UC Irvine Healthcare

California Bridge to Reform:

The University of California, Irvine Medical Center
Delivery System Reform Incentive Pool Proposal
For the California Section 1115 (a) Medicaid Demonstration

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Overview

UC Irvine Medical Center is a fully accredited and licensed general acute care hospital and is part of the University of California Health System, the fourth largest health system in California. UC Irvine Medical Center is the integral hospital institutional component of UC Irvine Healthcare which also includes the UC Irvine Physicians & Surgeons (Faculty Practice Organization) and the UC Irvine School of Medicine. It is through the combined and coordinated efforts of these components that UC Irvine Healthcare pursues its vision and mission.

As a University of California hospital, UC Irvine Medical Center is the only academic medical center in Orange County. It offers community access to highly specialized tertiary and quaternary medical services without regard to a patient's economic status. UC Irvine Medical Center is Orange County's only Level 1 Trauma Center, American College of Surgeons verified Burn Center and combined tertiary high-risk perinatal and neonatal program which includes a regional high risk maternal transport service. UC Irvine is one of only 40 National Cancer Institute designated Comprehensive Cancer Centers in the United States.

UC Irvine, a 422 bed hospital, located in Orange California, comprises 6.63% of the 6,381 licensed beds in Orange County and, in 2010, provided 8.0% of all hospital days and 14.0% of the outpatient visits provided by the 28 acute care general hospitals in the County. UC Irvine Trauma Center and Emergency Medicine programs handle nearly 50% of the county's trauma cases and 55% of burns. It is home to Southern California's only Stroke-Neurology Receiving Center system. UC Irvine leads the county in organ donation providing over 171 organs from 66 donors in 2009-2010. UC Irvine Healthcare includes two family health centers and mobile clinics that accounted for over 67,000 patient encounters in 2009. The Medical Center provides over 4200 jobs and supports an annual payroll of $257 million and provided 27.3% or $71 million of hospital charity care in the County.

The County of Orange, through its Medical Services Initiative (MSI) arranges for medical services for approximately 41,000 persons it deems eligible for such support. These persons are between the ages of 21 and 64, have incomes at or below 200% of the Federal Poverty Level, are legal Orange County residents, have no other health coverage, have an emergent or urgent medical need, and do not qualify for Medi-Cal or any other public healthcare program. UC Irvine Medical Center provides more hospital care to this population than any other Orange County hospital.[1] Under the Affordable Care Act, approximately 80% of this population will become Medi-Cal eligible in 2014. Despite this expansion of Medi-Cal and access to new subsidized health coverage through the State Health Exchange in 2014, it is anticipated that an undetermined level of indigent care will be still be required.

In preparation for these changes in the community's healthcare coverage, UC Irvine anticipates a need to shift focus away from traditional disease based interventions to a population- based, care delivery model that focuses on disease prevention and wellness. This will be accomplished by strengthening our infrastructure, modifying processes and developing our staff so that sustainable changes in care delivery can be achieved. The diabolical nature of this challenge is the fact that there are few, if any, validated metrics that lend themselves to the measurement of health system wellness outcomes. Instead, we are faced with outdated financial and operational measures that merely address the expense and budget rather than the true cost of care to our community.

UC Irvine's infrastructure changes outlined Category 1 projects will include automated tools designed to input real time data into the electronic medical record to allow clinicians to intervene as quickly as possible in order to enhance patient safety and improve clinical quality. This modification will make early risk detection and the preventative care easily identifiable and timely intervention a reality. Two leveraged Category 4 proposals CLABSI and HAPU will begin the Category 2 design and implementation of automated risk detection tools in DY 06 and DY 07, respectively. It is hoped that this basic tool design can be modified and interfaced to automate other detection tools such as a Pain Prevention and Management and Catheter Associated Urinary Tract Infections. The goal of implementing these tools is to aid the provider in early detection of potential risk to reduce complications associated with hospitalization.

These projects include

o   Increase Training of Primary Care Workforce

- o Implement and Utilize Disease Management Registry Functionality
- o Develop Risk Stratification Capabilities/Functionalities
- o Expand Primary Care Capacity
- o Introduce Telemedicine

Processes necessary to further improve the patient care experience and reduce the overall cost of healthcare which include the incorporation of Lean and Six Sigma into the UC Irvine quality program are captured in Category 2 projects. In DY 06, the UC Irvine Leadership Team reinvented itself when it combined the strategic plans of the UC Irvine School of Medicine and UCI University Physicians & Surgeons group (UPS) with the UC Irvine Medical Center to create the UC Irvine Healthcare System strategic plan. Goals were established and committee and council structures were modified to reflect the alignment of this healthcare triad. Today, UC Irvine physicians, the school of medicine and the hospital share the same Mission, Vision and Values: the commitment to clinical excellence and the delivery of compassionate patient- centered care. This concerted effort resulted in the redesign of the quality and process improvement (QAPI) model to enhance its effectiveness and improve system-wide communication and the timely implementation of process changes. The organizational structure has been modified and the committee reporting structure and content reassigned. Continued efforts to streamline processes and implement meaningful change has resulted in the adoption of, not only, our new QAPI structure and processes but in the adoption of the Johns Hopkins Lean Sigma™. Renewed commitment to clinical excellence and a shift to the consistent delivery of compassionate patient centered care are shifting the UCI care paradigm.

Category 2 projects include:

- o Establish a Patient Care Navigation Program
- o Redesign to Improve Patient Experience
- o Expanding Chronic Care Management Models
- o Expand Medical Homes
- o Redesign of Primary Care
- o Implement Real-Time Hospital Acquired Infections (HAIs) System

Quality and Safety continue to be our imperative at UC Irvine Healthcare. Category 4 projects that enable early detection and prevention strategies are our priority. Projects selected that will enhance our patient's safety and care experience include:

Category 4 Projects:

- o Improve Severe Sepsis Detection and Management
- o Central Line-Associated Bloodstream Infection (CLABSI) Prevention
- o Hospital Acquired Pressure Ulcer (HAPU)) Prevention
- o Venous Thromboembolism (VTE) Prevention and Treatment

UC Irvine Medical Center Projects

Project 1 (Category 1): Increase Training of Primary Care Workforce

Goal:
To meet the doubling of the senior population locally and nationally and as the only academic medical center in Orange County, it is incumbent upon UC Irvine Medical Center to train the future primary care health care workforce. Building upon our well-established successful model at UC Irvine Senior Center, we aim to address the present and future substantial primary care workforce shortage by increasing the education of professionals across disciplines (medical students, medical residents, nurse practitioners, nurses, public health, pharmacy, OT, PT, nutritionists) serving our Senior Populations. We will update the model of care delivery for seniors to develop increased team-based education; strict guideline and evidence-based practice to eliminate unnecessary and unwanted utilization of care; and the coordination of patient-centered care through technology and team-based management of chronic disease.

To better support the expansion of the UC Irvine Healthcare senior population, we will train a team-based primary care workforce. Primary care capacity, resources, infrastructure, and technology are severely limited at present. Our goal is to be able to better treat the volume of patients who need chronic disease management in the primary care setting, with an integrated multi-target intervention program founded upon team-based care. We propose to form our new chronic care management team with nurse educator coordinating and training chronic disease coaches. In order to do this, we propose to utilize a new patient-centered model with fully informed and active patient participation supported by the following new training of our primary care workforce:

- Recruit new members of our primary healthcare team (i.e. chronic disease "coaches") and redefine our team-based practice for chronic disease management;
- Design a skills set and training for chronic disease "coaches";
- Hire and train nurse educators to serve as Coaching Program Coordinators overseeing and training chronic disease coaches;
- Develop and implement training for primary care providers in effective participatory care (shared decision making).

Expected Results:
We aim to increase UC Irvine's Primary Care capacity to train health professionals across disciplines by 10-20%. We anticipate the expansion and improvement of chronic care management in the primary care setting through the formation of teams lead by nurse educators as coordinators and trainers of chronic disease coaches implementing a patient-centered intervention program. We aim by Year 5 to have chronic disease coaches available for 60% of eligible diabetes patients and 40% of eligible CHF patients and to document and disseminate the outcomes of our model. In addition we have identified the following results of our initiative:
- Team-based Education lead by reorganization of team and hiring of additional team-leaders, faculty and staff;
- Guideline and EHR-based care management built into student training;
- Training nursing and medical students, nurse practitioner students and residents in telemedicine care delivery and facilitation;
- Remote Patient Monitoring (RPM) management training for students;
- Chronic Disease Management Models of Care: top of license care; standardization of best practices of care for students to partner in managing chronic diseases with patients.

Project 1 (Category 1): Increase Training of Primary Care Workforce

Relation to Category 3 Population-Focused Improvement:

Expand the capacity of primary care through investments in technology, tools, and human resources to serve Orange County's rapidly expanding senior population. Mirroring the national trend, Orange County's 65+ population will double (a total increase of over 340,000 individuals) over the next 20 years. In other words, we will find ourselves with a population of seniors needing coordinated and patient-centered care the size of the county's second largest city, Anaheim. Within this expanding population, our over 75 is one of the fastest growing and the group with specific targeted health care needs: the average 75-year-old suffers from 3 chronic conditions and takes 5 prescription medications. Our Senior Population with chronic disease cost 3.5x as much to serve compared to others, and account for 80% of all hospital bed days and 96% of home care visits. Through improved access to care, new technology, team-based model of delivery, and expansion of our existing clinics, we propose to build the infrastructure to enable improved care with a strong emphasis on building coordinated systems that promote preventive, primary care.

Expanded chronic disease management capacity also feeds into the expansion of medical homes and more organized care delivery, integrated team-based care, better prevention and management of chronic conditions, and better utilization of health care resources. Successful prevention and management of chronic disease requires a Chronic Care Model focused on involvement of the patient, with a team of trained and targeted coaches, nurse educators, providers, and staff to maximize effective patient participation in the management of their chronic diseases.

Project 1a - **Increase Training of Primary Care Workforce (C1)**					
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)	Other Category Projects This Project Feeds Into
Milestone: Create description of skill set for chronic disease coaches **Metric:** Documentation of skill set, hiring criteria for coaches **Milestone:** Create training program and materials for Diabetes coaches **Metric:** Training documents, training protocol and procedures document	**Milestone:** Hire and train up to two nurse educators to serve as Coaching Program Coordinators to oversee and train coaches **Metric:** Number of Coordinators hired and trained **Milestone:** Hire and train Diabetes coaches **Metric:** Number of coaches hired and trained **Milestone:** Create training program and materials for CHF coaches **Metric:** Training documents, training protocol and procedures document	**Milestone:** Hire and train additional Diabetes coaches **Metric:** Number of coaches hired and trained **Milestone:** Hire and train CHF coaches **Metric:** Number of coaches hired and trained **Milestone:** Increase the number of patients for whom Chronic Disease Coaches are available **Metric:** Chronic Disease Coaches are available for 25% of eligible diabetes patients and 10% of eligible CHF patients	**Milestone:** Hire and train nurse educators to serve as Coaching Program Coordinators to oversee and train chronic disease coaches **Metric:** Number of Coaching Program Coordinators hired and trained **Milestone:** Increase the number of patients for whom Chronic Disease Coaches are available **Metric:** Chronic Disease Coaches are available for 40% of eligible diabetes patients and 25% of eligible CHF patients	**Milestone:** Hire and train nurse educators to serve as Coaching Program Coordinators to oversee and train chronic disease coaches **Metric:** Number of Coaching Program Coordinators hired and trained **Milestone:** Increase the number of patients for whom Chronic Disease Coaches are available **Metric:** Chronic Disease Coaches are available for 60% of eligible diabetes patients and 40% of eligible CHF patients	Expand Chronic Care Management Model (C2) Redesign to Improve Patient Experience (C2) Establish/Expand Patient Care Navigation Program (C2) Improve Diabetes Care Management and Outcomes (C3)

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Project 1b - **Increase Training of Primary Care Workforce – Senior Center (C1)**					
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)	Other Category Projects This Project Feeds Into
Milestone (Process Measure): Design a team-based model for expand the geriatric primary care rotation for medical and nursing students **Metric:** Documentation of design of rotations, team-based learning, and care; training program documented.	**Milestone:** Hire 2 additional leadership faculty for primary care with experience in designing and educating multidisciplinary teams **Metric:** Documentation of new faculty to expand training programs **Milestone:** Recruitment of students across disciplines to begin engagement with project (1st year students in preparation for 2nd year rotations) **Milestone (Process Measure):** Design Telemedicine, IT, EHRs, and patient remote monitoring program for primary care education in care coordination for Seniors. **Metric:** Documentation of the IT models and patient-centered management. **Milestone:** Develop the multidisciplinary team model for educating care providers in medical homes, IT, EHRs, and patient education. Based on Macy and Carnegie Model.[2] **Metric:** Documentation of educational model for upcoming years.	**Milestone (Improvement Measure):** Increase primary care training of medical, nursing, nurse practitioners, pharmacy and public health students to build future geriatric trained workforce **Metric:** Increase by 20% the overall number of trainees at the Senior Center **Milestone (Process Measure):** Educational opportunities in coordination of care through utilization of Telemedicine, IT, EHRs, and patient remote monitoring program **Metric:** ALL students at the Senior Center will learn IT-enhanced care provision through EHRs, and Telemedicine	**Milestone (Improvement Measure):** Increase primary care training of medical, nursing, nurse practitioners, pharmacy and public health students to build future geriatric trained workforce **Metric:** Increase by 10% the overall number of trainees at the Senior Centers **Milestone (Process Measure):** Educational opportunities in coordination of care through utilization of Telemedicine, IT, EHRs, and patient remote monitoring program **Metric:** ALL students will learn I- enhanced care provision through EHRs, Telemedicine	**Milestone (Improvement Measure):** Increase primary care training of medical, nursing, pharmacy and public health students to build future geriatric trained workforce **Metric:** Increase by 10% the overall number of trainees at the Senior Centers **Milestone (Process Measure):** Educational opportunities in coordination of care through utilization of Telemedicine, IT, EHRs, & remote patient monitoring program **Metric:** Evaluation of student competencies captured in data set. **Milestone:** Report shared learning of the medical home model, and any findings related to impact on improved health, experience and cost	Increase Capacity of Primary Care for Senior Population (C1) Innovations Chronic Care Management (C2) Telemedicine (C1) Reduce Readmissions (C3)

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[2] See Josiah Macy Foundation & The Carnegie Foundation. *Educating Nurses and Physicians: Toward New Horizons, Advancing Inter-professional Education in Academic Health Centers.* http://www.macyfoundation.org/publications/publication/educating-nurses-and-physicians-toward-new-horizons.

Project 2 - Implement and Utilize Disease Management Registry Functionality (C1)

Goal:
UC Irvine Medical Center aims to expand the chronic disease management systems through the establishment of registries to identify patients for Chronic Disease Improvement. If care as currently practiced for the chronic disease conditions were optimal for Medicaid patients, then patients with diabetes, for example, would be identified and treated effectively. However, we know that a substantial proportion of Medicaid patients have suboptimal outcomes for managing and improving outcomes for chronic disease. A recent study indicated that diabetes and congestive heart failure were key indicators of risk for hospitalization among Medicaid patients.[17] Therefore, UC Irvine Medical Center proposes the creation and utilization of a Disease Management Registry as a critical component in improving the outcomes and decreasing the costs of Medicaid services.

In order to identify chronic disease patients, ethnic and linguistic disparities, and populations in need of new effective improved disease management, we aim to build a disease management registry. Among the many elements of this shift in managing chronic disease to improve population health, we propose the following:
- Identify key elements of disease registries for chronic disease, using diabetes as model;
- Use registries to identify populations for effective improved disease management;
- Evaluate inclusion of race, ethnicity, language in registry for identification of disparities;
- Evaluate use of registry for identification of disparities and contributors to disparities;
- Link registries with EMR, chronic care databases;
- Develop training program for use of registries to identify patients with targeted chronic diseases.

Expected Result:
Over the next five years, patients with targeted conditions, beginning with diabetes, but expanding to include (heart failure, and identified chronic diseases) will be included in UC Irvine's Disease Management Registry.

Relation to Category 3 Population-Focused Improvement: Expanded chronic disease management capacity contributes to the expansion of medical homes and more organized care delivery, integrated team-based care, better prevention and management of chronic conditions, and better utilization of health care resources.
- Expand Chronic Care Management Model (Category 2)
- Redesign to Improve Patient Experience (Category 2)
- Improve Diabetes Care Management and Outcomes (Category 3)
- Improve Chronic Care Management and Outcomes (Category 3)

Project 2 - **Implement and Utilize Disease Management Registry Functionality (C1)**					
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)	Other Category Projects This Project Feeds Into
Milestone: Develop algorithm for identification of patients with diabetes **Metric:** Documentation of algorithm **Milestone:** Select data elements for inclusion in registry database **Metric:** Produce a data dictionary defining data elements for registry **Milestone:** Implement and populate registry with patients meeting inclusion criteria for diabetes **Metric:** Produce summary report describing patients enrolled in registry	**Milestone:** Hire and train information specialists to develop and implement reporting capabilities of registry and integrate with EMR **Metric:** Number of information specialists hired **Milestone:** Create/disseminate protocols for registry-driven reminders and reports for clinicians and providers regarding key health indicators monitoring and management in patients with diabetes. **Metric:** Documented protocols for diabetes	**Milestone:** Expand patient identification algorithms and data dictionary to include CHF **Metric:** Documentation of algorithm and data dictionary for CHF **Milestone:** Implement and populate registry with patients meeting inclusion criteria for CHF **Metric:** Produce report describing patients enrolled in registry **Milestone:** Employ registry data to identify racial/ethnic, socioeconomic or other disparities in care within system and factors that contribute to these disparities **Metric:** Produce annual condition-specific reports that highlight disparities and the contributors that produce them. **Milestone:** Create/disseminate protocols for registry-driven reminders and reports for clinicians and providers regarding key health indicators monitoring and management in patients with CHF. **Metric:** Documented protocols for CHF	**Milestone:** Generate targeted registry-based reports to address specific quality improvement goals **Metric:** Number of available reports **Milestone:** Employ registry data to identify racial/ethnic, socioeconomic or other disparities in quality of care within system and factors that contribute to these disparities **Metric:** Produce annual condition-specific disparities reports for each condition highlighting disparities and the contributors that produce them.	**Milestone:** Generate targeted registry-based reports to address specific quality improvement goals **Metric:** Number of available reports **Milestone:** Employ registry data to identify racial/ethnic, socioeconomic or other disparities in quality of care within system and factors that contribute to these disparities **Metric:** Produce annual condition-specific disparities reports for each condition highlighting disparities and the contributors that produce them.	Expand Chronic Care Management Model (Category 2) Redesign to Improve Patient Experience (Category 2) Improve Diabetes Care Management and Outcomes (Category 3)

Project 3 - Develop Risk Stratification Capabilities/Functionalities (C1)

Goal of Project: Develop and implement risk stratification measures and methods for assessing effective chronic disease care

Project Elements:
  o Identify appropriate measures for inclusion in risk stratification (e.g. Total Illness Burden Index) for chronic disease
  o Develop protocol and procedures for routine data collection at outpatient/primary care clinics
  o Develop procedures for integration of risk stratification measures with EMR, integrated chronic disease databases
  o Integrate with EMR, chronic disease registry
  o Use in evaluating improved chronic disease management projects, including population based targets

Related projects:
  o Expand Chronic Care Management Model (Category 2)
  o Redesign to Improve Patient Experience (Category 2)
  o Improve Diabetes Care Management and Outcomes (Category 3)

Project 3 – **Develop Risk Stratification Capabilities/Functionalities (C1)**					
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)	Other Category Projects This Project Feeds Into
Milestone: Identify appropriate measures for inclusion in risk stratification (e.g. Total Illness Burden Index) for chronic disease **Metric:** Expert recommendations for measures set **Milestone:** Develop protocol and procedures for routine data collection at outpatient/primary care clinics **Metric:** Data collection protocol	**Milestone:** Implement risk stratification pilot protocol using diabetes as a model **Metric:** Implementation report for pilot diabetes protocol **Milestone:** Using diabetes as a model, evaluate proportion of patients in each risk stratum **Metric:** Produce report specifying proportion and type of patients in each risk stratum; Review results with clinical and health policy experts for appropriateness	**Milestone:** Implement final protocol for risk stratification in diabetes **Metric:** Implementation report for final diabetes protocol **Milestone:** Implement risk stratification pilot protocol for CHF **Metric:** Implementation report for pilot CHF protocol **Milestone:** Use in evaluating improved chronic disease management projects, including population based targets **Metric:** Establish process for integration in continuous quality improvement	**Milestone:** Pilot integration with EHR, chronic disease registry across system **Metric:** Percentage of sites in which risk stratification measures are implemented in EHR **Milestone:** Pilot use in evaluating improved chronic disease management projects, including population based targets **Metric:** Establish process for integration in continuous quality improvement	**Milestone:** Complete integration with EHR, chronic disease registry across system **Metric:** Percentage of sites in which risk stratification measures are implemented in EHR **Milestone:** Use finalized risk stratification methods in evaluating improved chronic disease management projects, including population based targets **Metric:** Establish process for integration in continuous quality improvement	Expand Chronic Care Management Model (Category 2) Redesign to Improve Patient Experience (Category 2) Improve Diabetes Care Management and Outcomes (Category 3)

Project 4 - Expand Primary Care Capacity (C1)

Goal: To expand the capacity of primary care through investments in technology, tools, and human resources to better serve Orange County's rapidly growing senior population. Mirroring the national trend, Orange County's 65+ population will double in the next 20 years adding over 340,000 senior citizens to its population, many of whom will require coordinated and patient-centered health care. Within this expanding population, the county's 'over 75' segment is one of the fastest growing groups with specific targeted health care needs. The average 75 year old suffers from 3 chronic conditions, takes 5 prescription medications. And on average costs3.5x as much to serve as compared to other age groups. In addition, the 'over 75'segment of our population accounts for 80% of all hospital bed days and 96% of home care visits. Through improved access to care, new technology, a team-based model of care delivery, and an expansion of our existing clinics, we propose to build an infrastructure that will enable improved care with a strong emphasis on building coordinated systems that promote preventive, primary care.

The UC Irvine Family Health Center (UC Irvine FHC) is a designated Federally Qualified Health Center (FQHC) with locations in Santa Ana and Anaheim. We currently have patients waiting for primary care appointments. It is difficult for the patients to schedule a primary care appointment in a timely manner due to traditional office hours and the physician-centric nature of the practice of medicine. Many of our community's underserved and uninsured families are oftentimes unable to make appointments during normal clinic hours due to family work schedules or transportation issues. This makes it difficult for that person to bring in their children or come themselves to seek health care. Public transportation though available is not the most convenient for a parent to carry their children and then still walk a few blocks to reach the clinics. In order to address this challenge, the primary care model at The UC Irvine FHC will be redesigned to better meet the needs of our patients, increase clinic efficiency and maximize clinic capacity. In order to do this, we propose to:

(1) Conduct an analysis of clinic wait times and patient satisfaction
(2) Extend the hours of primary care so that patients gain access to their primary care team in a timely, convenient manner. (Note: FHC Santa Ana did not offer extended clinic)
(3) Relieve and lower the barriers for this population that seeks primary health care.

Project Elements:
- o Expand existing clinic by reorganizing care delivery model to drive efficiency and coordination of services using a team approach (DY 07);
- o Expansion of convenient, timely access to care and services (24/7 access, internet appointments, scheduling);
- o Self, family, and caregiver training to manage chronic disease; including the implementation of remote patient monitoring technologies to prevent exacerbation of disease and improve patient quality of life;
- o The creation of a second Senior Center medical home in a high-need area of Orange County (DY 08);
- o Incorporate telemedicine (see C1 proposal) to expand primary care to the Senior Population in SNFs, Dementia Units,

Expected Result: Actual number of patients seen in those extended hours on weekdays and weekends resulting in improved access when it is convenient for the patient and establishing an ongoing relationship with his/her care team that reinforces continuity of care for the UCI FHC patients

Related Projects: Increased access to primary care, patients are better able to receive preventive, primary care, developing a continuity of care with their primary care team. The expanded capacity through investments in technology, human resources, will feed into:
- o Increase training of primary care workforce (C1)

- o Innovative Redesign of Primary Care for Senior Population based upon Chronic Disease Management (C2)

- o   Telemedicine Chronic Care Delivery Model (C1)

- o   Establishment of Medical Homes for Senior Population (C2)

Project 4a - **Expand Primary Care Capacity (C1)**					
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)	Other Category Projects This Project Feeds Into
Metric: Initiate Baseline assessment of Senior Center model of care delivery.	**Improvement Milestone:** Increase access to primary care in existing Senior Center **Metric:** Documentation of established processes, including work plan and timelines to increase patients served by 5% **Process Milestone:** Identify location for new Senior Center based on OC demographic. Develop plan to establish second Senior Center **Process Milestone:** Identify the ideal team model with Geriatrician, NP, RN and patient and family support. Expand primary care team staffing. **Metric:** Report the redesigned multidisciplinary team model	**Process Milestone:** Establishment of an additional Senior Center. **Metric:** Increase medical home patients in our Senior Center by 25% **Improvement Milestone:** Implement remote patient monitoring technologies with patient-centered care **Metric:** Document 40% of eligible patients to remote monitoring activities to demonstrate improved quality of health and life.	**Process Milestone:** Expand the number of Seniors served through UCI's Senior Centers. **Metric:** Increase medical home patients in our Senior Center by an additional 10% **Improvement Milestone:** Expand implementation of remote patient monitoring technologies with patient-centered care **Metric:** Document 75% of eligible patients to remote monitoring activities to demonstrate improved quality of health and life. **Improvement Milestone:** Share learning from improvements through publications and presentations. **Metric:** Publication of reports and data with presentations at national conferences	**Process Milestone:** Expand the number of Seniors served through UCI's Senior Centers. **Metric:** Increase medical home patients in our Senior Center by an additional 10%	• Expand Medical Homes (C2) – • Increase Primary Care Workforce Training (C1) • Improve Chronic Care Management (C2) • Reduce Readmissions (C3) • Add C4

Project 4b - **Expand Primary Care Capacity (C1)**					
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)	Related Projects
Milestone: Develop a plan to build capacity into primary care team schedules, including implementation of extended hours during weekdays staffed with one faculty member and support staff. **Metric:** Number of patients seen in these clinic hours will be 5 patients per day. **Baseline:** Since July 2009 there have been no patients seen in these hours.	**Milestone:** To take care of patients at the UC Irvine FHC in Santa Ana for their own patients to maintain continuity of care. **Metric:** Increase in the no. of patients seen in these expanded clinic hours by 3%.	**Milestone:** To extend these hours to Saturdays with one faculty and residents along with support staff to see patients. **Metric:** Increase in the no. of patients seen in these extended clinic hours including Saturdays by 3%.	**Milestone:** To increase the faculty to two to see the patients along with support staff in these hours. **Metric:** Increase in the no. of patients seen in these extended clinic hours by 3%.	**Milestone:** Include more residents under those two faculty to see patients along with support staff in the extended hours. **Metric:** Increase in the no. of patients seen in these extended clinic hours by 3%.	Improve Preventive Screening Rates for CLABPSI (C3) Improve Chronic Care Outcomes (C3) Reduce Readmissions (C3)

Project 5- Introduce Telemedicine (C1)

Goal: Increase the UC Irvine Senior Center plans to improve the continuity of patient care with the use of telemedicine[X.] Typically, patients in SNFs are seen by their primary care providers once a month. The creation of a team-based telemedicine program will provide weekly electronic access to primary care services to enable the coordination of specialized geriatric care. In this way, we can build community access to care providers using a truly patient-centered model. This model is being designed to respond to the unique needs of the senior population by recognizing the challenges of mobility and disorientation, particularly in people over 75+ and dementia patients.

Proposed Project Elements:
o   Establish telemedicine program to fill identified gaps in service and to expand primary care reach to Seniors
o   Implement a team-based telemedicine model that coordinates care across disciplines.
o   Utilize telemedicine team visits to educate families to their role as partners in care delivery
o   Improve provider access to Skilled Nursing Facilities
o   Care for Dementia Special Care Units
o   Establish a Dementia SWAT team that uses telemedicine for rapid assessment and interventions that address behavior problems and potentially avoid hospitalization.
o   Partner with community-based Assisted Living Facility.
o   Employ telemedicine conferencing to strengthen the coordination of care between providers specific to senior population

The Relation to Other Categories for the project:
o   Increase Capacity of Primary Care for Senior Population (C1)
o   Increase training of primary care workforce (C1)Redesign of Primary Care (C2)
o   Establishment of Medical Homes for Senior Population (C2)

	Project 5 - **Introduce Telemedicine (C1)**				
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)	Other Category Projects This Project Feeds Into
Milestone: Develop and submit a plan to establish telemedicine in the Senior Center using a team-based model and a patient and family-centered design. **Metric:** Establish Multi-disciplinary team to begin Telemedicine planning process.	**Milestone:** Design a comprehensive Telemedicine team at the Senior Center to reach once a week sessions at two SNFs, including staff training **Metric:** Documentation of plan and formal arrangements for equipment, facility outreach, and training completed.	**Milestone:** Office hours for SNFs to telemedicine services. **Metric:** Number of patients seen through electronic consultations **Numerator:** Number of patients referred to geriatricians that have their care delivered without waiting or scheduled for in-person visits. **Denominator** Number of patients seen electronically	**Milestone:** Expand telemedicine office hours to two additional Dementia Special Care Units to provide weekly consultations. **Metric:** Number of patients seen through electronic consultations **Numerator:** Number of patients referred to geriatricians that have their care delivered without waiting or scheduled for in-person visits. **Denominator** Number of patients seen electronically	**Milestone:** Expand telemedicine office hours to a total of ten facilities, including SNFs, Dementia, and Community Assisted Living facilities Metric: Number of patients seen through electronic consultations **Numerator:** Number of patients referred to geriatricians that have their care delivered without waiting or scheduled for in-person visits. **Denominator** Number of patients seen electronically **Milestone:** Report shared learning of the medical home model, and any findings related to impact on improved health, experience and cost Metric: Publications and presentations in national forums	1. Increase Capacity of Primary Care for Senior Population (C1) 2.Increase training of primary care workforce (C1) 3. Innovations Chronic Care Management (C2) 4. 4. Reduce Readmissions (C3)

Project 6 Establish a Patient Care Navigation Program (C2)

Goal: Create a patient centric navigation program focused on patients and patient families with difficult/complex diagnosis (example: Cancer Center). Build specialized relationships with departments serving this population to provide timely services through-out their continuum of care. Provide Nurse Navigators to assist with understanding the disease, course of treatment, and clear communication between all care givers. Provide dedicated administrative staff to serve as a single point of contact to assure timely appointments to meet the patient and plan of care requirements. Manage financial coordination including counseling, linkage to governmental programs and billing coordination. Foster non-clinical and clinical relationships to support our patients and families. Through this program, identify and facilitate continuous improvements required to exceed patient satisfaction, resulting in positive outcomes for all patients and families of UC Irvine Medical Center

Improve use and effectiveness of health care services by primary care patients with chronic disease by including patient navigation training in Coached Care for Chronic Disease. Included in this proposal are several project elements, such as:

- o Expand training for Coaches to include effective navigation of the healthcare system and efficient use of healthcare services
- o Establish effective contact strategies for managing patients' navigation queries
- o Establish linkages for referrals to community resources

Expected Results: Integrate patient experience into management performance measures and to document improved patient satisfaction. Using diabetes as a model, establish patterns of current utilization of UCI health care services with an emphasis on disparities. We will establish linkages for referrals to community resources, and provide navigation services to high-utilizing patients with chronic disease. Combined, we aim to reduce the number of ED visits and/or avoidable hospitalizations for patients enrolled in the navigation program

Relation to Category 3 Population-Focused Improvement:
- o Increase Capacity of Primary Care for Senior Population (C1)
- o Increase training of primary care workforce (C1)Redesign of Primary Care (C2)
- o Establishment of Medical Homes for Senior Population (C2)
- o Reduce Readmissions (C3)
- o Expand Chronic Care Management Model (Category 2)
- o Redesign to Improve Patient Experience (Category 2)
- o Improve Diabetes Care Management and Outcomes (Category 3)
- o Improve Chronic Care Management and Outcomes (Category 3)

Project 6a – **Establish a Patient Care Navigation Program (C2)**					
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)	Other Category Projects This Project Feeds Into
Milestone: Develop a program plan outlining the mission vision and implementation of a new department (Care Connect). **Metrics:** Project plan complete including budget year one and two, work plan and timeframes complete, approved. Hire first year personnel to include one Nurse Navigator, Manager and three Patient Liaisons.	**Milestone:** Increase number of referrals/patients served. Create database to track participants. Create patient satisfaction survey. Identify process improvement initiatives as a result of implementation of program. **Metrics:** Database and Patient survey complete with survey results shared with Sr. Admin. Process Improvement initiatives with significant documented changes in service and care delivery. Hire staff as indicated in program plan (3 FTE)	**Milestone:** Increase Care Connect web-based services and emerging technologies to increase accessibility of program services to patients and their families. Increase the patient base and specialties served. **Metrics:** Utilize web based patient tracking, provide patient portal to request specialized services and build associated user applications (smart phone apps).	**Milestone:** Integrate UC Irvine Primary Care programs to encompass preventative and ongoing health care needs for Care Connect patients. Build physician panel of experts across specialties to best practice standards of care. **Metrics:** 25% of Care Connect patients utilize UC Irvine Primary Care services. Additional staffing to support growth of patient base. (2 FTE)	**Milestone:** Build In-Patient Acute and Ambulatory Care patient support groups led by Nurse Navigators and Physicians to assist with ongoing clinical support and educational resources for patients and their families. Build home visit network with Nurse Navigators and Patient Liaisons. **Metrics:** Printed materials, staffing and schedule of support groups are established. Additional Nurse Navigators are hired to facilitate home visits. (2 FTE)	Primary Care Capacity & model redesign Patient Referral Initiatives Research Support Through-put Access to primary and specialty care Perioperative support

Project 6b - **Establish a Patient Care Navigation Program (C2)**					
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)	Other Category Projects This Project Feeds Into
Milestone: Using diabetes as a model, establish patterns of current utilization of UCI health care services with an emphasis on disparities **Metric:** Descriptive report of utilization patterns from UCI diabetes study	**Milestone:** Develop Care Navigation training materials for Coaches **Metric:** Produce training curriculum and materials **Milestone:** Develop Care Navigation training materials for Coaches **Metric:** Produce training curriculum and materials **Milestone:** Train Coaches in Care Navigation module **Metric:** Number of coaches who complete training	**Milestone:** Document improvements in coordination and continuity of care following implementation of Care Navigator elements of Coached Care for Chronic Disease **Metric:** Produce annual report of patient preferences and patterns of utilization **Milestone:** Reduce ED visits and/or avoidable hospitalizations for patients enrolled in navigation program **Metric:** Number of ED visits and/or avoidable hospitalizations for patients enrolled in navigation program	**Milestone:** Document improvements in coordination and continuity of care following implementation of Care Navigator elements of Coached Care for Chronic Disease **Metric:** Produce annual report of patient preferences and patterns of utilization **Milestone:** Disseminate Care Navigator module across system **Metric:** Percentage of sites where Care Navigator program has been implemented	**Milestone:** Document improvements in coordination and continuity of care following implementation of Care Navigator elements of Coached Care for Chronic Disease **Metric:** Produce annual report of patient preferences and patterns of utilization **Milestone:** Disseminate Care Navigator module across system **Metric:** Percentage of sites where Care Navigator program has been implemented	Expand Chronic Care Management Model (Category 2) Redesign to Improve Patient Experience (Category 2) Improve Diabetes Care Management and Outcomes (Category 3) Improve Chronic Care Management and Outcomes (Category 3)

Project 7 - Redesign to Improve Patient Experience (C2)

Goal: Improve patient care experience and perceived satisfaction with Primary Care and Chronic Disease management.

Project Elements:

- o Identify measures of patient experience, patient satisfaction and quality of interpersonal care useful for performance assessment and quality improvement efforts in primary care and chronic disease management
- o Identify measures of patient experience appropriate for assessing impact of expanded chronic disease, diabetes management models
- o Identify key correlates of delivery system features and processes of care associated with optimal/suboptimal patient experience
- o Implement assessment, feedback and improvement strategies for improving patient experience
- o Identify and reduce disparities in patient experience. Lean work includes identifying value-added and non-value-added activities, fostering an organizational culture with a commitment to continuous quality improvement, and involving all relevant staff in helping to redesign processes to improve quality and flow and reduce waste. By providing safer, higher quality care, patients' health outcomes may improve, along with their experience of the care.

Related projects:
- o Expand Chronic Care Management Model (Category 2)
- o Improve Diabetes Care Management and Outcomes (Category 3)
- o Improve Chronic Care Management and Outcomes (Category 3)

Project 7a – **Redesign to Improve Patient Experience (C2)**					
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)	Related Projects

Milestone:
To train 3 practice managers and 1 director in Lean Six Sigma and involve them in process improvement and bring in efficiency.
Selection of the team to validate the patient satisfaction measurement tool and validate the sample size. Finalize the team member selection with staff and physician members. Finalize the tool.
Metric:
Finalize the tool for patient satisfaction
Measurement. Identify the team to implement this tool. Establish baseline: for patient satisfaction Score.
Milestone:
Convene team to define practice baseline with a process improvement action plan.
Consistently update information in the patient record on 3 criteria :
  o Medication reconciliation
  o Allergies
  o Significant health issues
Metric: Internal chart audits to check the compliance of updated information by self reporting.
Baseline: Increase the charts audited accuracy to 20%
	Milestone:
	Pilot this tool and the team of 3 managers and 1 director at 3 sites.
	Metric:
	Patient Improvement satisfaction score on certain criteria measured by the tool.
	Milestone:
	Achieve compliance in the information being updated in patient chart.
	Metric:
	This is measured by the First pass compliance rating system which focuses on doing it right the first time. Increase the compliance of the chart audits correct to 50%.
		Milestone:
		Implement this with 2 other sites with 2 more managers and 1 more director.
		Metric:
		To improve this satisfaction score on those criteria measured by the tool by 2% from the baseline at that site.
		Milestone:
		Achieve compliance in the information being updated in patient chart.
		Metric:
		Increase the chart audits being correct to 70%.
			Milestone:
			Implement this with 2 other sites with 2 more managers and 1 more director.
			Metric:
			To improve this satisfaction score on those criteria measured by the tool by 2% from the baseline at that site.
			Milestone:
			Achieve compliance in the information being updated in patient chart.
			Metric: Increase the chart audits being correct to 80%.
				Milestone:
				Implement this with 2 other sites with 2 more managers and 1 more director.
				Metric:
				To improve this satisfaction score on those criteria measured by the tool by 2% from the baseline at that site.
				Milestone:
				Achieve compliance in the information being updated in patient chart.
				Metric:
				Increase the chart audits accuracy to 90%
					Reduce cycle time for procedures outpatient and reduce waste. To analyze non-value added time in the process and eliminate that.

Project 7b - **Redesign to Improve Patient Experience (C2)**					
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)	Other Category Projects This Project Feeds Into
Milestone: Identification of measures of patient experience useful for assessing patients satisfaction and evaluation of quality of interpersonal primary care and care for chronic diseases **Metric:** Documentation of reliability and validity of measures **Milestone:** Identification of measures of actionable patient experience measures useful for assessing expanded chronic disease, diabetes management models **Metric:** Documentation of review and evaluation of measures of primary care patient experience, **Milestone:** Identification of key correlates of healthcare delivery system, processes of care responsive to variations in patient experiences of primary care and chronic disease management **Metric:** Analyze patient experience, administrative and	**Milestone:** Assessment of disparities in patient experience of primary care, chronic disease management **Metric:** Use of patient experience measures to identify disparities in primary care, chronic disease management; **Milestone:** Implementation of assessment, feedback and improvement strategies for primary care and chronic disease management **Metric:** Collect and analyze patient survey data, produce feedback and quality improvement recommendations	**Milestone:** Assessment of disparities in patient experience of primary care, chronic disease management **Metric:** Use of patient experience measures to identify disparities in primary care, chronic disease management; **Milestone:** Implementation of assessment, feedback and improvement strategies for primary care and chronic disease management **Metric:** Collect and analyze patient survey data, produce feedback and quality improvement recommendations	**Milestone:** Assessment of disparities in patient experience of primary care, chronic disease management **Metric:** Use of patient experience measures to identify disparities in primary care, chronic disease management; **Milestone:** Implementation of assessment, feedback and improvement strategies for primary care and chronic disease management **Metric:** Collect and analyze patient survey data, produce feedback and quality improvement recommendations	**Milestone:** in patient Assessment of disparities experience of primary care, chronic disease management **Metric:** Use of patient experience measures to identify disparities in primary care, chronic disease management; **Milestone:** Implementation of assessment, feedback and improvement strategies for primary care and chronic disease management **Metric:** Collect and analyze patient survey data, produce feedback and quality improvement recommendations	Expand Chronic Care Management Model (C2) Improve Diabetes Care Management and Outcomes (C3) Improve Chronic Care Management and Outcomes (C3)

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medical record data for correlates of system/process of care variables with patient experience results **Milestone:** Creation of regular assessment and feedback strategies at UCI for patient experience of primary care and chronic disease management **Metric:** Documentation of protocol for data collection and feedback **Milestone:** Assessment of disparities in patient experience of primary care, chronic disease management **Metric:** Use of patient experience measures to identify disparities in primary care, chronic disease management					

Project 8 - Expanding Chronic Care Management Models (C2)

Goal of Project: With a major emphasis on diabetes, use Coached Care to provide proactive, on-going support for patients' effective disease management to improve or maintain their health and avoid emergency department or inpatient care

Potential Project Elements:
- o Hire and train nurse educators to serve as Coaching Program Coordinators to train and oversee Coaches
- o Hire and train Coaches to teach patients skills of effective, shared decision making, effective communication with providers, effective use of the healthcare system and key preparation for office visits
- o With primary care providers, generate plan for integrating Coaches in primary care teams to help patients participate in care during office visits more effectively, receive tailored/personalized treatment plans, and more successfully implement treatment plans
- o Create continuous improvement training program, networks for coaches
- o Train providers in communication skills needed to effectively involve patients in treatment decisions, deliver of personalized, tailored treatment and improve patient adherence to treatment (effective self-management)
- o Increase patient engagement through implementation of effective training programs for providers to improve provider-patient communication, shared decision making techniques, risk/benefit communication
- o Increase patients' active vs. passive approach to disease management and commitment to effective treatment implementation
- o Compile and create liaison with community resources for diabetes (e.g. Share Ourselves, Latino Health Access, Asian Health Center) to enhance self-management, patient navigation strategies

Related projects:
- o Redesign to Improve Patient Experience (C2)
- o Improve Patient/Care Giver Experience (C3)
- o Improve Diabetes Care Management and Outcomes (C3)
- o Improve Chronic Care Management and Outcomes (C3)

Project 8. **Expanding Chronic Care Management Models (C2)**					
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)	Other Category Projects this Project Feeds Into
Milestone: Generate plan for integrating Coaches in primary care teams to help patients participate in care during office visits more effectively, receive tailored treatment plans, and more successfully implement treatment plans **Metric:** Implementation action plan document **Milestone:** Develop patient survey that includes measures of patient engagement in disease management plans **Metric:** Patient survey with valid measures of patient engagement that have been linked to health behaviors and outcomes	**Milestone:** Hire and train Coaching Program Coordinators and Coaches **Metric:** Number of nurse educators and coaches hired **Milestone:** Educate providers to effectively involve patients in treatment decisions and the delivery of personalized care which will promote effective self management skills in patients **Metric:** Number of providers trained **Milestone:** Create ongoing performance improvement program and coaching networks **Metric:** Develop protocol for ongoing training. **Milestone:** Increase patient enrollment in Coaching program **Metric:** Increasing percentage of eligible patients per criteria enrolled in coaching program.	**Milestone:** Increase enrollment of patients in Coaching program **Metric:** Increasing percentage of eligible patients per criteria enrolled in coaching program. **Milestone:** Increase patient engagement through implementation of educational programs for providers that improve provider-patient communication, decision making techniques, and risk/benefit communication **Milestone:** Increase patients' active vs. passive approach to disease management and commitment to effective treatment implementation	**Milestone:** Increase enrollment of patients in Coaching program **Metric:** Increasing percentage of eligible patients per criteria enrolled in coaching program. **Milestone:** Increase patient engagement through implementation of effective training programs for providers to improve provider-patient communication, shared decision making techniques, risk/benefit communication **Milestone:** Increase patients' active vs. passive approach to disease management and commitment to effective treatment implementation	**Milestone:** Increase enrollment of patients in Coaching program **Metric:** Increasing percentage of eligible patients per criteria enrolled in coaching program **Milestone:** Increase patient engagement through implementation of educational programs for providers to improve provider-patient communication, decision making techniques and risk/benefit communication **Metric:** Increase patient active approach to disease management and commitment to effective treatment as measured by patient survey **Milestone:** Implement plan to ensure continuation of coaching programs **Metric:** Produce and implement strategic plan for sustainability	Redesign to Improve Patient Experience (C2) Improve Patient/Care Giver Experience (C3) Improve Diabetes Care Management and Outcomes (C3) Improve Chronic Care Management and Outcomes (C3)

Project 9 - Expand Medical Homes (C2)

Goal of the Project: Innovative payment approaches being evaluated by CMS such as accountable care organizations, bundled payments, value-based purchasing and patient centered medical homes are designed to transfer accountability of costs and outcomes to providers who are in the best position to affect change. These models represent a fundamental shift for the vast majority of providers away from provider-centric volume / procedure based delivery of care to a population and disease management or "prevention" perspective. Successful providers under these models will be able to improve outcomes (quality, safety, and satisfaction) while reducing costs such as inefficient delivery of care, re-admissions, errors, and unnecessary care. The designation of our Senior Center as a NCQA/CMS Patient Centered Medical Home is a goal by year three.

At present, our senior patients are not assigned to medical homes: we wish to establish medical homes to provide better care through improved prevention screenings and routine primary and chronic care. . We want to make sure the medical home model is embedded within our care delivery model so that all patients can receive the right care in the right place at the right time. This is a strategic priority for UC Irvine Medical Center, School of Medicine, and Program in Nursing Science because by providing more patients with coordinated care services grounded in their primary care medical homes, patients can stay healthier, thereby reducing avoidable ED visits, admissions, and readmissions. Patients will receive this care in a proactive, planned manner so that they can receive evidence-based interventions.

Project Elements:
- o   Assess UC Irvine Senior Center against NCQA Standards and Guidelines
- o   Develop Action Plans to address gaps and design our Medical Home Model
- o   Reorganize Staff and care providers into multidisciplinary teams that mange a panel of patients where providers practice at the top of their license
- o   Utilize existing National tools for benchmarking patient satisfaction and quality improvement and https://www.cahps.ahrq.gov/default.asp
- o   Inclusion of Dual Eligible for
- o   Actively manage and seek innovations in outcomes for medical home panels

Project 9 – **Expand Medical Homes for Senior Population (C2)**					
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)	Other Category Projects This Project Feeds Into
Milestone: Initiate development of a plan, to empanel patients to primary care teams serving as medical homes. The system will include restructuring staff ; utilizing information services technology to track the assignment of patients; and review and assessment of the NCQA Standards and Guidelines to identify gaps and needs **Metric:** Identify elements of a care delivery model for UC Irvine medical home.	**Milestone:** Define eligible patients **Metric:** Medical Home Assignment. To reap the full benefits of the medical home, a patient must have a consistent care team that they can rely on both for routine preventative care and for their urgent medical needs. **Numerator:** Number of eligible patients assigned to a primary care provider **Denominator:** Number of eligible patients (patients seen at the same primary care clinic at least twice in last 12 months)**Process Milestone:** NCQA Designation as a Medical Home **Metric:** Designation achieved **Milestone** Design of Eligibility standards to include 65+ population AND Dual Eligible population **Metric:** Document the quantified population in the medical home by eligibility status	**Milestone:** At least 70% of eligible patients will be assigned to medical homes **Metric:** Medical Home Assignment **Numerator:** Number of eligible patients assigned to a primary care provider **Denominator:** Number of eligible patients (patients seen at the senior center at least twice in last 12 months)	**Milestone:** At least 75% of eligible patients will be assigned to medical homes **Metric:** Medical Home Assignment **Numerator:** Number of eligible patients assigned to a primary care provider **Denominator:** Number of eligible patients (patients seen at the senior center at least twice in last 12 months)	**Milestone:** At least 90% of eligible patients will be assigned to medical homes **Metric:** Medical Home Assignment **Numerator:** Number of eligible patients assigned to a primary care provider **Denominator:** Number of eligible patients (patients seen at the senior center at least twice in last 12 months) **Milestone:** Report shared learnings of the medical home model, and any findings related to impact on improved health, experience and cost	1. Increase Capacity of Primary Care for Senior Population (C1) 2.Increase training of primary care workforce (C1) 3. Innovations Chronic Care Management (C2) 4. 4. Reduce Readmissions (C3)

Project 10 Redesign of Primary Care (C2)

 Goal of the Project: We seek to innovatively change care delivery for seniors (age 65+) from current reactive, costly and provider centric approach to a patient-centered model that proactively manages health, lowers cost, improves coordination of care, improves outcomes and positions the Senior Health Center. We seek to design and implement innovative models of care for the specified focus areas of best practices for diabetes management, CHF, prevention and ACOVE conditions. We recognize the challenges facing care delivery for the large numbers of Seniors suffering from chronic diseases and the overwhelming need to coordinate care for this population:

- o The average 75-year-old suffers from 3 chronic conditions and takes 5 prescription medications.

- o We recognize that Medicare beneficiaries with 4 or more chronic conditions are 99 times more likely to be admitted to the hospital for ambulatory sensitive conditions, than Medicare beneficiaries without chronic conditions. Additionally, a senior with 4 or more chronic conditions' annual medical expenditures are more than 12x higher than a senior with 1 chronic condition.

- o Medicare beneficiaries with 5 or more chronic conditions see an average of 14 different physicians a year.

Proposed Project Elements:
- o Yearly expansion from 1-3 of chronic disease condition protocols "bundles" to focus on implementing the guidelines, including diabetes, CHF, Falls prevention, and ACOVE conditions.
- o Research and disseminate the implementation of protocol "best practices"
- o Baseline compliance measured yearly and tracked through EHRs, seeking increased rates of compliance.
- o Reduction of hospitalizations, Ed utilization, and readmissions

Project 10 - .**Redesign of Primary Care (C2)**					
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)	Other Category Projects This Project Feeds Into
Milestone: Design of disease condition protocols for one chronic disease condition to develop model of care. **Metric:** Documentation of model of care and identification of bundles/protocols for determined conditions	**Milestone (process measurement):** Implement protocol/bundle for two chronic conditions (CHR and falls prevention) **Metric:** Compliance with protocol for first protocol documented at 40%	**Milestone (process measurement):** Implement bundles and models of care for three chronic conditions: (CHF, DM and falls prevention) **Metric:** Compliance with protocol for two bundles demonstrates a 60% implementation rate **Milestone (improvement measurement):** Reduction in number of medical home managed seniors hospitalized by and E.D. visits for diseases with implemented bundles/protocols **Metric:** Number of hospitalization of medical home managed seniors declines by 10% and E.D. visits by 15%.	**Milestone (process measurement):** Implement bundles and models of care for two additional chronic conditions: (DM, CHF and falls prevention) **Metric:** Compliance with protocol for two additional bundles demonstrates a 60% implementation rate **Milestone (improvement measurement):** Reduction in number of medical home managed seniors hospitalized by and E.D. visits for diseases with implemented bundles/protocols **Metric:** Number of hospitalization of medical home managed seniors declines by 10% and E.D. visits by 15%.	**Milestone (process measurement):** IT linkage with two SNF providers to coordinate care across facilities **Metric:** Documented implementation of IT linkage with SNFs. **Milestone (improvement measurement):** Reduction in number of medical home managed seniors hospitalized by and E.D. visits for diseases with implemented bundles/protocols **Metric:** Number of hospitalization of medical home managed seniors declines by 10% and E.D. visits by 15%.	1. Increase Capacity of Primary Care for Senior Population (C1) 2.Increase training of primary care workforce (C1) 3. Medical Home (C2) 4. Reduce Readmissions (C3)

Project 11 Implementing Real-Time Hospital-Acquired Infections (HAIs) System for Common Medical Devices (C2)

Project Goal: To be at the forefront of piloting a real-time clinical intervention system that alerts clinicians to the presence of high-risk devices that can lead to HAIs and triggers interventions

Background: Critical Need for Reduction of HAIs Associated with Medical Devices
There is a national emphasis to improve medical care by eliminating HAIs associated with medical devices or reducing them to their lowest achievable level.

According to the 2008 US Government Accountability Office (GAO) Report,[1] healthcare associated infections (HAI) are estimated to be one of the top 10 causes of death in the United States. Common HAIs include those associated with the use of medical devices such as central venous catheters and urinary catheters. A number of national agencies and groups including the Centers for Disease Control and Prevention (CDC), the Agency for Healthcare Research and Quality, the Centers for Medicare & Medicaid Services (CMS), the Institute for Healthcare Improvement, the Joint Commission, and the Society for Healthcare Epidemiology of America (SHEA) have endorsed monitoring and prevention of central line associated bloodstream infection (CLABSI) and catheter associated urinary tract infection (CAUTI) as major health initiatives.[2-5]

This proposal invests in technological and human infrastructure to provide a real-time clinical intervention system to reduce HAIs associated with medical devices.

Section 1: Automating Device Detection

Goal: Develop an automated daily prompt and **tracking system** for common medical devices

Key Challenges
- Medical devices are a common cause of healthcare associated infections. Targeted prevention strategies are greatly aided by capturing and tracking common devices such as central venous catheters and urinary catheters among hospitalized patients.
- Automated tracking of devices requires special infrastructure within an electronic medical record.

Major Solutions
We propose the following activities to monitor device placement and maintenance in inpatient ICU and non-ICU areas:
1) **Identification of Medical Devices Through Daily Nursing Prompts**
   We will identify the presence of central venous catheters and urinary catheters at UC Irvine Medical Center by establishing a nursing daily prompt and mechanism to document the presence of such devices including date of insertion, continued presence, and whether the device was present on admission. Additional important details include body location and type of line (permanent, temporary, antimicrobial) for central venous catheters. This information will be able to be extracted into a report, which can be sorted and evaluated by the Epidemiology and Infection Prevention team at UC Irvine Medical Center.

   Based upon nursing responses, we will provide an automated count of the dwell time of each device.

Expected Result
Consistent, comprehensive detection of common devices (central venous catheters and urinary catheters) with availability to track their presence and develop targeted interventions.

Relation to Category 4 Urgent Improvements
Central lines identified as newly placed will prompt completion of a Central Line Insertion Practices (CLIP) form that reviews and documents adherence to bundle components.

Implementation Milestones (see Table following all sections)

Section 2: Improving Detection of Device-Associated HAIs & Real Time Feedback to Clinicians

Goal: Improve capture of device-associated HAI cases using partially automated systems that identify national (CDC NHSN) criteria. Improved capture will provide accurate data, including trending and targets, and enable **real-time feedback and prevention education to clinicians**.

Key Challenges
- Device-associated HAI identification should providing impetus for improvement.[6] However; methods of identification **must be valid and reliable in order to ensure appropriate response and responsible use of resources**. If unreliable, quality measures may either fail to identify improvement needs or stimulate response to a non-existent problem.

- National efforts to reduce HAI such as central line associate blood stream infections (CLABSI) have led to **two national quality measures** for CLABSI: 1) CDC's National Healthcare Safety Network (NHSN) criteria applied by infection prevention programs **to medical record reviews** triggered by microbiologic culture results, and 2) **claims-based codes** used by CMS, the Agency for Healthcare Research and Quality (AHRQ), the University Health System Consortium (UHC) - a national alliance of 97 academic medical centers and 153 of their affiliated hospitals, representing approximately 90 percent of the nation's non-profit academic medical centers. Claims codes have been used for nationally ranking hospitals as well as for non-payment.[7]

- Adequate capture of device-associated HAI may require understanding the merits of claims-based capture vs. chart review capture triggered by microbiologic data.

- Comprehensive device-associated HAI detection can be efficiently achieved by automating select criteria. Such real-time detection can be coupled to real-time education and intervention.

Major Solutions
We propose developing comprehensive and automated approaches to device-associated HAI detection to improve measurement and to provide real time feedback to clinicians for prevention and intervention

We propose the following using CLABSI as an initial project. However, this could be later expanded to catheter-associated urinary tract infections (CAUTI):
- **Intervention 1: Enhance Detection of Device-Associated HAI**
  We will improve detection of Device-Associated HAI using CLABSI as an initial project. We will couple current blood culture evaluation with real-time assessment of Medicare charts likely to result in a claims-based code for CLABSI. We will do this by utilizing clinical documentation specialists (CDS) who will signal when active Medicare charts will be coded with a CLABSI code. These charts will be reviewed by Infection Preventionists to determine if claims-based coding is likely to identify additional CLABSI cases and, conversely, whether patients meeting CDC CLABSI criteria are likely to have claims based codes for CLABSI.

- **Intervention 2: Improve Device-Associated HAI Detection by Automating CDC NHSN Criteria**
  We will ensure uniform device-associated HAI detection by automating key processes in CLABSI detection. We will enable automated detection of daily fever and hypotension which are part of the CDC criteria for CLABSI. Using microbiology data on blood cultures coupled by fever or hypotension,

CLABSI identification can be made more efficient and uniform, particularly for pathogens that are routinely skin commensals. High yield charts will be flagged for chart review by Infection Preventionists.

Development of Scalable IT Component: CDS data will be in structured format and stored in the EMR when required to be part of the Legal Medical Record and stored in the CDW for analysis, specifically in this case for CDC criteria. Cross-comparison between CDS and CDC HAI indicators will be done by reporting logic that accesses the CDW and CDC criteria. Discrepancies will be reported and, when applicable, physicians will be asked to clarify within the medical record their clinical judgment related to the presence of CLABSI.

Expected Result
We anticipate that this will increase detection and efficiency of detection of device-associated HAI

Relation to Category 4 Urgent Improvements
This will enable accurate outcome measurements for the Category 4 CLABSI project.

Implementation Milestones (see Table following all sections)

Section 3: Interventions to Reduce Device-Associated HAI

Goal: Develop robust interventions to reduce device-associated HAI housewide.

Key Challenges
- Prior efforts for CLABSI reduction have primarily focused on ICU reduction. **The majority of HAIs now occur external to the ICU, but focused efforts in the non-ICU arena are limited.** Current CDC estimates for non-ICU central line associated bloodstream infections (CLABSI) are 1.4/1,000 catheter days (range <1 to 3.1/1,000 by ward type),[8] but can be as high as 5.7/1,000 (2 to 8/1,000) in high risk patient populations.[9-10] UCI rates for non-ICU CLABSI are 1.4/1,000 for 2009. Non-ICU catheter associated urinary tract infections (CAUTI) have been reported to be around 8/1,000 catheter days. UC rates for non-ICU CLABSI are 1.7/1,000 (range 1.2-2.4/1,000) with a non-ICU CAUTI rate of 6 to 8/1,000 catheter days.

- Hospitals with high risk patient populations such as burn units, oncology units, and facilities with a high ICU to non-ICU ratio are known nationally to have higher rates of CLABSI due to host and medical care risk factors that are predilections for infection. Facilities that host these high risk groups need robust interventions to reduce CLABSI to rates as low as feasibly possible.

- **Effective response** is most likely to be achieved when **real-time reporting and clinician feedback** are instituted.

Major Solutions
We will incorporate **automated systems** to **target interventions for high risk patients (those with medical devices),** and **provide feedback to clinicians both pre-emptively and after identified events (CLABSI and CAUTI).** Such systems would prompt clinicians to act on current opportunities for prevention and provide relevant education to prevent future events.

We propose the following interventions:
- **Intervention 1: Automated physician prompts to initiate chlorhexidine bathing in adult patients with common medical devices**

  We will develop software for automated identification of both ICU and non-ICU patients with medical devices such as central lines based upon nursing entries that identify the presence of these devices as described above.

Identified patients will have standardized nursing protocols initiated for daily bathing or showering with chlorhexidine gluconate (CHG) to reduce bacterial skin counts.

The reduction in skin bacterial counts due to CHG is the likely explanation for a beneficial effect in reducing healthcare-associated pathogens. This effect is expected to be greatest during times where devices or wounds provide portals of entry for bacteria to enter body tissues and cause infection. Numerous studies have shown marked reductions in skin bacteria following serial CHG bathing or showering,[11-17] and it is widely used as a pre-operative showering agent based upon CDC guidelines that recommend its use.[18] Evidence is mounting that CHG can reduce colonization and infection from a variety of healthcare associated pathogens.[19-22] Studies have demonstrated a 52-87% reduction in bloodstream infection in ICU patients. [23 19 20 22]

IT Component: Automated physician prompts will be performed within the hospitals electronic medical record (EMR) system and workflow. Data items will be identified and captured under structure format and logic built in the workflow to prompt the physician at the appropriate time. A library of shared-service software routines will be developed to allow common logic to be executed across different EMR systems.

- **Intervention 2: Automated physician alerts for prevention processes when device dwell time exceeds the institutional median dwell time for that device in that particular patient population.**

We will develop automated systems to ensure clinician prompting when the dwell time of central lines exceeds the median institutional dwell time. Both the treating physician and nurse manager will be alerted to this fact. Importantly, determination of median dwell time will be determined in relation to the distribution of device dwell time among prior UC Irvine Medical Center patients with similar comorbidities known to predispose to device associated HAIs.

Algorithms for median dwell time will be based upon retrospective analyses of hospital administrative and device data to evaluate significant differences in dwell times among various high risk groups, including medical vs. surgical patients, and patients with known risk factors such as diabetes, hemodialysis, and cancer.

We will initially focus on central lines with long dwell times as an initial project which could be scalable to CAUTI and other devices. Alerts for long device dwell times will be accompanied by physician reminders to monitor the insertion sites for irritation or signs of infection, and to discontinue the device as soon as medically possible. They will simultaneously be accompanied by nurse reminders to ensure adequate process for device care and accessing the device, including vigorous disinfection of ports.

IT Component: Automated clinician prompts will be performed within the hospital's EMR system and workflow. Data items will be identified and captured under structure format and logic built in the workflow to prompt the clinicians at the appropriate time. A library of shared-service software routines will be developed to allow common logic to be executed across different EMR systems. Clinical data warehouses will be leveraged or similar infrastructure implemented to store permanent data for the analysis portion of the process such as "median dwell times". Specific data will be analyzed and dynamically accessed from the EMR workflow engine for real-time decision making.

- **Intervention3: Provide Real Time Feedback of Device-Associated HAI to Clinicians**
  We will develop a real time education/feedback system for physicians and nurses for CLABSI and CAUTI events. Prompt feedback has been shown to be a successful mechanism for reduction of healthcare associated infections and other medical outcomes.

When a CLABSI or CAUTI is detected and confirmed by NHSN criteria, the treating physician and nurse managers will receive feedback and education that includes notification about the CLABSI or CAUTI and mechanism of identification. It will include information about device dwell time at the time of infection compared to the institutional median dwell time in that patient population. Physicians will also be provided with general information for the

prevention of CLABSI, including reminders for sterile insertion technique, for routine monitoring of the insertion site for irritation or signs of infection, and for discontinuing the device as soon as medically possible.

Nurse manager feedback will similarly include notification about the device associated HAI and mechanism of identification. It will also include information about device dwell time at the time of infection compared to the institutional median dwell time in that patient population. In addition, it will include nursing-specific CLABSI and CAUTI prevention reminders related to device maintenance. This will include reminders for the frequent assessment of insertion sites, proper technique for line dressing changes and sampling for culture, and vigorous disinfection of ports before accessing central lines.

IT component: real-time logic will be implemented in the organizations EMR workflow that identified and gives real-time feedback to clinicians of an HAI event. Similarly, real-time education can be deployed through these same conditions. Reconciliation and feedback tools will be build on common/sharable platform for re-deployment across other organizations.

Implementation Milestones

- Implement automated nursing and physician prompts and reminders on how to prevent line infections for patients with long central line dwell times

Project 11 - Real-Time Hospital-Acquired Infections (HAIs) System for Common Medical Devices (C2)					
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)	Other Category Projects This Project Feeds Into
Milestone: Create automated daily nursing prompts in the electronic record to identify presence of *any* medical device **Metric:** Measure effectiveness of automated capture by assessing the percent of patients with devices detected on point prevalence check on a total sample of 2 ICUs and 2 non-ICUs **Numerator:** Number of patients with any device detected by automated prompt **Denominator:** Patients on sampled units with a device **Milestone:** Implement process for a Clinical Documentation Specialist to review and identify Medicare charts likely to be coded for central line associated blood stream infection (CLABSI) and trigger review by Infection Prevention program for presence of CLABSI by CDC National Healthcare Safety Network (NHSN) criteria. Evidence of process provided by example cases adjudicated by both methods.	**Milestone:** Further develop daily nursing prompts to identify presence of *each* medical device **Metric (improvement):** Achieve at least 80% automated capture of devices. Measure this by assessing the percent of devices detected on point prevalence check on a total sample of 2 ICUs and 2 non-ICUs **Numerator:** Number of devices detected by automated prompt **Denominator:** Number of devices in patients on sampled units **Milestone:** Develop semi-automated detection of CLABSI due to skin commensals by flagging charts with select CDC NHSN criteria. Evidence of effective process provided by example cases flagged by this method.	**Milestone:** Implement daily chlorhexidine bathing of patients with central venous catheters (CVCs) as evidenced by presence of standardized order set **Metric (improvement):** Achieve at least 65% capture of patients with CVCs receiving chlorhexidine bathing based upon a point prevalence check of 2 ICUs and 2 non-ICUs in the last quarter of the year. **Numerator:** Number of patients with CVCs receiving chlorhexidine bathing **Denominator:** Number of patients with CVCs on sampled units excluding those actively declining chlorhexidine bath	**Milestone:** Develop and provide baseline measures of central line dwell time for risk stratified patient populations with central lines **Metric:** Measure the mean (average) and median (50% percentile) dwell time in ICU and non-ICU patients **Milestone:** Achieve at least 75% capture of patients with CVCs receiving chlorhexidine bathing based upon a point prevalence check of 2 ICUs and 2 non-ICUs in the last quarter of the year. **Metric (improvement)** **Numerator:** Number of patients with CVCs receiving chlorhexidine bathing **Denominator:** Number of patients with CVCs on sampled units excluding those actively declining chlorhexidine bath	**Milestone:** Implement targeted automated nursing and physician reminders on prevention for long dwell times and identified HAI cases **Metric:** Measure the percent of devices detected with long dwell time or identified CLABSI whose clinical providers received notification **Numerator:** Number of patients with long dwell time or a device-associated HAI whose provider received automated prevention reminders **Denominator:** Number of patients with long dwell time or a device-associated HAI	Reduce CLABSI (Cat. 4) Reduce Readmissions (due to device-associated HAI (C3)

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Project 12 - Improve Severe Sepsis Detection and Management

<u>**Background:**</u>
According to the Institute for Health Improvement and the Surviving Sepsis Campaign, severe sepsis carries with it a mortality risk between 30-50%, and in the setting of shock, this rate is even higher. [1] It is well accepted that bundling interventions for a disease such that algorithmic responses are carried out leads to better outcomes. The following proposal has been created in response to the Category 4 "urgent improvement in care" mandates for a bundled response to sepsis, severe sepsis, and septic shock.

<u>**A. Required Interventions**</u>:

<u>Key Challenge: Reducing harm or death to patients seeking care due to sepsis.</u>
- Sepsis can harm and kill patients if not treated quickly and increases ICU length of stay and its 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.
- To date, UC Irvine has not calculated the outcomes of severe sepsis or septic shock cases within its institution, and therefore the baseline mortality is unknown.
- A particular challenge to the identification of sepsis cases at UC Irvine is the current practice of documenting vital sign information and physician notes in a populate the EMR within two years and will facilitate accurate case identification, data gathering, and identification of compliance with bundle measures.

<u>Major Delivery System Solution: Reduce avoidable harm or deaths due to severe sepsis to patients receiving inpatient services.</u>
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 improvements in care provided to patients. We propose to improve severe sepsis detection and management to reduce unnecessary death and harm attributable to sepsis. Our interventions and improved processes are based upon the IHI recommended Surviving Sepsis Campaign that aims to establish reliable detection and treatment for severe sepsis. This includes implementing both the Sepsis Management and Sepsis Resuscitation Bundles. [2]

We propose the following activities to ensure monitoring and high compliance with the bundle for Sepsis Resuscitation and Management in the inpatient setting:
1. **Train and implement critical outcomes data coordinators to determine baseline** and ongoing number of sepsis cases in ER, inpatient wards, and ICUs.

2. **Identify and fund nurse and physician champions** to lead sepsis improvement efforts**.**

3. Develop a nurse driven **Sepsis Response Team protocol** to identify patients in early stages of sepsis and facilitate sepsis resuscitation bundle utilization.

4. **Build EMR alert system to trigger sepsis detection algorithms** and to protocolize the response to identified cases.

5. **Participate in the Surviving Sepsis Campaign** to learn and share best practices related to improving severe sepsis and septic shock detection and management.

6. **Incorporate non-invasive hemodynamic monitoring with point-of-care bedside ultrasound into the sepsis management algorithm.**

- UC Irvine Medical Center is strategically positioned to improve upon the IHI recommendations by incorporating bedside handheld ultrasound into the diagnostic and monitoring strategy for septic patients. Point of care ultrasonography is a focus of the educational program for UC Irvine doctors in training and is widely accepted as a valuable tool in assessment of undifferentiated shock.[3-5]

- Incorporation of portable ultrasound technology can decrease the number of invasive lines placed to monitor CVP. In isolation, CVP measurements have been shown to be a poor predictor of preload status and are easily influenced by extravascular factors such as PEEP and chest wall compliance.[6] A large body of evidence shows that CVP measurement is less reliable for predicting volume responsiveness when compared to ultrasound evaluation of the inferior vena cava.

- Modification of the Surviving Sepsis Campaign algorithm to include inferior vena cava evaluation should improve the accuracy of early goal directed therapy and minimize adverse outcomes associated with central line placement and inaccurate monitoring.

7. **Make the elements of the Sepsis Bundles more reliable**:
- Pharmacy will play a key role in assuring that antibiotics are available in a timely way and that any variation from protocol is investigated for a root cause as an opportunity for improvement. **A pre-mixed quantity of broad-spectrum antibiotics will be made available in the ED and ICUs.**

- **Preformatted order sets that include the drugs, laboratory measures, and bundle interventions as options will be developed**, and physicians will receive education on their availability and proper use.

- **Portable ultrasound equipment will be purchased** to facilitate non-invasive assessment of volume status and shock etiology and to assist in safe central line placement. Key housestaff and physician extenders will be trained in the use of bedside ultrasound to evaluate volume status, hypotension, and shock.

- **Consideration will be given to purchasing iStat ABG machines that can measure hemoglobin and lactate as well as StO2 monitors** to measure tissue oxygenation so that delays in obtaining key information that will guide therapies are minimized.

Project 12 – Improve Severe Sepsis Detection and Management (C4)				
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)

1. Establish multi-disciplinary team to address sepsis.	2. Implement the Sepsis Resuscitation Bundle, as evidenced by:
	
	Part A: Sepsis Resuscitation Bundle: to be completed within 6 hours for ICU patients with severe sepsis, septic shock, and/or lactate > 4 mmol/L (36 mg/dl)
	• 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 (or colloid equivalent).
	   o Administer appropriate vasopressors for hypotension not responsive to initial fluid resuscitation to achieve mean arterial pressure (MAP) > 65 mm Hg.
	• In the event of persistent hypotension despite fluid resuscitation (septic shock) and/or lactate > 4 mmol/L (36 mg/dl):
	   o Achieve central venous pressure (CVP) of > 8 mm Hg measured directly or estimated by ultrasound assessment of IVC collapsibility index.
	   o When appropriate central access or StO2 monitoring
		5. Achieve X% Compliance with Sepsis Resuscitation Bundle, where "X will be determined in Year 2 based on baseline data.
		6. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.
		7. Report Sepsis Resuscitation Bundle and Sepsis Mortality results to the State.
			8. Achieve X% compliance with Sepsis Resuscitation Bundle, where "X" will be determined in Year 2 based on baseline data.
			9. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.
			10. Report results to the State.
				10. Achieve X% compliance with Sepsis Resuscitation Bundle, where "X" will be determined in Year 2 based n baseline data
				
				11. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals
				
				12. Report results to the State.

Project 12 – Improve Severe Sepsis Detection and Management (C4)				
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)
	is available, measure and achieve central venous oxygen saturation (ScvO2) of > 70%. Part B: Sepsis Management Bundle: to be completed within 24 hours for patients with severe sepsis, septic shock, and/or lactate >4 mmol/L (36 mg/dl). • Stress does steroids administered for septic shock in accordance with a standardized ICU policy • Glucose control maintained > lower limit of normal, but < 180 mg/dl (10 mmol/l) • Inspiratory plateau pressures maintained <30 cm H2O for mechanically ventilated patients; lung protective ventilation strategy • Consideration of drotrecogin alfa (activated) in accordance with ICU policy Part C: Train key housestaff in the use of point of care ultrasound for the assessment of volume status, hypotension, and shock. 3. Report at least 6 months of data collection on Sepsis Resuscitation Bundle to SNI for purposes of establishing the baseline and setting			

Project 12 – Improve Severe Sepsis Detection and Management (C4)				
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)
	benchmarks. 4. Report the Sepsis Resuscitation Bundle results to the State.			

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Project 13 – Reducing Central Line Associated Blood Stream Infections

Key Challenges

- Healthcare associated infections are among the leading causes of preventable death in the United States, accounting for an estimated 1.7 million infections and 99,000 associated deaths annually[3][4] Of all HAIs, bloodstream infections account for 14%.[5]

- Bundling preventative measures for CLABSI have been shown to substantially reduce CLABSI events.[3][6][7][8] These measures include
  - Maximal Sterile Barrier Precautions Upon Central Line Insertion
  - Chlorhexidine Skin Antisepsis Prior to Central Line Insertion
  - Avoidance of Femoral Vein for Central Venous Access
  - Daily Review of Line Necessity with Prompt Removal of Unnecessary Lines

- CLABSI prevention using monitoring forms for Central Line Insertion Practices (CLIP forms) is required by California law for ICU areas. While compliance on CLIP forms that are submitted is excellent at UC Irvine Medical Center, it is unclear whether forms are reliably completed for each placed central line.
  It is possible that those that currently complete the forms are most compliant and aware of national guidance for CLABSI prevention. Further assessment is needed.

  CLABSI prevention and CLIP monitoring in non-ICU areas in not firmly established at UC Irvine. Further assessment and implementation are needed.

Integration with Previous Categories
This Category 4 proposal capitalizes on the infrastructure for identifying devices and providing device-related interventions to reduce HAIs as described in Category 2. Prompts for CLIP form completion and automated prompts for daily documentation of line necessity will be made possible through the infrastructure for electronic medical documentation of patient with devices, and the capacity to build interventions based upon identified patients. Leveraged IT

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[3] http://www.gao.gov/products/GAO-08-673T
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infrastructure builds include daily nursing prompts and documentation for those with devices, data warehousing, and the link to physician feedback and prompted interventions.

Major Delivery System Solutions

We propose the following activities to ensure monitoring and high compliance with the bundle for CLABSI prevention in both inpatient ICU and non-ICU areas:

2) **Identification of Central Line Placement and Opportunities for Prevention**

We will identify the presence of central lines at UC Irvine Medical Center by establishing a nursing daily prompt and mechanism to document the presence of central lines with details related to body location, type of line, and whether the line was newly inserted. This information will be able to be extracted into a report, which can be sorted and evaluated by the Epidemiology and Infection Prevention team at UC Irvine Medical Center.

Central lines identified as newly placed will prompt completion of a CLIP form that reviews and documents adherence to bundle components.

3) **Bundle Component #1: Maximum Sterile Barrier Precautions**

We will ensure that central line kits in both ICU and non-ICU inpatient areas have accompanying bundled sterile barrier products to enhance and assure compliance. Provision of bundled materials will be coordinated with central supply for broad distribution.

Central line insertion training will be a requirement for all new residents in Surgery, Anesthesia, Emergency Medicine and Internal Medicine prior to direct patient care. Training will occur through the Medical Education Simulation Center, which provides hands-on practice on central line insertion using simulation dummies, with an emphasis on sterile technique and insertion site to minimize the risk of infection.

4) **Bundle Component #2: Chlorhexidine Skin Antisepsis**

Chlorhexidine is provided in central line insertion kits and antisepsis technique is reviewed during central line insertion training through the Medical Education Simulation Center. Monitoring of compliance will occur through CLIP forms.

5) **Bundle Component #3: Avoidance of Femoral Vein for Central Venous Access**

We will evaluate the frequency that a subclavian site was not used based on CLIP forms. Acceptable reasons will be reviewed during central line insertion training through the Medical Education Simulation Center. Monitoring of non-subclavian site placement of central lines will occur through CLIP forms.

6) **Bundle Component #4: Daily Review of Line Necessity for Prompt Removal**

Currently, daily review of line necessity occurs via printed reminders on routine progress notes or through prompting by nursing staff. We will develop automated prompts for assessment of daily necessity that target physicians and nurses specifically caring for patients with central lines in place. Compliance with daily necessity evaluation will be culled from renewal orders for central lines and will be extracted into a report, which can be sorted and evaluated by the Epidemiology and Infection Prevention team at UC Irvine Medical Center. Reports from this and CLIP responses will enable important analyses to identify and address sources of non-compliance.

Implementation Milestones

Project 13 –Central Line-Associated Bloodstream Infection (CLABSI) Infection Prevention (required) (C4)				
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)

1. Assess July 09-June 10 CLABSI rates as baseline
 	
2. Report CLIP form results to the State.
	1. Implement the Central Line Insertion Practices (CLIP), as evidenced by:
	  a) Bundled central line kits available from central supply
	  b) Line insertion training (including sterile barrier precautions, chlorhexidine prep, site choice) for new medical, surgical, and anaesthesia residents
	  c) Begin development of automated targeted reminders for daily review of line necessity (Begin Y2, finish Y3).
	  d) Measure percent of newly placed central lines with CLIP form completed
	  e) Provide feedback to physicians whose CLIP form indicates missed opportunities for bundle adherence
	2) Report at least 6 months of data collection on CLIP to SNI for purposes of establishing the baseline and setting benchmarks.
	3) Report at least 6 months of data collection on CLABSI to SNI for purposes of establishing the baseline and setting benchmarks.
	4) Report CLIP results to the State.
		5) Complete development of automated targeted reminders for daily review of line necessity
		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.

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Project 14 - Improve Identification of Patients at Risk for Hospital Acquired Pressure Ulcers and identification/implementation of appropriate prevention strategies

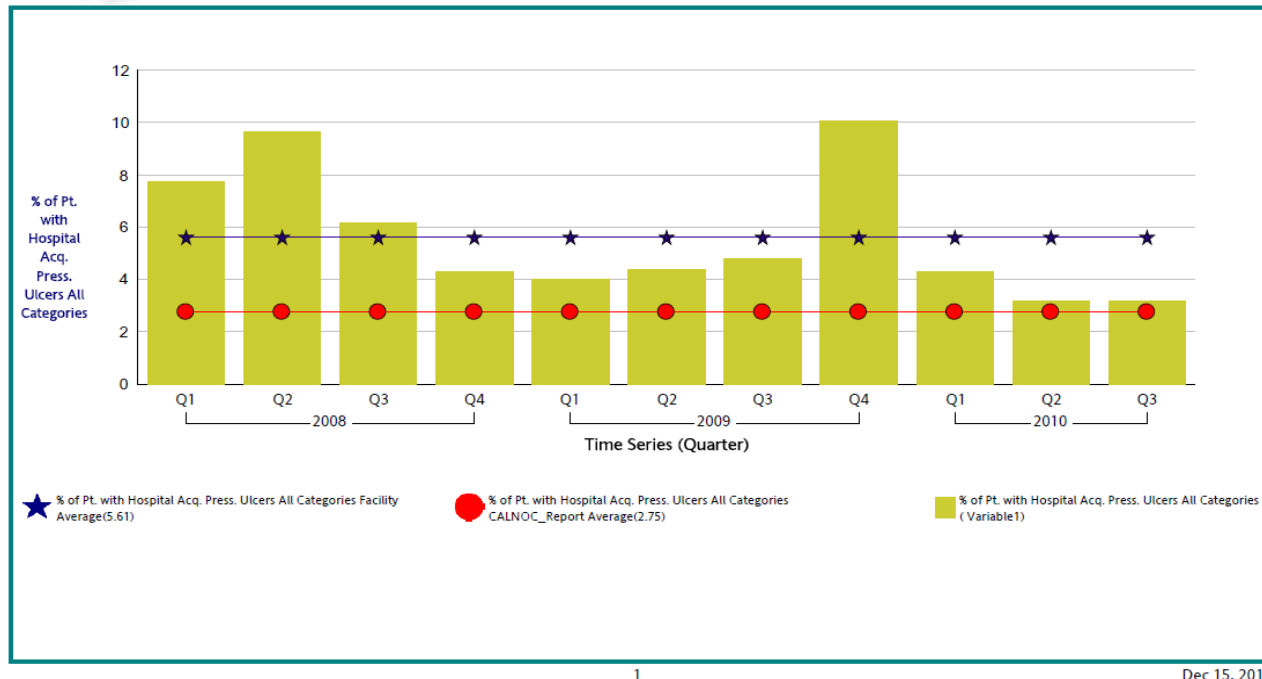**A. Required Interventions**:

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

There is a national emphasis to improve medical care by eliminating Hospital Acquired Pressure Ulcers or reducing them to their lowest achievable level.

Hospital Acquired pressure ulcers remain a major health problem affecting approximately 2.5 million patients in acute care facilities in the United States each year.[9] Although most pressure ulcers are preventable and health care facilities have developed prevention programs, the prevalence of pressure ulcers continues to rise. Pressure ulcers cause considerable harm to patients, hindering functional recovery, frequently causing pain, and often serving as vehicles for the development of serious infections. They have been associated with an extended length of stay and increased mortality. In fact, an estimated 60,000 patients die each year from complications due to hospital-acquired pressure ulcers.[10] The estimated cost of managing a single full-thickness pressure ulcer is as high as $70,000, and the total cost for treatment of pressure ulcers in the United States is estimated at $11 billion per year.[11]

The Centers for Medicare & Medicaid Services (CMS), an agency of the US Department of Health and Human Services have identified pressure ulcers as a condition that is high cost, high volume, associated with a higher payment as a secondary diagnosis; and one that could have been reasonably prevented by following evidence based clinical guidelines. This condition, consistent with the NQF-designated "never events," are considered hospital-acquired and is not reimbursable at the higher-weighted Medicare Severity DRG level. Therefore, a provider must document whether a patient has a pressure ulcer present on admission. If pressure ulcers are present, their presence at discharge will not affect reimbursement unless the ulcers progress from Stage I or II to Stage III or IV.[12]

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5. http://www.cms.gov/apps/media/press/release.asp?Counter=3219&intNumPerPage=10&checkDate=&checkKey=&srchType=1&numDays=3500&srchOpt=0&srchData=&keywordType=All&chkNewsType=1%2C+2%2C+3%2C+4%2C+5&intPage=&showAll=&pYear=&year=&desc=&cboOrder=date Published 2008. Accessed January 10, 2011.
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The potential harm to the patient including an extended length of stay and increased mortality combined with the financial repercussions to the organization provide solid support for ongoing vigilance and escalation of the pressure ulcer program at UC Irvine.

Pressure ulcer prevention entails two major steps: identifying patients at risk and reliably implementing prevention strategies for all patients identified as at risk. Prevention strategies include six key elements: 1)conduct a pressure ulcer admission assessment for all patients, 2)reassess risk for all patients daily, 3)inspect skin daily, 4)manage moisture, 5)optimize nutrition and hydration, and 6) minimize pressure[13]

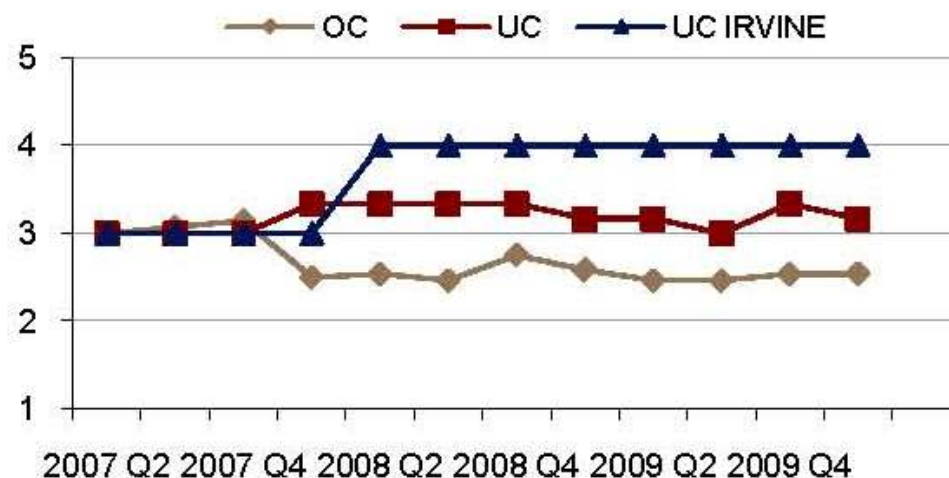Since 2008, UC Irvine Medical Center's Skin Integrity Performance Improvement team has placed the primary focus of pressure ulcer prevention on education and the development of a comprehensive pressure ulcer prevention program. Outcomes were used to measure success of implementation of reduction strategies. Quarterly prevalence studies were initially conducted to determine a hospital-wide prevalence rate as well as unit-specific rates. The Performance Improvement Team was the oversight for numerous Interventions that were implemented since 2008 including:

Further enhancements to the program have been taken in the attempt to reach our goal which included a thorough reassessment of our pressure ulcer prevention program. The reassessment showed a need to 1) enhance accountability of skin assessments; 2) decrease knowledge deficit of nurses; and 3) improve communication regarding the process of pressure ulcer prevention. Based on random focused reviews of patient's medical records and nursing plans of care, it was evident that staff was not consistently implementing prevention strategies appropriately. Incomplete initial skin assessments, incomplete ongoing skin assessments, and lack of follow through on interventions such as turning the patient every two hours are still being found. This has been steadily improving, but continued vigilance is required to continue to improve and to sustain the noticeable gains that have been achieved. Improvements have been seen as evidenced by the Collaborative Alliance for Nursing Outcomes (CalNOC) trend report seen below that depicts data from 2008 to 2010.

Even with this improvement and intense focus on education and pressure ulcer prevention, the data from the California Hospital Assessment and Reporting Taskforce (CHART) showed the UC Irvine Medical Center's HAPU rate was between the 50th and 90th percentile, a CHART performance group of 4 (scale groups 1-5). The goal was to achieve a HAPU rate below the CHART median (3.1%) and to achieve a CHART performance group of 3 or below. Additionally, according to the Collaborative Alliance for Nursing Outcomes (CalNOC), UC Irvine Medical Center's HAPU rate of 3.68% overall for 2010 is higher than the CalNOC benchmarking average rate 3.44% which places us in the 75th percentile (lower is better). The goal was to reach a HAPU rate between the 25th and 50th percentile, which would have been a HAPU rate less than 1.89%.

CALNOC MEASURE

HOSP-ACQUIRED PRESSURE ULCER SCORE vs PEERS

By CHART Score 1 - 5 (Lower is Better)

Project 14 –Improve Hospital Acquired Pressure Ulcer Detection and Management				
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)
1. Develop & implement annual intensive pressure ulcer prevention education program 2. Develop proposal for effective utilization of WCC nursing staff 3. Update to ConvaTec Flexiseal with pressure reading 4. Measure and report baseline HAPU rates in both ICU and non-ICU settings 5. Share the results of quarterly measurements with SNI to foster shared learning and benchmarking across the California public hospitals. 6. Report results to CALNOC	1. Implement automated identification of patients with a Braden score $\leq$ 18 2. Implement automated and targeted reminders for daily review of pressure ulcer risk 3. Measure percent of patients identified at risk compared to percent with appropriate interventions implemented 4. Measure and report baseline compliance with implementation of appropriate interventions 5. Monitor Clinical Documentation Specialist data for charts likely to be coded for HAPU and review for identified approved criteria 6. Improve compliance of patients receiving appropriate interventions by 10% or achieve >80% 7. Provide updated education 8. Replace/purchase remainder of the needed surfaces,mattresses, and positioning aids 9. Develop baseline measures of length of stay for risk stratified patient populations with at risk Braden scores 10. Develop automated summary statistics for length of stay for risk stratified patient populations with at risk	1. Implement nursing and physician prompts and reminders on how to prevent HAPU's for patients at risk 2. Improve compliance of patients receiving appropriate interventions by 10% or achieve >85% 3. Share the results of quarterly measurements with SNI to foster shared learning and benchmarking across the California public hospitals 4. Report results to CALNOC	1. Improve accurate identification of HAPU risk and improve compliance of patients receiving appropriate interventions by 10% or achieve >90% compliance in ICUs and non-ICUs 2. Further reduce HAPU rate in ICUs by 10% (or maintain high performance if ICU HAPU rate is in top tier (top 20%) of the CalNOC database 3. Reduce HAPU rate below 1.1%. 4. Share the results of quarterly measurements with SNI to foster shared learning and benchmarking across the California public hospitals. 5. Report results to CALNOC	1. Improve accurate identification of HAPU risk and improve compliance of patients receiving appropriate interventions by 10% or achieve >95% completion rate 2. Maintain HAPU rate below 1.1%. 3. . 4. Share the results of quarterly measurements with SNI to foster shared learning and benchmarking across the California public hospitals. 5. Report results to CALNOC

|			
	Braden Scores 11. Compare HAPU rates based upon medical record review vs. coded data 12. Initiate automated detection of any HAPU to signal charts for review 1. Share the results of quarterly measurements with SNI to foster shared learning and benchmarking across the California public hospitals. 2. Report results to CALNOC 3. Develop plan for automated identification of risk and prompting of interventions		

Trend Report by Total Facility – Quarterly
% of Pt. with Hospital Acq. Press. Ulcers All Categories
Quarter Between Jan – Mar 2010 and Jul – Sep 2010
103 – UCI Medical Center : Total Facility
Report Group : CALNOC_Report

Legend:
★ % of Pt. with Hospital Acq. Press. Ulcers All Categories Facility Average(3.55)

● % of Pt. with Hospital Acq. Press. Ulcers All Categories CALNOC_Report Average(2.57)

▮ % of Pt. with Hospital Acq. Press. Ulcers All Categories (Variable1)
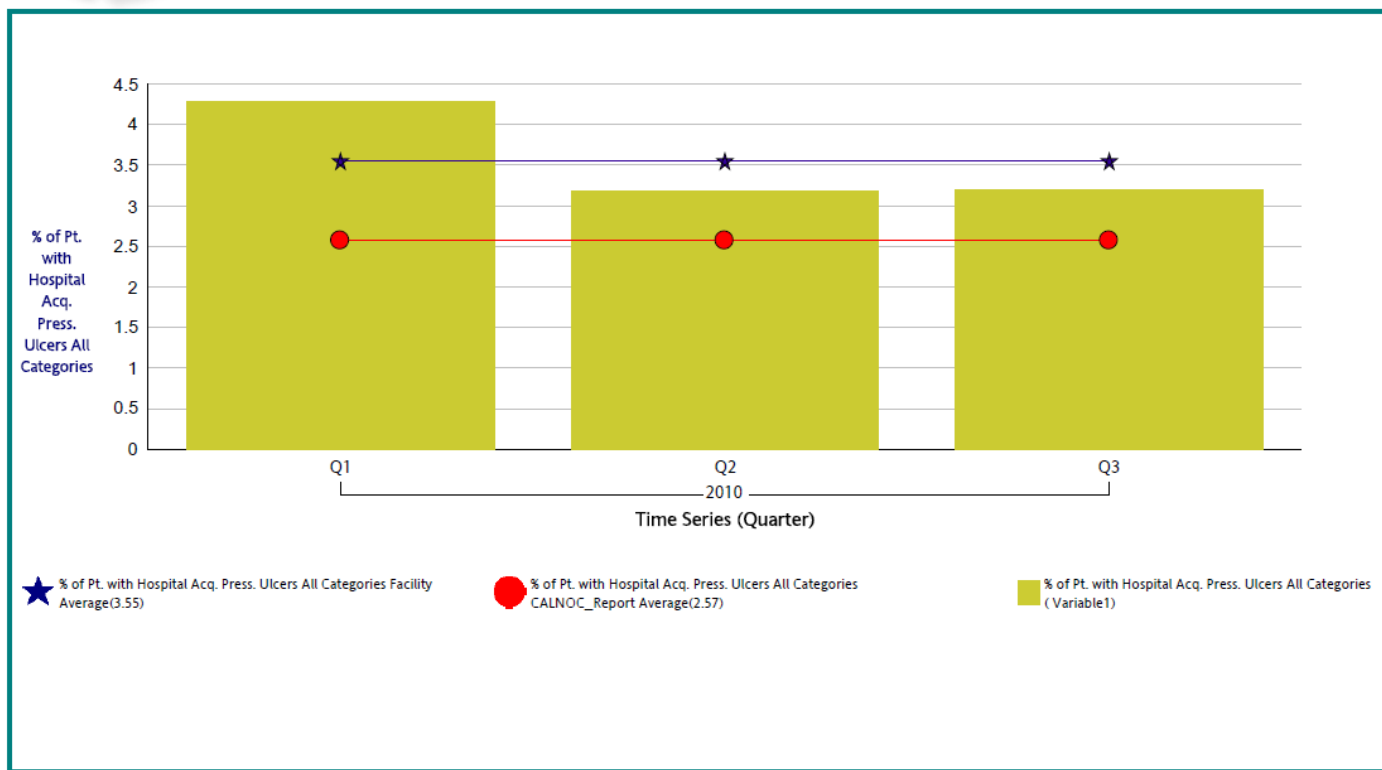
1   Dec 15, 2010

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 make improvements in care provided to patients. We propose to improve identification of patients at risk for HAPU and improve management to reduce unnecessary death and harm attributable to HAPU. Our interventions and improved processes are based upon the National Pressure Ulcer Advisory Panel (NPUAP) recommended guidelines established to reduce the incidence of HAPU of all stages.

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References

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5. http://www.cms.gov/apps/media/press/release.asp?Counter=3219&intNumPerPage=10&checkDate=&checkKey=&srchType=1&numDays=3500&srchOpt=0&srchData=&keywordType=All&chkNewsType=1%2C+2%2C+3%2C+4%2C+5&intPage=&showAll=&pYear=&year=&desc=&cboOrder=date Published 2008. Accessed January 10, 2011.
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Project 15: Venous Thromboembolism (VTE) Prevention and Treatment

Background:
Venous Thromboembolism (VTE) is a common disease with potentially serious consequences. VTE, including deep vein thrombosis and pulmonary embolism, or a combination of both, are common complications that are associated with high rates of morbidity and mortality, and substantial healthcare cost. The incidence of VTE in the general population is ranges from 1.6 to 1.8 per 1000 people per year. The most important VTE intervention is prevention. Various practice guidelines provide tools for assessing and identifying patients at risk for VTE, and identifying the appropriate mechanical or pharmaceutical preventative interventions.

In response to the National Patient Safety Goal to reduce the likelihood of harm associated with the use of therapeutic anticoagulation, as well as the desire to ensure that potentially preventable VTE are averted through risk assessment and proper prophylaxis, UC Irvine developed a multi-disciplinary Anticoagulation Safety Program in 2010. The scope of the Anticoagulation Safety Program includes VTE prevention and treatment across the entire Medical Center, as well as medication safety and transition to outpatient settings. The initial charge was to develop a quality and safety foundation through updated VTE treatment protocols, system-wide policies and initial implementation of electronic solutions. The Program has also worked on an integrated approach to inpatient education involving nursing, dietary services and pharmacy.

UC Irvine does not currently collect data on the venous thromboembolism (VTE) based on the National Inpatient Hospital Quality Measures. However, internal surrogate measures were developed. A prevalence study (Q2 10) revealed approximately 74% compliance with VTE prophylaxis received or reason documented for no prophylaxis (VTE 1, 2). While improvement was expected with the implementation of the upgraded Computerized Physician Order Entry (CPOE) portion of our new Electronic Medical Record (EMR) system in Q4 10, we are observing a lower rate of compliance. Internal surrogate measures for adherence to unfractionated heparin protocol (VTE 4) demonstrate approximately 78% compliance for CY 2010. As part of the rigorous quality and safety effort, UC Irvine also reviews all cases of hospital acquired VTE. Of the 26 AHRQ Patient Safety Indicator (PSI 12) cases in Q3 10, none were deemed preventable or possibly preventable based on independent physician review (VTE 6). Final data for all internal surrogate measures is pending. Finally, the Anticoagulation Safety Program has partnered with the School of Nursing on the evaluation and improvement of VTE prevention and anticoagulation safety education. Results from the baseline knowledge survey are pending. While discharge education is a focus of the care provided at UC Irvine, the components of discharge education described in VTE 5 have not been required to be documented.

UC Irvine Medical Center has determined that the following number of patients fall within the population that would be impacted through reliable implementation of VTE Care and Prevention.

Year	VTE – 1 & 2	VTE - 3,4 ,5	VTE - 6
2008	9013		17 ♦
2009	9319	1465 *	18 ♦
2010	9554	1246 *	8 ♦

* Pharmacy
♦ NSQIP

A. Required Interventions:

Key Challenges:

- The Trauma Critical Care Services has implemented a screening protocol for VTE. The purpose of the protocol is early detection and treatment with the goal of reducing serious complications and possible mortality related to pulmonary embolism. All patients admitted to the Surgical ICU are screened within 72 hrs of admission and weekly thereafter. Understanding the full impact of the screening protocol, including decisions on continuation or expansion, are a key challenge to the success of the Anticoagulation Safety Program. The VTE screening protocol will have an impact on VTE 3-6.

- In investigating the incidence of VTE and possibly preventable VTE, the Anticoagulation Safety Program determined that the frequency of line-associated in hospital acquired DVTs was at approximately 50% in 2010. A safety and value analysis was conducted resulting in a change in PICC lines. This change has been implemented and reviews of line-associated events continue to be monitored to impact of this change. Although the treatment for upper extremity, line associated-VTE is generally to remove the catheter, this finding could impact VTE 1, 2 and 6.

- An appropriate data collection mechanism, whether through a vendor or internal Clinical Informatics, for the VTE measure, part of the Category IV Urgent Improvement in Quality and Safety effort, will need to be addressed. UC Irvine will submit data on the VTE measures listed below:

  VTE-1: Venous Thromboembolism Prophylaxis
  VTE-2: Intensive care Unit Venous Thromboembolism Prophylaxis
  VTE-3: Venous Thromboembolism Patients with Anticoagulation Overlap Therapy
  VTE-4: Venous Thromboembolism Patients receiving Unfractionated Heparin with Dosages/Platelet Count Monitoring by Protocol
  VTE-5: Venous Thromboembolism Discharge Instructions
  VTE-6: Incidence of Potentially Preventable Venous Thromboembolism

Major Delivery System Solution: Hardwire Practice Guidelines through Electronic Solutions

- Re-design and implementation of updated VTE risk assessment guidelines within the Eclipsys electronic medical record system
- Re-design and implementation of order sets within the electronic medical record specifically related to both VTE prophylaxis and treatment.
- Re-design and implementation of updated discharge instructions for patients receiving anticoagulation at discharge
- Development and implementation daily performance reports for each inpatient unit

Major Delivery System Solution: Implementation of Best Practices

- Assessment of all patients on admission for risk of VTE
- Implement pharmacy management of all patients on therapeutic unfractionated heparin (UFH) in Year 2 and other anticoagulants in Years 3 and 4.
- Implement integrated approach to patient education involving Nursing and Case Management along with Dietary Services and Pharmacy as needed.

Major Delivery System Solution: Education of the Medical Staff Regarding Best Practices

- Implementation VTE prevention and anticoagulation safety education program for Nursing and other non-physician members of the care team (i.e. Case Management, Dietary)
- Explore options for effectively delivering case studies and outcomes to medical staff, such as Web M&M currently in place through UCSF.

Project 15 - Venous Thromboembolism (VTE) Prevention and Treatment (C4)				
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)
1. Establish multi-disciplinary team to address patients with hospital acquired VTE.	1. Report at least 6 months of data collection on the VTE process measures to SNI for purposes of establishing the baseline and setting benchmarks. 2. Report the 6 VTE process measures data to the State. 3. Implement Pharmacy management of patients on UFH. 4. Re-design and implementation of electronic solutions. 5. Provide education program for medical, surgical and nursing staff on assessing, ordering and discharge education for inpatient population.	6. Increase the rate of patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given the day of or the day after hospital admission or surgery end date for surgeries that start the day of or the day after hospital admission by X, where "X" will be determined in Year 2 based on baseline data. 7. Increase the rate of patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given the day of or the day after the initial admission (or transfer) to the Intensive Care Unit (ICU) or surgery end date for surgeries that start the day of or the day after ICU admission (or transfer) by X, where "X" will be determined in Year 2 based on baseline data. 8. Increase the rate of patients diagnosed with confirmed VTE who received an overlap of parenteral (intravenous [IV] or subcutaneous [subcu]) anticoagulation and warfarin therapy by X, where "X" will be determined in Year 2 based on baseline data. 9. Increase the rate of patients diagnosed with confirmed VTE who received intravenous (IV) UFH therapy dosages AND had their platelet counts	15. Increase the rate of patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given the day of or the day after hospital admission or surgery end date for surgeries that start the day of or the day after hospital admission by X, where "X" will be determined in Year 2 based on baseline data. 16. Increase the rate of patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given the day of or the day after the initial admission (or transfer) to the Intensive Care Unit (ICU) or surgery end date for surgeries that start the day of or the day after ICU admission (or transfer) by X, where "X" will be determined in Year 2 based on baseline data. 17. Increase the rate of patients diagnosed with confirmed VTE who received an overlap of parenteral (intravenous [IV] or subcutaneous [subcu]) anticoagulation and warfarin therapy by X, where "X" will be determined in Year 2 based on baseline data. 18. Increase the rate of patients diagnosed with confirmed VTE who received intravenous (IV) UFH therapy dosages AND had their platelet counts	24. Increase the rate of patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given the day of or the day after hospital admission or surgery end date for surgeries that start the day of or the day after hospital admission by X, where "X" will be determined in Year 2 based on baseline data. 25. Increase the rate of patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given the day of or the day after the initial admission (or transfer) to the Intensive Care Unit (ICU) or surgery end date for surgeries that start the day of or the day after ICU admission (or transfer) by X, where "X" will be determined in Year 2 based on baseline data. 26. Increase the rate of patients diagnosed with confirmed VTE who received an overlap of parenteral (intravenous [IV] or subcutaneous [subcu]) anticoagulation and warfarin therapy by X, where "X" will be determined in Year 2 based on baseline data. 27. Increase the rate of patients diagnosed with confirmed VTE who received intravenous (IV) UFH therapy dosages AND had their platelet counts

Project 15 - Venous Thromboembolism (VTE) Prevention and Treatment (C4)				
Year 1 (DY-6)	Year 2 (DY-7)	Year 3 (DY-8)	Year 4 (DY-9)	Year 5 (DY-10)
		monitored using defined parameters such as a nomogram or protocol by X, where "X" will be determined in Year 2 based on baseline data. 10. Increase the rate of patients diagnosed with confirmed VTE that are discharged to home, home care, court/law enforcement or home on hospice care on warfarin with written discharge instructions that address all four criteria: compliance issues, dietary advice, follow-up monitoring, and information about the potential for adverse drug reactions/interactions by X, where "X" will be determined in Year 2 based on baseline data. 11. Report the Incidence of Potentially-Preventable Venous Thromboembolism. 12. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals. 13. Report the 6 VTE process measures results to the State. 14. Phased in implementation of Pharmacy management of other VTE treatment protocols.	monitored using defined parameters such as a nomogram or protocol by X, where "X" will be determined in Year 2 based on baseline data. 19. Increase the rate of patients diagnosed with confirmed VTE that are discharged to home, home care, court/law enforcement or home on hospice care on warfarin with written discharge instructions that address all four criteria: compliance issues, dietary advice, follow-up monitoring, and information about the potential for adverse drug reactions/interactions by X, where "X" will be determined in Year 2 based on baseline data. 20. Report the Incidence of Potentially-Preventable Venous Thromboembolism. 21. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals. 22. Report the 6 VTE process measures and incidence of potentially-preventable VTE data to the State. 23. Phased in implementation of Pharmacy management of other VTE treatment protocols.	monitored using defined parameters such as a nomogram or protocol by X, where "X" will be determined in Year 2 based on baseline data. 28. Increase the rate of patients diagnosed with confirmed VTE that are discharged to home, home care, court/law enforcement or home on hospice care on warfarin with written discharge instructions that address all four criteria: compliance issues, dietary advice, follow-up monitoring, and information about the potential for adverse drug reactions/interactions by X, where "X" will be determined in Year 2 based on baseline data. 29. Report the Incidence of Potentially-Preventable Venous Thromboembolism. 30. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals. 31. Report the 6 VTE process measures and incidence of potentially-preventable VTE data to the State.