Santa Clara Valley Medical Center#

Delivery System Reform Incentive Pool Plan

February 18, 2011

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EXECUTIVE SUMMARY

In 2014, one million new beneficiaries will be added to the California Medi-Cal Program and a radical transformation will occur in the nation's health care payment structure. It is critical that safety net institutions, such as Santa Clara Valley Medical Center (SCVMC), are prepared and positioned for these changes. The intention of the 1115 Waiver is to imbue safety net systems with the infrastructure, capacity, and performance ability to successfully meet this ambitious challenge.

The Waiver contains several components, which taken together, provide the impetus for safety net systems to rapidly make foundational, ambitious and sustainable improvements. In particular, the Medi-Cal Coverage Expansion (MCE) component of the wavier allows Counties to begin transitioning our uninsured population into health care coverage even before they become Medi-Cal beneficiaries in 2014. This will move a sizable number of our patient base from episodic care to organized care. The Delivery System Reform Incentive Pool (DSRIP) program for which this the proposal is submitted, is intended to be the catalyst for delivery system improvements through investments in infrastructure, implementation and testing of innovative care models, the achievement of population focused improvements and realizing urgent improvements in medical care.

DSRIP allows flexibility for each safety net institution to respond to its unique circumstances and population. In response to the opportunity afforded under the DSRIP program, SCVMC leadership underwent a process to evaluate our strengths and challenges relative to our readiness for health care reform. In particular, our experience implementing Medical Homes over the last 3 years has provided valuable lessons about what is most needed to be successful and where additional investments and developments are necessary. The projects we selected in our DSRIP proposal are designed to build upon each other over time and promote the system change desired through health care reform.

The projects we have selected are:

Category I: 1) Expand Primary Care Capacity and 2) Implement and Utilize Disease Management Registry Functionality.

Category II: 1) Expand Chronic Care Management Models, 2) Integrate Physical and Behavioral Health Care, 3) Improve Patient Experience, and 4) Redesign for Cost Containment.

Category III: TBD

Category IV: 1) Severe Sepsis Detection and Management, 2) Central Line-Associated Bloodstream Infection (CLABSI) Infection Prevention, 3) Hospital-Acquired Pressure Ulcer Prevention, and 4) Surgical Complications Core Processes (SCIP).

The above projects, which we will work on over the next five years, fall into four broad categories: quality; improving capacity and access; integration; and cost effectiveness. The successful completion of these projects and other local efforts underway, will position us for the full implementation of health care reform in 2014.

INTRODUCTION

By 2014 Santa Clara Valley Medical Center (SCVMC) seeks to transform its care delivery system from one that is reactive, episodic, and physician centered to one that is proactive, coordinated and patient centered. Patients will be engaged in evidence based culturally appropriate care plans, have enhanced access to a clinical team, and be offered alternatives to the traditional office visit. Equally, the system as a whole will be focused on managing the health of our total population, excelling at the patient experience, and making progress in controlling the per capita cost of care. A movement such as this calls for a huge fundamental shift from our current system state.

Although the task seemed daunting and the challenges somewhat insurmountable, SCVMC leadership stood firm in the need to commit to making progress by testing innovations in care throughout the system and ensuring the spread of best practices.

In January of 2007, the Executive Team issued a written Invitation to Participate (ITP) to its primary care division. Realizing that the most innovative changes would likely come from those closest to the work, the ITP invited members of the division to organize into no more than five full time physician equivalents and work together to submit a proposal for redesigning their practice. The document included the purpose of the invitation, background, design requirements, design opportunities, proposal format and content, selection criteria and process, and a timeline.

The ultimate objective of the ITP was to improve the health of the assigned population while decreasing costs and improving patient and team satisfaction. Leary about the amount of work involved, anxious about breaking off into small teams, and overwhelmed by patient care, only two brave teams submitted proposals.

A panel of executives, peers, and other clinical staff were assembled to read the proposals, hear verbal presentations by each team, ask questions, and utilize a 50 point scale to score each proposal. The scale included ten points for each of the following areas: creativity, chance of success, team expertise/composition, team approach to care, and use of the Chronic Care Model.

One team proposal and presentation was, without a doubt, everything we had imagined for our system. They wrote and spoke passionately about innovations in care, alternative visit types, use of data and evidence based guidelines, teams that would be ready for every patient, group visits, pre/post visits, system navigation, prevention, registry technology, kiosks, care extenders, and building a practice based on an intergenerational care model with community involvement.

A practice coach from the administration was assigned to the team, planning and staff hiring ensued and the Silver Creek Medical Home went live in September of 2007. Throughout the following two years the team provided impressive outcomes, some of which include: 72% of patients with an acute need were seen the next day; 90% of patients with an acute need were seen within 2 days; urgent care visits to other sites decreased by 36%; 90% of patients seen in the UC/ED/hospital triaged with follow-up; and 400 monthly incoming patient calls were handled directly by the team rather than having them answered by our centralized phone center.

With this success and a growing interest from the Primary Care division to participate in a second ITP process, the Executive Team began expanding the Medical Home Model. To date seven Medical Home teams have been formed and launched. Spreading the model has lead to an increasing awareness of where and how it can break down and a deeper knowing about what it takes to be successful.

Moreover, the challenge of reaching this ambitious vision of Medical Home in the face of an ever growing patient demand, local budget reduction targets, a dramatic increase in patients with one or more chronic diseases, a dwindling primary care physician pool, and without payment reform has been extremely difficult, and has ultimately obstructed our success. However, the experience of attempting to build medical homes in such an environment strategically positions us to understand the foundational requirements for success.

The current payment structure perpetuates the very care model we are so desperately trying to leave behind. The 1115 Waiver, appropriately referred to as "the bridge to healthcare reform", provides the long awaited opportunity to be relieved, somewhat, from funding constraints and provides the impetus for focusing completely on transformative efforts.

BACKGROUND

Santa Clara Valley Medical Center (SCVMC) and Health System is comprised of a county-owned-and-operated 574-bed acute care hospital, seven Federally Qualified Health Clinics (FQHCs), a Specialty Center, and Departments of Mental Health, Drug and Alcohol, and Public Health.

In 2010 SCVMC served 250,000 county residents regardless of ability to pay or insurance status and provided 900,000 out patient clinic visits. Payment sources for outpatient clinic services are approximately 40% Medicaid, 30% County/Other Indigent Programs, 20% third-party insurance, and 10% Medicare. Fifty five percent of patients are Hispanic, 22% White, 13% Asian, 5% Black, and 5% other. SCVMC operates its own advice/call center and language services program staffed with certified medical translators supporting our patients and staff in 150 languages.

SCVMC has over 6,345 employees; among them are 500 physicians that train 170 residents and fellows per year. These and other clinicians provide care throughout the hospital system – in the emergency department, hospital, trauma center, outpatient clinics, and freestanding clinics distributed throughout our geographic service area.

Many of our programs and services are unique in the region and have received professional recognition regionally and nationally. Most notable are, SCVMC's Rehabilitation Center which is known for its outstanding treatment of complex accident and injury cases, its Burn Center which is the only trauma burn center in the region, and the Neonatal Intensive Care Unit which provides the highest level of care for the youngest and most vulnerable members of the community. Many community physicians, including those at private hospitals, regularly refer patients who need specialized treatment to the doctors and facilities of SCVMC.

Santa Clara Valley Medical Center is Santa Clara County's health care safety net. It provides high-quality, specialized treatment by maintaining the busiest Emergency Department in the region, one of two top level Trauma Centers in the County, psychiatric emergency care, inpatient acute psychiatric services and the only Pediatric Intensive Care Unit in San Jose.

As a teaching hospital affiliated with Stanford University, the medical center attracts the finest physicians and young medical talent. Supported by some of the latest in medical technology and modern facilities, our highly trained staff delivers quality and safe care with compassion and respect.

No hospital is asked to do more for the residents of Santa Clara County than SCVMC. As a teaching hospital that cares for those critically ill or injured regardless of their ability to pay, Santa Clara Valley Medical Center is the foundation upon which Silicon Valley's healthcare delivery system – public and private – is built.

DSRIP PROPOSAL AND DELIVERY SYSTEM REFORM

In 2014, one million new beneficiaries will be added to the California Medi-Cal program. In order to meet the demand created by this large volume of newly insured individuals it is critical that safety net providers, such as SCVMC, have integrated, coordinated, and sustainable delivery systems ready to serve this newly eligible population. Safety net systems must prepare for radical changes to the payment structure of health care – from providing care to the uninsured to participating in organized care delivery systems. A change this significant requires substantial investment and state-wide coordination.

Each public hospital system is unique and the DSRIP funding allocation has allowed the flexibility for each public hospital system to bolster and develop the components most needed for their particular system and population. SCVMC has selected projects, that when achieved together, will position us for full implementation of health care reform in 2014. Our work over the next five years falls into 3 broad categories - improving our capacity and access; improving the patient experience through quality initiatives, better integrating systems; and developing the infrastructure needed to measure and eventually control costs.

SELECTED PROJECTS AND RATIONALE

The purpose of the DSRIP program per the California 1115 Waiver is to "support California's public hospitals efforts in meaningfully enhancing the quality of care and the health of the patients and families they serve". SCVMC underwent an internal process of evaluating and selecting foundational, ambitious, and sustainable projects that when achieved will result in the intended aims of the DSRIP waiver including:

- Strengthening and improving our health care delivery system,
- Preparation for full implementation of health care reform,
- Improving the quality and safety of health care for our patients,
- Enhancing our capacity to provide effective, efficient population-based health care management, and
- Development of tools and strategies to reduce, or at least control, the per capita cost of health care

The projects we have selected are based upon the lessons we have learned from the implementation of medical home and our systems unique strengths and challenges. They provide the opportunity for us to transform our system into one that better meets the needs of our

population in a proactive, coordinated, and more efficient manner. To this end the projects we have selected are as follows:

Category I

- Primary Care Expansion
- Implement and Utilize Disease Management Registry Functionality

Category II

- Expand Chronic Care Management Models
- Integrate Physical and Behavioral Health Care
- Improve Patient Experience
- Redesign for Cost Containment

Category III

- TBD

Category IV

- Severe Sepsis Detection and Management
- Central Line Associated Bloodstream Infection Prevention
- Hospital-Acquired Pressure Ulcer Prevention
- Surgical Complications Core Processes

CATEGORY I – INFRASTRUCTURE DEVELOPMENT

Category I offers the opportunity to develop the technology, tools, and human resources necessary for delivery system reform. Without timely access to a primary care physician and tools to proactively care for our growing number of chronically ill patients it is increasingly challenging to meet the needs of our population. To that end, through Category I initiatives we seek to expand our primary care capacity and implement a disease management registry. These infrastructure developments are deemed most essential to efficiently and effectively care for the growing number of patients seeking care in our system.

Project 1: Expand Primary Care Capacity

SCVMC's patient population has grown 60% in the last decade. In 1999, SCVMC treated 137,210 people in its hospital and clinics. Ten years later, in 2009, the number rose to 220,858.[1] Meanwhile, during the last five years, our primary care capacity has held steady at approximately 38,000 patients annually and our third next available hovers at about 53 days. Both of these factors have lead to inadequate access for both paneled patients, who cannot get a timely appointment with their primary care physician, and for the growing number of un-paneled patients, who need a primary care provider. Further exacerbating the issue is that patients without

[1] *VMC 2.0 Preparing for Healthcare Reform. The VMC Foundation 2010.*

a primary care provider are often seen in the ER and in urgent care clinics which are an expensive and poor alternative to managed care.

As mentioned previously, many factors have contributed to this crisis, including ten consecutive years of budget reductions, the growing number of uninsured individuals in our community, unmanaged patient panels, and the decreasing number of medical students choosing to practice primary care.

As a first step in our transformative process, our plan to Expand Primary Care Capacity will enable us to: provide 20,000 more patients with a primary care provider (a 52% increase from current capacity of 38,000), offer primary care services in a new facility that will be built in the most densely populated urban area of San Jose, and significantly improve access for all new and existing primary care patients.

Project 2: Implement and Utilize Disease Management Registry Functionality

Expanding primary care capacity alone will not be sufficient to meet the growing needs of our patients. As the volume of patients has increased, so has their complexity. Nearly 1 in 2 of our adult paneled patients has at least one chronic illness and many of them have multiple chronic diseases. Management of these patients requires significant clinical intervention and oversight. It is no longer practical or efficient for a physician to accomplish this in a 15 minute visit. Rather a shift in care approach is necessary; one that requires physicians to use care extenders and a team approach to proactively manage the health of a panel of patients by utilizing data and technology. Thus, our second project is Implement and Utilize Disease Management Registry Functionality, which will provide the technology necessary to accomplish this significant change.

A disease management registry is a database of clinical information about paneled patients and selected diseases. It is a tool that can help primary care providers proactively manage the health of their total panel. It serves two particularly important functions: 1) ensuring timely preventive screenings are completed and 2) managing patients with targeted chronic conditions.

The registry brings together clinical information found in many disparate systems and provides the team with a set of tools, including reports and lists to manage the panel. It brings a public health lens to the provider practice. For example, utilizing criteria a registry can provide a physician real time information about the percent of a panel that needs a mammogram and it can generate a list of patients for outreach. Additionally, it takes away the added burden of tracking patients by generating clinician prompts and reminders that can ultimately improve rates of preventive care. Further, registries can be used to target clinical conditions and/or disease states that are most prevalent in our patient population.

Use of registry technology has shown significant improvement across a number of measures. The improvement was most apparent among patients without recent testing or with poorly controlled disease.[2] When utilized correctly registries can improve care for patients who have chronic illness. Therefore it was selected as a Category I project.

[2] *Stroebel RJ, Scheitel SM, Fitz, et al. Jt Comm J Qual Improv 2002 Aug;28 (8):441-50.*

CATEGORY II – INNOVATION AND REDESIGN

Category II provides the opportunity to fund projects that promote investments in new and innovative models of care delivery (e.g. Medical Home) that have the potential to make significant demonstrated improvements in patient experience, cost and disease management. SCVMC selected four projects in the innovation and redesign category that we believed would propel us forward from current state to our desired future state. They are: Expand Chronic Care Management Models, Integrate Physical and Behavioral Health Care, Improve Patient Experience, and Redesign for Cost Containment.

Each of these projects builds upon the infrastructure developed in our Category I projects and directly contributes to the Population Based Improvements we expect to demonstrate in Category III.

Project 1: Expand Chronic Care Management Models

The MacColl Institute for Healthcare Innovation estimates that more than 145 million people, or nearly half of all Americans have a chronic health condition. Nearly half of all people with chronic conditions have multiple conditions. At SCVMC, approximately 45% of our currently paneled adult patients have one or more chronic conditions. This number will increase as our primary care capacity expands (Category I project).

It is widely understood that our current health care model is well-suited to treat acute medical needs but not at all successful in managing chronic conditions. Inadequate time with care providers, lack of coordination, lack of follow through to ensure the best outcome, and patients who are inadequately trained to manage their illness are among its many deficiencies. In addition, the number of medical students choosing primary care is dropping at an alarming rate.[3] In order to successfully care for the growing number of patients with chronic disease a new model of chronic disease management is required.

The Chronic Care Model, put forth by Wagner and Associates, combines proven innovations that address the deficiencies of the current model and have been show to improve clinical outcomes and the health of patients. Through this project we will expand chronic care management models by: 1) implementing key components of the Chronic Care Model including clinical information systems, decision support, and delivery system design and 2) providing proactive care to patients through the use of care management programs and evidenced based clinical protocols. This effort relies heavily upon the registry developed in our Category I project.

Project 2: Integrate Physical and Behavioral Health Care

An estimated 26.2 percent of Americans ages 18 and older — about one in four adults — suffer from a diagnosable mental disorder in a given year.[4] According to a 2010 study commissioned by

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[3] *Thomas Bodenheimer, M.D. New England Journal of Medicine 2006; 355:861-864*

[4] *Kessler RC, Chiu WT, Demler O, Walters EE. Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R).* Archives of General Psychiatry, *2005 Jun;62(6):617-27.*

the Center for Health Care Strategies mental illness is nearly universal among the highest cost and most frequently hospitalized Medicaid beneficiaries. Additionally, the study found that the presence of mental illness and/or drug and alcohol disorders is related to significantly higher per capita costs.[5]

Currently rather than an integrated delivery system, silos exist within SCVMC with physical and mental health services delivered by distinct departments. Each system treats the patient's respective conditions, resulting in a fragmentation of the patients care. To illustrate, one of our current Medical Home teams reports that at least 50% of their diabetic patients have depression, yet the behavioral and physical health conditions are being treated separately, in discreet departments with little or no coordination.

Additionally, many primary care providers feel poorly equipped to handle significant behavioral health issues alone and yet these issues have a significant impact on the patient's ability to improve and maintain their health. It has been demonstrated that patients with behavioral health issues have significant chronic physical health conditions that go untreated, and that these patients suffer increased morbidity, poorer quality of life, and earlier mortality than patients without behavioral diagnoses.[6]

In order to improve the quality of care for patients with behavioral health conditions and to better manage the cost of healthcare for this population, we propose to test the integration of physical-behavioral healthcare delivery. Through this project we will: 1) implement physical-behavioral integration pilots at four primary care clinics, 2) provide behavioral health training to primary care providers, 3) screen primary care patients for depression, 4) utilize the evidence based IMPACT and Four Quadrant Models of Care, and 5) facilitate linkage to specialty mental health and substance use care for patients with serious mental illness.

This project supports our Category I Primary Care Expansion effort and our Category II Improve Patient Experience by providing additional access, integrating care that was previously provided in multiple locations, and potentially reducing healthcare costs. It is a desired outcome of this project that patients experience the delivery of their health care as integrated, coordinated, cohesive, and patient-centered.

Project 3: Improve Patient Experience

At SCVMC, we are committed to continuously improving the patient experience. SCVMC has a Customer Service Department which is responsible for the management of patient complaints, tracking outcomes, and reporting. In 2009, the Customer Service Department formed a Patient Experience Committee to foster staff accountability and performance.

We propose to build upon and significantly expand the work of this committee by: 1) conducting a needs assessment, 2) implementing infrastructure, campaigns, and tools to improve the

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[5] *Clarifying Multimorbidity Patterns to Improve Targeting and Delivery of Clinical Services for Medicaid Populations. December 2010. Faces of Medicaid Data Brief, Center for Health Care Strategies, Inc.*

[6] *Olfson, Sing, and Schlesinger, (1999)*

patient/caregiver experience, and 3) increasing staff accountability towards the goal of excellent patient experience. The goal of this project is to improve the patient, family, and visitor experience in both the acute inpatient and ambulatory care settings. Our desire is to make all patients feel both "cared for" and "cared about".

The improve patient experience project is intrinsically connected to all other selected projects because focusing on what patients want in their care is critical to improving clinical outcomes, quality, and compliance. Studies have shown that when patients have a good experience, they are more likely to follow their doctor's medical advice, thus allowing us to affect the health of the total population.

Project 4: Redesign for Cost Containment

Healthcare spending in the United States has steadily outpaced economic growth since the 1960's. Growing costs have had an enormous impact on how health care is delivered. More than 70 hospitals have closed in the last decade and many California counties maintain no public hospital services at all. In order to survive this challenging environment it is imperative that public hospitals be able to effectively and accurately measure their costs and evaluate the fiscal impact of changes in the way care is delivered.

SCVMC has struggled with cost accounting for several years and currently utilizes basic cost to charge ratios that provide general information at a global (departmental) level but fail to provide meaningful or actionable information at the service and provider level. This deficit of information significantly hinders our ability to improve costs.

Through the DSRIP funds available in Category II, SCVMC proposes to implement a cost accounting system that will provide reasonable, consistent and accepted costing of services in order to measure cost improvement or containment for the services we provide. A cost-accounting system will provide us with the necessary tool to gauge the financial return on investment of our interventions. As part of this process we will be able to calculate an accurate baseline for cost per unit of service so that we can effectively measure our progress towards cost containment or reduction.

This proposed project contains the following elements: 1) implementation of a cost accounting system, 2) establishment of a method to measure cost containment, 3) determination of baseline costs for comparison, and 4) measurement reporting.

Redesigning for cost containment connects to all our other projects, as the overall intent of this work is to reduce, or at least control, the per capita cost of care.

CATEGORY III – POPULATION-FOCUSED IMPROVEMENTS

This section is still being determined per CMS and CAPH. However, the purpose of our Category I and II projects is to set a strong foundation for reaching performance outcomes in the areas we have seen thus far.

CATEGORY IV – URGENT IMPROVEMENTS IN CARE

Category IV focuses on making urgent improvements in care that have a promised impact on the patient population, have a strong evidence base, and are meaningful to populations served in California's Public Hospital System.

CAPH provided a superset of seven interventions, and for each, specific measures that must be included for each intervention. Further we were directed that there would be two common interventions for all hospitals participating and two additional interventions that could be selected by the respective hospital from the remaining interventions.

The two interventions common to all hospitals participating are Severe Sepsis Detection and Management and Central Line-Associated Bloodstream Infection (CLABSI) Infection Prevention. The two interventions SCVMC selected are Hospital-Acquired Pressure Ulcer Prevention and Surgical Complications Core Processes (SCIP).

We selected these two projects because we believe them to be the most consistent with our commitment to continuous quality improvement, so that our patients receive the safest and highest quality healthcare possible. Pressure Ulcers are painful, prolong hospitalization and complicate placement at outside care facilities. At SCVMC, HAPU prevention and treatment has been a priority in recent years, however more improvements are needed to reduce the prevalence of HAPU, especially those progressing to stage three or four. The implementation of the HAPU intervention as directed in the Category IV Superset of Interventions will provide the support necessary to aim for and sustain a zero prevalence rate.

Surgical complications account for a large percentage of preventative deaths among patients. As a Level I Trauma Center and teaching facility, we have a high volume of surgical cases, making this an important quality measure for us. Surgical complications increase cost and lengths of stays which is a burden on the health care system and to our patients. We propose to implement the SCIP intervention to improve our utilization of evidence based core processes to reduce surgical complications. A review of our current state indicates that for three of the four surgeries reviewed we have a 0% infection rate for Class 1 & 2 wounds. However, we have some areas where we are successful with compliance and others that still present a challenge. In addition, because of coding difficulties in the data for colon resection and colectomy patients (WC2) this will be our first area of focus.

RELATIONSHIP BETWEEN SELECTED PROJECTS

As mentioned repeatedly throughout this document, the relationship between selected projects is to build upon the work of the other in order to allow us to achieve the measures contained in Category III and to ultimately be prepared for the national shift in practice that will come with Healthcare Reform in 2014.

DEMONSTRATION YEAR 6 FUNDING ALLOCATION

Dollars are Total Computable in Millions

	DEMONSTRATION YR 6
Category I	
Expand Primary Care Capacity	20,000
Implement and Utilize Disease Management Registry Functionality	20,000
Total Category I	***40,000***
	45.2%
Category II	
Expand Chronic Care Management Models	12,500
Integrate Physical and Behavioral Health Care	12,500
Improve Patient Experience	10,000
Redesign for Cost Containment	6,260
Total Category II	***41,260***
	46.7%
Category III	-
TBD	-
	0.0%
Category IV	
Severe Sepsis Detection and Management	1,785
Central Line-Associated Bloodstream Infection (CLABSI) Infection Prevention	1,785
Hospital-Acquired Pressure Ulcer Prevention	1,785
Surgical Complications Core Processes (SCIP)	1,785
Total Category IV	***7,140***
	88,400
	8.1%

PROJECT PLANS

Category I: Per the California Section 1115 Waiver Terms and Conditions, the purpose of Category I: Infrastructure Development is "investments in technology, tools and human resources that will strengthen the organizations ability to serve its population and continuously improve its services". Therefore, this SCVMC plan includes infrastructure development, including investment in people, places, processes, and technology. This category is foundational to the success of Category II and III. This plan describes how the Category I infrastructure will enhance capacity to conduct, measure and report on quality/performance improvement, expand access to meet demand, and enable improved care with strong emphasis on building coordinated systems that promote preventive, primary care.

1. Project: Expand Primary Care Capacity

- ***Goal:*** In order to provide more preventive, primary, and chronic care in the primary care setting, it is critical to expand primary care capacity. SCVMC's primary care capacity and technology are severely limited. SCVMC's adult medicine primary care capacity has been capped, with provider panels full and closed since May 2010. Adult medicine primary care capacity has been limited to serving 38,000 paneled patients in seven clinic sites located throughout our geographic service area, and third next available new patient appointments are an average of 53 days in the future. No data-driven method is currently used for assigning patients to panels, for purging provider panels of non-compliant patients, for identifying relocated or deceased patients, or for weighting provider workload and adjusting panel size (load-balancing) based on patient complexity. In the face of these constraints, we estimate that the Medi-Cal Coverage Expansion and the inclusion of *Seniors and Persons with Disabilities* (SPS) in the Medi-Cal eligible population will result in approximately 20,000 additional adult patients selecting a Santa Clara Valley Medical Center clinic as the site for their primary care by 2014. SCVMC does not currently have provider capacity to accommodate this growth. To make matters worse, with our current clinic configuration, the SCVMC Emergency Department is the principal site within the system for walk-in medical care and is staffed by a contracted emergency physician group. Thus, we face a scenario in which newly covered individuals will potentially be compelled to access a high cost urgent care setting for primary care services. This results in expensive and uncoordinated care for both paneled and non-paneled patients. By expanding primary care capacity, this urgent care volume can be redirected to the primary care clinics and the system can be sized to meet the demand for paneling and for timely access to primary care in an appropriate clinic setting. Our project goal is to increase adult primary care capacity through specific, measurable innovations to our operational model, and through expansion of primary care clinic facilities. To achieve these aims, the following interventions will be accomplished:
    1) To establish an Office of Panel Management that will eventually function to optimize the available capacity in the adult medicine panels and apply tools and technology to load-balance individual provider panels based on complexity-scoring of paneled patients;
    2) To add adult medicine primary care providers and support staff at our existing regional primary care clinics to accommodate growth in demand for patient paneling;

3) To expand primary care clinic hours and days of operation to improve access for new adult patients, for clinic overflow, and for non-paneled adults;
4) To reduce Emergency Department-based urgent care utilization and redirect appropriate utilization to the primary care clinic sites; and
5) To develop an additional primary care clinic in an area of identified community need.

- ***Expected Result:*** 1) Through proactive and real-time management of the adult medicine panels, the panels will reopen and remain open, and load-balancing of panels based on patient complexity will become possible; 2) The number of paneled adult medicine patients will grow from 38,000 to 58,000; 3) Days to third next available adult medicine primary care clinic appointment times will decline from 53 to 7 days for 80% of paneled patients; 4) Emergency Department-based urgent care utilization and associated costs will decline from 52,000 to less than 20,000 annual visits; and 5) we will complete the design and construction of an additional 60,000 square foot clinic in the downtown urban core.

- ***Relation to Category III Population-Focused Improvement:*** Expanded primary care capacity is also indirectly related to our other DSRIP projects, and feeds into the aim of better prevention and management of chronic conditions that will be evidenced by Category III improvements and/or reporting. With expanded primary care capacity, SCVMC will reach and serve more patients with primary and preventive care, with more early opportunities to screen, intervene, treat, manage and prevent disease. The implementation of a Disease Management Registry will enable tracking of screening rates for the conditions monitored by the registry for the enlarged cohort of patients served in primary care. As well, the Chronic Care Management teams configured under our Category II initiative will apply registry analytics to drive interventions to affect improvements in clinical outcomes for the selected disease states.

1. Project: Expand Primary Care Capacity					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
1. Milestone: Develop a plan for proactive management of adult medicine patient panels through a new *Office of Panel Management*, such that same-store panel capacity will be increased and optimized going forward. (This intervention will reopen and optimize use of available adult medicine panel capacity) • **Metric:** Documentation of *Office of Panel Management* plan, draft staff assignments, and draft policies and	**4. Milestone:** Maintain the *Office of Panel Management*, such that panel capacity is continuously optimized. Develop a plan for scoring paneled patients for complexity • **Metric:** Documentation of panel management dynamics (counts of additions, deletions, and total paneled patients). Documentation of a plan and tool for complexity-scoring paneled patients **5. Milestone:** Increase primary care clinic volume.	**9. Milestone:** Maintain the *Office of Panel Management*, such that panel capacity is continuously optimized. Implement the plan for complexity-scoring of paneled patients • **Metric:** Documentation of panel management dynamics (counts of additions, deletions, and total paneled patients). Documentation of paneled patient complexity-scoring for paneled patients with two or more chronic diseases. Source: Patient	**14. Milestone:** Maintain the *Office of Panel Management*, such that panel capacity is continuously optimized. Continue implementation of the plan for complexity-scoring of paneled patients • **Metric:** Documentation of panel management dynamics (counts of additions, deletions, and total paneled patients). Documentation of paneled patient complexity-scoring for paneled patients with two or more chronic diseases	**18. Milestone:** Maintain the *Office of Panel Management*, such that panel capacity is continuously optimized. Continue implementation of the plan for complexity-scoring of paneled patients. Develop a plan for dynamic load-balancing of individual adult medicine provider panels based on patient complexity scores • **Metric:** Documentation of panel management dynamics (counts of additions, deletions, and total paneled patients).	• Improve Screening Rates (Cat. III) • Improve Chronic Care Management and Outcomes (Cat. III)

1. Project: Expand Primary Care Capacity					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
procedures. Documentation of implementation steps as reflected in reported panel management dynamics (counts of patient additions, deletions, and total patients paneled) **2. Milestone:** Increase primary care clinic volume. Develop a plan to hire additional primary care providers and support staff to increase primary care adult medicine panel capacity from 38,000 to 42,000 patients • **Metric:** Documentation of the plan to hire	Hire additional primary care providers and support staff to increase primary care adult medicine panel capacity to 46,000 patients • **Metric:** 1) Increase in productive adult medicine PCP hours over baseline. Source: SCVMC Labor Distribution Report; 2) Increase in adult medicine patient panel capacity over baseline. Source: *Office of Panel Management* report of primary care adult medicine panel	registry **10. Milestone:** Increase primary care clinic volume. Hire additional primary care providers and support staff to increase primary care adult medicine panel capacity to 50,000 patients • **Metric:** 1) Increase in productive adult medicine PCP hours over baseline. Source: SCVMC Labor Distribution Report; 2) Increase in adult medicine patient panel capacity over baseline. Source:	and for all paneled managed care patients. Source: Patient registry **15. Milestone:** Increase primary care clinic volume. Hire additional primary care providers and support staff to increase primary care adult medicine panel capacity to 54,000 patients • **Metric:** 1) Increase in productive adult medicine PCP hours over baseline. Source: SCVMC Labor Distribution Report; 2) Increase in adult medicine	Documentation of paneled patient complexity-scoring for all paneled patients. Source: Patient registry. Documentation of the load-balancing plan **19. Milestone:** Increase primary care clinic volume. Hire additional primary care providers and support staff to increase primary care adult medicine panel capacity to 58,000 patients • **Metric:** 1) Increase in productive adult medicine PCP hours over	

1. Project: Expand Primary Care Capacity					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
additional primary care providers and support staff and the expected increase in panel capacity **3. Milestone:** Develop a plan for transition and re-integration of Emergency Department urgent care visit volume into the primary care clinics through expansion of the primary care clinic hours and days of operation • **Metric:** Documentation of the plan, including proposed clinic hours, time frames for implementation and projected	capacity (sum of vacant and filled panel assignments) **6. Milestone:** Develop a plan and gain approval to design and construct an additional 60,000 sq. foot primary care clinic facility in the underserved downtown San Jose urban core • **Metric:** Documentation of the plan, governing board approval, the appointment of the project architect and contract for construction **7. Milestone:** Implement a system to	*Office of Panel Management* report of primary care adult medicine panel capacity (sum of vacant and filled panel assignments) **11. Milestone:** Complete design and commence construction of the new 60,000 sq, foot primary care clinic • **Metric:** Architectural plans, progress payments, contract for construction and evidence of construction progress payments **12. Milestone:** Implement a system to	patient panel capacity over baseline. Source: *Office of Panel Management* report of primary care adult medicine panel capacity (sum of vacant and filled panel assignments) **16. Milestone:** Continue construction of the new 60,000 sq, foot primary care clinic • **Metric:** Contract for construction and evidence of construction progress payments **17. Milestone:** Implement a system to	baseline. Source: SCVMC Labor Distribution Report; 2) Increase in adult medicine patient panel capacity over baseline. Source: *Office of Panel Management* report of primary care adult medicine panel capacity (sum of vacant and filled panel assignments) **20. Milestone:** Complete construction and occupancy of the new 60,000 sq, foot primary care clinic • **Metric:** Contract for construction and evidence of	

1. Project: Expand Primary Care Capacity					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
incremental staffing	accommodate urgent care needs in at least two primary care clinics, as measured by achieving at least 20% of paneled patients scheduled within 7 calendar days • **Metric:** Third next available adult medicine/episodic care clinic appointment available within 7 calendar days – number of calendar days until third next available appointment.[7] The rate is an average, measured monthly,	accommodate urgent care needs in at least two additional (four total) primary care clinics, as measured by achieving at least 40% of paneled patients scheduled within 7 calendar days • **Metric:** Third next available adult medicine/episodic care clinic appointment available within 7 calendar days – number of calendar days until third next available appointment.	accommodate urgent care needs in at least one additional (five total) primary care clinics as measured by achieving at least 60% of paneled patients scheduled within 7 calendar days • **Metric:** Third next available adult medicine/episodic care clinic appointment available within 7 calendar days – number of calendar days until third next available appointment.	construction progress payments. Occupancy permit. New primary care clinic schedule **21. Milestone:** Implement a system to accommodate urgent care needs in at least one additional (six total) primary care clinics as measured by achieving at least 80% of paneled patients scheduled within 7 calendar days • **Metric:** Third next available adult	

[7] *Taken from IHI definition in white paper on whole system measures*

1. Project: Expand Primary Care Capacity					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
	for all adult medicine/ episodic care clinics. It will be reported for most recent month. Source: Call Center data system, clinic scheduling system **8. Milestone:** Expand the hours of at least two primary care clinics by at least 16 hours per week • **Metric:** Documentation of new clinic hours and additional staffing over prior state. Source: Clinic schedules, SCVMC Labor Distribution Report	Source: Call Center data system, clinic scheduling system **13. Milestone:** Expand the hours of at least two additional (four total) primary care clinics by at least 16 hours per week • **Metric:** Documentation of new clinic hours and additional staffing over prior state. Source: Clinic schedules, SCVMC Labor Distribution Report	Source: Call Center data system, clinic scheduling system	medicine/episodic care clinic appointment available within 7 calendar days – number of calendar days until third next available appointment. Source: Call Center data system, clinic scheduling system	

2. Project: Implement and Utilize Disease Management Registry Functionality

- ***Goal:*** Driven by past reimbursement models, our existing infrastructure and data systems are focused on patient visits to physicians as the primary mechanism of providing care. Moving our delivery system from a visit-based system to one that understands quality outcomes and patient experience as our primary measurable outcome requires new infrastructure and methods of understanding how well we are doing and where we can improve. These data systems currently do not exist. With this proposal, our system seeks to develop an important data infrastructure that will support us in moving to these new models of care.

  SCVMC seeks to develop and implement a robust registry population management system to achieve this goal. A registry is a database of clinical information about selected chronic diseases. The database allows for a detailed analysis of a chronic disease in a panel of patients allowing for disease management across a population through mechanisms outside a traditional visit. SCVMC's current registry system is home-grown and has limited resources to support it. Through an assessment of current and future needs, SCVMC will decide on a future registry platform best-suited to meet its population health needs, likely either through the purchase and implementation of a new system or through increased support for existing systems. Implementation of this future system will require intricate planning, including interfacing of the SCVMC's multiple data sources with the registry platform, implementation at SCVMC Medical Home teams, and training for relevant staff members.

- ***Expected Result:*** All adult primary care clinics will have access to registry functionality and be trained on registry use.

- ***Relation to Category III Population-Focused Improvement:*** Development and implementation of registry functionality is fundamental to "Improving Delivery of Care for Medical Home Patients" (Category III). Such a system will allow clinical staff to proactively identify populations of patients needing additional care in order to improve screening rates and chronic disease management outcomes such as diabetic care.

2. Project: Implement and Utilize Disease Management Registry Functionality					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
1. **Milestone:** Conduct training for relevant staff members on existing registry platform • **Metric:** Documentation of training program and list of staff members trained, or similar documentation 2. **Milestone:** Implement cross-functional team to evaluate registry platform (Process) • **Metric:** Documentation of personnel (clinical, IT, administrative) assigned to evaluate registry platform 3. **Milestone:** Enter patient data into the registry – identify	4. **Milestone:** Review future potential registry platforms and select registry platform • **Metric:** Documentation of review of registry platforms and selection of future registry platform 5. **Milestone:** Implement/Expand a Functional Disease Registry in at least 25% (2 out of 7) of Medical Home teams • **Metric:** Documentation of installation, interface and/or adoption of registry at Medical Home teams	10. **Milestone:** Implement/Expand a Functional Disease Registry in at least 50% (4 out of 7) of Medical Home teams • **Metric:** Documentation of installation, interface and/or adoption of registry at Medical Home teams 11. **Milestone:** Conduct training on registry platform for relevant staff members in at least 50% (4 out of 7) of Medical Home teams	14. **Milestone:** Implement/Expand a Functional Disease Registry in at least 85% (6 out of 7) of Medical Home teams • **Metric:** Documentation of installation, interface and/or adoption of registry at Medical Home teams 15. **Milestone:** Conduct training on registry platform for relevant staff members in at least 85% (6 out of 7) of Medical Home teams • **Metric:** Documentation of training program and list of staff	19. **Milestone:** Implement/Expand a Functional Disease Registry at all (100%) Medical Home teams (7 out of 7) • **Metric:** Documentation of installation, interface and/or adoption of registry at Medical Home teams 20. **Milestone:** Conduct training on registry platform for relevant staff members at all Medical Home teams • **Metric:** Documentation of training program	• Expand Chronic Care Management Models (Cat. II) • Improve Delivery of Chronic Care for Medical Home Patients (Cat. III)

2. Project: Implement and Utilize Disease Management Registry Functionality					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
data categories needed from institutional IT sources for population of registry system • **Metric:** Documentation and prioritization of IT sources and/or categories needed for registry platform	6. **Milestone:** Conduct training on registry platform for relevant staff members in at least 25% (2 out of 7) of Medical Home teams • **Metric:** Number of medical homes trained. Documentation of training program and list of staff members trained, or similar documentation 7. **Milestone:** Demonstrate registry reporting ability to track and report on at least 2 selected metrics • **Metric:** Registry automated report	• **Metric:** Documentation of training program and list of staff members trained, or similar documentation 12. **Milestone:** Demonstrate registry reporting ability to track and report on at least 4 selected metrics • **Metric:** Registry automated report on file 13. **Milestone:** Enter patient data into the registry – interface at least 4 data categories or sources to registry for adult primary care clinic	members trained, or similar documentation. 16. **Milestone:** Demonstrate registry reporting ability to track and report on at least 6 selected metrics • **Metric:** Registry automated report on file 17. **Milestone:** Demonstrate registry automated reporting ability to provide on-demand reports stratified by end-user • **Metric:** Registry automated report on file 18. **Milestone:** Enter patient data into the	and list of staff members trained, or similar documentation 21. **Milestone:** Enter patient data into the registry – interface all key data categories or sources to registry for adult primary care clinic patients • **Metric:** Documentation of data interface and functionality	

2. Project: Implement and Utilize Disease Management Registry Functionality					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
	on file 8. **Milestone:** Enter patient data into the registry – interface at least 2 data categories or sources to registry for adult primary care clinic patients • **Metric:** Documentation of data interface and functionality 9. **Milestone:** Implement and staff cross-functional team to develop and operate registry program • **Metric:** Documentation of personnel (clinical, IT, administrative) assigned to staff registry program	patients • **Metric:** Documentation of data interface and functionality	registry – interface at least 6 data categories or sources to registry for adult primary care clinic patients • **Metric:** Documentation of data interface and functionality		

Category II: Per the Waiver Terms and Conditions, the purpose of Category II Innovation and Redesign is "investments in new and innovative models of care delivery that have the potential to make significant, demonstrated improvements in patient experience, cost, and disease management. Therefore, SCVMC Category II plan includes the piloting, testing, and spreading of innovative care models. SCVMC patient population experiences significant challenges associated with poverty, such as psychosocial barriers to health and multiple concurrent medical conditions. SCVMC has had to get very creative to address the needs of the patient population with extremely limited resources. SCVMC needs to further refine these innovations, test new ways of meeting the needs of our target population, and disseminate learnings in order to spread promising practices.

3. Project: Expand Chronic Care Management Models

- ***Goal:*** With an estimated 10,000 paneled patients diagnosed with diabetes (25% of our paneled population) in our current panels, the priority of this system is to expand and improve our existing chronic care management system of care managers and protocols. We seek to improve our system by developing strategies that are more proactive about reaching out to our patients who need our help for not only immediate medical problems but the prevention of future ones as well.

  While our health care system is well-suited to treat acute medical issues, it traditionally has had difficulty in managing chronic conditions. The Chronic Care Model, put forth by Wagner and Associates, highlights key components that assist in improving care for patients with chronic illness. In particular, implementing such elements as clinical information systems, decision support, and delivery system design have been shown to improve clinical outcomes and health for such patients. SCVMC is focused on improving care for patients with chronic conditions by implementing this Care model at our primary care clinic sites through the use of proactive care, care management programs, evidence-based clinical protocols, and registry implementation.

- ***Expected Result:*** Redesign of the outpatient delivery system, incorporating elements from the Chronic Care Model including: clinical information systems, decision support, and delivery system design, to improve care for paneled patients with chronic conditions.

- ***Relation to Category III Population-Focused Improvement:*** Implementation of components of the Care model and programs to target chronic conditions is fundamental to "Improving the Delivery of Care for Medical Home Patients." These interventions will enable us to provide improved proactive, patient-centered, evidence-based clinical care which will result in improved outcomes for patients and populations.

3. Project: Expand Chronic Care Management Models					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
1. **Milestone:** Evidence-based clinical protocols - submit new evidence-based clinical protocols for care manager use • **Metric:** Documentation of submission of new and/or revised clinical protocol for hypertension 2. **Milestone:** Develop program to identify and manage targeted patients needing further chronic care and/or preventive care interventions • **Metric:** Documentation of program development to	3. **Milestone:** Formalize multi-disciplinary teams • **Metric:** Hire at least 2 additional care managers to assist with chronic disease management; determine optimal care manager to diabetic patient ratio 4. **Milestone:** Train staff in components of the care model including quality measurements, primary care re-design, and financing Chronic Care Model • **Metric:** Documentation of institution-wide	9. **Milestone:** Train relevant staff in the Chronic Care Model in at least 50% (4 out of 7) of Medical Home teams • **Metric:** Documentation of training program and list of staff members trained, or similar documentation 10. **Milestone:** Utilize elements of Chronic Care Model in at least 50% (4 out of 7) of Medical Home teams • **Metric:** Demonstrate Chronic Care Model implementation	13. **Milestone:** Train relevant staff in the Chronic Care Model in at least 85% (6 out of 7) of Medical Home teams • **Metric:** Documentation of training program and list of staff members trained, or similar documentation 14. **Milestone:** Utilize elements of Chronic Care Model in 85% (6 out of 7) Medical Home teams • **Metric:** Demonstrate Chronic Care Model implementation (decision support	16. **Milestone:** Train relevant staff in the Chronic Care Model in 100% (7 out of 7) of Medical Home teams • **Metric:** Documentation of training program and list of staff members trained, or similar documentation 17. **Milestone:** Utilize elements of Chronic Care Model in 100% (7 out of 7) of Medical Home teams • **Metric:** Demonstrate Chronic Care Model implementation	• Implement and Utilize Disease Management Registry Functionality (Cat. I) • Improve Delivery of Care for Medical Home Patients (Cat. III)

3. Project: Expand Chronic Care Management Models					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
identify targeted patients needing preventive care or chronic care screening tests (i.e., missing AIC, LDL, mammograms).	training symposium to educate staff on chronic care issues and care model; report number of staff trained. **5. Milestone:** Train relevant staff in the Chronic Care Model in at least 25% (2 out of 7) of Medical Home teams • **Metric:** Documentation of training program and list of staff members trained, or similar documentation. **6. Milestone:** Utilize elements of Chronic Care Model in at least	(decision support tools, delivery system design, clinical information systems) for at least 50% (4 out of 7) of Medical Home teams using optimal care manager staffing ratio **11. Milestone:** Implement program to identify and manage targeted patients needing further clinical intervention for at least 2 outcomes • **Metric:** Documentation of program implementation	tools, delivery system design, clinical information systems) for at least 85% (6 out of 7) of Medical Home teams using optimal care manager staffing ratio **15. Milestone:** Implement program to identify and manage targeted patients needing further clinical intervention for at least 3 outcomes • **Metric:** Documentation of program implementation	(decision support tools, delivery system design, clinical information systems) for 100% of Medical Home teams using optimal care manager staffing ratio **18. Milestone:** Implement program to identify and manage targeted patients needing further clinical intervention for at least 4 outcomes • **Metric:** Documentation of program implementation	

3. Project: Expand Chronic Care Management Models					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
	25% (2 out of 7) of Medical Home teams • **Metric:** Demonstrate Chronic Care Model implementation (decision support tools, delivery system design, clinical information systems) for at least 25% (2 out of 7) of Medical Home teams using optimal care manager staffing ratio **7. Milestone:** Implement program to identify and manage targeted patients needing	**12. Milestone:** Apply the Chronic Care Model to the management of hypertension in diabetes • **Metric:** Documentation of program			

3. Project: Expand Chronic Care Management Models					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
	further clinical intervention for at least 1 outcome • **Metric:** Documentation of program implementation **8. Milestone:** Apply the Chronic Care Model to the management of glycemic control and dyslipidemia in diabetes • **Metric:** Documentation of program				

4. Project: Integrate Physical and Behavioral Health Care

- ***Goal:*** Santa Clara Valley Medical Center and Health System serves 250,000 patients annually, through the public hospital and clinics, and sister public health, mental health, and substance use systems. Due to funding constraints and requirements, these systems have been unable to offer seamless access to effective behavioral health services to primary and specialty care patients whose mental health and substance use issues go unaddressed, thereby resulting in less than optimal health care outcomes. The SCVMC and Health System leadership has committed to establishing behavioral health services within primary care and specialty care settings. Our goal is to offer behavioral health knowledge, screening, consultation, brief targeted treatment, and access to specialty comprehensive care to multiple primary care providers and their patients. In order to accomplish this, dedicated trained psychiatrists, non-physician mental health clinicians, and peer/family partners will be located in four primary care clinic settings. These behavioral health professional and para-professional staff will offer service capacity to an estimated 3,000 patients with varying degrees of mental health and substance use conditions, from episodic, situational depression and anxiety, substance use counseling, to persistent psychiatric illness. In order to do this, we propose to:
    1) Implement physical-behavioral health integration pilots in six primary care clinics;
    2) Provide training to primary care and behavioral health staff on behavioral health screening and effective treatment models;
    3) Implement a screening and referral system within pilot clinics to identify patients needing behavioral health care;
    4) Provide integrated behavioral health service utilizing evidenced based methods of the IMPACT and Four Quadrant models of care; and
    5) Provide linkage and coordination of patients with serious mental illness to appropriate specialty care (mental health/substance use).

- ***Expected Result:*** At least 80% of new patients referred by primary care will receive one or more of the new behavioral health components (screening, consultation, clinical assessment, medication treatment, psycho-education) within 14 days of referral; and 75% of mental health and substance use clients referred by the specialty mental health and substance use systems will be connected to a physician at their primary care/behavioral health clinic.

- ***Relation to Category III Population-Focused Improvement:*** Expanded behavioral health care also feeds into Improve Quality, Improve Screening Rates, Improve Chronic Care, and Expand Chronic Care Management Models. With expanded behavioral health care in primary care settings, more patients can have access to early intervention and preventive care, which increases opportunities to prevent and better manage disease and emotional and behavioral health, and empower clients to be more engaged in and compliant with their treatment, thus contributing to improved health outcomes and reducing the risk and consequences of worsening health conditions.

4. Project: Integrate Physical and Behavioral Health Care					
Year 1	Year 2	year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
1. **Milestone:** Complete plan and implement behavioral health services within primary care settings of the SCVHHS • **Metric:** Numerator: Number of Behavioral Health psychiatrists and LCSW who provided service to clinic patients in Year 1; Denominator: Number of designated Behavioral Health psychiatrist and LCSW FTEs staff 2. **Milestone:** Develop behavioral health patient visit tracking model	3. **Milestone:** Implement IMPACT training of behavioral health and primary care staff within four primary care settings • **Metric:** 25% of Primary Care Professionals at each FQHC-BH clinic will receive the IMPACT model training by end of Year 2. 90% of FQHC-BH psychiatrist, clinicians, and behavioral health staff will receive the IMPACT training in Yr 2. Numerator: Number of staff trained; Denominator: Number of Primary	6. **Milestone:** Expand population of patients served in integrated behavioral health to 2 additional primary care settings medical homes • **Metric:** Number of patients referred for behavioral health services and who receive at least one BH service in, one of two new FQHC-BH cost centers in FQHC clinic data base (INVISION) Numerator: New FQHC-BH clinics;	8. **Milestone**: 50% of diabetic patients treated in four FQHC-BH integrated clinics will be screened with the PHQ-9 screening tool • **Metric:** Numerator: Same clinic diabetic patients with completed PHQ-9 screens in medical record; Denominator: four FQHC-BH integrated clinic patients with diabetes 9. **Milestone:** Expand population of patients served in integrated	10. **Milestone:** 75% of diabetic patients treated in FQHC integrated clinics will be screened with the PHQ-9 screening tool **Metric:** Numerator: FQHC integrated clinic diabetic patients with completed PHQ-9 screens in medical record; Denominator: FQHC integrated clinic patients with diabetes 11. **Milestone 11**: 25% of patients with a PHQ-9 score of 10 or greater (severe/major depression) will	• Improve Screening Rates (Cat. III) • Improve Chronic Care Management and Outcomes (Cat. III) • Reduce Readmissions (Cat. III)

4. Project: Integrate Physical and Behavioral Health Care					
Year 1	Year 2	year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
• **Metric:** Monthly service report designed and implemented in Year 1	Care and Behavioral Health staff 4. **Milestone:** 500 primary care patients will be provided behavioral health service by end of Year 2 • **Metric:** 90% of targeted number of referred patients will receive behavioral health services. Numerator: 500; Denominator: Number of patients referred for behavioral health services and who receive at least one BH service in, one	Denominator: New FQ-BH clinics with 25 or more referred patients who receive BH services. 7. **Milestone:** Utilization of PHQ-9 depression screening tool in two FQHC-BH clinics[8]. • **Metric:** 50% of primary care patients in at least two FQHC-BH clinics will be screened in Year 3. Numerator:	behavioral health to 1000 patients served in primary care settings. • **Metric:** Number of patients referred for behavioral health services and who receive at least one BH service in, one of 6 FQHC-BH cost centers in FQHC clinic data base (INVISION) Numerator: Behavioral Health patient served in 6 FQ-BH clinics; Denominator:	have reduced score by 5 or more points (moderate depression, lowering risk of suicide) within 6-12 months of behavioral health treatment. • **Metric:** Denominator: Patients with a PHQ-9 score of 10 or greater (severe/major depression) patients with a PHQ-9 score of 10 or greater; Numerator: treated patients with PHQ score of 10+ with post	

[8] *Many patients with chronic conditions like diabetes also tend to show symptoms for depression. Depression is an illness that may affect and be affected by diabetes. Depression is an independent risk factor for the onset of Type 2 diabetes. It negatively affects the course of diabetes and is associated with increased risk of complications (especially heart disease), hyperglycemia and mortality*

4. Project: Integrate Physical and Behavioral Health Care					
Year 1	Year 2	year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
	of four FQHC-BH cost centers in FQHC clinic data base (INVISION) **5. Milestone**: Design, test, and finalize protocol for patient referral process into FQHC-BH service • **Metric:** Referral Protocol will be implemented in four pilot FQHC clinics in Year 2. Numerator: Number of clinics with protocol actively in use at same four clinics; Denominator: Four physical-behavioral health clinics	Number of patients served in two targeted clinics who receive PHQ-9 depression screening tool; Denominator: Number of patients served in two targeted clinics	1000 target Behavioral Health patients	treatment scores reduces by 5+ points	

5. Project: Improve Patient Experience

- ***Goal:*** Focusing on what patients want in their care is the cornerstone to improving clinical outcomes, compliance, and quality. Systems that have prioritized the patient's voice as a driver for their organization have seen reductions in malpractice risk and improvements in market share and physician satisfaction. The key is developing a strategy that is more than about improving their satisfaction scores, but integrating their voice into how a delivery system changes the experience of their care. The goal of the Improve Patient Experience project is to improve the patient, family and visitor experience in both the acute inpatient and ambulatory care settings. We want all patients to feel both "cared for" and "cared about." To that end, this project includes evaluation and implementation of needed infrastructure, campaigns, and tools to improve the patient/family experience as well as staff accountability. This includes regular review and analysis of patient experience indicators in order to identify opportunities for improvement and to establish specific performance standards, targets and goals.

- ***Expected result:*** Improved patient/family experience and increased staff accountability for patient/family satisfaction.

- ***Relationship to Category III Population-Focused Improvement:*** Focusing on what patients want in their care is the cornerstone to improving clinical outcome, compliance, and quality and as such this project relates directly to the success of all Category III projects.

5. Project: Improve Patient Experience					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
1. Milestone: Conduct needs assessment to identify gaps and opportunities towards improving patient/family experience • **Metric:** Documentation of needs assessment **2. Milestone:** Form Customer Experience sub-committees to assess needs, design interventions, and develop curriculum to improve identified experience targets, including: First contact and Inpatient noise • **Metric:** Sub-committees are	**4. Milestone:** Include key stake holders in assessment of patient experience tool. • **Metric:** Documentation of tool assessment and resultant decisions **5. Milestone:** Write and obtain approval for SCVMC patient/family experience strategic plan • **Metric:** Approved patient/family experience strategic plan **6. Milestone:** Sub-committees implement plans	**8. Milestone:** Implement the patient/family experience strategic plan • **Metric:** Documentation of communication and staff education on a patient/family experience strategic plan **9. Milestone:** Identify additional experience targets • **Metric:** Assessment of patient/family experience and Evaluation of actions taken by sub-committees **10. Milestone:** Evaluate strategies for organization-	**11. Milestone:** Evaluate implemented patient/family experience strategic plan • **Metric:** Completed evaluation of a patient/ family experience strategic plan **12. Milestone:** Form Customer Experience sub-committees to improve identified experience targets • **Metric:** Sub-committees are formed and implementation plans are created	**14. Milestone:** Develop future plans related to patient/family experience strategic plan • **Metric:** Documentation of future revisions and/or additions to patient/family experience strategic plan **15. Milestone**: Sub-committees implement plans to improve identified experience targets • **Metric**: Process changes and/or deliverables associated with experience targets	Connects to all Category I-IV projects and interventions

5. Project: Improve Patient Experience					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
formed and implementation plans are created **3. Milestone:** Develop plans for regular organization-wide communication of patient experience data and efforts to improve the patient/family experience • **Metric:** Plans created for at least one organization-wide communication about: (1) performance in the area of patient/family experience (2)experience improvement work	to improve: First contact and Inpatient noise • **Metric:** First contact campaign documentation and staff curriculum and Follow-up survey on inpatient noise **7. Milestone:** Implement plans for regular organization-wide communication of patient experience data and efforts to improve the patient/family experience • **Metric:** Demonstrated at least one organization-wide communication about: (1)	wide communication of patient experience data and efforts to improve the patient/family experience • **Metric:** Assessment of organization-wide communication about: (1) performance in the area of patient/family experience (2)experience improvement work	**13. Milestone:** Create additional strategies for regular organization-wide communication of patient experience data and efforts to improve the patient/family experience • **Metric:** Revised plans for organization wide communication about: (1) performance in the area of patient/family experience (2)experience improvement work	**16. Milestone:** Implement revised strategies for regular organization-wide communication of patient data and efforts to improve the patient/family experience • **Metric:** Demonstrated at least one organization-wide communication about: (1) performance in the area of patient/family experience (2)experience improvement work	

5. Project: Improve Patient Experience					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
	performance in the area of patient / family experience (2) experience improvement work				

6. Project: Redesign for Cost Containment

- ***Goal:*** Per the Waiver Terms and Conditions, the purpose of Category II Innovation and Redesign is “investments in new and innovative models of care delivery that have the potential to make significant, demonstrated improvements in patient experience, cost and disease management.” This category is based on "the Triple Aim" concept developed by the Institute for Healthcare Improvement (IHI), that new designs can be developed and implemented to simultaneously accomplish three critical objectives: improved health of the population, enhanced patient experience of care (quality, access and reliability), and reduced or controlled per capita cost of care. In order to evaluate the impact of “Innovation and Redesign" projects outcomes measurement is required. In order to measure cost improvement, reasonable, consistent and accepted cost accounting is required.

  SCVMC has struggled with cost accounting for years. Extremely limited resources and growing patient demand have focused resources away from administrative areas to support clinical functions. SCVMC has had to rely on basic cost to charge ratios that may work at a global (departmental) level but can provide very inaccurate or inconsistent results at a specific service or provider level due to variations in individual cost to charge comparisons. Providers, department managers and executives within the institution don't understand where the numbers come from and don't believe resultant calculations. Finance and analytic staff have to address the real costs versus what can be pulled from our decision support system for each analysis, creating inefficiencies and long turn-around times.

  The goal of this project is to implement a cost accounting system that will provide reasonable, consistent and accepted costing of services in order to measure cost improvement or containment for the services we provide. This requires investing in a system that will allow us to measure and monitor the impacts of our initiatives on the cost of healthcare. Studies have shown that access to primary care and chronic care management help reduce the need for high cost emergency care and hospitalizations. Innovations that improve quality and integration add to cost management. We need the ability to measure and monitor this improvement, and educate providers within our system of the cost impacts of the decisions they make.

  So much of our funding is dependent on public programs/revenue streams. Cuts to Medi-Cal, Medicare and state and local budget crises impact the resources available, yet the need for access to care continues to grow. The only way for public health systems to meet these demands is to continue to become more efficient and effective at managing care for the populations we serve.

  SCVMC has seen the impact of reductions in Mental Health access due to state and local budget cuts, local hospitals closing or cancelling their Medi-Cal contracts, an economic recession, and an increasing number of uninsured. Patients have flooded our emergency room. In FY 06 we provided 42,406 emergency room visits. In FY 10, our emergency room visits were 77,140, an increase of 81.9%. Without needed access to key community based services, high cost emergency room and inpatient services take their place. Our initiatives/improvement projects build the necessary infrastructure and redesign to provide improved access, care management, integration and quality. We expect them to also contain costs; however we need the systems to measure and

monitor their impact on costs. Therefore, the goal is to develop the capability to test methodologies for measuring cost containment that may be applied to projects or efforts so that the ability to measure the efficacy of these initiatives is in place.

- ***Expected Result:*** Implementation of a cost accounting system to measure intervention impacts, establishment of a method to measure cost containment for various initiatives, establishment of baseline costs for comparison, and measurement reporting.

- ***Relation to Category III Population-Focused Improvement:*** This project relates to all Category III – IV projects. A cost accounting system will allow us to measure costs associated with specific initiatives year over year for a specific population. We will be able to track the impact of our initiatives on the cost of healthcare

6. Project: Redesign for Cost Containment				
Year 1	Year 2	Year 3	Year 4	Year 5
1. Milestone: Implementation of a cost accounting system to measure intervention impacts Development/Design of a cost allocation program consistent with Medicare/Medi-Cal cost reporting principles that will allocate departmental costs to the service code level consistent with the work/cost drivers within the service department. • **Metric**: Documentation of program/ methodology selected for cost allocation. This documentation would include a report regarding the selection of a system or methodology, and contract for vendor /	**3. Milestone:** Continued Implementation of a cost accounting system to measure intervention impacts • **Metric:** Documentation of adoption, installation, upgrade and/or interface of technology, and /or implementation of system using existing technology. Documentation of finance/analyst training on costing methodologies and definition of departmental costing methodologies. **4. Milestone:** Develop /identify a cost accounting methodology to quantify the financial impact of quality and efficiency improvement interventions • **Metric:** Documentation of the methodology/metric (e.g., average cost per case	**6. Milestone:** Measure cost containment • **Metric**: Calculate year over year costs for each improvement initiative including diabetes care, top 20 MS DRGs, and Category III and 4 projects, per metrics developed in Year 2. System reports will be produced to support milestone.	**7. Milestone:** Measure cost containment • **Metric:** Calculate year over year costs for each improvement initiative including diabetes care, top 20 MS DRGs, and Category III and 4 projects, per metrics developed in Year 2. System reports will be produced to support milestone.	**8. Milestone**: Measure cost containment • **Metric**: Calculate year over year costs for each improvement initiative including diabetes care, top 20 MS DRGs, and Category III and 4 projects, per metrics developed in Year 2 System reports will be produced to support milestone.

6. Project: Redesign for Cost Containment				
Year 1	Year 2	Year 3	Year 4	Year 5
implementation if a new system is purchased versus an internally developed methodology. **2. Milestone:** Write a plan to train finance / analyst staff on costing methodologies and timeline for meeting with departments to define, develop and document departmental methodologies for allocation of costs to specific services. • **Metric**: Submission of Plan	for each hospital bed day for chosen specific clinical conditions; average annual cost of hospitalization for chosen specific primary diagnoses clinical conditions) this will include at a minimum: diabetes care, the top 20 MS -DRGs, and metrics associated with Category III and 4 initiatives. **5. Milestone**: Establish a baseline for cost • **Metric:** Submission of baseline cost per unit of service for each metric above. Baseline will represent costs in DY 5 or DY 6 based on initiative. System reports will be generated to support all milestones above.			

Santa Clara Valley Medical Center
CA 1115 Waiver-Delivery System Reform Incentive Payments (DSRIP) Proposal
Category IV - Urgent Improvement in Quality and Safety: Superset of Interventions
INTERVENTION #1: Severe Sepsis Detection and Management

Key Challenge: Reducing harm or death to patients seeking care due to sepsis.

Sepsis can harm and kill patients if not treated quickly and increases ICU length of stay and associated costs. While and after receiving hospital services, challenges remain regarding the provision of safe, high-quality health care. Furthermore, it is critical to avoid causing harm or death to patients seeking care. Currently, approximately a quarter of patients with severe sepsis or septic shock die in public hospitals.

At Santa Clara Valley Medical Center, our baseline sepsis mortality in a retrospective chart review in 2005 was 37%. In our reports to the Bay Area Patient Safety Collaborative (BEACON), our sepsis mortality has steadily improved, and for the 3rd quarter of 2010 had fallen to 19.2%, but still remains a substantial source of our hospital mortality.

Major Delivery System Solution: Reduce avoidable harm or deaths due to severe sepsis to patients receiving inpatient services.

In support of our commitment to continuous quality improvement so that patients receive the safest and highest quality health care possible, we propose to improve severe sepsis detection and management in order to reduce unnecessary death and harm attributable to sepsis.

1. Elements

   Our interventions and improved processes are based upon the IHI recommended Surviving Sepsis Campaign to establish reliable detection and treatment for severe sepsis.

   This includes implementing the four strongest elements of the Sepsis Resuscitation Bundle for which there is the most evidence of reliability and efficacy (based on the recommendations of the Gordon and Betty Moore Foundation's Integrated Nurse Leadership Program and other sepsis prevention collaborative). These include:

   a.) serum lactate measurement,
   b.) blood cultures obtained prior to antibiotics administration,
   c.) improve time to broad-spectrum antibiotics,
   d.) in the event of hypotension and /or lactate >4 mmol/L (36mg/dl), i. deliver an initial minimum of 20ml/kg of crystalloid, ii. apply vasopressors for hypotension not responding to initial fluid resuscitation.

2. Monitoring/Data collection and Reporting

   Currently, while our hospital system does report sepsis mortality, we do not have a monitoring system in place for ongoing determination of compliance with individual sepsis bundle elements. Nor do we have current baseline compliance data. Data collection methodology will need to be determined, data analyst personnel trained and collection of baseline year 1 data performed.

3. Improving sepsis detection

   We have hypothesized that failure to diagnosis sepsis early results in late institution of the resuscitation bundle and thus poor performance on process benchmarks which are based on admission time. We believe that institution of a hospital wide sepsis screening tool and sepsis education program will aide in early detection and thus improve performance on time dependent process measures. The development of our sepsis screening tool is currently underway. The plan is to implement this screening tool at MSE (medical screening examination) in the emergency room for early detection of sepsis. Additionally, proposals have been made to create a modified version of the screening tool as an exit screening prior to transfer of a septic patient from the ED to ensure patient stability and appropriate triage. An inpatient version of this screening tool is also being developed to assist with early bedside diagnosis of potentially septic patient.

4. Improving the process

   Our 2005 audit of our processes revealed while individual compliance on many of the Sepsis Bundle elements was excellent (100% on fluids, 86% on cultures prior to antibiotics, 93% on antibiotics within one hour of arrival in the ICU), some were poor (23% on antibiotics within 3 hours of arrival in ED) and no patients were in compliance with all elements of the bundle as it existed at that time.

   We believe that our institution can still initiate a substantial improvement in care for our patients with severe sepsis by improving the reliability of key processes in the delivery of care to these patients with dedicated guidelines and training of involved personnel.

   While SCVMC does have a general purpose rapid response team with some training in sepsis management, model institutions have increased their process reliability substantially with multidisciplinary sepsis response teams which our institution will have to explore as a possible improvement intervention in later years of the current 5 year plan if deemed appropriate.[Mayo Clinic reported an increase in sepsis resuscitation bundle compliance from 13% to 54% Crit Care Med 2011 39;252-258.]

Severe Sepsis Detection and Management				
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. Establish physician, nursing, pharmacy champions/leaders in key in patient areas including ED, Medical ICU, Surgical ICU, hospital wards, rapid response teams, laboratory, and pharmacy	**2. Establish which parameters for data monitoring for severe sepsis will be utilized** **3. Arrange dedicated sepsis RN for retrospective and concurrent chart reviews of all sepsis/severe sepsis/septic shock patients** **4. Assign data analyst to help with data management / establishment of a database, and reporting of data to SNI/state** **5. Retrospectively review all sepsis patient charts from a 6 month period in 2011 to establish baseline**	**11. Phase 1 interventions:** **a. MD Education regarding sepsis management** **b. RN Education regarding sepsis management** **12. Achieve X% compliance with Sepsis Resuscitation Bundle, where "X" will be determined in Year 2 based on baseline data** **13. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.** **14. Report Sepsis Resuscitation Bundle and Sepsis Mortality results to the State**	**15. Continue Phase 1 interventions** **16. Phase 2 interventions:** **To make the elements of the Sepsis Bundles more reliable, our hospital will select one or more of the following as year 4 interventions:** **a. Coordinate strong partnerships among emergency department, critical care, and medical-surgical units measured by a written agreement** **b. Tie blood culture collection to**	**20. Continue phase 1 and 2 interventions** **21. Assess need for additional interventions, including implementation of a comprehensive multidisciplinary sepsis resuscitation team to increase bundle adherence, if deemed appropriate** **22. Achieve X% compliance with Sepsis Resuscitation Bundle, where "X" will be determined based on baseline data** **23. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California**

Severe Sepsis Detection and Management				
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	6. Participate in the BEACON collaborative to learn and share best practices related to improving severe sepsis and septic shock detection and management; **7. Develop plans for a hospital-wide sepsis screening program** **8. Implement the four strongest elements of the Sepsis Resuscitation Bundle for which there is the most evidence of reliability and efficacy (based on the recommendations of the Gordon and Betty Moore Foundation's Integrated Nurse Leadership Program and other sepsis prevention collaboratives) : as**		**lactate collection measured by the development and use of new order sets** **c. Have a pre-mixed quantity of broad spectrum antibiotics available in the ED measured by a pre-determined par level quantity** **d. Utilize pre-formatted order sets that include the drugs of choice as options measured by the development and use of new order sets** **17. Achieve X% compliance with Sepsis Resuscitation**	**public hospitals** **24. Report results to the State**

Severe Sepsis Detection and Management				
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	evidenced by the completion within 6 hours for patients with severe sepsis, septic shock, and/or lactate > 4 mmol/L (36 mg/dl) of the following: **• Serum lactate measured** **• Blood cultures obtained prior to antibiotic administration** **• Improve time to broad-spectrum antibiotics: within 3 hours for ED admissions and 1 hour for non-ED ICU admissions** **• In the event of hypotension and/or lactate > 4 mmol/L (36 mg/dl):** **o Deliver an initial minimum of 20 ml/kg of crystalloid**		**Bundle, where "X" will be determined in Year 2 based on baseline data** **18. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals** **19. Report results to the State**	

Severe Sepsis Detection and Management				
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	(or colloid equivalent). **o Apply vasopressors for hypotension not responding to initial fluid resuscitation to maintain mean arterial pressure (MAP) > 65 mm Hg.** **As evidenced by either a report from chart review or database** **9. Report at least 6 months of data collection on Sepsis Resuscitation Bundle to SNI for purpose of establishing the baseline and setting benchmarks** **10. Report the Sepsis Resuscitation Bundle results to the State**			

Santa Clara Valley Medical Center
CA 1115 Waiver-Delivery System Reform Incentive Payments (DSRIP) Proposal
Category IV - Urgent Improvement in Quality and Safety: Superset of Interventions
INTERVENTION #2: Central Line-Associated Bloodstream Infection (CLABSI) Infection Prevention

Key Challenge: Reducing harm or death to patients seeking care due to Central Line-Associated Bloodstream Infection (CLABSI).

Central Line-Associated Bloodstream Infection (CLABSI) can harm and kill patients if not treated quickly and increases ICU length of stay and its associated costs. Forty-eight percent of ICU patients have central venous catheters, accounting for about 15 million central venous catheter days per year in ICUs. There are approximately 5.3 CLABSI per 1000 catheter days in the ICU. Currently, approximately a fifth of patients with CLABSI die in hospitals.

While and after receiving hospital services, challenges remain regarding the provision of safe, high-quality health care in public hospitals. As it is critical to avoid causing harm or death to patients seeking care, reducing CLABSI is one way of achieving this goal.

Major Delivery System Solution: Reduce avoidable harm or deaths due to Central Line-Associated Bloodstream Infection in patients receiving inpatient services.

In support of our commitment to continuous quality improvement so that patients receive the safest and highest quality health care possible, we propose to make continued improvements in the care provided to our patients. When our institution initiated our program to reduce CLABSI in 2006, our central line infection rate per 1000 catheter days was 0.4 in our adult intensive care units. Our program has been successful at reducing that rate to zero for the last 2 years (2009 and 2010). While our program has been successful, we propose to improve the reliability of our CLABSI prevention program to insure that we can continue to prevent the death and harm attributable to CLABSI from ever reaching our patients.

1. Elements
   Our interventions and improved processes are based upon the IHI recommended Prevention of Central Line-Associated Bloodstream Infection bundle to establish improved prevention of CLABSI. They include implementing the five elements of the IHI Central Line Bundle:
   a.) Hand hygiene
   b.) Maximal barrier protection
   c.) Chlorhexidine skin antisepsis
   d.) Optimal catheter site selection

e.) Daily review of line necessity with prompt removal of unnecessary lines

2. Monitoring/Data collection and Reporting

   Currently, while our hospital system does report our CLABSI rate per 1000 line days, we do not have a reliable monitoring system in place for ongoing determination of compliance with the individual CLABSI bundle elements. Our current baseline compliance data is based on a limited sample size, and only in select areas of the hospital. Data collection methodology will need to be determined, data analyst personnel trained and collection of baseline year 1 data performed.

3. Improving the process

   Our 2010 audit of our processes revealed while individual compliance on many of the CLABSI bundle elements were excellent (ranging from 78-100% depending on the nursing unit), the number of physicians reporting was only a fraction of those performing procedures. Our goal is to make the data collection and monitoring process more robust, representative of the entire institution, and reliable.

   Despite our extremely low infection rate, we believe that our institution can still initiate a substantial improvement in the care of our patients with central lines by improving the reliability of key processes that ensure the safety of our patients from this unnecessary infectious complication.

Central Line-Associated Bloodstream Infection (CLABSI) Infection Prevention				
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. Establish methodology for monitoring compliance with the Central Line bundle elements	**2. Implement the Central Line Insertion Practices (CLIP), as evidenced by data reported to the NHSN via the CLIP adherence monitoring form and daily documentation of line necessity** **3. Report at least 6 months of data collection on CLIP to SNI for purposes of establishing the baseline and setting benchmarks** **4. Report at least 6 months of data collection on CLABSI to SNI for purposes of establishing the baseline and setting benchmarks** **5. Report CLIP results to the State**	**6. Achieve X% compliance with CLIP, where "X" will be determined in Year 2 based on baseline data** **7. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals** **8. Report CLIP and CLABSI results to the State**	**9. Achieve X% compliance with CLIP, where "X" will be determined in Year 2 based on baseline data** **10. Reduce Central Line Bloodstream Infections by X%, where "X" will be determined in Year 2 based on baseline data** **11. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.** **12. Report CLIP and CLABSI results to the State**	**13. Achieve X% compliance with CLIP, where "X" will be determined in Year 2 based on baseline data** **14. Reduce Central Line Bloodstream Infections by X%, where "X" will be determined in Year 2 based on baseline data** **15. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals** **16. Report CLIP and CLABSI results to the State**

Santa Clara Valley Medical Center
CA 1115 Waiver-Delivery System Reform Incentive Payments (DSRIP) Proposal
Category IV- Urgent Improvement in Quality and Safety: Superset of Interventions
OPTIONAL INTERVENTION #1: Surgical Complications Core Processes (SCIP)

Key Challenge: Reduce morbidity or death to patients undergoing surgical procedures.

In 2003 a study from Journal of the American Medical Association found that postoperative complications accounted for up to 22% of preventable deaths and significant morbidity among patients. The care related to surgical complications increases costs and length of stay is a burden on the national health care systems as well as a burden on individual patients. The Surgical Care Improvement Project is a national partnership of organizations focused on improving surgical care by significantly reducing surgical complications. The premise of SCIP is that meaningful reduction of complications requires that surgeons, perioperative nursing, anesthesiologists, infection prevention nurses, pharmacists, and quality managers must work together using sound evidence based process measures to achieve the result of meaningful reduction of surgical complications. A well defined set of process measures have been in place since 2006 that includes process guidelines for the proper uses of prophylactic antibiotics, VTE prophylaxis, control of glucose after cardiac procedures, and continuation of perioperative beta blockade for those patients who were on beta blockade preoperatively.

Outcome measures are critical to monitoring and revising the SCIP process measures validity and proposing revisions for the future as well as monitoring the performance within our institution. Reporting national data sets is critical for formulation of valid evidence based process measures going forward. At Santa Clara Valley Medical Center we currently report compliance data on the SCIP process measures. A review of the outcome data for surgical site infection shows that for three of the four surgeries reviewed, total knee replacements, total hip replacements and cardiac surgery patients, SCVMC has 0% infection rate for Class 1 & 2 wounds. Because of some coding difficulties, the data for the colon resection and colectomy patients (WC2) will be our first are of focus.

We have some areas where we are successful with compliance and others that present a challenge. This requires building documentation and educational tools to achieve both compliance in practice and documentation for reporting current measures. Our current infection rates in the reportable case categories are acceptable but improvement is needed in the data collection, coding and analysis. A review of the core measures between the fourth quarter of 2009 and the second quarter of 2010, indicate improvements in the measure of appropriate VTE prophylaxis, 85% to 100%; and improvement seen in the measure of VTE prophylaxis ordered, 87% to 100%. In the measure of prophylactic antibiotic selection, the compliance ranged between 94% to 98%. In reviewing the measure of prophylactic antibiotic administration within one hour of surgery, the compliance ranged between 96% to 97%. The core measure reflecting the discontinuation of antibiotic therapy in the prescribed time has decreased from 85% in the fourth quarter of 2009 to 75% in the second quarter of 2010.The continuation of Beta blocker therapy measure shows inconsistency; ranging from 65% to 79%. This

measure has been set for follow up in Year 3. Another area where improvement can be made is monitoring controlled postoperative blood glucose levels in the cardiac surgery patient. The compliance with this measure was 92% in the fourth quarter of 2009 and has decreased to 88% in the second quarter of 2010.
(Review dates: October, 2009 through June, 2010)

Major Delivery System Solution: Reduce avoidable morbidity or deaths as well as hospital costs associated with surgical complications.

In keeping with our mission statement to provide the highest quality surgical care for the patients of this county we propose to make improvements in utilizing the evidence based core process measures related to the reduction of surgical complications as defined by SCIP. We will be using a coordinated effort from all the primary and ancillary services that impact patient care throughout the continuum comprising the preoperative evaluation, perioperative and hospital care, and subsequent post operative follow up to assure best practices throughout. We further propose that outcome data that is essential to defining best practices on an institutional, state and national level will be vigorously screened, collected and shared to accurately reflect our current practices.

Surgical Complications Core Processes (SCIP)				
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. Improve the capture and accuracy of documentation and capture of all Surgical Site Infections (SSI) for all reportable cases[9] and for all surgical cases that are WC 1& 2	**2. Develop SCIP based preprinted order sets and update all existing preprinted surgical order sets to reflect current SCIP guidelines. (Review and revisions of order sets will be every 2 years)** **3. Develop a process where the proper preprinted order set is included in the preoperative packet to improve compliance** **4. Continue with educational models for attending staff, house staff, perioperative staff and medical/surgical unit nursing on current evidence base SCIP**	**7. Report at least 6 months of data collection on SSI to SNI for purposes of establishing the baseline and setting benchmarks** **8. Report results to the State** **9. Phase 1 intervention: SSI reduction** **Develop screening tool for capture of SSI in the hospital and clinics for screening of SSI** **Develop a central warehouse in infection control for validating potential SSI (deep and organ space) and validating diagnosis based on CDC guidelines**	**13. Reduce the rate of surgical site infection for Class 1 and 2 wounds by X, where "X" will be determined in Year 2 based on baseline data** **14. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals** **15. Report results to the State** **16. Correlate outcome data on catheter associated UTI in colon and rectal**	**20. Reduce the rate of surgical site infection for Class 1 and 2 wounds by X%, where "X" will be determined in Year 2 based on baseline data** **21. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals** **22. Report results to the State** **23. Correlate outcome data on catheter associated UTI in colon and rectal surgeries, and post operative cardiac**

[9] *Reportable cases: Total Hip Replacement (WC-1), Total Knee Replacement (WC-1), Deep Sternal wound infections after sternotomy (CABG and Valves), Colon Resections (WC-1 and WC-2)*

Surgical Complications Core Processes (SCIP)				
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	guidelines **5. Implement quality checklists on the formatted inpatient notes** **6. Continue to measure and report compliance with SCIP process measures**	**10. Correlate outcome data on post operative documented SSI, with data on compliance with SCIP process measures** **11. Determine the milestones for years 3-5 and report to the CAPH for approval** **12. Provide direct provider feedback on all outliers on SCIP process measures on a case by case basis for the following measures: Prophylactic antibiotics before surgery, cessation of prophylactic antibiotics in the prescribed time frame and strict glucose control in cardiac surgery patients**	**surgeons, and post operative cardiac events with compliance with SCIP process measures** **17. Provide direct provider feedback on all outliers on SCIP process measures on a case by case basis for the following measures: perioperative beta blocker preoperatively, active warming for colorectal surgery patients and removal of Foley catheters post operative day one for colon surgery** **18. Improve the capture and accuracy of documentation and capture of all peri**	**events with SCIP process measures.** **24. Provide direct provider feedback on all outliers on SCIP process measures on a case by case basis for the following measures: perioperative VTE prophylaxis** **25. Improve the capture and accuracy of documentation and capture of all post operative VTE events utilizing similar tools fro Phase 1 & 2 interventions** **26. Continue to report on the process and outcome measures from years 2-4 unless the rates of compliance exceed the state benchmarks for 3 reporting periods (quarterly) and rates**

Surgical Complications Core Processes (SCIP)				
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
			operative events and catheter associated UTI and SSI specific to colon surgery. Utilizing similar tools from Phase 1 intervention **19. Review and revise SCIP based preprinted order sets for needed updates based on current guidelines**	**of complications meet are lower than set benchmarks outlined above and through the national and California data sets**

Santa Clara Valley Medical Center
CA 1115 Waiver Delivery System Reform Incentive Payments (DSRIP)
Category IV - Urgent Improvement in Quality and Safety: Superset of Interventions
Optional Intervention #2: Hospital-Acquired Pressure Ulcer Prevention

Key Challenge: Reducing Hospital Acquired Pressure Ulcers (HAPU).

HAPUs were once considered common, but are now preventable with intensive prevention protocols. Pressure ulcers are painful to the patient, may prolong hospitalization, and for patients requiring placement we may have challenges finding an accepting facility when wound care is required. Costs for prevention and treatment are considerable and make a significant demand on nursing time. Furthermore, patients with pressure ulcers may have mobility restrictions or be confined to the bed, becoming deconditioned. At Santa Clara Valley Medical Center (SCVMC), HAPU prevention and treatment has been a multi-year, interdisciplinary performance improvement initiative in recent years. However, we still strive to improve and reduce the prevalence of HAPU, especially any progressing to a stage three or four.

SCVMC's baseline HAPU prevalence rate has been variable since July 2009 ranging between 2 and 4.23.

Major Delivery System Solution: Reduce avoidable HAPU to 1.1% over 5 years.

In support of our commitment to continuous quality improvement, so that patients receive the safest and highest quality healthcare possible, we propose to make improvements in care provided to our patients. We propose to decrease the rate of HAPU development and progression.

1. Elements

   Ensure implementation of HAPU prevention elements. These elements include:
   - Conduct skin admission assessments for all patients
   - Reassess risk for all patients daily.
   - Inspect skin daily
   - Manage moisture on skin
   - Optimize nutrition and hydration
   - Minimize pressure

2. Monitoring /Reporting

HAPU prevalence:

- Numerator: Patients with Category II, III, IV or unstageable HAPUs
- Denominator: All patients admitted to adult inpatient care
- Data Source: CALNOC
- Targeted improvement 1.1% overall prevalence

3. Improving the Process

SCVMC has had an active skin care team for a few years. We believe assessment and documentation of skin condition at the time of admission, daily assessments and subsequent care for existing HAPUs is essential for patients who are

- bed or chair bound;
- bariatric;
- Spinal Cord injured;
- in critical care; and
- any patient scoring as high risk on the Braden scale (18 or below according to the national standards)

We conduct quarterly prevalence studies and contribute to the CALNOC database. Our Skin Care Team is chaired by our lead Wound and Ostomy Care nurse. Nursing staff report every deterioration in skin condition through a confidential database.

Reduce HAPU				
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. Identify unit champions and educate them regarding IHI process measures for bundle	**2. Collect data: Process measures** • **Define presence of HAPU prevention elements in monitoring tools** • **Daily follow up with high risk patients (as determined by Braden Scale) and patients who have developed Stage II skin alterations** **3. Collect data: Patient outcomes** • **Conduct prevalence study** • **Investigate best practices Retrospective chart review for skin assessment accuracy and timeliness**	**15. Begin PDSA** **16. Expand Nursing education on skin assessment, wound staging, specialty bed selection, and care management. Add elements, best practices and a review of accuracy of PSN data entry** **17. Continue Year 2 interventions** **18. Improve process measures by 50%** **19. Reduce HAPU prevalence to 1.75** **20. Share results with staff** **21. Reward best performing units** **22. Sustain improvements**	**26. Continue PDSA** **27. Improve process measures by 75 % over base year** **28. Reduce HAPU prevalence to 1.25** **29. Continue to monitor to sustain improvements and best practices implemented in Year 2-3** **30. Share results with staff** **31. Reward best performing units** **32. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the**	**35. Continue to monitor and sustain improvements** **36. Maintain process compliance measures at 90%** **37. Reduce HAPU incidence to 1.1%** **38. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals** **39. Report improvement results to CDPH** **40. Report HAPU stage III or greater to CDPH**

Reduce HAPU				
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	• **Evaluate tools for best practices to pilot in year two (i.e. care plan; patient education brochure; competency tool)** **4. Examine HAPU versus ulcers occurring prior to admission and wound healing or progression** **5. Implement best practice via evidence- based practice** **6. Physician education on elements, wound staging, specialty bed selection, care management and best practices.** **7. Reinforce use of "Turn Log"** **8. Add management oversight to the Skin**	**23. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals** **24. Report HAPU improvement results to CDPH** **25. Report stage III or greater to CDPH**	**California public hospitals.** **33. Report improvement results to CDPH** **34. Report HAPU stage III or greater to CDPH**	

Reduce HAPU				
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	Care Team. Ensure every adult unit has a "Champion" **9. Institute education rounds by Skin Care Team Champions** **10. Share results of data baseline with staff** **11. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals** **12. Report HAPU stage III or greater to California Dept. of Public Health (CDPH)** **13. Report HAPU prevalence to CDPH** **14. Begin PDSA rapid change cycles**			