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Medical Records in the Greater Los Angeles State Veterans Home: A Unique Opportunity to Improve Quality of Care

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# Medical Records in the Greater Los Angeles State Veterans Home:

A Unique Opportunity to Improve Quality of care

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**Medical Records in the Greater Los Angeles State Veterans Home**  
A unique opportunity to improve quality of care

Department of Public Policy  
UCLA

May 8, 2006

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## **EXECUTIVE SUMMARY**

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On May 28, 2004, the Greater Los Angeles (GLA) Health Care System, a branch of the U.S. Department of Veterans Affairs (VA), signed a Memorandum of Understanding with the California Department of Veterans Affairs (CDVA) in which they partnered to develop and operate a 400-bed State Veterans Home and two 60-bed satellite facilities on the West Los Angeles campus of GLA. GLA and the State entered into this partnership with the purpose of better serving veterans' health needs through a uniform level of care and seamless integration of medical services.

A guiding principle of the Memorandum of Understanding, therefore, was that the GLA Medical Center would provide the majority of services to the State Home by means of sharing agreements. One of the central sharing agreements for the future State Home includes the use of VistA, the VA's electronic medical record (EMR) system.

The central policy questions addressed in this study are:

- 1. What is the best medical record system for the future West LA State Veterans Home?**
- 2. Once the best alternative has been identified, what is the optimal pathway to implementing this alternative?**

Patients benefit if their clinicians, in both the GLA Medical Center and the State Home, have access to accurate, up-to-date clinical and pharmaceutical information. In this report we investigate the feasibility of integrating EMR systems between our client, the GLA Medical Center, and the future State Home. We assess all potential options for the State Home's medical records based on how they match criteria that include quality of care, legal feasibility, operational constraints, political context, and costs.

## **FINDINGS**

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This analysis demonstrates that the GLA Department of Asset Management will benefit most from full integration of its own medical record system with that of the State Home, particularly because the option is superior for quality of care. Some of the same obstacles, however, that stand in the way of a major national interoperability movement, pose a barrier to the pursuit of this option. These obstacles include restrictive privacy laws, bureaucratic inertia, and a fragmented healthcare system in which providers do not coordinate information with one another.

## **RECOMMENDATIONS**

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To facilitate the pursuit of Full Integration, we suggest various methods to alleviate these political and legal barriers. In addition, an analysis of how each option meets criteria outlined above leads us to recommend the following:

- **Recommendation #1:** Promote full electronic medical record integration through pathways such as business associate agreements, worker without compensation status and restricted list as summarized in the White Paper recently released by the GLA Office of Asset Management.
- **Recommendation #2:** If Central Office blocks the Full Integration option, implement Stand-Alone Oklahoma Model VistA with the contingency of future integration.
- **Recommendation #3:** If the State uses Meditech, encourage it to invest in professional services.
- **Recommendation #4:** Work toward amending the Privacy Act to make it more applicable in an age of EMR.
- **Recommendation #5:** Provide information about funding cuts in State Home stakeholders' meetings.

## **CONCLUSION**

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The U.S. healthcare sector is starkly far behind other industries in having computerized records. The VA's efforts in the sphere of medical information technology, however, have made it a leader both in the design and adoption of a superior electronic medical record system and the provision of high quality medical care. The future California State Home that will be built at the West LA VA campus represents a unique opportunity to open the door to future partnerships between the Federal and State Departments of Veterans Affairs in using the VA's information technology to provide seamless medical care to U.S. Veterans.

## **INTRODUCTION**

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On May 28, 2004, the Greater Los Angeles (GLA) Health Care System, a branch of the US Department of Veterans Affairs (VA), signed a Memorandum of Understanding with the California Department of Veterans Affairs (CDVA) in which they partnered to develop and operate a 400-bed State Veterans Home (hereafter called the State Home) and two 60-bed satellite facilities on the West Los Angeles campus of GLA.<sup>1</sup> This agreement was a result of the GLA Healthcare System's request in 2001 to be considered by a commission appointed by the governor to choose locations for future state homes. GLA<sup>2</sup> and the State entered into this partnership with the purpose of better serving veterans' health needs through a uniform level of care and seamless integration of medical services.

A guiding principle of the Memorandum of Understanding, therefore, was that the GLA Medical Center would provide the majority of services to the State Home by means of sharing agreements. Sharing agreements are a common way in which the VA partners with other organizations to generate revenue. In this case, the State of California will reimburse GLA for its costs plus a 1-10% administrative fee. One of the central sharing agreements for the future State Home includes the use of GLA's current information technology, specifically VistA, the VA's electronic medical record (EMR) system.

Information technology is a key component to the VA's strategy to provide high quality healthcare to veterans. Patients benefit if their clinicians, in both the GLA Medical Center and the State Home, have access to accurate, up-to-date clinical information. In this report we investigate the feasibility of integrating EMR systems between our client, the GLA Medical Center, and the future State Home. We assess potential options for the State Home's medical records based on how they meet criteria that include quality of care, legal feasibility, operational constraints, political context, and costs. The central policy questions addressed in our report are:

1. What is the best medical record system for the future West LA State Veterans Home?
2. Once the best alternative has been identified, what is the optimal pathway to implementing it?

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<sup>1</sup> U.S. Department of Veterans Affairs, *Memorandum of Understanding Between the Greater Los Angeles Healthcare System of the United States Department of Veterans Affairs and the California Department of Veterans Affairs*, May 28, 2004

<sup>2</sup> For the remainder of this report we will refer to the Greater Los Angeles Health Care System as GLA



## **BACKGROUND**

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### *US Department of Veterans Affairs, Greater Los Angeles Healthcare System, and California Department of Veterans Affairs*

The US Department of Veterans Affairs is a federal agency that is organized into three branches: the Veterans Health Administration, the National Cemetery Administration, and the Veterans Business Administration. The Veterans Health Administration is a federal healthcare network that comprises approximately 157 medical centers, as well as 860 clinics, long-term care centers, domiciliaries, and home-care programs.<sup>3</sup> The Veterans Health Administration Central Office oversees 23 Veterans Integrated Service Networks (VISNs) nationwide. The GLA Medical Center is one of five medical centers within VISN 22, the Desert Pacific Network. The Medical Center referred to in this report is located on GLA's West LA campus and provides tertiary care. Within GLA, there are twelve clinics and hospitals that provide ambulatory or primary care. Please see Appendices A and B for organizational charts.

The California Department of Veterans Affairs (CDVA) is a state agency with the primary responsibility of building state nursing homes to provide medical and residential services to elderly veterans. In recent years, as the veteran population most in need of long-term care, those over 85 years, has grown dramatically from 387,000 in 1998 to 764,000 in 2003, the federal VA has invested in state homes to shift nursing and post-acute care out of VA medical centers to a residential setting.<sup>4</sup> The VA pays CDVA a per diem to support its operations, and finances 65% of constructions costs. Therefore, CDVA and VA are both invested in the construction and success of the future State Home.

### *Electronic Medical Records*

The central goal of a common EMR is to give clinicians complete, continuous, and up-to-date information about the patient that they are treating. EMRs have the potential to prevent medical errors, increase quality of care by preventing adverse events, facilitate a quicker response following an adverse event, and to track and provide feedback about such encounters.<sup>5</sup> EMRs also prevent medical errors by improving communication, assisting with calculations, and making knowledge more readily accessible. Additionally, they are able to store information in

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<sup>3</sup> Kolodner, R., *U.S. Department of Veterans Affairs, Veterans Health Administration, From VistA to HealthVet-VistA: GAO Training Week*, Power Point Presentation found on the Veterans Health Administration, Department of Veterans Affairs, Office of Information Website:

[http://www1.va.gov/vha\\_oi/docs/GAO\\_Education\\_Week\\_November\\_2004.ppt](http://www1.va.gov/vha_oi/docs/GAO_Education_Week_November_2004.ppt) (accessed February 8, 2006)

<sup>4</sup> U.S. General Accounting Office. Statement of Cynthia A. Bascetta, Director, Health Care – Veterans Health and Benefits Issues. Testimony before the Committee on Veterans Affairs, House of Representatives. *VA Long-Term Care: Changes in Service Delivery Raise Important Questions*. Washington, DC January 28, 2004 (2)

<sup>5</sup> Bates, D., A. Gawande. *Improving Safety with Information Technology*. The New England Journal of Medicine 348, no.25 (June 2003): 2526

real-time, provide advice and reminders to clinicians, and increase accuracy by requiring precise pieces of information such as drug dosages.<sup>6</sup>

A variety of government reports and scholarly articles published in recent years highlight the high rate of medical errors in US health care and acclaim the ability of EMRs to improve the quality of patient care, reduce the large number of adverse medical events due to human error, and save significant amounts of hospital, patient, public, and administrative spending. Perhaps the most famous report to initiate this movement is the “Closing the Quality Chasm” series published by the Institute of Medicine. The first report in the series, “To Err is Human,” focused on identifying the striking number of patient discomforts, disabilities, and deaths caused by human error, such as wrong medication administration.<sup>7</sup> The second report, “Crossing the Quality Chasm,” recommended solutions for improving the quality of patient care. Among them was the implementation of EMRs.<sup>8</sup>

The benefits of EMRs are further enhanced in long-term care settings because elderly patients are especially vulnerable to medical errors as they commonly suffer from multiple chronic illnesses, take more medications and have cognitive impairments, such as dementia or Alzheimer’s.<sup>9</sup> Such conditions make it vital for clinicians to have reliable documentation of patient and treatment histories. EMRs, therefore, help reduce the injury rate from preventable errors that can easily be avoided through clinical reminders and improved communication among healthcare personnel.

### Interoperability

While EMRs offer important benefits to healthcare organizations, they are not sufficient when a patient receives treatments at more than one institution that use different medical record systems. The goal of EMRs is to present complete information to care providers. Despite the presence of an EMR in a given care setting, complete information is difficult to accomplish when various parts of a patient’s medical record are disbursed throughout multiple healthcare centers. The ideal way to ensure that a physician or nurse receives complete information about a patient is, of course, if all of the patient’s information is contained in a single record accessible to all medical personnel. The next best option, however, is an interoperable system. The Health Care Information and Management Systems Society defines interoperability as:

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<sup>6</sup> *ibid*

<sup>7</sup> Committee on Quality of Health Care in America, Institute of Medicine, National Academies Press, Executive Summary of *To Err is Human*, (National Academies of Sciences, 1999): <http://www.nap.edu/catalog/9728.html> (accessed March 2, 2006)

<sup>8</sup> Committee on Quality of Health Care in America, Institute of Medicine, National Academies Press, Executive Summary of *Crossing the Quality Chasm*, (National Academies of Sciences, 2001): 14, <http://books.nap.edu/catalog/10027.html> (accessed March 2, 2006)

<sup>9</sup> Kramer, A., R. Bennett, C. Fish, N. Lin, K. Floersch, J. Conway, M. Harvell, U.S. Department of Health and Human Services, Assistant Secretary for Planning and Evaluation Office of Disability, Aging and Long-Term Care Policy. *Case Studies Of Electronic Health Records In Post-Acute and Long-Term Care*, Washington, DC (August 18, 2004): v

The ability of health information systems to work together within and across organizational boundaries in order to advance the effective delivery of healthcare for individuals and communities<sup>10</sup>

The Center for Information Technology Leadership in Boston concluded that a fully interoperable network of EMRs would lead to faster referrals between doctors, fewer errors in oral or hand-written reporting, fewer redundant tests, fewer delays in ordering tests and getting results, and automatic ordering and re-fills of drugs. The Center estimates that such a network would yield \$77.8 billion a year in net savings—equivalent to 5% of America's annual health-care spending.<sup>11</sup> On a national scale, this estimate does not include what is perhaps the biggest potential cost-savings benefit: better statistics that would allow faster recognition of disease outbreaks, such as SARS and the avian flu.<sup>12</sup>

### *Support for Integrated Health IT from the Federal Government*

There is broad consensus in the political arena—among Republicans and Democrats, liberals and conservatives—and within the healthcare policy and medical community about the value of EMR and interoperability.<sup>13</sup> Moreover, providing State Home clinicians with access to the GLA Medical Center's EMR system fits well within the broader context of the Bush Administration's Consolidated Health Informatics initiative. In March 2003, the Department of Health and Human Services Secretary Tommy Thompson announced this initiative, thereby issuing a call to the healthcare industry to adopt a common health language and data standards and to move in the direction of an interoperable health information network in the U.S.<sup>14</sup> The State Home's use of the GLA Medical Center's EMR system represents a unique opportunity to promote the federal government's vision of interoperable health records by the year 2010.

Despite the federal government's intention to move toward interoperability, state veterans homes are currently limited to using a separate medical record system from any VA medical center with whom they partner or share patients. Read-Only access to the VA's VistA system, which allows

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<sup>10</sup> Health Information Management and Systems Society, *Interoperability Definition and Background*, Approved by the HIMSS Board of Directors (June 09, 2005)

[http://www.himss.org/content/files/interoperability\\_definition\\_background\\_060905.pdf](http://www.himss.org/content/files/interoperability_definition_background_060905.pdf) (accessed March 2, 2006)

<sup>11</sup> Walker, J., E. Pan, D. Johnston, J. Milsten, D. Bates, B. Middleton, *The Value of Health Care Information Exchange and Interoperability*, Health Affairs – Web Exclusive, W5-11 (January 19, 2005), <http://content.healthaffairs.org/cgi/reprint/hlthaff.w5.10v1> (accessed March 3, 2006)

<sup>12</sup> Opinion, *The No-Computer Virus – It in the Health Care Industry*, The Economist (April 28, 2005)

<sup>13</sup> Gingrich, Newt. *Health IT support saves lives*, Clinical Psychiatry News 33, no. 9 (September 1, 2005): 18  
[Stableford](#), Joan, *Clinton-Gingrich health plan: time, money and privacy major issues, local doctors say*: (Hillary Rodham Clinton and Newt Gingrich's policy for electronic medical records system ) Westchester County Business Journal 44, no.33 (August 15, 2005): 18

Frist, W., *Why We Must Invest in Electronic Medical Records*, San Francisco Chronicle, July 24, 2005, <http://www.sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2005/07/24/EDGFVC9JFF1.DTL> (accessed March 5, 2006).

<sup>14</sup> The White House, Press Release: From Government To Business, VA's Electronic Health System Pushing National Standards, April 1, 2003, [http://www.whitehouse.gov/omb/egov/press\\_releases/gtob/030401\\_chi.html](http://www.whitehouse.gov/omb/egov/press_releases/gtob/030401_chi.html), (accessed February 3, 2006)

state home staff to view its patients' VA medical center records without being able to enter notes, is the closest state homes have come to achieving interoperability with medical centers.

The current discussions and planning process for the West LA State Home presents a unique opportunity for including states in the broader context of the federal government's intentions behind the Consolidated Health Informatics initiative.

### **A History of VA Accomplishments in Health IT**

The VA developed its own customized health information technology. VistA, or the Veterans Health Information Systems and Technology Architecture, is both a database that stores veterans' health data and an operating environment that runs medical applications. Despite VistA's success and popularity, VA Central Office initially resisted its development. In 1978, the VA's Computer Assisted System Staff held a summit in Oklahoma City to discuss coordination of the VA's emerging computerization effort. The participants determined basic programming and data standards for the EMR system that preceded VistA:

... strict adherence to MUMPS [a standard programming language at the time], the use of general tools whenever possible to leverage code sharing and reuse, and the use of an active data dictionary to map data and to design code to be portable across computer systems and organizations."<sup>15</sup>

In this meeting, a new Decentralized Hospital Computer Program was born.

When the VA Central Office of Data Management department found out about the development effort it dictated that discussions should stop and slashed the IT budget, particularly because Central Office was focused on developing a more centralized vision of the VA.<sup>16</sup> Regardless, the developers continued to work on their ideas in facilities outside the immediate grasp of central control and later became known as the "Underground Railroad."<sup>17</sup> A few years later, Central Office adopted a new policy and in 1982, the VA Administrator approved the Decentralized Hospital Computer Program, later to evolve into VistA.<sup>18</sup> Today, although MUMPS is generally considered outdated, it remains the primary programming language of the VistA environment, a factor that has prevented it from being more widely adopted in healthcare institutions.<sup>19</sup>

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<sup>15</sup> Brown S., M. Lincoln, P. Groen, R. Kolodner, *VistA—US Department of Veterans Affairs national-scale HIS*, *International Journal of Medical Informatics* 69 (2003): 137

<sup>16</sup> *ibid*

<sup>17</sup> *ibid*

<sup>18</sup> "History of Health VA IT Systems." PowerPoint presentation. Office of Information, Veterans Health Administration, Department of Veterans Affairs 10.01.05

<sup>19</sup> U.S. Department of Veterans Affairs, VA Information Resource Center, *Veterans Health Information Systems and Technology Architecture*, <http://www.virec.research.med.va.gov/datasourcesname/VISTA/VISTAaccess.htm>, (accessed March 18, 2006)

### Further Development and Functionalities

The Decentralized Hospital Computer Program evolved into VistA in 1996 with added functionality, such as the Computerized Patient Record System (CPRS), VistA imaging, and the Bar Code Medical Administration (BCMA). CPRS is the graphical user interface that allows individuals to view veterans' health information. BCMA permits clinicians to order prescriptions online and helps nurses verify that they are administering the correct medication to the correct patient by scanning the patient's bar-coded wrist band.

### VA's Reputation in the Medical and Health IT Community

Many physicians worldwide, impressed by VistA's simplicity and comprehensiveness, acknowledge it as the gold-standard of EMR systems.<sup>20</sup> Despite the fact that it is written in MUMPS, a variety of healthcare facilities and foreign countries have adopted the software; it now appears in languages such as German, Spanish, Arabic, and Chinese.<sup>21</sup>

A snapshot of the health IT developments in the private sector illustrates the advanced status of the VA. As of 2001 fewer than 10% of US hospitals had adopted computerized patient records and fewer than 5% had adopted computerized prescription order entry, despite \$20 billion spent on information technology by US healthcare providers.<sup>22</sup> Physicians were even further behind in adopting advances in IT. Although 74% used the internet to find new medical knowledge, only 17% of physicians in office-based practices had computerized patient records.<sup>23</sup>

In step with its commitment to being a leader in health information technology, the VA invests heavily in health services research. In 2003 it was spending about \$50 million annually to "link research activities to clinical care in as close to real time as possible."<sup>24</sup> Compared to even the private sector, this latter aspect has made the VA a pioneer and leader in health information technology adoption and development.<sup>25</sup>

### **Obstacles that Prevent EMR Integration between GLA Medical Center and the State Home**

#### Future Uncertainties with VistA

As the VA plans to reengineer VistA through an initiative called Health-e-Vet, the future is highly uncertain. The purpose of Health-e-Vet is to centralize and streamline VistA's

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<sup>20</sup> Susan Logan, MD, comment in UCLA APP Seminar, January 2006

<sup>21</sup> Groen, Peter., U.S. Department of Veterans Affairs, VHA Office of Information, *A History of IT in the VA*, 2005  
Kolodner, Robert. *Computerizing Large Integrated Health Service Networks*. (Springer. New York. 1997): ix.

<sup>22</sup> Goldsmith, J., D.Blumenthal, W. Rishel, *Federal Health Information Policy: A Case of Arrested Development*,  
*Health Affairs* 22, no. 4, (July/August 2003): 44, 51

<sup>23</sup> *ibid*

<sup>24</sup> Lomas, Jonathan, *Health Services Research: More Lessons from Kaiser Permanente and the VA Health Care System* *British Medical Journal* (December 2003):1301

<sup>25</sup> Kolodner, Robert. *Computerizing Large Integrated Health Service Networks*. (Springer. New York. 1997): ix.

applications and modernize the programming language in which VistA operates. The goal driving the restructuring plan is to better serve patients by making their records more transferable among different VA locations. Currently, although physicians in a particular VA region have access to patient records in other US regions through “remote data view” capability, this access is Read-Only, meaning that the physicians can only view the data and cannot combine it with the records in their home medical center. As a result, the various VA regions around the country are not fully interoperable and a patient who moves from Boston to San Francisco will have two separate medical records.

Health-e-Vet, therefore, seeks to (1) modernize the programming language from MUMPS to Java, (2) streamline the applications available through VistA (until recently, different USDVA regions could make local additions to the software, and there are consequently many slight variations to VistA throughout the U.S.), (3) establish a common clinical language for all VHA providers and sites, and (4) make the VistA system nationally organized around the individual patient, rather than by regional systems of VA medical facilities.<sup>26</sup>

To prepare the way for Health-e-Vet, VA Central Office has forbidden any local VistA modifications.<sup>27</sup> The planned implementation for this initiative is expected to occur around 2010. Because annual funds depend on discretionary allocations by Congress, however, pressure from the Iraq war and an enormous national budget deficit may compromise future funding.<sup>28</sup> Furthermore, in response to “years of cost overruns, mismanagement and lack of accountability,” in 2005 Congress transferred Information Technology (IT) budget authority for the Veterans Health Administration division to the VA Chief Information Officer. All large IT projects are on hold until the completion of this transfer of authority. This process, however, is moving so slowly that the VA Chief Information Officer recently resigned out of frustration.<sup>29</sup> Therefore, uncertainty surrounding the budget and the rate at which Health-e-Vet will occur creates an environment in which it is difficult to make decisions vital to the State Home’s IT sharing agreement.

### Legal and Political Obstacles

The sensitive nature of personal health information greatly restricts the CDVA and GLA medical record partnership. Two important laws, namely the 1996 Health Insurance Portability and Accountability Act (HIPAA),<sup>30</sup> which stipulates how patient records should be handled, and the Privacy Act of 1974,<sup>31</sup> which addresses privacy and ownership of medical records, place firm constraints on the nature of health information sharing that can occur between different organizations.

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<sup>26</sup> U. S. Department of Veterans Affairs, *Health-e-Vet Program Brief*, October 28, 2005

<sup>27</sup> Interview with GLA official. February 2, 2006

<sup>28</sup> Scott, Larry. VA Watch.org. KCRW.

<sup>29</sup> Mosquera, Mary. *VA CIO resigns over pace of IT changes*. Government Computer News. March 15, 2006, [http://www.gcn.com/online/vol1\\_no1/40128-1.html](http://www.gcn.com/online/vol1_no1/40128-1.html) (accessed on March 15, 2006)

<sup>30</sup>

<sup>31</sup> Privacy Act of 1974, Title 5 U.S. Code § 552a, Subsection (e)(10)

Additionally, an important precedent exists surrounding the use of VistA in state homes. In 2001, a task force from the VHA Office of Information reviewed and decided against the establishment of a direct EMR connection between state homes and VA medical centers.<sup>32</sup> The Office of Information requested guidance from VA General Counsel, which responded with an opinion that disapproved of full read-write access for state homes. The crux of General Counsel's argument was that permitting a third-party entity to intermingle its data with that of the VA was in violation of statutes concerning 'privacy and confidentiality'.<sup>33</sup>

VA Central Office created an alternative to integration with Read-Only VistA.<sup>34</sup> This set-up permits state homes to view a restricted list of its own residents' patient records through a VA medical center's VistA system. State home personnel cannot input information, however, because currently the CPRS restricted list functionality only allows clinicians to view data and not change it. A read-write restricted list feature is projected to be a component of Health-e-Vet. By and large, past solutions and judgments set a strong precedent that influences the direction and tone of decisions made by key players in VA Central Office and General Counsel.

Bureaucratic inertia, which sometimes results in a department giving answers purely based on habit or precedent, can hinder new suggestions and ideas. Incentives are not strong for many members of VA Central Office personnel to fight the tide; government management tends to be driven by the constraints on the organization, not the tasks of the organization.<sup>35</sup> There is often a tendency to avoid a change in policy, particularly in cases that involve complex problem-solving and a heavy workload across many departments. For example, it took an "underground railroad" to bring VistA into existence. Even if GLA suggests a plan to integrate in which it complies with the relevant regulations, Read-Only access to VistA is the path of least resistance. One possible exception, however, would be political appointees who might see an opportunity for success in a new project that aligns well with White House policy.<sup>36</sup>

## **Summary**

We have attempted to demonstrate that there are strong logical arguments to allow direct connectivity from the State Home into the GLA Medical Center's VistA/CPRS system. GLA has a state-of-the-art EMR system. Given that the State Home is on GLA's West LA campus and will therefore represent the Medical Center in the mind of the community, GLA hopes to incorporate its own practices into the Home as much as possible to ensure equal quality of care. Integration of VistA between the State Home and GLA's EMR fits well into the federal vision of interoperable EMRs as specified by the Consolidated Health Informatics initiative. In addition, other services that GLA will provide through sharing agreements, including pharmacy and medical care, use modules (BCMA and CPRS) that depend on the use of VistA/CPRS in the State Home. Finally, EMR integration complies with the State Home's Memorandum of

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<sup>32</sup> U.S. Veterans Health Administration Office of Information, Geriatrics and Extended Care Strategic Healthcare Group, *Issue Paper: CPRS Access to State Veterans Homes*, August 2, 2001.

<sup>33</sup> U.S. Department of Veterans Affairs General Counsel, *Memorandum from General Counsel to VHA Chief Information Officer Regarding a Request for Legal Guidance Re VistA Access*, June 05, 2001.

<sup>34</sup> *ibid*

<sup>35</sup> Wilson, J.Q. *Bureaucracy: What Government Agencies Do and Why They Do It* (Basic Books, 1989): 115

<sup>36</sup> Moe, Terry. *The Politics of Bureaucratic Structure.* "Can the Government Govern," (The Oxford University Press, 1991): 283

Understanding. Despite clear benefits of giving the State Home full read-write access to the GLA Medical Center's VistA, however, there are significant barriers to integration that signify an argument in favor of an alternative IT arrangement. In this report, we will consider the benefits and drawbacks of a variety of options for the design of the medical record system in the State Home.



## **METHODOLOGY**

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In order to answer our policy questions, we performed a literature review of relevant articles using search engines such as the VA intranet, *The Economist*, and Google's scholar, news, and standard functions. We conducted interviews with various stakeholders involved in the planning of the State Home, including representatives from the California and Oklahoma Departments of Veterans Affairs, GLA, VA Central Office, and private industry that works with VistA. Through these discussions, we established five criteria, worked with our client to determine their order of importance, and weighed each option against them. The criteria include, in order of importance:

1. **Quality of care:** The option must improve or at least not worsen quality of veterans' healthcare relative to the standard of care currently offered at California state homes. Our client's goal is to provide a consistent quality of care between the State Home and the GLA Medical Center.
2. **Legality:** The option must comply with laws and regulations that protect privacy and ownership of veterans' personal information.
3. **Operational feasibility:** The option must facilitate or at least not inhibit the GLA Medical Center's and the California Department of Veterans Affairs' business operations.
4. **Political feasibility:** Key decision makers and entities affected by the option including but not limited to VA Central Office, GLA and CDVA leadership, staff within the relevant departments of GLA, and CDVA information resource management staff should find the chosen options acceptable. The option must also serve the intent of the original Memorandum of Understanding that initiated the State Home planning process.
5. **Financial:** The option must fit within the financial constraints of the VA, GLA, and the State.

To decide on a rank-order, we evaluated the differing levels of flexibility of each criterion. In line with the VA's objective, quality of care comes first. Legality comes second because even if the option satisfies other criteria, GLA cannot move forward with an option that is not legal. Similarly, operational barriers trump politics, and if an option satisfies operational and legal requirements, its political feasibility is likely to improve. The State will be responsible for all expenses related to the new medical record system, but did not provide us with a budget nor did it arise as a significant constraint. Therefore, we placed the financial criterion last.

To compare potential medical record arrangements, we attempted to search for cost-effectiveness or cost-benefit analyses of EMR, but we did not find many studies that directly addressed comparisons of either different EMR systems or the issue of partial versus complete integration.

We looked for comparative analyses of EMR and VistA but were again unsuccessful. We did, however, find articles that described the benefits of EMR and government documents that

described better health outcomes since the implementation of VistA.<sup>37</sup> In addition, we located several articles about the benefits of interoperability and described the decision-making processes when choosing and buying medical technology.<sup>38</sup> We used this literature to design a method of analysis that would help us describe the most important criterion, quality of care.

In addition to interviews with the various stakeholders, we attended meetings between the State and GLA and reviewed internal documents provided to us by those whom we interviewed. One meeting included a three-day information technology summit on the future State Home, hosted by the GLA Medical Center. This meeting served as an important source of information about the operational feasibility criterion.

Before the research that is specific to this report began, a member of our team had been working at the GLA Office of Asset Management and had developed contacts with informants whom we would interview in more detail specifically for our report. A complete list of interviewees is provided in Appendix D.

We developed an interview guide that addressed our main policy questions and used it to lead the discussion in a specific direction. We also tried, however, to keep questions general enough to allow our interview participants to discuss their own ideas and conclusions. For an example of the interview guide in one setting, please see Appendix E. Many of our interview subjects requested that their responses not be for attribution; therefore, we will not refer to them with identifiable information in the body of this report.

Our client, the GLA Office of Asset Management, had prior expectations about its preferred policy option for the system of medical records in the future State Home. Before our research began, the Office of Asset Management was already working on establishing a pathway to accomplish full integration as it believed that this was the best method to achieve continuity of care for State Home residents. We therefore constructed our initial interview questions in order to determine the feasibility of full integration, under the assumption that it was the best option to pursue. Having elucidated the political and legal obstacles to integration, we proceeded to define other viable alternatives for medical records in the State Home. We also investigated the technical and financial details of these options. There is some asymmetry in the amount of information that we were able to collect for the various options, as some of the cost data were

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<sup>37</sup> Bates, D., A. Gawande. *Improving Safety with Information Technology*. The New England Journal of Medicine 348, no.25 (June 2003): 2526

Kolodner, R., U.S. Department of Veterans Affairs, *Veterans Health Administration, From VistA to Health@Vet-VistA: GAO Training Week*, Power Point Presentation found on the Veterans Health Administration, Department of Veterans Affairs, Office of Information Website:

[http://www1.va.gov/vha\\_oi/docs/GAO\\_Education\\_Week\\_November\\_2004.ppt](http://www1.va.gov/vha_oi/docs/GAO_Education_Week_November_2004.ppt) (accessed February 8, 2006);

Kolodner, R. M., U.S. Department of Veterans Affairs, *Realizing the Financial Benefits of Electronic Health Records: What the Data Show The VA Experience*. Presentation at the American Medical Association Annual Symposium, October 25, 2005, [http://www1.va.gov/vha\\_oi/docs/AMIA\\_2005\\_Panel.pps](http://www1.va.gov/vha_oi/docs/AMIA_2005_Panel.pps) (accessed February 3, 2006)

<sup>38</sup>Gorden, M.S. and J.P. DuMoulin, American College of Physicians, *Enhancing the Quality of Patient Care Through Interoperable Exchange of Electronic Healthcare Information*, Philadelphia, 2004,

[http://www.acponline.org/hpp/quality\\_care.pdf](http://www.acponline.org/hpp/quality_care.pdf), (accessed on February 15, 2006);

Coye, M.J. and J.Kell, *How Hospitals Confront New Technology*, Health Affairs 25, no.1 (January/February 2006): 163-173

readily available to individuals whom we interviewed, while others had to be estimated specifically for our project. Specific discussion of costs can be found in Appendix G.

We were successful in contacting most of the informants whom we wanted to interview. In all, we formally interviewed or had significant correspondence with 23 individuals, some on multiple occasions. In addition to the formal interviews, we incorporated information obtained during informal conversations that occurred over the phone or email and in person during the State Home summits. In total, we estimate that we gathered information about State Home medical record issues based on the input of 49 different people. Overall, people were willing to share their thoughts, data, and other information. Our most significant challenge was obtaining cost information on the various options provided in this report.

## **ALTERNATIVES**

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We identified six alternatives for implementing a patient record system in the State Home. The options vary in their level of EMR functionality and interoperability with the GLA's VistA system. They include:

1. Full VistA/CPRS integration between the State Home and the GLA Medical Center
2. Stand-Alone VistA system modeled after Oklahoma state homes
3. Stand-Alone Meditech EMR system as currently used by other California state homes
4. Parallel system which combines full read-write access to GLA's VistA for physicians with Stand-Alone VistA for other personnel
5. Parallel system which combines full read-write access to GLA's VistA for physicians with a paper record system for other personnel
6. Paper medical record system with Read-Only access to GLA's VistA for all State Home employees

See Appendix F for a summary of the above alternatives.

### **Option 1: Full Integration**

To preserve quality of care and to comply with the intent of the State Home Memorandum of Understanding, GLA prefers full medical record integration between the GLA Medical Center and the State Home. Integration means that the State Home employees would have read-write access to the GLA Medical Center's VistA and computerized patient records system (CPRS).

Currently, an employee who has read-write access to a VA medical center's VistA/CPRS is able to view the records of all patients in the system. Until the implementation of Health-e-Vet, CPRS does not have the functionality to restrict State Home employees to only view a list of its residents.<sup>39</sup> Full Integration, therefore, faces legal barriers. In a 2001 legal opinion, General Counsel cited the Privacy Act of 1974:<sup>40</sup>

Each agency that maintains a system of records shall...establish appropriate administrative, technical, and physical safeguards to insure the security and confidentiality of records and to protect against any anticipated threats or hazards to their

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<sup>39</sup> U.S. Veterans Health Administration Office of Information, Geriatrics and Extended Care Strategic Healthcare Group, *Issue Paper: CPRS Access to State Veterans Homes*, August 2, 2001.

<sup>40</sup> U.S. Department of Veterans Affairs General Counsel, *Memorandum from General Counsel to VHA Chief Information Officer Regarding a Request for Legal Guidance Re VistA Access*, June 05, 2001.

security or integrity which could result in substantial harm, embarrassment, inconvenience, or unfairness to any individual on whom information is maintained[.]<sup>41</sup>

Accordingly, because CPRS currently lacks “computer software that appropriately screens requests for access,”<sup>42</sup> the State should not be permitted to connect directly.

The second major legal obstacle is a regulation within the Privacy Act that forbids state homes from having joint ownership of medical records that belong to the federal government.<sup>43</sup> The Privacy Act of 1974 and HIPAA regulations make personal information such as medical records the property of the healthcare institution that creates the record, whose ownership comes with responsibility for “proper maintenance and protection of the records from loss, destruction, or alteration.” Notwithstanding, the patient has “the right to control the publication and dissemination of the information assembled about him or her.”<sup>44</sup> The patient’s right to determine the disclosure of this information may mean that he or she has the authority to share this information with another entity,<sup>45</sup> in this case the State Home.

Given that the GLA Medical Center’s EMRs are VA property, an integrated system would not allow the State Home to use its residents’ medical records for purposes such as legal defense or external audits. VA Central Office staff has described this clause of the Privacy Act as a flaw that obstructs efforts to increase interoperability across the U.S. and claims that there have been minor efforts to convince Congress to correct it.<sup>46</sup> Because there has been no legal ruling with regards to the ownership issue, particularly related to the question of EMR integration, it is uncertain how difficult of an obstacle this would be to overcome. One of the largest challenges may lie in the State’s court, in that it will have to explore ways of operating its home without owning its records.

Besides obstacles related to privacy and ownership, EMR integration presents operational and technical obstacles. In the interest of not interfering with the GLA Medical Center’s billing, workload tracking, and performance improvement evaluations, there would need to be a method to separate State Home data from GLA data. Medical centers and other healthcare facilities are assigned facility codes by VA Central Office that serve to keep track of their information. A separate facility code for the State Home, therefore, would facilitate separation of data. Otherwise, it may be possible to treat the State Home as a non-count clinic. Non-count clinics are individual clinics within VA medical center departments whose data are tracked but are not required to be reported with the rest of GLA workload data.<sup>47</sup>

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<sup>41</sup> Privacy Act of 1974, Title 5 U.S. Code § 552a, Subsection (e)(10)

<sup>42</sup> *ibid*

<sup>43</sup> Interview with VA Central Office official. February 6, 2006

<sup>44</sup> Sharpe, Charles C. *Medical Records Review and Analysis*. (Auburn House. Westport, CT. 1999): 36-37

<sup>45</sup> U.S. Veterans Health Administration Office of Information, Geriatrics and Extended Care Strategic Healthcare Group, *Issue Paper: CPRS Access to State Veterans Homes*, August 2, 2001.

<sup>46</sup> Interview with VA Central Office official. February 6, 2006

<sup>47</sup> McIntyre, Gabriel. Summit Notes.

## **Option 2: Stand-Alone VistA system**

In 2003, the Oklahoma Department of Veterans Affairs attempted to gain read-write access to its VA medical centers' VistA/CPRS systems. When VA Central Office denied this request, the Department opted to launch a stand-alone state version of VistA through a pilot program. Hewlett Packard managed the project and subcontracted with Medsphere for all professional services such as implementation, deployment, training and support for VistA applications.<sup>48</sup>

The California Department of Veterans Affairs could adopt a similar course of action. The GLA Medical Center and the State Home would each run its own EMR system and State Home clinicians would use Read-Only VistA to view the GLA Medical Center's notes. Patient records would stay separate and not be updated with information from the GLA Medical Center.<sup>49</sup> The software would be updated regularly, however, to stay looking exactly like the federal version of VistA. Hewlett Packard has designed a process by which Oklahoma state home technical personnel regularly receive software updates from the federal VA and add them to Oklahoma's VistA system.<sup>50</sup>

Oklahoma state homes can transfer patient information to a VA medical center when necessary; however, users indicate that this process is inefficient. As a result, Oklahoma state home personnel often exchange printed versions of the records.<sup>51</sup>

The key point of distinction between the future West LA State Home and the Oklahoma state homes is that the former will be co-located with a medical center, will use its services through sharing agreements, and is based on a partnership. In the Oklahoma case, VA medical centers are generally not very close nor do they use VA physicians.

## **Option 3: Stand-Alone Meditech EMR system as currently used by other California state homes (status quo)**

The State could choose to purchase another EMR system such as Meditech, which it currently uses in its state homes. Scarce resources and the fact that Meditech is not particularly user-friendly led to the State to assemble a somewhat incomplete EMR system. Yountville, the most electronically-oriented California state home, uses laboratory, scheduling, clinical, and pharmacy modules.<sup>52</sup> However, it does not contain an archiving mechanism that would permit it to store patient records for over four years. As a result, clinicians enter their data into the computer, but then print it and store it in a folder.

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<sup>48</sup> Shreeve, Scott, "Oklahoma State Veterans Homes and Vista", Internal Case-Study Medsphere, INC, December 12, 2005

<sup>49</sup> David Shull (Project Manager Oklahoma VistA, Hewlett Packard), in discussion with the authors, February 28, 2006

<sup>50</sup> David Shull (Project Manager Oklahoma VistA, Hewlett Packard), in discussion with the authors, February 28, 2006

<sup>51</sup> Interview with Oklahoma State Home official (MW), in conversation with the author, February 2, 2006

<sup>52</sup> Interview with CDVA official. March 2, 2006

According to one of the home's system analysts, he prefers VistA because with "Meditech you have to go to a number of different areas to see different things. [Meditech has] a vision care inquiry report that's supposed to include everything but it doesn't. And with VistA your CPRS chart is more readily available."<sup>53</sup> However, another State IT expert insists that Meditech carries the same potential as VistA; the State would, however, have to purchase the long-term care version in order to take advantage of it.<sup>54</sup>

#### **Options 4 and 5: Parallel System with read-write access to GLA's VistA and a stand-alone VistA or paper record in the State Home**

Options four and five include setting up two co-existing medical record systems in the State Home. Doctors would be able to link directly into the GLA Medical Center's VistA/CPRS records to enter their notes, and state nurses and other clinical staff would enter patient information into a second system exclusive to the State Home, either paper or electronic. With two systems side-by-side, physicians could view the nurses' notes in one window, and they could view their own notes along with any encounters that occurred in the GLA Medical Center in another. Nurses and other clinical staff would use the same method but would be restricted to looking at a Read-Only version of the GLA Medical Center's records.

The major benefits of this system include quick emergency response and allowing physicians to use a system with which they are familiar. In the case of an emergency visit to the GLA Medical Center, residents' GLA medical records would be up-to-date with their physician's notes from the State Home. In this optimal scenario, a patient would have his or her complete health record in one place and readily accessible.

The main disadvantages of this system lie in the ability of clinicians coordinate their actions with other caretakers, the incapacitation of key VistA/CPRS features, and the hassle of needing to coordinate between two systems. Literature shows that success in a clinical setting is very dependent upon clinicians working well as a team.<sup>55</sup> Secondly, any interactive features that CPRS offers, such as alerts about adverse drug reactions, will not function properly. Other VistA modules, such as Bar Code Medication Administration, would probably have to be set up twice for the two systems and would be difficult and complex to coordinate.

#### **D. Option 4: Paper Records**

Finally, we will consider paper records as an option because many other hospitals in the U.S. and other state homes in California continue to use this model. Many state homes are still using purely paper records, such as the Pittsburgh State Home in Pennsylvania and the California Chula Vista state home. As in Pittsburgh and Chula Vista, the West LA State Home would have access to Read-Only VistA medical records from GLA.

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<sup>53</sup> Interview with CDVA official. March 16, 2006

<sup>54</sup> Interview with CDVA official. March 15, 2006

<sup>55</sup> Burton, L.C., G.F. Anderson and I.W.Kues, *Using Electronic Health Records to Help Coordinate Care*, The Milbank Quarterly 82, no.3 (2004): 457-81

## **ANALYSIS**

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The following section will first answer the main policy question: what is the best medical record system in the State Home? We summarize our analysis in a series of six tables that compare the policy alternatives. We use the Stand-Alone Meditech system as the status quo because two other California state homes currently use it. As our baseline, we assign this system a zero in all categories of the criteria. Each option receives a plus or minus, which indicates how the option scores relative to the status quo. In some cases we use a double plus (++) or a double minus (--) to emphasize superiority or inferiority. We base the scores on information gathered in our interviews, review of internal VA documents, a review of external literature, and logical arguments. After summing the pluses and minuses within a single criterion, we calculate the mean score for each option. We then sum the averages across all criteria to determine which alternative receives the highest average number of points.

After choosing our best and second best options, we will answer our second policy question: what is the optimal pathway to implementing the best alternative?

**Policy question 1:**

What is the best medical record system for the future State Home?

**Criterion 1: Quality of Care**

In accordance with the mission of the VA and the commitment made in the Memorandum of Understanding that created the State Home, the best policy option must provide a quality of care that is consistent with that of the GLA Medical Center. We will not analyze the specific features of EMR made available by the electronic options or the benefits of EMR versus paper records. Our analysis is predicated on the research-based assumption that EMR permits clinical personnel to perform more effectively than when it relies on a paper record. Our focus is to show how much interoperability of patient records between the State Home and the GLA Medical Center is afforded by each option. We operate under the assumption that continuity of information will contribute positively to the quality of care provided in the State Home. Table 1 shows key differences between the options as they score on interoperability, team-centered care and ease of use.



**Table 1: Quality of care**

	Full Integration VistA	Stand-Alone		Parallel		Paper
		Oklahoma Model VistA	Meditech	With Electronic VistA	With Paper	
<b>Benefits of Interoperability</b>						
Continuity of Patient Data between State Home and GLA Medical Center	++	0	0	+	-	-
No false sense of security	+	-	0	--	-	+
Future ease of bidirectional data transfer	++	+	0	+	-	-
Faster communication between State Home and GLA Medical Center	++	0	0	+	-	-
<b>Benefits of Team-Centered Care</b>						
Flow of Information between team members	+	0	0	--	--	-
Better coordination of care	+	0	0	--	--	-
<b>Ease of Use</b>						
Easy to Learn	+	+	0	--	--	0
Facilitates clinicians care of patients	++	+	0	--	--	0
Proven track record	++	++	0	-	-	0
Used for Intended purposes	++	++	0	-	-	0
<b>Total Points</b>	<b>16</b>	<b>6</b>	<b>0</b>	<b>-9</b>	<b>-14</b>	<b>-4</b>
<b>Average Points</b>	<b>1.6</b>	<b>0.6</b>	<b>0</b>	<b>-0.9</b>	<b>-1.4</b>	<b>-0.4</b>

### Benefits of Interoperability

From the perspective of interoperability, Full Integration scores highest in all categories because it provides a single EMR that spans the State Home and the GLA Medical Center. The other options, however, receive mixed ratings.

The Stand-Alone VistA option scores equally to the status quo in the “continuity of patient data” category. Neither option allows for bidirectional transfer of information and, therefore, both provide fragmented patient records. The Parallel VistA option scores higher than the status quo in the “continuity” category because it allows for read-write access to physicians who work in the State Home.

Full Integration scores highest in the “no false sense of security” category. This distinction refers to the idea that when an EMR system is implemented in the State Home, clinical personnel are likely to rely heavily on the electronic system in obtaining patient data. While it has been shown that EMRs are not perfect and there is often a high rate of outdated information, the danger is higher when there is more than one EMR used side-by-side, as will be the case in the Parallel option with EMR.<sup>56</sup> This option, therefore, receives a double minus. The Stand-Alone VistA alternative receives a minus relative to the status quo because it will look exactly like the federal system and physicians may assume that medical information is complete and up-to-date, when, in fact, it would be separate from the GLA Medical Center. Clinicians are likely to take for granted that medical data in an EMR is complete and accurate.<sup>57</sup> This false belief may be more harmful than the realistic assumptions of a system that does not contain any EMR component. The paper option, therefore, receives a plus relative to the status quo.

Stand-Alone VistA scores higher than the status quo on “future ease of bidirectional data transfer” because it will be a copy of the GLA Medical Center’s VistA software and will therefore be compatible with the GLA Medical Center’s VistA system. Although patient data cannot flow seamlessly between a stand-alone VistA system and the GLA Medical Center’s database due to legal and political constraints, a Hewlett Packard representative claimed that implementing bidirectional transfer of information would be trivial from a technological perspective.<sup>58</sup> Similarly, the Parallel VistA system has an advantage relative to the status quo for the same reasons as Stand-Alone VistA. The status quo option does not have this advantage because it uses different software and would therefore require significant modifications to facilitate bidirectional transfer. Full Integration received a double plus in the “future ease of use” category because as one single record it represents the ultimate goal of this category.

Finally, Full Integration scores highest in the category “faster communication between State Home and GLA Medical Center” because it allows two entities to share a single patient record. Parallel VistA follows because it allows State Home physicians read-write access to the GLA

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<sup>56</sup> Kaboli, P., B.J. McCliman, A.B. Hoth, M.J. Barnett, “Assessing the Accuracy of Computerized Medication Histories”, *The American Journal of Managed Care* 10, no.11 (November 2004), p.872

<sup>57</sup> Koppel, R., J.P. Metlay, A. Cohen, B. Abaluck, A.R. localis, S.E. Kimmel and B.L. Strom, “Role of Computerized Physician Order Entry Systems in Facilitating Medication Errors”, *Journal of the American Medical Association* 293, no.10 (2005)

<sup>58</sup> David Shull (Project Manager Oklahoma VistA, Hewlett Packard), in discussion with the authors, February 28, 2006

Medical Center's VistA system. As a result, key information that is entered by physicians, such as diagnoses and prescriptions, will be on one record that can be viewed or changed at both the Home and the Medical Center. The Stand-Alone VistA system is rated equally with the status quo in the "faster communication" category because, in both, data are fragmented across two different systems.

For all of the above categories the Paper option and the Parallel with Paper options score the worst with the exception of Paper's positive score in the "no false sense of security" category. One advantage of a paper system is that clinical personnel will hopefully be aware that they are not operating with state-of-the art technology and will therefore be more aware of potential vulnerabilities and pitfalls characteristic of paper records.

### Benefits of Team-Centered Care

Full Integration scores highest in the "team-centered care" categories. One continuous record will allow for easier flow of information among medical team members both within the State Home and between the Home and the Medical Center, which will facilitate coordination of care. The Stand-Alone VistA option scores equally to Meditech in this category because a single medical record will facilitate the flow of information within the Home. The worst performers in the two categories under "team-centered care" are both sub-options of the Parallel system. It is clear that if physicians and nurses had to coordinate keeping track of two completely separate medical records, as would happen in either the electronic or paper sub-option, coordination of care and flow of information would be compromised.

### Ease of Use

We have assigned "ease of use" scores to these options based on interviews conducted with individuals at the Oklahoma Department of Veterans Affairs, the California Department of Veterans Affairs, and representatives from current California state homes. We found that Oklahoma state home personnel were generally pleased with their version of VistA. However, California state home employees informed us that they did not implement a complete Meditech system, in part because it was not user-friendly (evidence against Meditech's "ease of use"). As a result, physicians and nurses often used the EMR to print paper copies of patient information to put into a paper record (evidence against "used for intended purposes").<sup>59</sup> We gave Full Integration VistA two pluses for "proven track record" and "used for intended purposes". The fact that multiple entities outside of the federal government have adopted VistA and that almost one hundred percent of patient information is stored and used electronically at the VA supports these rankings.<sup>60</sup> As Stand-Alone VistA will be a copy of the GLA Medical Center's VistA, and

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<sup>59</sup> Interview with CDVA Official. March 2, 2006

<sup>60</sup> Kolodner, R., *U.S. Department of Veterans Affairs, Veterans Health Administration, From VistA to HealthVet-VistA: GAO Training Week*, Power Point Presentation found on the Veterans Health Administration, Department of Veterans Affairs, Office of Information Website: [http://www1.va.gov/vha\\_oi/docs/GAO\\_Education\\_Week\\_November\\_2004.ppt](http://www1.va.gov/vha_oi/docs/GAO_Education_Week_November_2004.ppt) (accessed February 8, 2006)

because interviews with officials in Oklahoma convey strong satisfaction with Stand-Alone VistA, we give it a single plus.<sup>61</sup>

The Parallel system scored the worst in all “ease of use” categories because coordination of two records would make this option extremely cumbersome to use and would complicate the clinician’s task of taking care of patients. We predict that clinical personnel might object to having to constantly coordinate two systems and, therefore, not fully use either.

The total and average points given to the various medical record options can be seen in the last two rows of Table 1. Full Integration scores highest, with 16 pluses, followed by Stand-Alone VistA with 6 pluses. The Paper option scored worse than the status quo but better than the Parallel VistA option. The Parallel with Paper option scored the worst of all the alternatives.

**Criterion 2: Legal Feasibility**

Table 2 summarizes the main legal issues surrounding electronic and paper medical records, namely privacy and ownership.

**Table 2: Effect of legal constraints**

Legal Issue	Full Integration VistA	Stand-Alone		Parallel		Paper
		Oklahoma Model VistA	Meditech	With Electronic VistA	With Paper	
Privacy	-	0	0	0	0	0
Ownership	--	0	0	0	0	0
<b>Total Points</b>	<b>-3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Average Points</b>	<b>-1.5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Privacy

As discussed previously, VA General Counsel wrote a legal opinion declaring that read-write access to the VA’s VistA by a “third party entity” such as the State, violates the ‘privacy and confidentiality’ element of the Privacy Act of 1974.<sup>62</sup> As a precedent, this earlier legal ruling poses a significant strike against accomplishing integration. The Health Insurance Portability and Accountability Act also poses an obstacle to Full Integration because VistA currently lacks a ‘restricted list’ feature that would limit viewers to seeing and entering notes only to the

<sup>61</sup> Michael Walters (Programs Manager, Oklahoma Department of Veterans Affairs, Oklahoma), in discussion with the authors, February 2, 2006.

<sup>62</sup> U.S. Department of Veterans Affairs General Counsel, *Memorandum from General Counsel to VHA Chief Information Officer Regarding a Request for Legal Guidance Re VistA Access*, June 05, 2001.

appropriate patients’ records. The other options do not present significant privacy concerns and, therefore, Full Integration scores worst in the privacy category. It receives only one minus, however, because Health-e-Vet and technological advances create the future possibility of resolving privacy concerns, through the creation of a restricted list, for example.

Ownership

Integration conflicts with regulations regarding medical record ownership. The State Home would have to give its residents the option of signing an authorization for the Home to either use their VA Medical Center record or to use a paper record exclusive to the Home. The main issue, however, is that the VA would still own the physical records for business operating purposes. VA Central Office would have to consent to sharing these documents and the State would have to seek legal advice to see if it is possible to operate a state home without owning its medical records. Because of the uncertainty surrounding the ability to resolve this issue, Full Integration scores the worst relative to the status quo. There are no ownership issues presented by any of the other options.

**Criterion 3: Operational Feasibility**

The chosen option must facilitate or at least not inhibit business operations of the GLA Medical Center and the California Department of Veterans Affairs. The operational feasibility criterion has two categories, shown in Table 3. First, the chosen option must enable the State Home and the GLA Medical Center to separate billing, auditing and performance measurement data. Second, the chosen option must facilitate sharing agreements between the State Home and GLA Medical Center such as medical services, pharmacy, and food and nutrition.

**Table 3: Effect on ability of GLA & State Home to carry out vital operations**

	Full Integration VistA	Stand-Alone		Parallel		Paper
		Oklahoma Model	Meditech	With Electronic	With Paper	
Separation of State Home and GLA data	-	0	0	--	--	-
Facilitates other sharing agreements between GLA and CDVA	++	0	0	-	-	-
<b>Total Points</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>-3</b>	<b>-3</b>	<b>-2</b>
<b>Average Points</b>	<b>0.5</b>	<b>0</b>	<b>0</b>	<b>-1.5</b>	<b>-1.5</b>	<b>-1</b>

### Separation of State Home and GLA Medical Center data

Data separation presents an obstacle to the Full Integration option as well as the Parallel options. In a partnership between the State Home and the GLA Medical Center, different third-party payers would be responsible for reimbursement. As the two healthcare facilities will represent different levels of government, they will have different reimbursement arrangements; for example, the State can bill Medicare, whereas GLA cannot. All data from the GLA Medical Center are funneled to Austin, Texas, where it is analyzed and directed to the appropriate payers and agencies that audit and measure the VA's performance. The State Home, however, must send data to Sacramento for billing and present it separately for external audits.<sup>63</sup> The chosen medical record option must, therefore, facilitate separation of billing, auditing and performance measurement data.

Full Integration scores most poorly on the "separation of State Home and GLA data" category because a single system would require special technological intervention to enable the federal level data to be sent to Austin and state data to be sent to Sacramento. Therefore, Full Integration has a minus relative to the status quo. The need to separate data, however, is a problem with a feasible solution. In the State Home summit held in December 2005 by the information resources and billing staff of GLA, GLA and CDVA discussed how to separate data in an integrated VistA system.<sup>64</sup> Attendees determined to do so would require VA Central Office giving the State Home its own facility code, or classifying the State Home as a non-count clinic. Because the feasibility of separation is somewhat dependent upon Central Office's cooperation and requires additional work, the Full Integration option receives a lower score relative to the status quo.

On the other hand, as it would be a separate system, Stand-Alone VistA would naturally separate data. Stand-Alone VistA, therefore, scores the same as the status quo, which would also provide separate data. The Parallel system options earn a double minus because State Home data would be fragmented across two different systems whether it is the EMR or the paper sub-option. In either case, separation of data would be a significant undertaking.

The Paper option scores similarly to the Full Integration option in the "separation of data" category because, although it would provide compartmentalized data, an extra effort would be required to transfer information stored on paper into electronic format.

### Facilitates other sharing agreements

As specified in the Memorandum of Understanding between GLA and CDVA, the success of sharing agreements such as medical services, pharmacy, and food and nutrition depends upon Full Integration of CPRS/VistA.<sup>65</sup> VistA interfaces with many operations of the GLA Medical

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<sup>63</sup> U.S. Department of Veterans Affairs, Greater Los Angeles Healthcare System, *IRM/ISD Sharing Agreement: State Veterans Home Summit Meeting Notes*, December 7,14, 15 and 16, Los Angeles, California

<sup>64</sup> U.S. Department of Veterans Affairs, Greater Los Angeles Healthcare System, *IRM/ISD Sharing Agreement: State Veterans Home Summit Meeting Notes*, December 7,14, 15 and 16, Los Angeles, California

<sup>65</sup> U.S. Department of Veterans Affairs, *Memorandum of Understanding Between the Greater Los Angeles Healthcare System of the United States Department of Veterans Affairs and the California Department of Veterans Affairs*, signed on May 28, 2004

Center, and a fragmented system such as a stand-alone VistA system, or worse yet a parallel system (with VistA *or* paper), would inhibit smooth provision of services to the State Home. For this reason, Full Integration scores highest, Stand-Alone VistA scores equally to the status quo, and Parallel and Paper systems score lower than the status quo.

**Criterion 4: Political Feasibility**

The State Home medical record option affects many stakeholders. Table 4 summarizes anticipated reactions of various offices within the federal leadership as well as actors in CDVA and individuals who will participate in the day-to-day operations of the State Home.

**Table 4: Effect of political constraints**

Key Stakeholders	Full Integration VistA	Stand-Alone		Parallel		Paper
		Oklahoma System	Meditech	With Electronic VistA	With Paper	
USDVA Central Office	--	0	0	-	-	0
GLA Leadership	++	+	0	-	--	--
CDVA Leadership	++	+	0	-	-	--
CDVA IRM Department	-	+	0	-	0	+
The Bush Administration	+	0	0	0	0	-
Memorandum of Understanding and other departments within GLA Medical Center	+	0	0	0	0	-
<b>Total Points</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>-4</b>	<b>-4</b>	<b>-5</b>
<b>Average Points</b>	<b>0.5</b>	<b>0.5</b>	<b>0</b>	<b>-0.7</b>	<b>-0.7</b>	<b>-0.8</b>

### VA Central Office

Many decision-makers in VA Central Office disapprove of Full Integration. This opinion is rooted in the 2001 decision by General Counsel that blocked it on account of privacy regulations.<sup>66</sup> The accompanying decision made by a VA Central Office task panel from the Office of Information provides a precedent that makes straight-forward approval of Full Integration highly unlikely. The only way that this situation is likely to change is if someone from the VA's executive leadership decides otherwise. The Full Integration option has a considerable disadvantage relative to the status quo.

Central Office would have no foreseeable objection to the State Home using a stand-alone system, whether it is VistA or Meditech, as evidenced by Oklahoma and California state home experience. Therefore, the Stand-Alone VistA system ranks equal to the status quo.

The Parallel system options rank lower than the status quo. It is not likely that Central Office will find fault with physicians in the State Home using the GLA Medical Center's EMR while state employees use electronic or paper medical records. VA Central Office may insist, however, that extra security measures are taken to prevent state employees from viewing non-State Home patients.

VA Central Office does not object to a paper system because it would not interfere with the VA's systems. Therefore, Full Integration is the least appealing and otherwise, Central Office does not strongly favor one option over another.

### Greater Los Angeles Executive Leadership

In contrast to VA Central Office, GLA leadership supports Full Integration because this option supports the intent of the State Home Memorandum of Understanding between GLA and CDVA.<sup>67</sup> GLA leadership, including the chiefs of the Office of Asset Management, Medical Services and Information Resources Management, contend that Full Integration is the best option for veterans' quality of care. GLA physicians are accustomed to using the current VistA system and would require significant retraining if they had to use another form of patient records.<sup>68</sup>

GLA leadership would likely consider a stand-alone system "second best". Although the State Home would use EMR, the GLA Medical Center's patient record would not be complete and this suggests a variety of potential problems, in particular when a resident is transferred to the Medical Center for emergency care. However, GLA leadership would prefer Stand-Alone VistA to Meditech. Stand-Alone VistA would provide a higher quality of care because physicians are

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<sup>66</sup> U.S. Veterans Health Administration Office of Information, Geriatrics and Extended Care Strategic Healthcare Group, *Issue Paper: CPRS Access to State Veterans Homes*, August 2, 2001.; U.S. Department of Veterans Affairs General Counsel, *Memorandum from General Counsel to VHA Chief Information Officer Regarding a Request for Legal Guidance Re VistA Access*", June 05, 2001.

<sup>67</sup> U.S. Department of Veterans Affairs, *Memorandum of Understanding Between the Greater Los Angeles Healthcare System of the United States Department of Veterans Affairs and the California Department of Veterans Affairs*, signed on May 28, 2004

<sup>68</sup> Official in Greater Los Angeles Office of Asset Management, in conversation with the authors, March 22, 2006



more accustomed to the system, and also because VistA has a reputation of being comprehensive and easy to use.

Although GLA leadership has an unfavorable view of implementing two records in the State Home, the Parallel option, with an electronic counterpart, would still be preferable to a paper record. The main benefit would be that the GLA Medical Center's EMR would stay relatively updated (with physician diagnoses and prescriptions) and this would facilitate emergency care. The other Parallel system involves paper, to which GLA leadership strongly objects as it considers it a step backwards.

A purely paper record system ties with the Parallel with paper option for the lowest score. GLA leadership believes that paper records would be more costly in terms of inferior quality of care, complications associated with increased medical errors, and bad communication between medical care teams.<sup>69</sup>

### CDVA Leadership

The California Department of Veterans Affairs (CDVA) leadership prefers Full Integration for similar reasons to GLA leadership. Integration offers a higher level of care, a lower cost relative to the status quo (as will be discussed in the financial criterion section) and a boost to CDVA's reputation, as no state has accomplished Full Integration.

CDVA leadership, however, has also expressed interest in a stand-alone VistA system (as opposed to Meditech) because CDVA knows that GLA prefers VistA and, as the Oklahoma experience suggests, Stand-Alone VistA in one state home can easily be extended to other existing and future state homes.<sup>70</sup> CDVA's experience with the status quo Meditech has not been positive judging from its staff's statements, who claim that the most electronically-oriented California state home in Yountville performs approximately fifty to sixty percent of its functions electronically and relies on printed copies of the records.<sup>71</sup>

Stand-Alone VistA is more costly because it offers extensive professional services training and support. Meditech is not as costly and has similar features to VistA, but the State has not invested in extensive training services or long-term care modules and, as a result, has not been able to offer a comprehensive EMR system.

The Parallel options score lower than the status quo. The Parallel with Paper system is more appealing to CDVA than the Parallel with EMR option because the former would be less expensive. The Parallel systems score higher than the purely Paper option, because they provide a higher access to the GLA Medical Center's VistA than does the Paper option. Although the Paper option presents the least upfront costs, it would not facilitate high quality of care and therefore reflects badly on CDVA leadership. It would be particularly detrimental to its interaction with the GLA Medical Center. Therefore, it receives the lowest score.

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<sup>69</sup> Official in Greater Los Angeles Office of Asset Management, in conversation with the authors, March 22, 2006

<sup>70</sup> David Shull, interview

<sup>71</sup> Interview with CDVA official. March 2, 2006

### CDVA Information Resources Management Department

The CDVA Information Resource Management (IRM) Department has not expressed a strong preference for any of the options. The department, however, faces a July 2006 deadline to submit a Feasibility Study and Report (FSR) in order to secure funding for the State Home information technology infrastructure. The FSR must propose options for the medical record sharing agreement and provide financial and operational analyses. When the CDVA IRM department learned of the many hurdles involved in achieving Full Integration between the State Home and the GLA Medical Center, some members immediately advocated that the Feasibility Study Report present one of the stand-alone systems so that the report could be completed in a timely manner. The CDVA IRM department is, therefore, under pressure to support a less politically and legally complicated alternative.

From the perspective of the CDVA IRM department, Stand-Alone VistA has an advantage over Meditech. CDVA IRM employees have not been satisfied with their past experience with Meditech. The Meditech electronic modules operate separately from each other and are not tied together by a coherent EMR system; additionally, professional services training has not been sufficient. This negative experience with Meditech gives the Stand-Alone VistA system a plus relative to the status quo.

The Parallel with Paper system presents minimal upfront costs and satisfies the GLA Medical Center's demand that its EMRs be used by the physicians in the State Home. It, therefore, scores equally to the status quo. A parallel system with Stand-Alone VistA for non-VA personnel and read-write access for physicians is the most financially costly and planning-intensive option. Therefore, the CDVA IRM department would likely oppose it.

Purely paper records would require the least work for the CDVA IRM department and would be the easiest option to implement. The Paper option therefore receives a plus relative to the status quo.

### The Bush Administration

The Bush Administration's Consolidated Health Informatics initiative backs the principles embodied in Full Integration because this option maximizes interoperability between the State Home and the GLA Medical Center. All the other options receive a zero relative to the status quo. Paper records, however, receive a minus because the Administration would not be likely to support paper records in light of its general push for EMRs.

### Memorandum of Understanding and other departments within the GLA Medical Center

The State Home Memorandum of Understanding signifies a partnership entered into by the VA and CDVA that is predicated on provision of superior quality of care to future State Home residents.<sup>72</sup> As discussed in the operational feasibility criterion, services provided by the

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<sup>72</sup> U.S. Department of Veterans Affairs, *Memorandum of Understanding Between the Greater Los Angeles Healthcare System of the United States Department of Veterans Affairs and the California Department of Veterans Affairs*, signed on May 28, 2004

medical, pharmacy, and food and nutrition departments depend on full integration between GLA’s VistA and the State Home. The expectations provided by the Memorandum of Understanding, as an already-existing agreement, give political momentum to the option of Full Integration. Therefore, this option receives a higher score relative to the status quo and the Stand-Alone systems. Parallel systems and Paper records are scored lower relative to the status quo because they would make it difficult to provide an optimum quality of care and to support the other sharing agreements.

**Criterion 5: Financial**

Table 5 and Appendix G summarize upfront costs for implementing and maintaining medical records for each option.

**Table 5: Relative Summary of Costs – minus indicates more expensive**

	Full Integration VistA	Stand-Alone		Parallel		Paper
		Oklahoma Model VistA	Meditech	With Electronic VistA	With Paper	
<b>Total cost EMR</b>	<b>\$1,339,500</b>	<b>\$1,807,000</b>	<b>\$718,971</b>	<b>\$1,807,000</b>	<b>\$1,212,000</b>	<b>\$339,500</b>
<b>Relative cost EMR</b>	<b>-</b>	<b>--</b>	<b>0</b>	<b>--</b>	<b>-</b>	<b>++</b>
<b>Total Points</b>	<b>-1</b>	<b>-2</b>	<b>0</b>	<b>-2</b>	<b>-1</b>	<b>2</b>
<b>Average Points</b>	<b>-1</b>	<b>-2</b>	<b>0</b>	<b>-2</b>	<b>-1</b>	<b>2</b>

Stand-Alone VistA is the most expensive system, with the highest percentage of costs concentrated in the Professional Services category. Stand-Alone VistA’s professional services fees are expensive because private companies have specialized in the implementation, training and support of the free software. Meditech’s costs are higher for software but lower for professional services. The next most expensive option is Full Integration, for which all training support would be provided by the GLA’s department of Information Resources Management, plus a (to be negotiated) ten percent administrative fee. The Paper option is the least expensive, primarily because it does not require EMR-specific hardware and software, and should require much less front-end user hardware such as desktops, laptops and printers. The costs for the Paper option are not zero, however, because there will need to be some electronic capability to support scheduling, billing, and auditing, as well as Read-Only access to the GLA Medical Center’s VistA system. Finally, the status quo Meditech EMR appears to be the least costly of the EMR approaches. The low cost, however, is due to very low professional services support and very limited electronic capabilities that subtract from the benefits of EMR. Sufficient coordination between the EMR modules and better training for the status quo did not occur because CDVA

did not have the funds to invest in a more coherent system with better support when it implemented Meditech.<sup>73</sup>

### **Summary Analysis of Policy Question One**

Based on each policy option's average score in the separate criteria, we calculated a total score for each option. The results are summarized in Table 6. To figure out the average score for each option, we added the pluses, subtracted the minuses and divided the total by the number of categories within each criterion. This was done so that criteria that were broken up into more categories, such as quality of care, would not have an artificially larger weight relative to other criteria, such as legality. The average scores can be seen in the last row of Tables 1 through 5, as well as the first five rows of Table 6. Table 6 also shows the sum of scores across all the criteria, as well as sensitivity analyses that account for the various importance of each criterion. When points are summed across all criteria without accounting for the rank-order of each criterion, Full Integration scores highest, followed Meditech, Paper and Stand Alone VistA. These numbers can be seen in row 6 of Table 6.

The categories within our criteria, however, do not carry equal weight. As discussed in the methodology section, our criteria were ranked in the following order: quality of care, legality, ability to conduct operations, political feasibility, and cost. To incorporate the importance of each criterion and to demonstrate different features of the analysis, we included six more calculations in the summary table below. To express that our client's top priority is to maintain a high quality of care in the State Home, the quality of care rank is multiplied by a factor of two in row seven. Because our client found it difficult to formulate exact weightings for each criterion, we chose to multiply quality of care by two as an example that emphasizes its importance.

In row eight of the Table 6, we drop the cost criterion to observe how sensitive the options' final rankings are to variations in cost. Costs were the most difficult data to obtain and much of them were extrapolated based on the experiences of other state homes and estimates from Hewlett Packard and Medsphere. We found that in general the cost information that we obtained was at best a ballpark estimate and that it often failed to represent comparable products. For example, although the financial criterion rankings work heavily against the Stand-Alone VistA system and in favor of Meditech, we attribute this to many factors: the high professional services cost of VistA, the fact that the California Department of Veterans Affairs has an incentive to provide unrealistically low costs in order to keep other estimates (particularly for Full Integration, as GLA will be reading this report) as low as possible, and the fact that the comprehensiveness of the two systems is not really comparable. For instance, CDVA did not include the cost of employees required to support the system in providing its cost estimates.

Regardless of which method we use to vary our analysis, however, Full Integration still ranks highest, followed by different results for the Stand Alone VistA, Meditech and Paper options relative to each other. The lowest ranked options in all the analyses are consistently the Parallel options.

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<sup>73</sup> Interview with CDVA officials.

**Table 6: Summary Table EMR Option Score based on Criteria**

	Full Integration VistA	Stand-Alone		Parallel		Paper
		Oklahoma Model VistA	Meditech	With Electronic VistA	With Paper	
Quality of Care	1.6	0.6	0	-0.9	-1.4	-0.4
Legality	-1.5	0	0	0	0	0
Operational Feasibility	-0.5	0	0	-1.5	-1.5	-1
Political Feasibility	0.5	0.5	0	-0.7	-0.7	-0.8
Financial	-1	-2	0	-2	1	2
<b>Sum scores</b>	<b>0.1</b>	<b>-0.9</b>	<b>0</b>	<b>-5.1</b>	<b>-2.6</b>	<b>-0.2</b>
<b>Sum scores accounting for importance of quality (Quality * 2)</b>	<b>1.7</b>	<b>-0.3</b>	<b>0</b>	<b>-6</b>	<b>-4</b>	<b>-0.6</b>
<b>Sum scores without cost criterion</b>	<b>1.1</b>	<b>1.1</b>	<b>0</b>	<b>-3.1</b>	<b>-3.6</b>	<b>-2.2</b>
<b>Sum scores without legal criterion</b>	<b>1.6</b>	<b>-0.9</b>	<b>0</b>	<b>-5.1</b>	<b>-2.6</b>	<b>-0.2</b>
<b>Sum scores without political criterion</b>	<b>-0.4</b>	<b>-1.4</b>	<b>0</b>	<b>-4.4</b>	<b>-1.9</b>	<b>0.6</b>
<b>Sum scores without legal or political criteria</b>	<b>1.1</b>	<b>-1.4</b>	<b>0</b>	<b>-4.4</b>	<b>-1.9</b>	<b>0.6</b>
<b>Sum scores without legal, political or financial criteria</b>	<b>2.1</b>	<b>0.6</b>	<b>0</b>	<b>-2.4</b>	<b>-2.9</b>	<b>-1.4</b>

**Policy Question 2:** What are the pathways to achieve Full Integration?

Although significant political and legal barriers stand in the way of Full Integration, we have demonstrated in the previous analysis that this option facilitates a superior quality of care and is the most operationally feasible from the GLA Medical Center's perspective. Without these legal and political barriers, our analysis shows that Full Integration is significantly superior to the other options. In addition, our client, the Office of Asset Management at GLA, prefers Full Integration. Below, we will analyze what pathways are available to resolving legal and political issues in order to achieve this option.

The key to making integration a feasible alternative is to comply with legal regulations, specifically HIPAA and the Privacy Act of 1974. After extensive research and significant help from our client, we developed alternatives that would achieve legal compliance in an integrated setting. We assisted our client in writing a white paper that made a case for why GLA and the future State Home create a unique opportunity to allow for this kind of integration, and suggested methods for overcoming the obstacles.<sup>74</sup> The purpose of the white paper is to bring the issue to the attention of key players in the GLA Medical Center, the Desert Pacific Veterans Integrated Service Network, and VA Central Office. The Office of Asset Management sent the white paper out recently and it is currently being "shopped up" through the VA's organizational hierarchy, from the director of GLA to the network director, to the Deputy Under Secretary for Health, Operations and Management, and then to the Under Secretary for Health. VA policy dictates that no memorandum may be sent directly to the Secretary of the agency; therefore, the Secretary of the California Department of Veterans Affairs will call Secretary Nicholson personally and express his support for Full Integration.

The following is a list of strategies, as laid out in the white paper, that may resolve the issue of privacy to make EMR integration a viable alternative:

- **Require Patient Authorization:** In order to comply with the issue of ownership presented by the Privacy Act of 1974, we propose that residents of the State Home, at the time of their admission, are given the option of authorizing the State Home to use their electronic patient record. If a resident declines, he or she will have the option of having medical information stored in paper records that will automatically belong to the State of California.
- **Form business associate agreements:** Many community-based outpatient clinics (CBOC) operate through a standard arrangement made between a given VA Medical Center and non-VA medical providers, called a business associate agreement. These agreements allow CBOC medical staffs to use VistA and view all VA patient records. These contracts lay out how the medical records are to be used and eventually destroyed when the contract terminates. The partnership between GLA Medical Center and CDVA can be viewed in a

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<sup>74</sup> U.S. Department of Veterans Affairs, Director of the Greater Los Angeles Healthcare System, *Briefing Paper IRM Sharing Agreement: State Home Read/Write Access to Electronic Medical Records in the Greater Los Angeles VA*, February 27, 2006, Los Angeles, California

similar manner in order to allow State Home employees read/write access to resident EMRs within the VA's database.

- **Request a waiver from VA Central Office to create a restricted list function for VistA/CPRS at GLA:** Despite the moratorium that VA Central Office has placed on changes to VistA, GLA is requesting permission to add a read-write restricted list function at the local level. The State Home partnership represents a unique opportunity to move in the direction of having more interoperable EMR in a cross-governmental setting. This possibility can be leveraged in discussions with leadership.
- **Leverage Worker without Compensation Status:** We propose using the VA's existing process of designating "worker without compensation" (WOC) status to ensure that all those who have access to the EMRs have gone through a similar level of security checks as USDVA employees and further ensure compliance with the Privacy Act. A state nurse who is also a WOC would no longer be considered a "non-VA entity" and can therefore legally obtain read-write access to EMRs as do hundreds of other WOC employees within GLA. If the creation of a restricted list is denied, the fact that state personnel in the State Home have WOC status may be enough on its own to act as a short term solution to giving state employees read-write access until the implementation of Health-e-Vet.
- **Site number:** In the interest of not interfering with GLA or CDVA's billing, auditing, and performance improvement evaluations, the State Home will need to be assigned its own facility substation code associated with GLA's site number. This will make it possible to separate State Home data from GLA data. If assigning a facility substation number to the State Home is not feasible, an alternative option would be to achieve a similar distinction by establishing the State Home as a non-count clinic.

## **RECOMMENDATIONS**

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Given the analysis performed above, we have come up with the following recommendations.

### **Short-Term Recommendations**

#### **Short-Term Recommendation #1: Promote the White Paper**

Full Integration has never been tried, and the precedent of General Counsel's legal opinion and previous attempts by Oklahoma and other states work against it. In planning the future State Home, it is important to catch the attention of the highest VA leadership given that most managing figures in the VHA Office of Information (the department of jurisdiction) object to revisiting the issue. Although we encourage GLA to request a prompt feedback from VA Central Office, we discourage it from placing a deadline on the response because Central Office may take this as an opportunity to let the date pass and in essence giving Full Integration a "pocket veto".

To reach the correct people, and to ensure that Central Office has an understanding of why this situation is unique, the GLA Office of Asset Management should encourage important figures from the GLA Medical Center, the Desert Pacific Network, and state veterans affairs departments (such as California and Oklahoma) to communicate with and provide information to leadership in Central Office. The more influential voices that come from different levels and departments, the more likely it is that the issue will arrive on the radar screen of those who can make a difference.

Specifically, influential individuals to form a coalition include

- Charles Dorman, director of GLA
- Gary Twedt, the Greater Pacific Veterans Integrated Service Network Chief Information Officer
- Tom Johnson, Secretary of the California Department of Veterans Affairs
- Phillip Driskill, Executive Director of Oklahoma Department of Veterans Affairs

The GLA Office of Asset Management should encourage these individuals to call or perhaps organize a personal meeting with James Nicholson, Secretary of the VA, and/or Jonathan Perlin, Under-Secretary of the Veterans Health Administration. These are political appointees and therefore, may have more closely aligned interests with the White House. Because IT project are currently a contentious issue in VA Central Office, this proposal runs the risk of being set aside, and it must be kept fresh in the minds of those who make the decisions. Top VA Central Office leaders will be relying on advice from their technical staff who will likely be the ones who have a higher level of knowledge on the issue and longevity within the department; therefore, it is necessary to ensure that they understand why this situation deserves consideration, how the solutions suggested in the white paper will work, and what exactly is needed from them to proceed. The success of the white paper depends upon persistent, effective communication of the results of and evidence that supports this analysis.



Two more suggestions may give the white paper more attention and ultimately help the Full Integration option:

- Establish a relationship with other state nursing homes around the country so that other directors and interested parties can become part of GLA's "team". The more people that express their support for integration to Central Office, the better.
- Establish a solid contact in VA Central Office who believes in interoperability as the element of health information technology that will transform the quality of veterans' health care. Based on past comments, the most likely people to fit this description that we are aware of would be Jonathan Perlin (Under Secretary of VHA) or Robert Kolodner (Chief Health Informatics Officer of VHA). Both individuals have published many articles cited in this report and are strong proponents of electronic medical records and interoperability. Christa Hojlo, the new Chief of State Homes and Per Diem, is another possibility. She has been designated as the person to take all inquiries about this topic from GLA and has spent many years working as Head of Nursing at GLA and is likely to be concerned with issues of quality.

**Short-Term Recommendation #2: If Central Office blocks the Full Integration option, implement Stand-Alone Oklahoma Model VistA with contingency of future integration.**

If VA Central Office forbids moving forward with Full Integration, we recommend that GLA proceed with the Stand-Alone VistA option, which scored second to Integration in quality of care, our client's highest priority. The original intent behind the Memorandum of Understanding calls for partnership and optimum quality of care; therefore, left with no other option, GLA can agree to a Stand-Alone VistA system with the contingency that if read-write to the federal VistA is possible in the future, the State Home's stand alone system will be integrated with GLA's Medical Center's system. Hewlett Packard claimed this would be a "trivial" task from a technological perspective.<sup>75</sup> The implementation of Health-e-Vet, particularly the read-write restricted list functionality, will make this a more likely possibility.

**Short-Term Recommendation #3: If the State uses Meditech, encourage it to invest in long-term care modules and professional services**

A Meditech stand-alone system was the least costly of all the EMR systems. We attribute this to Meditech's lower "ease of use", and the fact that the CDVA has not invested as heavily in professional services as Oklahoma state homes that use VistA. The success of an EMR depends on how it facilitates the State Home's other operations and how comfortable clinicians are with using it. The achievement of the Oklahoma experience appears to lie in successful project

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<sup>75</sup> David Shull (Project Manager Oklahoma VistA, Hewlett Packard), in discussion with the authors, February 28, 2006

management and a solid investment in professional services.<sup>76</sup> The most electronically-based California state home still uses very limited EMR features, an arrangement that will not meet GLA's expectation of consistent quality of care. Regardless of medical record system the State chooses, it is important that that funds are allocated for appropriate modules and for professional services.

## **Long Term Recommendations**

### **Long-Term Recommendation #1: Work toward amending the Privacy Act to make it more amenable to an age of EMR**

One of the previous obstacles that Oklahoma faced in trying to achieve EMR integration was that the Privacy Act of 1974 prevents the VA from sharing ownership of its patients' records. According to the privacy officer of the Veterans Health Administration, no outside entity can use the VA's records for its own purposes without the written authorization of the patient; to insist, however, that each State Home resident sign an authorization would be considered coercion. Even if non-VA employees are restricted to viewing records for only a set of patients and the patients have authorized a shared medical record, the State Home still runs into the problem of ownership. This clause, she claims, is a flaw in the law that prevents large-scale interoperability from occurring in the future.<sup>77</sup> Although we fully realize that this is a long-term recommendation, to help amend this law we recommend that GLA:

- Present Privacy Act ownership information in State Home information sessions to local political figures, interest groups, and public stakeholders.
- Frame this issue as a technicality standing in the way of improving veterans' quality of care.
- Educate interest groups such as VA Watch, local veterans, and the Association of State Directors of Veterans Homes who may adopt the issue and make it part of their political agenda. These groups will be effective in garnering publicity by going on talk shows, disseminating information on websites, and maintaining a connection with Congressional committees for Veterans Affairs. They can encourage their members to write letters to their Congressmen requesting that they address this issue. California Congressmen John Campbell and Bob Filner, who sit on the Health Subcommittee within the House Veterans Affairs Committee, may be particularly responsive to these interest groups, as they are part of their constituencies.<sup>78</sup> Other key members of the Senate to inform of this unique opportunity would be Bill Frist and Hillary Clinton, who have repeatedly expressed support for EMRs.

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<sup>76</sup> David Shull (Project Manager Oklahoma VistA, Hewlett Packard), in discussion with the authors, February 28, 2006

<sup>77</sup> Interview with VA Central Office Official, February 2, 2006 (SP)

<sup>78</sup> House Committee on Veteran's Affairs, <http://veterans.house.gov/about/index.html>, accessed on March 21, 2006

**Long-Term Recommendation #2: Provide information about funding cuts in State Home stakeholders' meetings**

Lastly we recommend informing people who attend regular State Home information meetings about the implications of the funding cuts for Health-e-Vet. If interest groups and individual citizens take up this issue, it could help put pressure on Congress to resume funding for Health-e-Vet. The sooner that Health-e-Vet gets back on track, the better the chances for Full Integration to occur.

## **CONCLUSION**

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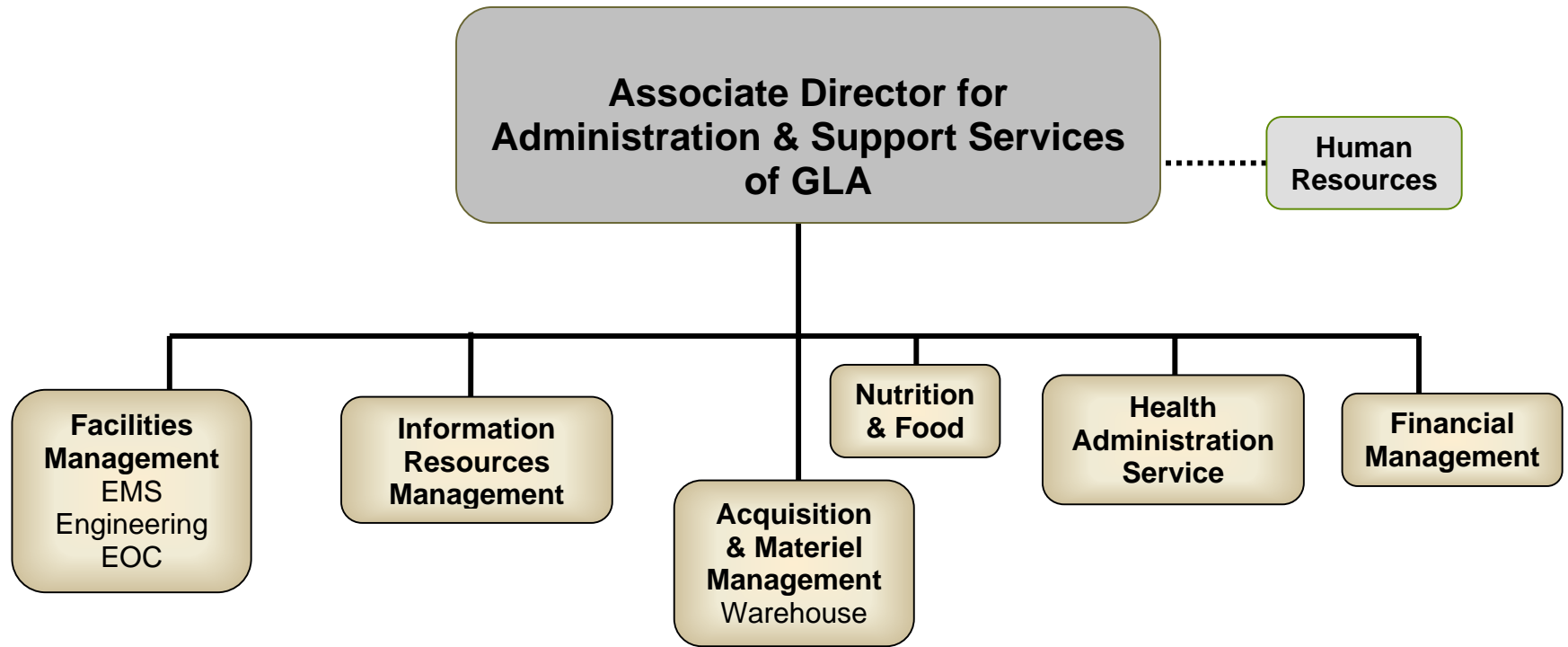
The U.S. healthcare sector's method of keeping records is far behind other industries with regards to information technology. Significant obstacles that stand in the way of the interoperability movement include restrictive privacy laws and a fragmented healthcare system in which providers do not coordinate information with one another. If interoperability cannot be accomplished between two government entities that are co-located, employ the same physicians, and treat the same patients, the outlook for interoperable EMR systems is bleak.

Our report has attempted to show that integration is the option for State Home medical records that best meets the chosen criteria, particularly quality of care. We therefore recommend promoting this option through persistent communication with VA Central Office, the final decision-maker. If VA Central Office determines, however, that the pathways that we suggest do not comply with its concerns surrounding privacy laws and regulations, we then recommend a Stand-Alone VistA system. A stand-alone system, though not ideal, ensures that integration will be possible in the future should the opportunity arise.

In many ways, the planning of the State Home has suffered from problems inherent in intergovernmental projects, which present challenges regarding collective action. Although CDVA and GLA will both receive benefits that stem from the costs that they will have to shoulder, the nature of the organizations involved gives the individual departments a tendency to work towards fulfilling their more explicit responsibilities and not communicating effectively to attain joint goals. The task of this report has been to illuminate the optimal, most feasible option for medical records in the State Home. We have identified issues that need to be addressed and actions that need to be taken in order to make interoperable medical records between GLA and State Home a reality, as well as to bring the views of many stake holders together to facilitate further communication.

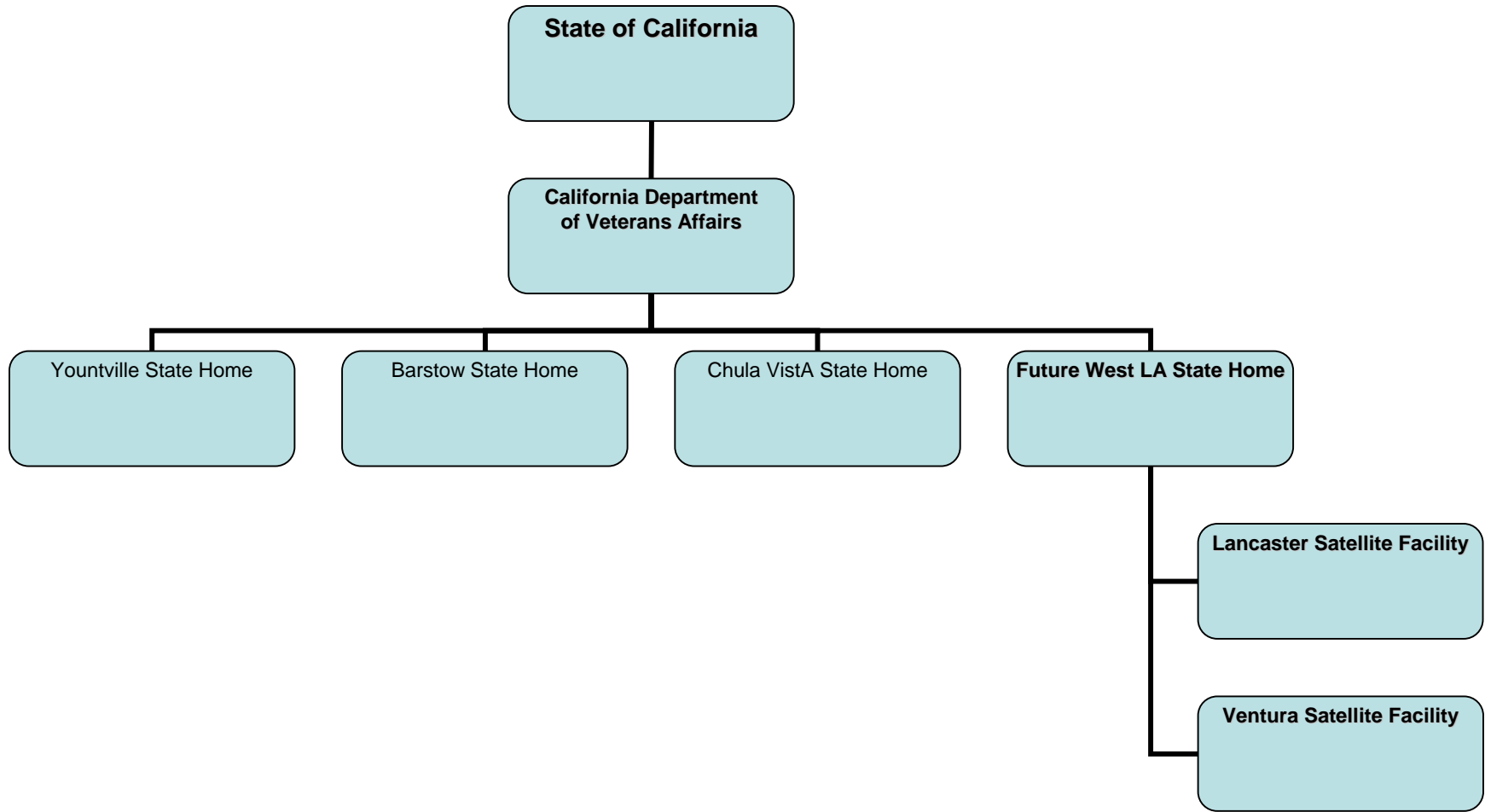


**Appendix B: Organizational Chart of the Greater Los Angeles Health Care System**



*Source: GLA Office of the Director*

**Appendix C: Organizational Chart of the California Department of Veterans Affairs**



## Appendix D: List of Key Informants

### Formally Interviewed

<b>Name</b>	<b>Title</b>	<b>Agency and Location</b>
Graham, Gail	Director, Health Data and Informatics Technology	VA Central Office, Washington, DC
Groen, Peter	Director, Health IT Sharing Program (Retired)	VA Central Office, Washington, DC
Putt, Stephania	Privacy Officer	VA Central Office, Washington, DC
Rappaport, Steven	Chief Information Officer	VA Central Office, Washington, DC
Demetriades, Jim	Chief VistA Architect	VA Central Office, Washington, DC
Corzatt, Jeff	General Counsel	VA Central Office, Washington, DC
Babcock, Doug	Health Systems Design and Development Director (Acting)	VA Central Office, Washington, DC
Cannatti, Don	Supervisor IT Specialist	VA Central Office, Washington, DC
Quinton, Randy	Chief of Information Resources Management	Greater Los Angeles Healthcare System, USDVA
Steinberg, Katherine	Associate Director of Asset Management	Greater Los Angeles Healthcare System, USDVA
Boehm, Shoshana	Program Analyst	Greater Los Angeles Healthcare System, USDVA
Williams, Sydney	Clinical Applications Coordinator	Greater Los Angeles Healthcare System, USDVA
Maung, Margaret	Head of Medical Records Department/ Clinical Application Coordinator	Greater Los Angeles Healthcare System, USDVA
Happy, Janelle	Privacy Officer	Greater Los Angeles Healthcare System, USDVA
Franzi, Cheryl	Nurse Consultant	California Department of Veterans Affairs, Sacramento
Walker, John	Associate Information Systems Analyst	California Department of Veterans Affairs, Barstow State Home
Tsumura, Ron	Manager of Application Support	California Department of Veterans Affairs, Sacramento
Martinelli, Richard	Senior Information Analyst Supervisor	California Department of Veterans Affairs, Sacramento
Winfrey, Larry	Supervising Registered Nurse	California Department of Veterans Affairs, Yountville State Home



Miller, Michael	Logistics Officer	VA Medical Center, Loma Linda
Walters, Mike	Programs Manager	Oklahoma Department of Veterans Affairs, Oklahoma City
Shull, David	Solutions Architect	US Veterans Affairs Sales Team, Hewlett Packard, Washington, DC
Shreeve, Scott	Chief Medical Officer and Co-Founder	Medsphere Systems, Co., Aliso Viejo

### **Informal or Indirect Correspondence**

Kolodner, Robert	Chief, Health Informatics Officer	VA Central Office, Washington, DC
Nugent, Linda	Health Information Management Staff	VA Central Office, Washington, DC
Hojlo, Christa	Chief, State Home Training and Per Diem Program	VA Central Office, Washington, DC
Parker, Jo Anne	Program Analyst, State Home Per Diem Program	VA Central Office, Washington, DC
Salvas, Frank	Chief, State Home Construction Grant Program	VA Central Office, Washington, DC
Valey, Wayne	Chief, Operations and Fee Program	VA Central Office, Washington, DC
Bean, Jackie	Program Analyst	VA Central Office, Washington, DC
Wagner, Steve	Strategic Architect for IRM Policy and Planning Office	VA Central Office, Washington, DC
Coyle, Terry	Director of Applications Management	California Department of Veterans Affairs, Sacramento
Lim Silvernail, Betty	Senior Information Systems Analyst Supervisor	California Department of Veterans Affairs, Sacramento
Johnson, Tom	Secretary	California Department of Veterans Affairs, Sacramento
Brautigan, Roger	Under Secretary	California Department of Veterans Affairs, Sacramento
Miner, Mauri	Clinical Application Coordinator	VA Medical Center, Puget Sound
Syndulko, Karl	Associate Director for Administration and Support	Greater Los Angeles Healthcare System, USDVA
Ortiz-Bitner, Olivia	Acting Chief Financial Officer	Greater Los Angeles Healthcare System, USDVA
Achen, Alan	Attorney, Regional Counsel	Greater Los Angeles

		Healthcare System, USDVA
Epps, Patricia	Business Office Manager	Greater Los Angeles Healthcare System, USDVA
Barrios, Janet	Supervisor of Patient Business Office	Greater Los Angeles Healthcare System, USDVA
McGinley, Gabriela	Computer Specialist, Information Resources Management	Greater Los Angeles Healthcare System, USDVA
Braun, Eric	Program Analyst, Billing Department	Greater Los Angeles Healthcare System, USDVA
Sayer, Jeffrey	Chief of Pharmacy	Greater Los Angeles Healthcare System, USDVA
Hamilton, Beth	Chief of Billing	Greater Los Angeles Healthcare System, USDVA
Norman, Dean	Chief of Staff	Greater Los Angeles Healthcare System, USDVA
Marshall, Kenneth	Supervisor of Medical Record Administration	Greater Los Angeles Healthcare System, USDVA
Twedt, Gary	Chief Information Officer	Desert Pacific Network, Long Beach
Lasker, Deborah	Acting Associate Director for Administration and Support	Greater Los Angeles Healthcare System, USDVA
Herke, Marsha	Action Chief of Food and Nutrition	Greater Los Angeles Healthcare System, USDVA

## Appendix E: Example Interview Guide

### General Interview Protocol:

1. Please tell me a little bit about what you do at the VA: your position title, your main responsibilities.
2. Please tell me a little bit about what your involvement has been in the planning of the State Home to be built on GLA's campus?
3. What do you know about the current progress of integration of electronic medical records, do you think it's possible to have full integration and what do you think is the best pathway towards achieving this?
4. What are the current obstacles to VistA/CPRS integration with the state home?
  - a. How does HIPAA apply and what are possible solutions to getting around this obstacle?
  - b. Does VistA currently have the ability to form a restricted list so that the caregivers of specific veterans only see profiles of those veterans and not others?
  - c. If there are no restricted lists, are there ways to ensure privacy of veterans' data?
  - d. How do CBOCs currently circumvent the need to have patient authorization for viewing medical records?
  - e. We understand that the biggest issue in the State Home/VistA integration is the fact that the home will use State Nurses (it will already be using VAMC physicians so that's not a problem). Does the CBOC's access to VistA set a precedent for us or not?
5. What are the capabilities of VistA in terms of meeting regulatory and legal requirements
  - a. Does VistA have restricted list capability

- b. We have learned that CBOC have read/write access to VistA, how does this apply to the current situation with the State Home and (if you know) how do the CBOCs get around the issues of HIPAA regulations?
6. What do you know about BHIE (bidirectional health information exchange) and could we use a similar model in integrating health records b/w the VA and state home?
7. Please tell me how you envision the integration of electronic medical records b/w the USDVA and CDVA Nursing Home?
8. Since currently written in MUMPS, would it be a better option to wait until the Health-e-Vet process is implemented to go with full integration, and in the mean time have "Oklahoma" model with some kind of way to transfer data b/w the systems?
9. What is the status of Health-e-vet? What is the project all about? Why has it been put on hold? Do you know if there's a possibility that it will be resurrected by 2010 (when the State Home is planned to be built)?
10. If we have two parallel systems (like Oklahoma) what would be a way to transfer data between the systems?
11. What do you think are technical obstacles to VistA/CPRS and State Home integration?
12. What do you think are regulatory obstacles to VistA/CPRS and State Home integration?
13. What do you think are organizational/managerial obstacles to integration?
14. Do you think there are problems with the incentive structure in moving things along? If so, how do you think incentives need to be rerouted?
15. What do you know about BHIE? Is it just a one time arrangement for data transfer between the Dod and the VA, or is it a back and forth, real time kind of thing?
16. Who do you think would be other useful people to talk to about this?
17. What do you see as a key difference between the CBOC use of VistA/CPRS and that of the state home?

18. Do you know where we can get cost data for how much would cost full integration vs. stand alone systems

More Questions:

1. The term "Fully Integrated" has been used in several discussion. Do we both agree that this simply means that CDVA's health care information system is GLA's Vista System and CDVA staff will have full access to input and retrieve data from GLA Vista system? If so, do you have the approval of Central Office (Washington) for CDVA to use the GLA Vista System?
2. Can seamless full integration still be accomplished if CDVA implements its own Vista system? If so, this would require uploading and downloading data to GLA's Vista. Will this be allowed and is this an access issue requiring Washington approval?  
For example, admission and census data will be needed in GLA's Vista system to process orders, can this data be downloaded? Lab Test results will also need to be uploaded to our system, is this possible?
3. CDVA is aware that implementing a CDVA Vista system and integrating with GLA Vista will result in having to overcome several issues related to the exchanging of data. CDVA also realizes in order to avoid increased workload issues the development of electronic interfaces will be necessary. Further, this may result in having to modify applications. Do you agree and are there any GLA concerns or issues that would prevent this being attainable?
4. In my previous visit, GLA users indicated that IRM had made some minor changes to an online output report for them to include some additional data. Will these types of request for changes also be available for CDVA users?

## Appendix F: Summary of State Home Medical Record Alternatives

**Table F.1: Summary of Each Option**

	Full Integration VistA	Stand Alone		Parallel		Paper
		Oklahoma Model VistA	Meditech	With VistA	With Paper	
<b>Does the option allow for Read-Only or read-write access to the GLA Medical Center's VistA/CPRS?</b>	Read-Write	Read-Only	Read-Only	Read-Write	Read-Write	Read-Only
<b>Who gets read-write access?</b>	Physicians and nurses, (other clinical personnel)	No one	No one	Physicians	Physicians	No one
<b>Who gets Read-Only access?</b>	No one	Physicians, nurses and other clinical personnel	Physicians, nurses and other clinical personnel	Nurses and other clinical personnel	Nurses and other clinical personnel	Physicians and nurses
<b>Who provides EMR training, support and maintenance to State Home employees?</b>	USDVA employed CACs, ADPACs	Hewlett Packard and Medsphere	Meditech	Hewlett Packard and Medsphere	No one	No one
<b>Are paper records used?</b>	No	No	Yes	No	Yes	Yes
<b>If paper records are used, to what extent?</b>	If a patient comes in with a paper record, it is scanned into the VistA system and made into a PDF attachment.	If a patient comes in with a paper record, it is scanned into the VistA system and made into a PDF attachment.	Currently, the EMR is used to print out a paper copy and put into patient's paper record.	If a patient comes in with a paper record, it is scanned into the VistA system and made into a PDF attachment.	Notes from nurses and other clinical personnel are stored in paper records.	Paper records are used for most patient medical information

**Appendix G: Detailed Cost Table for State Home medical record options**

**Table G.1: Summary of Costs**

	Full Integration VistA	Stand-Alone		Parallel		Paper w/Read Only
		Oklahoma Model VistA	Meditech	w/Electronic VistA	w/Paper	
<b>Total cost EMR</b>	<b>\$1,339,500</b>	<b>\$1,807,000</b>	<b>\$718,971</b>	<b>\$1,807,000</b>	<b>\$1,212,000</b>	<b>\$339,500</b>
<b>Internet</b>	<b>\$90,000</b>	<b>\$90,000</b>	<b>\$90,000</b>	<b>\$90,000</b>	<b>\$90,000</b>	<b>\$90,000</b>
<b>Network Infrastructure</b>	<b>\$122,000</b>	<b>\$122,000</b>	<b>\$122,000</b>	<b>\$122,000</b>	<b>\$122,000</b>	<b>\$122,000</b>
<b>EMR Hardware, software and licensing</b>	<b>\$20,000</b>	<b>\$100,000</b>	<b>\$213,491</b>	<b>\$100,000</b>	<b>\$20,000</b>	<b>0</b>
<b>Front-end user hardware</b>	<b>\$255,000</b>	<b>\$255,000</b>	<b>\$255,000</b>	<b>\$255,000</b>	<b>\$127,500</b>	<b>\$127,500</b>
<b>Professional Services</b>	<b>\$852,500</b>	<b>\$1,240,000</b>	<b>\$38,480</b>	<b>\$1,240,000</b>	<b>\$852,500</b>	<b>0</b>

**Table G.2: Detailed Summary of costs**

All costs spread over 5 years	Full Integration VistA	Stand Alone		Parallel		Paper
		Oklahoma Model VistA	Meditech	With Electronic VistA	With Paper	
<b>Total cost EMR</b>	<b>\$1,339,500</b>	<b>\$1,807,000</b>	<b>\$718,971</b>	<b>\$1,807,000</b>	<b>\$1,212,000</b>	<b>\$339,500</b>
<b>Internet</b>	<b>\$90,000</b>	<b>\$90,000</b>	<b>\$90,000</b>	<b>\$90,000</b>	<b>\$90,000</b>	<b>\$90,000</b>
\$1500/month * 12 months * 5 years						
<b>Network Infrastructure</b>	<b>\$122,000</b>	<b>\$122,000</b>	<b>\$122,000</b>	<b>\$122,000</b>	<b>\$122,000</b>	<b>\$122,000</b>
(application servers) + (network hardware jacks, hubs, wireless routers)	\$100,000 + (\$150/drop * 150 computers => \$22,000) = 122,000					
<b>EMR Hardware, software and licensing</b>	<b>\$20,000</b>	<b>\$100,000</b>	<b>\$213,491</b>	<b>\$100,000</b>	<b>\$20,000</b>	<b>0</b>
(servers) + (CACHE) + (operating system) + licenses	One database server for back-up		(Hardware: \$82,635) + (software: \$130,856)			
<b>Front-end user hardware</b>	<b>\$255,000</b>	<b>\$255,000</b>	<b>\$255,000</b>	<b>\$255,000</b>	<b>\$127,500</b>	<b>\$127,500</b>
Desktops + laptops + printers	\$1700/computer * 150 computers = \$255,000	Same	Same	Same	\$1700/computer * 75 computers = \$127,500	\$1700/computer * 75 computers = \$127,500
<b>Professional Services</b>	<b>\$775,000 * 1.10 = \$852,500</b>	<b>\$1,240,000</b>	<b>\$38,480</b>	<b>\$1,240,000</b>	<b>\$852,500</b>	<b>0</b>
Implementation + training + support	(Network manager 1FTE => \$90,000 * 5 = <b>\$450,000</b> ) + (Training/user support => 0.5FTE = \$40,000*5 = <b>\$200,000</b> ) + (Programmer support => 0.5FTE => \$25,000 * 5 = <b>\$125,000</b> ) + 10% administrative	\$2000/bed * 520 beds	Software maintenance	same as stand-alone VistA	same as Full Integration	This option will have minimal professional services b/c it will have Read-Only capability



## Appendix H: Glossary of Acronyms and Terms

Acronym	Name	Description
<b>BHIE</b>	Bidirectional Health Information Exchange	This is an initiative between the VA and Department of Defense for sharing information between their electronic medical records. Formerly known as CHCS-VistA Data Sharing Interface (DSI)
<b>CDVA</b>	California Department of Veterans Affairs	The department within the State of California that manages state veterans homes
<b>CHI</b>	Consolidated Health Informatics	White House initiative to encourage interoperable electronic medical records
<b>CPRS</b>	Computerized Patient Record System	This is the interface that VA clinicians use to view patient data including patient charts, lists of medications, and images. This is also the program that gives physicians reminders about upcoming tests and visits and that screens that their patients needs.
<b>DOD</b>	Department of Defense	
<b>EMR</b>	Electronic Medical Record	
<b>FSR</b>	Feasibility Study and Report	This is the cost-benefit report that the California Department of Veterans Affairs will have to submit to the California Finance Department in July of 2006. The report will detail what the costs and benefits of a proposed solution for the State Home medical records would be and what alternative solutions would be. The report would also include a business section (defining what business needs are) and services that CDVA will be providing. There will also include a risk assessment section (if things fail to happen according to schedule, risk mitigations, cost risks) and a project management section (whole project plan and schedule).
<b>GLA</b>	Greater Los Angeles Health Care System	One of six healthcare systems within the Desert Pacific network of the US Department of Veterans Affairs.
<b>GLAHS</b>	Greater Los Angeles Health Care System	One of six healthcare systems within the Desert Pacific network of the US Department of Veterans Affairs.
<b>Health-e-People</b>		This is the federal government's initiative to bring VistA to the broader health care community including other government health care agencies as well as private health care settings such as hospitals and private practices.
<b>Health-e-Vet</b>		This is the federal initiative to rearchitecture VistA including possibly moving the database to a relational database, changing the language to a more modern one, from MUMPS to JAVA and streamlining applications that run on VistA.
<b>HHS</b>	US Department of Health and Human Services	
<b>HPDM</b>	High Performance Development Model	

<b>IHS</b>	Indian Health Service	
<b>IRM</b>	Information Resource Management	
<b>MOU</b>	Memorandum of Understanding	
<b>My Health-e-Vet</b>		This is the federal government's initiative to make veterans' health data available to patients on the internet. This would not include the whole patient record but the essential parts of a patient's history. It would be available through the internet and would be protected by a password.
<b>NCVHS</b>	National Committee for Vital and Health Statistics (NCVHS)	
<b>OAM</b>	Office of Asset Management	The department within the Greater Los Angeles Medical Center that oversees sharing agreements, land use and finances for the VA. They are the client for this project.
<b>USDVA</b>	US Department of Veterans Affairs	This is an agency within the federal government that administers special benefits to veterans.
<b>VA</b>	Veterans Administration	This is short for USDVA, but since VHA is the largest division within the agency, it is often referred to as the VA.
<b>VACO</b>	Veterans Affairs Central Office	VA headquarters in Washington, DC.
<b>VAMC</b>	Veterans Affairs Medical Center	
<b>VHA</b>	Veterans Health Administration	One of three divisions with the US Department of Veterans Affairs.
<b>VISN</b>	Veterans Integrated Services Network	This is a geographic division within the Veterans Health Administrations Hospital Network. The Greater Los Angeles Medical center is in VISN 22 (the Desert Pacific VISN) of 23 VISNs nationwide.
<b>VistA</b>	Veterans Health Information Systems and Technology Architecture	This is the VA's electronic medical record system which includes the patient database and other applications. It is written in an outdated programming language (MUMPS) and is slated for rearchitecture through the initiative Health-e-Vet. It used to be called the Decentralized Hospital Computer Program (DHCP), but became VistA in 1996. VistA software is free and available in the public domain. One version is called FOIA VistA (Freedom of Information Act VistA), as used in the VA. The other type is open source VistA, which is the basic architecture plus some additions such as a more improved and streamlined front end. This version is meant more for commercial adoption in the private health care industry.