## Ancillary/Support Services

McAllen Medical Center could provide the following ancillary services to support the VA-dedicated ward: linen and laundry services; dietary clinician services; respiratory therapy; physical, occupational, and speech therapy; code blue response; radiology, electrocardiography, and nuclear medicine; laboratory services; and housekeeping services. McAllen could provide food services, including tube feeding and nutritional supplements. Stock provided in nutritional storage areas on the ward would be provided in the same manner as in the rest of the hospital. Finally, McAllen could broaden the array of care available to veterans by providing surgical care, wound care, hyperbarics, gastrointestinal and other invasive procedures, blood products, and medical/surgical supplies.

## Information Technology Services

McAllen is amenable to exploring different approaches to information technology services. This openness includes attempting to integrate VistA with the existing EHR system or providing a separate VistA terminal on the ward. The VA's VistA is important not only to access key veteran health information, but also to monitor compliance with VA quality metrics.

## Cost and Finances

McAllen could charge for its services in one of two ways: by a fee for service or by DRGs. In the fee-for-service model, the VA would choose from the menu of supplies and service options described above and would be billed for services rendered or supplies purchased. Nursing and administrative support would be charged based on salary and benefits. Some services would be paid on a per-patient-per-day basis, while others would be billed on a percent-of-charge basis. This fee-for-service model has the benefit of allowing VA to customize the service agreement. In addition, if the VA manages care efficiently and controls utilization, the VA may be able to provide care at a lower cost than the DRG-driven approach.

However, there is uncertainty and risk associated with this approach. First, it is complicated from an accounting perspective because it would be challenging to track the services consumed by a given patient as that patient moves from the VA ward to the ICU to the operating room and back to the VA ward. Even on the VA ward, it will be complicated to track and reconcile charges related to a variety of services such as respiratory therapy, phlebotomy, blood transfusions, and other services. It would also be difficult to predict, at this point, if this "ala carte" approach would be more costly or less costly than the DRG-driven approach.

Alternatively, McAllen Medical Center could charge the VA for patient care services based on a percent of Medicare DRG rates. Use of the VA-dedicated ward and all services could be wrapped in the DRG rates. The Medicare DRG model has the advantage of allowing the VA to anticipate costs; administratively, it is also much simpler to oversee. However, in this model the VA would benefit less from efficient utilization management because the host hospital, not the VA, would benefit from any reduction in cost below the designated DRG-driven reimbursement level.

Given these concerns, it may be prudent to begin with a DRG-driven model based on a percent of Medicare reimbursement. This practice would reduce uncertainty and risk. Once the CBACC is fully

established, the VA may wish to conduct a pilot with a series of patients to explore the fee-for-service model. Pilot testing would enable the VA to better understand how to deal with the administrative complexities of this model and determine whether the cost savings, if there are any, are worth the extra complexity of the fee-for-service model. In estimating the cost of a CBACC, the study team used the DRG-driven approach.

Finally, to further mitigate risk, the VA may opt to take a more evolutionary approach to developing the "hospital within a hospital" concept. The first stage of such an evolutionary approach might resemble more conventional contracting. As relationships mature and a utilization history develops, there could be a greater willingness to move on to the next stage: a full-fledged CBACC.

# Appendix B: Detailed Cost Assumptions

This appendix provides detailed cost assumptions used to derive NPV life cycle costs for each option.

## Capital and Facility Cost Assumptions

**1.** Base construction cost on any newly constructed, VA-owned facility is assumed to be $205/square foot, based on the *VISN 17 Costing Guide by Building Type for New Medical Center Construction in San Antonio, TX*:
http://www.va.gov/facmgt/cost-estimating/vamcpricing.asp

In addition to the base construction costs, the following acquisition costs associated with the construction of the new medical center are estimated as recommended by VA FM guidance:

- **a.** Sitework/Utilities – 15 percent of base construction cost
- **b.** Construction contingency – 5 percent of base construction cost
- **c.** Market condition allowance – 5 percent of base construction cost
- **d.** Labor, equipment, and materials shortage allowance – 12.5 percent of base construction cost
- **e.** Construction management – 3 percent of total construction cost
- **f.** Pre-design development allowance – 10 percent of total construction cost
- **g.** Technical services – 10 percent of total construction cost
- **h.** Activation cost – 20 percent of total construction cost

**2.** In addition to new construction, the VISN Costing Guide provides cost estimating information for three levels of renovation which are defined below:

- **a.** *Total Renovation* - all finishes and backbone systems (mechanical, electrical, etc.) are removed, space is taken down to the structural elements and exterior skin of the building, in essence, only the shell of the building remains.
- **b.** *Medium Renovation* - roughly two thirds (67 percent) of the finishes and systems are demolished and replaced, this is only appropriate for space whose function is not changing significantly, i.e. Medical Administration Service (MAS) being renovated for Director's Suite – similar space requirements – not MAS being converted to Research Laboratories.
- **c.** *Light Renovation* - removes and replaces approximately thirty percent (30 percent) of the finishes and systems.

**3.** Base construction cost for an addition to an existing specialty clinic is assumed to be $209/s.f, based on the *VISN 17 Costing Guide by Building Type for Clinical Improvements in San Antonio*. Clinic space requiring light renovation for clinical improvements is assumed to cost $54/sq.ft. (VISN 17 Costing Guide, Clinical Improvements, San Antonio, TX), while a CBOC requiring moderate renovation for ambulatory care is assumed to cost $96/sq.ft. (VISN 17 Costing Guide, Ambulatory Care, San Antonio, TX). All additional construction costs are identical to the mark-up percentages used in assumption #1 with the exception of the construction contingency. For renovation, this percentage increases to 7.5 percent of base construction cost.

4. For options that involve renovation or construction of leased space, the rent is based on the cost of construction, and the following assumptions apply: The cost of the improvements, along with a developer fee of 5 percent of the project cost and a facility sustainment cost of $2.48 per sq ft per year are amortized over 30 years to develop the annual lease cost to VA. We also assumed a 6.5 percent interest rate to finance the cost of construction over the lease term. The construction costs are estimated using the *VISN 17 Costing Guide by Building Type for New Clinical Improvements in San Antonio, TX*.

5. The annual rental cost for CBOCs that are leased is assumed to be $19.83/sq.ft., based on the *VISN 17 Costing Guide by Building Type for Leased Space in San Antonio*.

6. The VA's space planning tool was used to develop the space requirement for all facilities that will be owned or leased by the VA. Peak utilization for each SPC, from the time a planned CBOC or hospital is forecast to open until 2035, is used in the space planning tool.
7. One acre of land is assumed to be required for every 25,000 square feet of facility space. This ratio is consistent with two recent projects for the VA in Sacramento and Orlando.

## Workload Assumptions

8. Utilization projections for inpatient and outpatient workload are provided by Milliman, from 2005 to 2025. Utilization from 2026 to 2035 is assumed to remain at the 2025 level.

9. In addition to care contracted to Non-VA providers due to the capacity constraint, a maximum of 80 percent of the remaining workload for each SPC will be contracted to Non-VA care.

10. Major, complex, and tertiary inpatient surgeries are assumed to be provided by the VA's San Antonio facility. An analysis of Diagnosis Related Group (DRG)-level data was used to determine which surgery procedures would most likely be handled at the San Antonio facility. Actual 2005 cost data from the San Antonio facility was used to estimate the cost of these procedures. Annual adjustments to this cost include the usual cost escalation of 4.4 percent as well as adjustments in proportion to changes in Milliman surgery projections. Because the analysis includes these procedures as part of contracting costs, this cost must be eliminated from the contracting cost category to avoid double counting. Contracting costs were reduced based on 2005 Medicare rates for the particular DRG procedures. This reduction was adjusted annually using Medicare inflation rates and an adjustment in proportion to Milliman surgery projections.

## Escalation and Discount Rate Assumptions

11. An escalation rate of 4.4 percent is assumed for all patient healthcare costs, with the exception of contracted costs - these are based on Medicare rates which already have inflation included in the estimate.

12. Non-VA care is defined as care provided by providers outside of VA facilities. Medicare rates are used to estimate Non-VA care costs.

13. Medicare rates, which are used to estimate the cost of contracted care, are provided by SPC for the year 2006 to 2025. Medicare escalation rates varied from year to year and by SPC ranging from ½ percent to 7 percent. After 2025, Medicare escalation rates are assumed to be 4.4 percent for all SPCs.

14. Net Present Value is calculated using a treasury nominal discount rate of 5.2 percent per annum (source: OMB Circular A-94, Appendix C).

15. The Net Present Value calculation is shown below. The discount rate of 5.2 percent (see assumption #15) is used in the denominator to discount the future year cost to today's dollars. Each of the annual

cost figures in the numerator of each fraction is inflated using the appropriate inflation index. The NPV calculation for this analysis consists of the summation of 30 fractions. Fractions for years 0 though 2 are shown. Year zero is 2006. The final year of the life-cycle is 2035. Fractions for the years after Year 2 follow the same pattern as Years 0 through 2:

$$NPV = \frac{Cost\_in\_Year\_0}{(1+0.052)^0} + \frac{Cost\_in\_Year\_1}{(1+0.052)^1} + \frac{Cost\_in\_Year\_2}{(1+0.052)^2} + \ldots$$

## Variable, Fixed, and Indirect Cost Assumptions

**16.** Variable costs, as defined by the VA Decision Support System (DSS), are the costs of direct patient care that vary directly and proportionately with fluctuations in volume. Variable costs fluctuate directly with volume and include costs associated with direct patient care, medical staff, medical supplies, etc.

**17.** Fixed direct costs as defined by the VA DSS are the costs of direct patient care that do not vary in direct proportion to the volume of patient activity. The word “fixed" does not mean that the costs do not fluctuate, but rather that they do not fluctuate in direct response to workload changes. Examples include depreciation of medical equipment and salaries of administration positions in clinical areas.

**18.** Fixed indirect costs as defined by the VA DSS are the costs not directly related to patient care and, therefore, not specifically identified with an individual patient or group of patients. These costs are allocated to direct departments through the indirect cost allocation process. Examples include utilities, maintenance, and administration costs in non-clinical areas.

**19.** The DSS cost data for cost of care per unit of service e.g., variable cost per BDOC or clinic stop along with projected utilization by SPC is the basis for estimating variable, fixed, and indirect costs.

**20.** Direct and indirect fixed cost estimates are adjusted downward to account for smaller facilities in the study area relative to the facilities used as the basis for these costs. The direct and indirect fixed costs from the sample facility are adjusted using the ratio of projected workload at the new facility to the existing workload at the sample facility.

**21.** Direct and indirect fixed costs are calculated using 2005 DSS data, and are adjusted year-to-year using only the health care cost escalator of 4.4 percent.

**22.** Direct and indirect fixed costs were not adjusted for economies of scale because there was not enough fluctuation in projected workload over the planning horizon to justify such an adjustment.

**23.** Fiscal Year 2005 DSS cost data, by SPC are used for all VA patient care cost estimates:

- **a.** For status quo estimates cost data are used from the San Antonio facility.
- **b.** For facilities providing new VA inpatient care, cost data are used from the VA hospital in Spokane, WA.
- **c.** For facilities providing new VA outpatient care, cost data are used from the multi-specialty CBOC in Austin, TX.

**24.** Prior to the activation date of a new contract or facility, status quo costs are used in the years prior to the activation year in order to develop the cost estimate.

## Option-specific Assumptions

**25.** Status Quo, Sectors 1 and 2: Assumes that 10 percent of inpatient care and 25 percent of outpatient care is obtained through contract providers. Cost of contracted care is assumed to be 110 percent of Medicare rates.

**26.** Option S1.1: Assumes that contracting for all inpatient and outpatient care begins in 2009. Cost of contracted care is assumed to be 110 percent of Medicare rates.

**27.** Option S1.2: Assumes that 30 percent of outpatient care is obtained through contract providers starting in 2009. Cost of outpatient contracted care is assumed to be 110 percent of Medicare rates.

**28.** Option S1.3: Assumes that the cost of care provided through the VA-DoD sharing arrangement is 100 percent of Medicare rates for inpatient care and 90 percent of Medicare rates for outpatient care. The arrangement is assumed to start in 2009.

**29.** Option S2.1: Assumes that 30 percent of inpatient and outpatient care is obtained through contract providers. The activation date for the new facility is assumed to be 2015. Cost of outpatient contracted care is assumed to be 110 percent of Medicare rates

**30.** Option S2.2: Assumes that contracting for all inpatient and outpatient care begins in 2009. Cost of contracted care is assumed to be 110 percent of Medicare rates.

**31.** Option S2.3: Assumes that 30 percent of outpatient care is obtained through contract providers. The activation date for the CBOC is assumed to be 2009. Cost of contracted care is assumed to be 110 percent of Medicare rates.

**32.** Option S2.4: Assumes that 30 percent of outpatient care is obtained through contract providers. The activation date for the CBOC is assumed to be 2012. Cost of contracted care is assumed to be 110 percent of Medicare rates.

**33.** Option S2.5: Cost of inpatient care provided through the CBACC is assumed to be 105 percent of Medicare rates. Additional costs for the CBACC include a VA internist, case manager, VistA terminals, and telemetry unit. Cost of outpatient contracted care is assumed to be 110 percent of Medicare rates. The activation date for the CBACC and outpatient contract is 2009.

**34.** Option S2.6: Cost of inpatient care provided through the CBACC is assumed to be 105 percent of Medicare rates. Additional costs for the CBACC include a VA internist, case manager, VistA terminals, and telemetry unit. It is assumed that 30 percent of outpatient care is obtained through contract providers. Cost of outpatient contracted care is assumed to be 110 percent of Medicare rates. The activation date for the CBACC and the CBOC is 2009.