

# County of Santa Clara

## Santa Clara Valley Health & Hospital System

Valley Medical Center



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DATE: October 20, 2009

TO: Board of Supervisors

FROM:   
Kim Roberts  
SCVHHS - Chief Executive Officer

SUBJECT: Report Back on Provision of Positron Emission Tomography/Computed Tomography Services

### **RECOMMENDED ACTION**

Consider recommendations from Santa Clara Valley Medical Center regarding on the provision of Positron Emission Tomography/Computed Tomography (PET/CT) Services.

Possible action:

- a. Accept report regarding PET/CT services addressing questions raised at the August 25, 2009 meeting of the Board of Supervisors.
- b. Approve delegation of authority to Executive Director, Santa Clara Valley Medical Center Hospital and Ancillary Services, or designee, to negotiate, execute, amend, terminate, and take any and all necessary or advisable actions relating to agreement with

Alliance Imaging, Inc. to provide mobile PET/CT services in an amount not to exceed \$1,030,000 for period November 1, 2009 through February 13, 2011, following approval by County Counsel as to form and legality, and approval by the Office of the County Executive. Delegation of authority shall expire on February 13, 2011.

## **FISCAL IMPLICATIONS**

There is no impact on the County General Fund as a result of the recommended actions. The FY10 Santa Clara Valley Medical Center (SCVMC) budget includes the revenue and expenditures associated with the contract services, including those discussed below.

The mobile Positron Emission Tomography/Computed Tomography (PET/CT) procedures will generate projected revenues to cover almost the entire contract expense. SCVMC is projecting a small negative variance (\$27,212) in FY10 which will be mitigated by the cost reduction strategies discussed in the Reasons for Recommendation section, specifically efforts to reduce the "no show" (missed appointment) rate.

In FY09, the County spent \$631,050 on PET/CT services including \$63,400 in outstanding invoices not submitted to Accounts Payable for payment until the Board took action last month. The FY09 level of spending reflects six months of PET/CT services at one day per week and six months at two days per week. Under the rates put in place with Alliance Imaging in March 2009, the estimated annual cost of PET/CT imaging services for FY10 will be \$769,600, excluding overtime or extra days of service to address occasional lengthy wait lists. Overtime may be necessary when a scan takes longer than scheduled or a patient arrives late for the appointment. Therefore, SCVMC is recommending \$800,000 per fiscal year, not to exceed \$1,030,000 for the period November 1, 2009 through February 13, 2011.

### **Comparison of MRI and PET/CT Costs**

The Board inquired as to why termination of the MRI portion of the agreement did not result in a significant reduction to the proposed annual contract maximum. Under the March 2009 rate structure, MRI services cost \$7,600 per week for two days of service. To address extended wait times for PET services, SCVMC increased the number of days per week for PET/CT services from one day to two days just prior to opening the Sobrato Cancer Center in February 2009, increasing the cost by \$7,400 per week. Therefore, the savings from the termination of MRI services is substantially offset by the increase in PET/CT services from one day to two days per week.

## **CONTRACT HISTORY**

In November 2004, SCVMC issued a Request for Proposal for mobile imaging services. Three vendors submitted proposals; the lowest priced vendor was selected. Subsequently, the contractor did not meet the County's expectation related to performance, thus the contract was terminated. Alliance Imaging, Inc., one of the other vendors participating in the competitive bid process, was then recommended to be awarded the contract. On February 7, 2006, the Board of Supervisors approved a delegation of authority to negotiate, execute and amend an agreement with Alliance Imaging, Inc. relating to mobile Magnetic Resonance Imaging (MRI) and PET/CT imaging services. A detailed contract history was provided to the Board of Supervisors in the August 11, 2009 and August 25, 2009 transmittals.

Alliance Imaging provides a mobile coach with a General Electric Discovery ST scanner with an 8 slice CT component that has network capabilities to send images to SCVMC PACS (the Picture, Archive, Communication system used to view and store x-ray images), licensed staffing, glucose testing equipment with trained staff for administering this test, MIM Vista software for image fusion, and availability of radiopharmaceuticals (FDG). SCVMC radiologists interpret the images and compare them with the patient's imaging data at the tumor board or in private consultation sessions with ordering physicians. SCVMC generates professional fees from primary interpretation of these images.

## **REASONS FOR RECOMMENDATION**

On August 25, 2009, the Board of Supervisors considered various actions related to the the provision of PET/CT services at Santa Clara Valley Medical Center. The August 25, 2009 transmittal is attached for your review. At that meeting, the Board of Supervisors agreed that the County would authorize continued services with Alliance Imaging through October 31, 2009 and directed staff to prepare an evaluation of costs relating to PET/CT services, including contract review and an analysis of possible cost reduction strategies, for report to the Health and Hospital Committee and then to the Board of Supervisors.

SCVMC submitted this report to the Health and Hospital Committee on October 19, 2009. Since the current agreement with Alliance Imaging ends on October 31, 2009, SCVMC also submitted this report with recommendations today for the Board's consideration.

### **Evaluation of Mobile PET/CT Costs**

SCVMC reviewed calendar year 2008 total payments received by major payer class categories as well as costs associated with PET/CT scans, only. Calendar year 2008 was selected as the base year since it represents the most complete, accurate representation of total collections taking into account denials. The attached analysis of reimbursement and cost of PET/CT services provides the requested cost-benefit analysis.

In calendar year 2008, PET/CT services were offered one day per week for the first half of the year and two days a week for the second half of the year due to a volume increase at Valley Specialty Center, with a total of 500 scans completed in the fiscal year. The cost for the mobile PET/CT services in 2008 was \$497,000 while the actual payments were \$463,992, resulting in a \$33,008 negative variance.

The analysis for calendar year 2009 is based on assumptions of a similar payer mix, reimbursement rates and collection rates as in 2008, with an increase in the number of scans to account for a full year of service two days per week. While SCVMC has the ability to schedule up to 10 patients per day, the actual number of scans completed each day may vary. Some patients require total body scans which requires two appointment slots, while a cancer patient may not show up for a scheduled scan due to their medical condition or they may have difficulty abiding by pre-scan instructions (such as no food and drink for a certain amount of time before the scan) which prevents the scan from taking place. Therefore, calculations for calendar year 2009 were based on 800 scans per year, a conservative estimate. The proposed contract amount is \$769,600 (\$7,400 per day x 2 days per week x 52 weeks). The net financial impact for calendar year 2009 is projected to be a negative \$27,200.

There may be some revenue attributable to this service for uninsured patients from AB 915 (supplemental Medi-Cal reimbursement for hospital outpatient services provided to Medi-Cal beneficiaries), Disproportionate Share Hospital (DSH) payments or Physician State Plan Amendment (MD SPA) reimbursement, which has not been included in the CY 2008 nor CY 2009 calculations due to the nature of these revenue sources. When calculating increased patient revenue for a specific activity, these funding sources are excluded because each of these reimbursement sources is dependant on a complex calculation of allowable costs as compared to statewide allowable costs submitted for Federal Financial Participation funds.

### **Alternate PET/CT Providers**

As discussed at the August 29, 2009 meeting, the option of utilizing an outside vendor was evaluated. The Director for Diagnostic Imaging contacted local vendors to obtain a quote for a referral source in the surrounding community.

One local vendor provided a quote of \$1,500 per exam for patients that are SCVMC's responsibility (unsponsored and managed care patients), with the vendor assuming responsibility for third party and patient billing for all other referred patients (Fee-for-Service Medi-Cal, Medicare and Insurance). The utilization of an outside referral source would therefore eliminate collection of charges for these patients; however, SCVMC would continue to be responsible for approximately 248 exams at \$1,500 each or \$372,000 annually. Therefore, the utilization of this alternative vendor would cost SCVMC about \$372,000 more than the recommended mobile services vendor.

Stanford responded to the inquiry with a rate of \$4,000 per exam. SCVMC would be responsible for third party and patient billing. Assuming 800 patients annually, SCVMC would pay Stanford \$3.2M for PET/CT imaging services. The net cost to SCVMC would be about \$2.5M more than the recommended mobile services vendor.

### Contract Review

The Department of Diagnostic Imaging which monitors the PET/CT contract has periodically amended the contract provisions in order to reflect market conditions and assure the rate the County receives remains competitive. In February 2007, the First Amendment was executed to lower the radiopharmaceutical rates and allow for a 12-hour day MRI schedule. In March 2007, staff requested an increase in the contract maximum from \$800,000 to \$960,000 annually to accommodate higher than expected patient volume. In November 2007, a third amendment lowered the rates for a PET/CT 10 hour scan day from \$6,250 to \$5,500 with an optional third day per week should it be required at a rate of \$5,400. In addition, also in November 2007, rates were modified for MRI services with the rate for a 12 hour scan day declining from \$4,500 to \$3,800, with the optional third day at \$3,700. In March 2009, the department negotiated a further decline by \$100 in the daily rate for PET/CT services to \$5,400 for a 10 hour scan day and \$5,300 for the third optional day, if required.

### Cost Reduction Strategies

The Department of Diagnostic Imaging is continually looking to identify and implement strategies to reduce costs. In order to address the concern with the current "no show" (missed appointment) rate, the department has instituted a procedure whereby all patients are called by the reception staff in Nuclear Medicine and reminded of their appointment the day before their scheduled appointment. The direct calls to patients are in lieu of automatic appointment reminders as these studies are more complex than most imaging exams and the personal call allows patients to ask questions.

The department also periodically performs cost-benefit analyses of contract versus purchase services and in the most recent analysis concluded that there was too much uncertainty over patient volume to justify the multi-million dollar equipment investment and construction expenses. During FY 2010, SCVMC will complete the updated purchase cost-benefit analysis as planned.

O'Connor Hospital will be considering whether to purchase PET/CT equipment next fiscal year. SCVMC will be in contact with O'Connor about a possible joint venture. O'Connor Hospital currently utilizes Alliance Imaging's mobile services for its PET/CT services.

If neither purchasing the equipment nor a joint venture is a feasible option, staff will begin work on the new Request for Proposal.

### Annual Cost for PET/CT Services

The Board also inquired as to why the annual cost for mobile imaging services is equal to or more than last year when MRI services are no longer being provided.

The cost for MRI services is \$3,800 per day while the cost of PET/CT services is \$7,400 per day. PET/CT is a more complex study than MRI. It combines two modalities, PET and CT, and involves the use of radiopharmaceuticals (FDG) in each patient. The department orders the number of doses required for the scheduled number of patients. The cost of the radiopharmaceutical isotope is charged whether or not the patient shows up for his/her appointment because the isotopes decay rapidly; if not used in a certain period of time, it is not effective.

The FY09 level of spending reflects six months of PET/CT services at one day per week and six months at two days per week. To address extended wait times for PET services, SCVMC increased the number of days per week for PET/CT services from one day to two days just prior to opening the Sobrato Cancer Center in February 2009, thus increasing the cost by \$7,400 per week.

In FY09, the County spent \$631,050 on PET/CT services including \$63,400 in outstanding invoices not submitted to Accounts Payable for payment until the Board took action last month. Under the rates put in place with Alliance Imaging in March 2009, the estimated annual cost of PET/CT imaging services for FY10 will be \$769,600, excluding overtime or extra days of service to address occasional lengthy wait lists. Overtime may be necessary when a scan takes longer than scheduled or a patient arrives late for the appointment. Therefore, SCVMC is recommending \$800,000 per fiscal year, not to exceed \$1,030,000 for the period November 1, 2009 through February 13, 2011.

The requested annual contract amount was also reduced from an original amount of \$900,000 to \$800,000 to reflect current expectations of PET/CT services for 2 days per week, with reduced flexibility for an addition of a third day per week if required based on patient volume.

#### SCVMC Radiology Residency Program

PET/CT is an integral part of modern nuclear medicine practice. It is an important aspect of physician satisfaction and a source of professional growth for nuclear medicine physicians and those radiologists who cover nuclear medicine.

SCVMC administers a 4 year residency program in diagnostic radiology, and, is one of three Bay area programs in radiology along with UCSF and Stanford. The Radiology Residency Program is an essential part of SCVMC's accredited graduate medical education. SCVMC's radiology residency has steadily gained national recognition and now draws its applicant pool from all over the country. Over 40 radiologists have been trained in the residency since 2000, and the program provides a cost-effective workforce for SCVMC.

All radiology residency programs in California provide on-site PET experience, not only at the established university hospitals, but even smaller programs such as Santa Barbara Cottage Hospital, Kaiser Los Angeles (Sunset), and Harbor UCLA.

Following the 2002 Accreditation Council for Graduate Medical Education (ACGME) survey of the radiology residency at SCVMC, lack of PET training was one of the three main citations issued, without proper response to which the residency program would have been put on probation until the problem was corrected. In the Progress Report to the ACGME following the citation, the program responded that on-site PET had indeed been planned, which would take care of the resident training in PET.

In the most recent 2008 ACGME survey of the radiology residency, the first item on the agenda was to revisit the previous citations. The program was able to re-confirm that the on-site PET/CT program was still in place and that sufficed as an adequate response to the previous citation.

If the on-site PET/CT service contract is terminated, an alternative for residency training in this modality would need to be found in order to maintain ACGME accreditation of the residency. Stanford would be an immediate option primarily because of its proximity and the existing relationship with SCVMC. The cost is estimated to be \$50,000 to \$70,000 per year, if each of the 18 SCVMC residents rotates to Stanford for a total of 6 to 8 weeks in their 4 years of training. However, sending SCVMC residents to Stanford or another institution with pre-defined educational mandate while paying the cost of their training would require negotiations and an understanding between the two institutions, provided that such collaboration is accepted and approved by the receiving institution's graduate medical education committee.

#### SCVMC Radiology and Administrative Staffing

PET/CT is a complex procedure which best serves the patient when evaluated in the broad context of treatment planning, and this is best done by on-site radiologists who are readily available for consultation by ordering physicians.

Prior to contracting with the mobile PET/CT services, SCVMC radiologists were often called upon to re-interpret many of the PET studies performed on SCVMC patients at outside facilities, because outside interpretation was typically done without comparison to relevant prior imaging studies or adequate clinical history. When the mobile PET/CT contract commenced, no additional radiologist FTE was budgeted for this reason, while professional fees from primary interpretation increased SCVMC revenue.

If PET/CT is completely outsourced, SCVMC radiologists will need to spend time re-interpreting outside PET scans comparing them with the patient's imaging data from SCVMC at the tumor board or in private consultation sessions with ordering physicians, but no revenue will be generated from this activity.

Currently, a Health Services Representative (HSR) interviews patients to obtain personal and financial data, prepares the medical record file, prepares insurance billing forms, schedules appointments, answers telephones, and responds to inquiries. Assuming an HSR works with these patients up to 8 hours per week, the cost is about \$15,795 annually. If SCVMC contracted with an off-site PET/CT service provider, the HSR would still be needed to perform these patient tasks.

In summary, complete outsourcing of PET/CT will result in loss of professional revenue without a decrease in interpretation and administrative costs.

#### Recommendations

Given that the mobile PET/CT procedures will generate projected revenues to cover almost the entire contract expense, the desire to maintain on-site PET/CT services for the radiology residency program, and the significant treatment benefits to patients and their families resulting from on-site services and collaboration with physicians and radiologists, SCVMC has two recommendations for the Board's consideration:

1. Accept report regarding PET/CT services and addressing questions raised at the August 25, 2009 meeting of the Board of Supervisors; and
2. Approve delegation of authority to Executive Director, Santa Clara Valley Medical Center Hospital and Ancillary Services, or designee, to negotiate, execute, amend, terminate, and take any and all necessary or advisable actions relating to agreement with Alliance Imaging, Inc. to provide mobile PET/CT services in an amount not to exceed \$1,030,000 for period November 1, 2009 through February 13, 2011, following approval by County Counsel as to form and legality, and approval by the Office of the County Executive. Delegation of authority shall expire on February 13, 2011. The total contract term for this agreement will not exceed five years.

The County will have the ability to amend the agreement to change terms and conditions, modify operational requirements (such as changes to hours of service, days of service, and rates), and add County policies and procedures (such as Budget Contingency and Smoke Free Campus language), following approval as to form and legality by the Office of County Counsel and approval by the Office of the County Executive.

## **BACKGROUND**

### **Cancer Treatment at SCVMC**

The Board of Supervisors and its community partners have invested significant resources in providing patients at Santa Clara Valley Medical Center with comprehensive cancer treatment options. In 2006, the Board advanced \$4.2 million to fund the linear accelerator project that is part of the Sobrato Cancer Center housed at the Valley Specialty Center. Nearly a dozen donors contributed \$1.85 million through the VMC Foundation to offset the County's funding for the linear accelerator.

Just prior to opening the Sobrato Cancer Center in February 2009, staff increased the number of days per week that Alliance provides mobile PET/CT services from one day to two days per week. For the first eight months of 2008, the median weekly wait time, measured on Monday of each week, was 29 days. From September 2008 through January 12, 2009, the median weekly wait time had increased to 43 days. The 48 % increase in the wait time for PET/CT services led to exercising this option in the Alliance contract. With the opening of the Sobrato Cancer Center, SCVMC has experienced a 60 percent increase in annual demand for PET/CT procedures. The addition of the second day per week of services reduced the median weekly wait time to 11 days through August 10, 2009.

The physicians and support staff treating cancer patients have a much easier job of coordinating care if PET/CT services are at the same location. They have more control over scheduling both PET/CT procedures and other aspects of the treatment plan if they only interact with one facility rather than two. The results of scans are likely to be available more quickly and in electronic formats compatible with County information systems if generated internally. Oncologists have easier access to have face-to-face contact with radiologists reading scans, if the need arises.

PET/CT services provide critical information in the staging, planning and developing the treatment pathways for patients where time is of the essence. Cancer patients undergo PET/CT procedures on average two or three times during a course of treatment. Having patients receive those services on the SCVMC campus has significant treatment benefits to patients and their families. Patients undergoing cancer treatment already have sufficient fear, anxiety and stress in their lives just based on the disease they have. Sending them to a different facility introduces the stress of navigating an additional medical institution. Families of patients also find it much easier to coordinate transportation and schedules if the patient receives all services at one location.

Referring physicians, including Chiefs of Medical Oncology, Radiation Therapy and Respiratory Medicine have expressed strong desire to keep the PET/CT service on-site.

## **ATTACHMENTS**

- PET/CT Cost-Benefit

- Transmittal Aug 25 2009