



Delivery System Reform Incentive Payment (DSRIP)

Five Year Implementation Plan

Submitted by: Kern Medical Center

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Background

Kern Medical Center (KMC) is a busy 222 bed, county-owned trauma center and general acute care teaching hospital that provides comprehensive indigent care and high risk inpatient, outpatient and ancillary services. KMC has a California Children's Service (CCS) neonatal intensive care unit and a labor and delivery unit that delivers over 80 percent of the County's high risk babies. It is the largest provider of health care services in Kern County and is the only trauma center within a 100 mile radius. KMC provides comprehensive inpatient, outpatient and ancillary services. KMC is the only hospital with Accreditation Council for Graduate Medical Education (ACGME) accredited residency training programs in Kern County that include Emergency Medicine, Family Practice, Internal Medicine, Obstetrics/Gynecology, Psychiatry, Surgery and Transitional Year. KMC is affiliated with University of California, Los Angeles (UCLA) and University of California, Irvine (UCI) schools of medicine. KMC provides care for over 19,000 inpatient admissions annually, while our clinics provide care and services for over 100,000 patients. The ethnicity of our patient population serviced at KMC is approximately 55 percent Hispanic, 33 percent White, 9 percent Black, 1 percent Asian, and 2 percent other. Our average daily census is 169 with an average daily discharge of 37. KMC's mission is to improve the health and well being of the community through leadership in prevention, treatment, education, community involvement and access to care.

Key Challenges

Kern Medical Center has identified the following high-level challenges in providing the population with a patient experience that ensures appropriate access to quality patient care in a coordinated method:

- Growing population of patients being served by KMC: KMC serves a county population of approximately 807,407. As the only county hospital, KMC is the main source of care for the low-income population. Nearly 20.5% of Kern County's population is living below the poverty level.¹
- Inadequate primary care and specialty care capacity to meet patient demands
- Inadequate registry capacity to proactively manage high risk populations
- Inadequate ability to provide after hours medical information and care outside of emergency department
- Diverse patient population requiring language interpretation services
- Large proportion of patients using the Emergency Department (ED) for episodic care rather than accessing a medical home that provides coordinated care
- High prevalence of behavioral health issues and a lack of coordination between physical and behavioral health
- Fragmentation of inpatient, outpatient, and ancillary services

Overview of Proposed Projects

In order to improve access, quality of care, and the overall patient experience, we propose investing in projects in the following four categories. Each project includes a goal, expected outcomes, and a five-year implementation plan with measurable milestones, upon which reimbursement will be based.

Category I: Infrastructure Development – Through investing in tools and human resources, KMC will strengthen its ability to serve the population, expand access, and continuously improve its services. We propose developing infrastructure to do the following:

1. Expand primary care capacity
2. Implement and utilize disease management registry functionality
3. Enhance urgent medical advice
4. Expand specialty care capacity
5. Enhance interpretation services and culturally competent care

¹ US Census Bureau 2009

Category II: Innovation and Redesign – KMC will also implement the following innovation projects, which have the potential to make significant, demonstrated improvements in patient experience, cost and disease management:

1. Expand medical homes
2. Redesign primary care
3. Integrate physical and behavioral health
4. Implement a patient care navigation program

Category III: Population-focused Improvement—KMC will invest in enhancing care delivery for the highest burden conditions in the populations served by California Public Hospitals. Selection of these projects is pending.

Category IV: Urgent Improvement in Care – KMC will implement the following interventions, for which there is deep evidence that major improvement in care is possible within 5 years, and the improvement is measurable and meaningful for almost all hospital populations such as those served by the California Public Hospitals.

1. Improve severe sepsis detection and management
2. Central-line associated bloodstream (CLABSI) infection prevention
3. Venous thromboembolism (VTE) prevention and treatment
4. Hospital-acquired pressure ulcer prevention

Goals/Objectives

At the end of five years, through successfully implementing the initiatives mentioned above, we will achieve the following outcomes:

- Reduction in number of days until third next available date for primary care from 60 to 30 days
- Ability to track and report on diabetes measures for 75% of the diabetic population
- Increased number of patients with non-emergent conditions redirected to non-ED resources through the nurse advice line
- Expanded number of specialty providers and/or clinic hours for highest demand specialties
- Increased number of patients who are assigned to a medical home for the Low Income Health Program
- 75% of patients assigned to a medical home will receive reminders for preventive screenings
- Reduction in no-show rates from over 30% to 15% in all primary care clinics
- Reduction in cycle time to 60 minutes or less for all primary care clinics
- 60% of patients discharged from an inpatient psychiatric unit assigned a medical home
- 45% increase in patients who have access to behavioral health services in the primary care setting among those patients identified as having a behavioral health care need
- 25% reduction in ED visits and avoidable admissions among patients receiving navigation services
- 30% of patients in the ED who need a primary care appointment discharged with a scheduled appointment
- Expanded health care interpretation so that patients can receive interpretation from a qualified health care interpreter
- Cultural competency training through designated direct patient care champions
- Increased compliance with Sepsis Resuscitation Bundle
- Reduction in Central Line-Associated Blood Stream Infections (CLABSI)
- Implementation of Venous Thromboembolism Prevention and Treatment Program
- Reduction in the incidence of preventable Stage II, III, IV and Unstageable Pressure Ulcers

Category 1

Per the California Section 1115 Waiver Terms and Conditions, the purpose of Category 1: Infrastructure Development is “investments in technology, tools and human resources that will strengthen the organization's ability to serve its population and continuously improve its services.” Therefore, KMC's Category 1 includes infrastructure development, including investment in people, places, processes and technology. This category is foundational to the success of Categories 2-4. This plan describes how the Category 1 infrastructure development will expand access to care with strong emphasis on building coordinated systems that promote preventive and primary care.

1. Expand Primary Care Capacity

Goal: The goal of this project is to expand the capacity of primary care to better accommodate the needs of the patient population and community so that patients can receive the right care in the right setting.

Currently KMC operates four primary care clinics: pediatrics, family practice and two internal medicine clinics. However, at this time the clinics do not have the capacity to see the patients needing appointments, and wait time for the next available date for non-urgent appointments is 60 days. Currently, the clinics are only open during the weekdays and have no evening or weekend hours. Although three clinics have same-day appointment slots, the supply is limited. Approximately 15% who call wanting a same-day appointment receive an appointment that day. Therefore, patients call the appointment line as early as possible to receive these appointments, creating a backlog in the number of calls that can be answered, and long wait times for a scheduler via phone. As we prepare for the increase of individuals insured through health reform in 2014, many patients will be placed in managed care environments that require them to be assigned to a primary care provider. KMC will need to increase its capacity to be able to see these patients in a timely manner in order to create a positive patient experience and become the provider of choice. In addition, expanding primary care capacity will lead to improved quality and lower costs, as access to primary care has been shown to reduce more costly avoidable visits to the emergency department and the hospital.^{2,3} We plan to improve primary care capacity by doing the following:

1. Increase clinic hours to evenings and weekends
2. Triage patient appointments to ensure that same day appointment slots are available for the most urgent patients
3. Provide urgent appointments within 3 calendar days of request

Expected Outcome: The third next available appointment will be reduced to 30 calendar days, as a result of expanding primary care clinic hours and providing appropriate urgent appointments to patients. We will be measuring third next available date which has been cited by the Institute for Healthcare Improvement as a more sensitive reflection of appointment availability compared to next available date.⁴

² Falik M, Needleman J, Wells BL, et al. Ambulatory care sensitive hospitalizations and emergency visits: experiences of Medicaid patients using federally qualified health centers. *Med Care*. 2001;39:551–556.

³ Smith-Campbell B. Emergency department and community health center visits and costs in an uninsured population. *J Nurs Scholarsh*. 2005;37:80 – 86.

⁴ Institute for Healthcare Improvement. <http://www.ihl.org/IHI/Topics/OfficePractices/Access/Measures/Third+Next+Available+Appointment.htm>

Relation to Category 3 Population-Focused Improvement: Through expanding primary care capacity, patients will have more access to primary care, which will improve the patient experience, reduce readmissions for at risk populations, improve preventive screenings, and improve chronic care management and outcomes.

Relation to Category 2 Improvement Projects: The expansion of primary care capacity will allow us to build upon the other proposed projects to improve access to quality of care received in the primary care setting, including expanding medical homes and redesigning primary care. The project will also allow us to better integrate physical-behavioral healthcare by providing patients with behavioral health issues improved access to a regular source of medical care.

Project 1: Expand Primary Care Capacity					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
<p>1. Process Milestone: Develop a plan to expand the hours of the primary care clinic to include evenings and weekends, as measured by (1) identification of current patient volume, (2) assessment of new patient waiting list, (3) development of plan to expand the hours, and (4) a plan to re-integrate urgent appointments into primary care clinics, including triaging patients, so that patients can be seen by their primary care provider teams.</p> <p>Metric: Documentation of completion of all four items, including timeframes and submission of the proposed new clinic</p>	<p>2. Process Milestone: Implement a nurse triage software system to assist nurses in determining the acuity of patients.</p> <p>Metric: Documentation of vendor agreement.</p> <p>3. Process Milestone: Hire and train at least 2 additional primary care nurses.</p> <p>Metric: HR approved position documentation and training material.</p> <p>4. Improvement Measure: Provide 20% of patients that request urgent appointments, an appointment in the primary care clinic (instead of having to go to the ED or an urgent care clinic) within 3 calendar days of request.</p>	<p>5. Process Milestone: Expand the hours of the primary care clinic by at least 8 hours per week.</p> <p>Metric: Increased number of hours at primary care clinic over baseline of 40 hours as evidenced by documentation of new clinic hours.</p> <p>6. Improvement Measure: Provide 40% of patients that request urgent appointments an appointment in the primary care clinic (instead of having to go to the ED or an urgent care clinic) within 3 calendar days of request.</p> <p>Metric: Data reports from scheduling system showing date appointment requested and date of scheduled</p>	<p>7. Process Milestone: Expand the hours of the primary care clinic by at least 16 hours per week.</p> <p>Metric: Increased number of hours at primary care clinic over baseline of 40 hours, as evidenced by documentation of new clinic hours.</p> <p>8. Improvement Milestone: Patient access to primary care by reducing days to third next-available appointment within 30 calendar days</p> <p>Metric: Third Next-Available Appointment as measured by the length of time in calendar days between the day a patient makes a request for an appointment, and the</p>	<p>9. Improvement Milestone: Patient access to primary care by maintaining 30 calendar days to third next-available appointment</p> <p>Metric: Third Next-Available Appointment as measured by the length of time in calendar days between the day a patient makes a request for an appointment, and the third available appointment. For each provider, the third next available date will be measured. For each clinic, the third next available date will be the average among all providers in that clinic. The average for the most recent month will be reported.</p>	<ul style="list-style-type: none"> • Patient/caregiver experience (Cat 3) • Care Coordination (Cat 3) • Preventive Health (Cat 3) • At risk populations (Cat 3) • Expand medical homes (Cat 2) • Integrate behavioral and physical health (Cat 2)

Project 1: Expand Primary Care Capacity					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
hours.	Metric: Data reports from scheduling system showing date appointment requested and date of scheduled appointment. <ul style="list-style-type: none"> • Numerator: Number of patients provided urgent primary care appointment within 3 calendar days. • Denominator: Number of patients triaged as needing an urgent primary care appointment within 3 calendar days. 	appointment. <ul style="list-style-type: none"> • Numerator: Number of patients provided urgent primary care appointment within 3 calendar days. • Denominator: Number of patients triaged as needing an urgent primary care appointment within 3 calendar days. 	third available appointment. For each provider, the third next available date will be measured. For each clinic, the third next available date will be the average among all providers in that clinic. The average for the most recent month will be reported.		

2. Implement and Utilize Disease Management Registry Functionality

Goal: To implement infrastructure that supports patient population health and coordination of care through expanding the KMC's current disease registry functionality and properly training staff on the use of the registry.

According to state public health data, Kern County currently ranks 57 out of 58 California counties in diabetes-related deaths⁵, indicating a need for much improved diabetes management. In addition, in an analysis of ambulatory care sensitive conditions (ACS) of admissions in 2008, diabetes-related complications resulted in the highest cost ACS admissions to KMC. ACS conditions are conditions for which patients were admitted, but could have been prevented or avoided through timely outpatient care. To address this issue, KMC has established a diabetes clinic to better manage the diabetic population of Kern County. However, to inform providers' care plans for patients and ensure that patients are provided with appropriate reminders, a computerized disease registry is critical in providing access to timely and relevant

⁵ California Department of Public Health and California Conference of Local Health Officers. County Health Status Profiles 2010. Accessed at: <http://www.kernpublichealth.com/departments/divisionofhealthassessment/pdfs/OHIRProfiles2010.pdf>

individual data. Moreover, the disease registry can serve as an important tool to aggregate and summarize population data if it issued for all patients with the disease.⁶

KMC currently has a disease registry to track diabetes outcomes. However, the registry is not being used in any of KMC's primary care clinics nor the diabetic clinics to enter or report on data. Training is required to educate staff on the functionality and integrate the use of the registry functionality into existing workflows. This is especially important as KMC transitions to electronic medical records, and much of the clinic workflow and processes are already needing to be modified. KMC proposes to do the following in order to expand the use of registry functionality:

1. Design registry reporting plan and structure
2. Train at least 10 champions on populating and using the registry functionality
3. Expand the use of the registry to all areas of KMC with diabetic patients, including the primary care clinics, diabetic clinic, eye clinic, podiatry clinic, and inpatient floors.

Expected Outcome: Data will be entered into the registry for at least 75% of diabetic patients assigned to one of KMC's primary care clinics as their medical home.

Relation to Category 3 Population-Focused Improvement: By being able to better track our diabetic population and report on outcomes, utilizing disease registry functionality will help us define the population and reduce harmful medical errors. Moreover, through proactively managing the population and providing us with the data to bring in patients for regular diabetes care; it will reduce readmissions, improve quality, improve diabetes outcomes, and improve screening rates. Lastly, registry functionality will allow us to better coordinate care for diabetes, thereby reducing admissions for short-term diabetes complications and uncontrolled diabetes.

Relation to Category 2 Improvement Projects: The use of the registry will be extremely important as we plan to expand medical homes for patients. The registry will provide clinics with the data they need to remind patients about preventive screenings.

Project 2: Implement and Utilize Disease Registry Functionality					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
1. Process Milestone: Demonstrate and design registry reporting ability to track and report on	2. Process Milestone: Expand registry report services to provide on-demand, operational, and historical capabilities, inclusive of	4. Improvement Measure: Spread registry functionality and training to inpatient floors and 6 outpatient clinic sites that provide continuity of care	6. Improvement Milestone: Enter patient data into the registry for at least 65% of patients with diabetes who are	7. Improvement Milestone: Enter patient data into the registry for at least 75% of patients with diabetes who are	<ul style="list-style-type: none"> • Care Coordination (Cat 3) • At risk populations (Cat 3)

⁶ Wagner E, Austin B, Davis C, et al. Improving chronic illness care: Translating evidence into action. Health Affairs. 2001; 20: 64-78.

Project 2: Implement and Utilize Disease Registry Functionality					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
<p>patient demographics, diagnoses, patients in need of services or not at goal, and preventive care status.</p> <p>Metric: Documentation of sample mock reports and/or dashboards.</p>	<p>reports to care providers, managers, and executives.</p> <p>Metric: Documentation of reporting plan with policies and procedures for registry reporting.</p> <p>3. Process Milestone: Conduct staff training for at least 10 staff on populating and using the registry.</p> <p>Metric: Documentation of training materials and list of staff members trained using online training software.</p>	<p>for the diabetes population.</p> <p>Metric: Expand registry functionality and training to inpatient floors, three primary clinics, diabetic clinic, podiatry clinic, and eye clinic.⁷</p> <p>5. Improvement Milestone: Enter patient data into the registry for at least 50% of patients with diabetes who are assigned to a KMC primary care clinic as their medical home.</p> <p>Metric: Number of patients with diabetes in the registry who are assigned to a KMC primary care clinic as their medical home.</p> <ul style="list-style-type: none"> • Numerator: Number of patients with diabetes in the registry who are assigned to a KMC primary care clinic as their medical home. • Denominator: Number of patients with diabetes who are assigned to a KMC primary care clinic as their medical home. 	<p>assigned to a KMC primary care clinic as their medical home.</p> <p>Metric: Number of patients with diabetes in the registry who are assigned to a KMC primary care clinic as their medical home.</p> <ul style="list-style-type: none"> • Numerator: Number of patients with diabetes in the registry who are assigned to a KMC primary care clinic as their medical home. • Denominator: Number of patients with diabetes who are assigned to a KMC primary care clinic as their medical home. 	<p>assigned to a KMC primary care clinic as their medical home.</p> <p>Metric: Number of patients with diabetes in the registry who are assigned to a KMC primary care clinic as their medical home.</p> <ul style="list-style-type: none"> • Numerator: Number of patients with diabetes in the registry who are assigned to a KMC primary care clinic as their medical home. • Denominator: Number of patients with diabetes who are assigned to a KMC primary care clinic as their medical home. 	<ul style="list-style-type: none"> • Expand medical homes (Cat 2)

⁷ Expand functionality defined as one clinical staff in each area being trained on disease registry functionality

3. Enhance Urgent Medical Advice

Goal: To provide urgent medical advice so that patients who need it can access it telephonically, so that avoidable utilization of urgent care and the ED can be reduced.

Currently, KMC does not have any way of providing patients with after-hour advice or medical information, except through a visit to the emergency department. An analysis of ED visits to KMC indicates that the highest volume times of non-urgent visits are between 10PM-1AM. These high volume hours correlate to times when most outpatient clinics are closed; indicating that patients may need enhanced access to after-hours medical advice.

Besides increasing access to outpatient care, a nurse line provides the opportunity for patients to receive advice about whether they have an urgent condition before coming to the emergency department. Urgent medical advice lines have been shown to reduce non-emergent ED use among patients who were previously intending to go to the ED. In a study of over 1500 callers to a nurse advice line, 70% complied with recommendations given to them, with 46% of patients choosing a lower intensity of care than their original plan.⁸ In DY6, a 24-hour nurse line and comprehensive health information library with reporting capabilities will be established, so that patients can have access to medical information at their convenience. Patient outreach in the form of newsletters and magnets will be distributed to inform patients about the nurse line and encourage their use of the services. KMC shall establish a baseline for the number of patients who call with the intent to go to the ED. Each year, we will continue to encourage patients to utilize the nurse line, and increase the percentage of patients who use it and adhere to its advice.

Expected Outcome: Increase the number of patients who called the nurse advice line with intent to go to the ED for non-emergent conditions who were redirected to non-ED resources by 25% over baseline established in Year 1.

Relation to Category 3 Population-Focused Improvement: Through providing access to a nurse line and health information library 24 hours a day, enhancing urgent medical advice will improve the patient/caregiver experience.

Relation to Category 2 Improvement Projects: This project builds upon our plan to expand the medical home, in which patients have access to routine health care that is tailored to their needs and need to rely less on the emergency department for care.

⁸Bogdan G, Green J, Swanson D, et al. Evaluating patient compliance with nurse advice line recommendations and the impact on healthcare costs. Am J Manage Care. 2004. 10: 534-542.

Project 3: Enhance Urgent Medical Advice					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
<p>1. Process Milestone: Establish baseline and metrics of the 24/7 Nurse Line and Health Information Library. Includes at least the following metric baselines: (1) number of patients that access the nurse advice line; and (2) number of patients that called the nurse advice line and reported intent to go to the ED for non-emergency conditions. Metric: Documentation on baseline and metrics.</p> <p>2. Process Milestone: Establish 24/7 Nurse Line and Health Information Library. Metric: Copy of vendor contract for nurse advice line..</p> <p>3. Process Milestone: Inform and educate 5,000 patients on the nurse advice line. Metric: Number of targeted patients informed/ educated, as evidenced by copy of</p>	<p>4. Process Milestone: Inform and educate an additional 5,000 (10,000 total) patients on the nurse advice line. Metric: Number of targeted patients informed/educated as evidenced by copy of vendor invoice.</p> <p>5. Improvement Milestone: Increase in the number of patients that accessed the nurse advice line by 10% over baseline established in Year 1. Metric: Utilization of nurse advice line, as evidenced by utilization reports submitted by contracted vendor.</p> <p>6. Process Measure: Develop and distribute 5,000 patient-focused educational newsletters with proactive health information and reminders based on nurse advice line data/generated report identifying common areas addressed by the nurse advice line and</p>	<p>7. Improvement Milestone: Increase in the number of patients that accessed the nurse advice line by 25% over baseline established in Year 1. Metric: Utilization of nurse advice line, as evidenced by utilization reports submitted by contracted vendor.</p> <p>8. Process Measure: Develop and distribute 10,000 patient-focused educational newsletters with proactive health information and reminders based on nurse advice line data/generated report identifying common areas addressed by the nurse advice line and topics searched for in the Health Information Library. Metric: Number of newsletters sent to patients as evidenced by copy of newsletter and vendor invoice.</p> <p>9. Improvement Milestone: Increase the</p>	<p>10. Improvement Milestone: Increase in the number of patients that accessed the nurse advice line by 40% over baseline established in Year 1. Metric: Utilization of nurse advice line, as evidenced by utilization reports submitted by contracted vendor.</p> <p>11. Improvement Milestone: Increase the number of patients that called the nurse advice line with intent to go to the ED for non-emergent conditions who were redirected to non-ED resources by 25% over baseline established in Year 1. Metric: Percent of patients that were redirected to non-ED resources. • Numerator: Number of patients that accessed the nurse advice line who reported intent to go to the ED, but were redirected to non-ED resources. • Denominator: Total number of patients that accessed the nurse advice line who reported intent to go to the ED.</p>	<p>12. Improvement Milestone: Increase the number of patients that called the nurse advice line with intent to go to the ED for non-emergent conditions who were redirected to non-ED resources by 25% over baseline established in Year 1. Metric: Percent of patients that were redirected to non-ED resources. • Numerator: Number of patients that accessed the nurse advice line who reported intent to go to the ED, but were redirected to non-ED resources. • Denominator: Total number of patients that accessed the nurse advice line who reported intent to go to the ED.</p>	<ul style="list-style-type: none"> • Improve patient/ caregiver experience (Cat 3) • Expand the medical home (Cat 2)

Project 3: Enhance Urgent Medical Advice					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
vendor invoice.	<p>topics searched for in the Health Information Library.</p> <p>Metric: Number of newsletters sent to patients as evidenced by copy of newsletter and vendor invoice.</p>	<p>number of patients that called the nurse advice line with intent to go to the ED for non-emergent conditions who were redirected to non-ED resources by 10% over baseline established in Year 1.</p> <p>Metric: Percent of patients that were redirected to non-ED resources.</p> <ul style="list-style-type: none"> • Numerator: Number of patients that accessed the nurse advice line who reported intent to go to the ED, but were redirected to non-ED resources. • Denominator: Total number of patients that accessed the nurse advice line who reported intent to go to the ED. 	<ul style="list-style-type: none"> • Denominator: Total number of patients that accessed the nurse advice line who reported intent to go to the ED. 		

4. Expand Specialty Care Capacity

Goal: To increase specialty care capacity in order to better accommodate the high demand for specialty care services.

Besides primary care, KMC currently operates several specialty clinics, which include medicine specialties, orthopedics, eye, surgery and surgery specialties, and OB-GYN clinics. Since KMC is the only county hospital in Kern County, it is the primary source of specialty care for the safety net population. Wait times for high- demand specialties such as endocrinology and neurology clinic are 6.5 and 5.5 months respectively. Moreover, some patients cannot even be scheduled for appointments, because schedules are not open far enough in advance to accommodate the number of patients waiting for a specialty care appointment. In eye clinic, for example, over 700 patients are still waiting to be scheduled. In addition to high demands for these clinic appointments, the supply is limited as these clinics only operate for one half-day clinic session during a week.

In order to improve access, we propose the following:

1. Conduct a gap analysis to determine the specialty care needs of the community
2. Implement specialty care guidelines for the highest demand specialties. Referral guidelines have been shown to reduce unnecessary referrals to specialty clinics, reduce wait times for patients who do need to see a specialist, and increase patient satisfaction.⁹
3. Expand the number of current specialty providers and/or specialty clinic hours for the highest need specialties to expand the supply of specialty care. In particular, in Year 1, KMC will implement a musculoskeletal clinic. In a qualitative study of approximately 100 frequent utilizers of hospital services (inpatient and ED), the most common reason cited by patients for using the ED was chronic pain, indicating that a musculoskeletal clinic may be able to reduce unnecessary ED visits and help patients better manage their pain.

Expected Outcome: Expand the number of specialty providers and/or clinic hours for the four highest demand specialties identified for KMC's population.

Relation to Category 3 Population-Focused Improvement: By increasing patients' access to specialty care, this project will improve quality and reduce admissions especially for at-risk populations. Improving access and reducing wait times to be seen in clinics will also improve the patient/caregiver experience.

Relation to Category 2 Improvement Projects: This initiative aligns with the goals of an expanded medical home in which primary and specialty care are coordinated for the patient.

⁹ Benninger M, King F, Nichols R. Management guidelines for improvement of otolaryngology referrals from primary care physicians. Otolaryngology- Head and Neck Surgery. 1995. 113: 446-452.

Project 4: Expand Specialty Care Capacity					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
<p>1. Process Milestone: Collect baseline data for wait times, backlog, and no show rates in at least 8 specialty clinics. Metric: Establish baseline for performance indicators.</p> <p>2. Process Milestone: Train 25 primary care providers and/or staff on processes, guidelines and technology for referrals and consultations. Metric: Training of staff and providers on referral guidelines, process and technology as evidenced by training materials and number of staff/providers trained.</p> <p>3. Process Milestone: Launch a musculoskeletal clinic. Metric: Establish specialty care clinic as evidenced by documentation of new specialty care clinic.</p>	<p>4. Process Milestone: Conduct a specialty care gap analysis based on community need by assessing specialty clinic supply and demand, capacity and productivity. Metric: Administrative records, final analysis report and recommended outcomes.</p> <p>5. Improvement Milestone: Based on results of gap analysis, increase the number of specialist providers and/or clinic hours available for at least 2 high impact/most impacted medical specialties identified in the gap analysis. Metric: Demonstrate an increased number of specialist providers and/or 4 additional clinic hours in at least 2 high impact/most impacted specialties.</p> <p>6. Process Milestone: Establish 3 specialty care guidelines for the high impact/most impacted medical specialties identified in the gap analysis. Metric: Documentation and distribution of guidelines.</p>	<p>7. Process Milestone: Establish 3 additional (6 total) specialty care guidelines for the high impact/most impacted medical specialties identified in the gap analysis. Metric: Documentation and distribution of guidelines.</p> <p>8. Improvement Milestone: Based on results of gap analysis, increase the number of specialist providers and/or clinic hours available for at least 1 additional (3 total) high impact/most impacted medical specialties. Metric: Demonstrate an increased number of specialist providers and/or 4 additional clinic hours in at least 1 high impact/most impacted specialty.</p>	<p>9. Improvement Milestone: Based on results of gap analysis, increase the number of specialist providers and/or clinic hours available for at least 1 additional (4 total) high impact/most impacted medical specialties. Metric: Demonstrate an increased number of specialist providers and/or 4 additional clinic hours in at least 1 high impact/most impacted specialty.</p>		<ul style="list-style-type: none"> • Care coordination (Cat 3) • patient/caregiver experience (Cat 3) • High-risk populations (Cat 3) • Expand medical home (Cat 2)

5. Enhance Interpretation Services and Culturally Competent Care

Goal: Patients have access to timely, qualified health care interpreter services in their primary language, thereby increasing the likelihood of safe and effective care, open communication, adherence to treatment protocols, and good outcomes.

The hospital recognizes that communicating with our patients is pivotal for patient safety and experience. As a result, interpretation services and culturally competent care is an extremely important focus. At Kern Medical Center, 37% of patients seen in inpatient areas and 28% of patients in outpatient areas speak a language other than English as their primary language. According to The Joint Commission, "For several decades, this growing linguistic diversity has had considerable impact on our medical institutions' ability to deliver equal and adequate healthcare services for all." In addition, in their analysis of sentinel events, Joint Commission findings reveal that 52 percent of limited-English proficiency (LEP) patients suffer adverse events as a result of language breakdowns in comparison to 36 percent of English-speaking patients.¹⁰ The availability of resources which aid in translation and the training of staff in the use of those resources are critical in order to ensure appropriate language access for every patient.

KMC has recognized the importance of interpretive service and has been a member of the Health Care Interpreter Network (HCIN) since 2007. HCIN is a cooperative of California hospitals and health care providers sharing trained health care interpreters through an automated video/voice call center system which provides interpretation for 170 languages, including American Sign Language (ASL), twenty four hours a day. The ability to expand the program and provide additional staff training will improve the current utilization of the system by providers and staff. In addition, analysis of access to current equipment will guide the expansion of interpreter technology both in inpatient and outpatient areas.

Since the perception of illness and disease and their causes varies by culture, these individual preferences affect the approaches to health care. Cultural competency and awareness improve patient, provider and staff communication through better understanding of the patient's beliefs of health and illness. Cultural competency training through the use of "champions" will provide our staff with expanded cultural awareness. Access to language interpretation combined with cultural competency will allow our caregivers to participate in developing a plan which improves the quality of care and health outcomes of our patients.

We plan to improve interpretive services and provide culturally competent care by doing the following:

1. Identification of language access needs and/or gaps in language access
2. Addition of interpreter technology in inpatient and outpatient areas
3. Expansion of certified qualified healthcare interpreters by fifty percent
4. Increased training related to language access
5. Training of staff "champions" related to cultural competency/sensitivity
6. Improving language access through an increase in qualified healthcare encounters

¹⁰ Joint Commission, Language proficiency and adverse events in US hospitals: a pilot study, December 2006

Expected Outcome: By year 5, increase the number of remote encounters by a qualified healthcare interpreter by 20% compared to baseline.

Relation to Category 3 Population-Focused Improvement: Through enhancing interpretive services and cultural competency/sensitivity patients will have effective patient-provider/staff communication which is integral to safe, good quality patient care. This will both improve the patient/ caregiver experience and improve care coordination.

Relation to Category 2 Improvement Projects: Better communication and cultural understanding between patients and providers improves coordination to care and provides expanded access to meaningful healthcare encounters. This directly aligns with the goals of expanding the medical home. Expanding interpretation services in the outpatient setting will also result in improved communication during behavioral health visits, which we plan to integrate with physical health.

Project 5: Enhance Interpretation Services and Culturally Competent Care					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
<p>1. Process Milestone: Conduct an analysis to determine gaps in language access through a survey to determine availability of interpretative equipment within the hospital and its outpatient clinics. Metric: Gap analysis will be completed with report submitted to leadership.</p> <p>2. Process Milestone: Expand capacity of qualified healthcare interpretation workforce to 2 full time staff on HCIN. Metric: Number of certified interpreters for facility providing services on HCIN.</p>	<p>4. Process Milestone: Train 50% of direct patient care staff and/or providers in inpatient area to appropriately utilize health care interpreters (via video, phone, or in person). Metric: Percent of direct patient care staff and/or providers in inpatient areas completing training course.</p> <ul style="list-style-type: none"> • Numerator: Number of direct patient care staff and/or providers in inpatient areas that have completed training course. • Denominator: Number of direct patient care staff and/or providers in inpatient care areas. <p>5. Process Milestone: Develop and implement a training program for 10</p>	<p>7. Process Milestone: Train 50% of direct patient care staff and/or providers in outpatient care areas to appropriately utilize health care interpreters (via video, phone, or in person). Metric: Percent of direct patient care staff or providers in outpatient care areas completing training course.</p> <ul style="list-style-type: none"> • Numerator: Number of direct patient care staff and/or providers in outpatient area that have completed training course. • Denominator: Number of direct patient care staff and/or providers in outpatient care areas. <p>8. Process Milestone: Train 10 additional (20 total) designated champions/staff to improve cultural competency</p>	<p>11. Process Milestone: Expand the interpreter technology (video or audio units) by 5% from previous year. Metric: Increase in number of video or audio conferencing units compared to number of video or audio conferencing units in previous year.</p> <p>12. Improvement Milestone: Improve language access through a 15% increase from baseline in qualified interpreter encounters per month.</p>	<p>13. Improvement Milestone: Improve language access through a 20% increase from baseline in qualified interpreter encounters per month. Metric: Average number of remote video/voice qualified interpreter encounters recorded per month for reporting period compared to average number of remote video/voice qualified interpreter</p>	<ul style="list-style-type: none"> • Redesign Primary Care (Cat 2) • Expand Medical Home (Cat. 2) • Integrate Physical and Behavioral Health Care (Cat 2) • Patient Care Navigation Program (Cat 2) • Prevent Health (Cat 3) • Patient Experience (Cat. 3) • Care Coordination (Cat 3)

Project 5: Enhance Interpretation Services and Culturally Competent Care

Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
<p>3. Process Milestone: Establish baseline data of qualified interpreter encounters and number of video or audio conferencing points of access and/or units within inpatient and outpatient areas of the hospital.</p> <p>Metric: Documentation baseline for qualified interpreter encounters per month and number of audio/video conferencing points of access and/or units within inpatient and outpatient areas of the hospital.</p>	<p>"champions" to improve cultural competency.</p> <p>Metric: Number of "champions" who are direct patient care staff in inpatient care areas will have completed training course as evidenced by training materials and number of staff/providers trained.</p> <p>6. Process Milestone: Develop a plan to expand the interpreter technology to additional patient care areas within the hospital and its outpatient clinics</p> <p>Metric: Documentation of expansion plan, including work plan and timelines.</p> <p>7. Improvement Milestone: Improve language access through a 5% increase from baseline in qualified interpreter encounters per month.</p> <p>Metric: Average number of remote video/voice qualified interpreter encounters recorded per month for reporting period compared to average number of remote video/voice qualified interpreter encounters per month in baseline year.</p>	<p>in outpatient areas.</p> <p>Metric: Number of "champions" who are direct patient care staff in outpatient care areas will have completed training course as evidenced by training materials and number of staff/providers trained.</p> <p>9. Process Milestone: Expand the interpreter technology (video or audio units) by 5% over baseline in year 1.</p> <p>Metric: Increase in number of video or audio conferencing units compared to number of video or audio conferencing units in baseline year.</p> <p>10. Improvement Milestone: Improve language access through a 10% increase from baseline in qualified interpreter encounters per month.</p> <p>Metric: Average number of remote video/voice qualified interpreter encounters recorded per month for reporting period compared to average number of remote video/voice qualified interpreter encounters per month in baseline year.</p>	<p>Metric: Average number of remote video/voice qualified interpreter encounters recorded per month for reporting period compared to average number of remote video/voice qualified interpreter encounters per month in baseline year.</p>	<p>encounters per month in baseline year.</p>	<ul style="list-style-type: none"> At-Risk Populations (Cat3)

Category 2

Per the Waiver Terms and Conditions, the purpose of Category 2 Innovation and Redesign is “investments in new and innovative models of care delivery that have the potential to make significant, demonstrated improvements in patient experience, cost and disease management.” Therefore, KMC’s Category 2 includes testing and spreading innovative models to better coordinate care, improve quality, and provide an enhanced patient experience. The interventions described below specifically address the challenges that our unique patient population faces such as fragmented care and a high burden of both physical and behavioral health issues.

1. Expand Medical Homes

Goal: To establish a “home base” for patients, where patients have a health care team that is tailored to the patient’s health care needs, coordinates the patient’s care, and proactively provides preventive, primary, routine and chronic care, so that patients may see their health improve, rely less on costly ED visits, incur fewer avoidable hospital stays, and report a greater patient experience of care.

Currently KMC operates four primary care clinics that have components of a medical home. Patients are assigned to a provider, are provided with education, and referrals for specialty care or other services are coordinated for patients by clinic staff. The focus of this project would be to expand our medical homes to reach out to patients to come in for preventive services, and increase the number of patients who come in for their first primary care visit in a timely manner after being assigned. Currently, compared to other counties, Kern County ranks 58/58 in heart disease related deaths per 100,000 individuals and 57/58 in diabetes deaths.¹¹ Kern County also has the highest Chlamydia rate among California counties. Moreover, KMC spent over \$4,000,000 in 2008 on admissions of uninsured patients admitted for ambulatory care sensitive conditions. The prevalence of these conditions indicates a need for improved preventive care and timely, ongoing treatment. An important component of preventive care is regular screenings. Reminders to patients have been shown to increase screening rates. For example, in studies, patient reminders have been associated with increasing colon cancer screening rates by 30%¹², and they have been cited as a strategy by NCQA as an important component to improve Chlamydia screening¹³. Moreover, because KMC will be rolling out an EMR and increasing the use of its diabetes registry functionality, KMC primary care clinics will have access to more robust population data to be able to pro-actively manage the health of patients.

Expected Outcomes:

1. 60% of new patients assigned to county medical homes that are contacted for their first patient visit within 120 days
2. 75% of patients per year who need to receive a screening exam will be provided with reminders for Chlamydia screenings, cancer screenings, and cholesterol screenings.

¹¹ California Department of Public Health and California Conference of Local Health Officers. County Health Status Profiles 2010. Accessed at: <http://www.kernpublichealth.com/departments/divisionofhealthassessment/pdfs/OHIRProfiles2010.pdf>

¹² Mosen D, Feldstein A, Perrin N et al. Automated telephone calls improved completion of fecal occult blood testing. Journal of Medical Care. 2010. 48:604-610.

¹³ NCQA. Improving Chlamydia screenings: strategies from top performing health plans. 2007. Accessed at: http://www.ncqa.org/Portals/0/Publications/Resource%20Library/improving_Chlamydia_Screening_08.pdf

Relation to Category 3 Population-Focused Improvement: Through expanding the medical home, patients will receive more coordinated and preventive care, resulting in reduced readmissions and improved chronic management outcomes. Reminders to patients will increase screening rates, thereby enhancing preventive health. Expanding the medical home will also improve the patient experience.

Relation to Category 2 Improvement Projects: In order to assign more patients to a medical home, it will be critical to redesign primary care, so that all resources are used as efficiently as possible. Reminder calls to patients for their screenings will rely on the expansion of disease registry functionality. Lastly, providing more coordinated care for patients aligns with the goal of the integration of physical and behavioral health.

Project 1: Expand Medical Homes					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
<p>1. Process Milestone: Determine the appropriate panel size for primary care provider teams, potentially based on staff capacity, demographics, and diseases.</p> <p>Metric: Submission of completed analysis and recommended panel size - Number of patients assigned to a provider care team, by provider FTE. For part-time providers or residents who are assigned a dedicated panel, list the true panel size with percentage FTE.</p>	<p>2. Process Milestone: Put in place policies and systems to enhance patient access to the medical home</p> <p>Metric: Hospital policies on medical home.</p> <p>3. Improvement Milestone: Assign at least 1500 of eligible patients (where eligible is defined as eligible for Kern County's LIHP program) to medical homes.</p> <p>Metric: Number of patients assigned to medical homes, as evidenced by LIHP enrollment and eligibility reports.</p> <p>4. Improvement Milestone: At least 40% of new patients assigned to medical homes will be contacted</p>	<p>5. Improvement Milestone: Assign at least 2500 of eligible patients (where eligible is defined as eligible for Kern County's LIHP program) to medical homes.</p> <p>Metric: Number of patients assigned to medical homes, as evidenced by LIHP enrollment and eligibility reports.</p> <p>6. Improvement Milestone: At least 60% of new patients assigned to medical homes will be contacted for their first patient visit within 120 days.</p> <p>Metric: Percent of new patients assigned to a county medical home who are</p>	<p>7. Improvement Milestone: Medical home provides population health management by identifying and reaching out to 50% of patients who need to be brought in for preventive and ongoing care.</p> <p>Metric: Percent of patients in the EMR and/or registry needing preventative services who are sent reminders for these services. Reminders will be sent for the following:</p> <ul style="list-style-type: none"> • Cancer Screenings: Breast, Colon and Cervical • Chlamydia Screening (women 19-25) • Cholesterol Level (for patients with CHF or diabetes diagnosis) • Numerator: For select specific 	<p>8. Improvement Milestone: Medical home provides population health management by identifying and reaching out to 75% of patients who need to be brought in for preventive and ongoing care.</p> <p>Metric: Percent of patients in the EMR and/or registry needing preventative services who are sent reminders for these services. Reminders will be sent for the following:</p> <ul style="list-style-type: none"> • Cancer Screenings: Breast, Colon and Cervical • Chlamydia Screening (women 19-25) • Cholesterol Level (for patients with CHF or diabetes diagnosis) • Numerator: For select specific 	<ul style="list-style-type: none"> • Care Coordination (Cat 3) • Preventive health (Cat 3) • At risk populations (Cat 3) • Expand utilization of registry functionality (Cat 1) • Redesign primary care (Cat 2) • Integrate physical and behavioral health (Cat 2)

Project 1: Expand Medical Homes					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
	<p>for their first patient visit within 120 days.</p> <p>Metric: Percent of new patients assigned to a county medical home who are contacted for their first visit within 120 days.</p> <p>• Numerator: Number of new patients assigned to a county medical home, who were contacted for their first appointment within 120 calendar days from medical home assignment.</p> <p>• Denominator: Total number of new patients assigned to a county medical home.</p>	<p>contacted for their first visit within 120 days.</p> <p>• Numerator: Number of new patients assigned to a county medical home, who were contacted for their first appointment within 120 calendar days from medical home assignment.</p> <p>• Denominator: Total number of new patients assigned to a county medical home.</p>	<p>preventive service the number of patients in the EMR and/or registry needing the preventive service and who have been contacted to come in for service</p> <p>• Denominator: Total number of patients in the EMR and/or registry needing the preventive service.</p>	<p>preventive service the number of patients in the EMR and/or registry needing the preventive service and who have been contacted to come in for service</p> <p>Denominator: Total number of patients in the EMR and/or registry.</p>	

2. Re-designing Primary Care

Goal: To Increase efficiency and redesign clinic visits to be oriented around the patient so that primary care access and the patient experience can be improved.

As an increased number of individuals become insured and seek health care services, there will be a need to accommodate patients and provide them with access to ongoing primary care. Currently KMC operates four primary care clinics: pediatrics, family practice, and two internal medicine clinics. According to KMC clinic data, the next available date for these patients is about 60 days, and the no-show rate in the clinics is at or above 30%. The appointment line is the primary mode for patients to receive appointments; however, patients have complained that they can wait up to an hour to gain access to a scheduler to receive an appointment, resulting in low patient satisfaction and reduced access. An analysis of calls during a one day period showed that over 1,300 calls were attempted to the appointment line for one

primary care clinic. Lastly, even once patients arrive for their visits, the current registration process is cumbersome and creates added delays for the patient.

Re-designing primary care will be accomplished through:

1. Increasing efficiency in clinics through the implementation of the patient visit re-design model
2. Improving appointment access and convenience through patient-centered scheduling
3. Improving scheduling and registration efficiency through the implementation of a practice management system

The implementation of patient visit re-design along with patient-centered scheduling has resulted in improvement in no-show rates as low as 10% and improvement in cycle times.¹⁴ KMC's Family Medicine Clinic had previously done a formal cycle time analysis, and the cycle time was measured to be approximately three hours. This indicates that there is much room for reduced cycle times in KMC's primary care clinics. Moreover, because KMC is in the midst of rolling out an EMR and moving one of its primary care clinics to a new location, many clinic processes will be changing. Therefore, re-assessing cycle time and re-designing clinic processes to create greater efficiency is both necessary and especially timely.

Expected Outcome:

1. Reduction in no-show rates from +30% to 15% in all three primary care clinics through improved demand management, and providing appointments at patients' convenience.
2. Reduction in cycle time to 60 minutes or less for all primary care clinics.

Relation to Category 3 Population-Focused Improvement: With improved primary care access, patients are able to receive more preventive healthcare, which will result in improved screening rates, improved diabetes care management and outcomes, and improved chronic care management and outcomes. Patient experience will also be improved.

Relation to Category 1 and 2 Infrastructure and Improvement Projects: Re-designing primary care is critical in order to both expand primary care capacity and expand the medical home model.

¹⁴ <http://www.patientvisitredesign.com/>

Project 2: Re-designing Primary Care					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
<p>1. Process Measure: Establish implementation plan and collect baseline data for patient appointment 'no-show' rates, days to third-next available appointment, and primary care visit cycle time.</p> <p>Metric: Documentation of implementation plan, including timelines and work plan, as well as, baseline data outcomes.</p>	<p>2. Process Measure: Implement patient visit redesign in primary care clinics</p> <p>Metric: Completion of all four phases of the redesign project: (1) Establish method to collect and report cycle time at least monthly, (2) Compare cycle time to other potential measures of efficiency; (3) Map patient visits from beginning to end to determine how time in the clinic is spent, and to identify any bottlenecks in the visit process, and (4) Conduct a series of tests on the visit model, debrief thoroughly, and refine the model</p> <p>3. Process Measure: Implement the patient-centered scheduling model in primary care clinics</p> <p>Metric: Completion of two phases of the redesign project: (1) Record, document, and examine random patient calls so that staff are able to experience the process of</p>	<p>5. Improvement Milestone: Reduce patient appointment no-show rates to 25%.</p> <p>Metric: No-show rate</p> <ul style="list-style-type: none"> Numerator: Patients with appointments booked prior to the date of the appointment who did not show. (excludes same-day and cancelled appointments according to organizational definition for cancel). Denominator: Patients with appointments booked prior to the date of appointment <p>6. Improvement Measure: Reduce average visit cycle time for at least 2 primary care clinics to 60 minutes or less – without reducing the time a patients spends with his/her provider from baseline Year 1.</p> <p>Metric: Visit cycle time - the time from when the patient enters the clinic or clinical area to when they exit in minutes.</p>	<p>7. Improvement Milestone: Reduce patient appointment no-show rates to 15%.</p> <p>Metric: No-show rate</p> <ul style="list-style-type: none"> Numerator: Patients with appointments booked prior to the date of the appointment who did not show. (excludes same-day and cancelled appointments according to organizational definition for cancel). Denominator: Patients with appointments booked prior to the date of appointment. <p>8. Improvement Measure: Reduce average visit cycle time for at least 2 additional (total 4) primary care clinics to 60 minutes or less – without reducing the time a patients spends with his/her provider from baseline Year 1.</p> <p>Metric: Visit cycle time</p>	<p>9. Improvement Milestone: Maintain patient appointment no-show rates at 15%.</p> <p>Metric: No-show rate</p> <ul style="list-style-type: none"> Numerator: Patients with appointments booked prior to the date of the appointment who did not show. (excludes same-day and cancelled appointments according to organizational definition for cancel). Denominator: Patients with appointments booked prior to the date of appointment <p>10. Improvement Measure: Maintain average visit cycle time for primary care clinics to 60 minutes or less – without reducing the time a patients spends with his/her provider from baseline Year 1.</p>	<ul style="list-style-type: none"> Preventive health (Cat 3) Care coordination (Cat 3) At-risk populations (Cat 3) Patient/ caregiver experience (Cat 3) Expand primary care capacity (Cat 1) Expand medical home (Cat 2)

Project 2: Re-designing Primary Care					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
	<p>trying to make an appointment from the patient's perspective, (2) Call patients in advance to confirm their appointments, pre-register patients, update insurance and demographic information, – and if it makes sense, reschedule the appointment if there is a better time for the patient</p> <p>4. Process Measure: Implement practice management system Metric: Documentation of signed vendor contract for practice management system</p>		The time from when the patient enters the clinic or clinical area to when they exit in minutes.	<p>Metric: Visit cycle time The time from when the patient enters the clinic or clinical area to when they exit in minutes.</p>	

3. Integrate Physical and Behavioral Health Care

Goal: To integrate the inter-related components of physical and behavioral health care so that care can be better coordinated and the patient can be treated as a whole person, potentially leading to better outcomes and experience of care.

Behavioral health services is a growing need in Kern County. According to the California Department of Alcohol and Drug programs, Kern County faces a large substance abuse issue, with 111.5 drug/alcohol related hospitalizations per 100,000 individuals.¹⁵ The need for mental health services is further underscored by the fact that Kern County has a suicide rate of 10.5 per 100,000 individuals--much higher

¹⁵ California Department of Alcohol and Drug Programs. Community indicators of alcohol and drug abuse risk: Kern County 2004. Accessed at: http://www.adp.cahwnet.gov/Prevention/pdf/aod_profiles/Kern.pdf

than the state goal of 4.8¹⁶. As of December 2010, unemployment rate was 16.2%¹⁷. The high unemployment rate in Kern County puts more individuals at risk for being or becoming uninsured, and at higher risk for other mental health issues such as depression.¹⁸

Although there is a high demand for behavioral health services, including substance abuse resources, currently there are very few resources for the safety net population. County mental health offers services to patients who have Medi-Cal, but virtually no services exist for those who do not have insurance.

Physical and mental health are often interrelated. For example, in one study, patients with a diagnosis of post-traumatic stress disorder were more likely to also have a number of physical illnesses, including asthma, back pain, kidney disease, lung disease and ulcer.¹⁹ Because of the interrelation between mental and physical health, we propose integrating physical and behavioral health by assigning patients with psychiatric hospitalizations to medical homes and increasing access to behavioral health services on site at KMC for patients assigned to a medical home. This strategy will also help prepare us for health reform in 2014 if mental health is no longer a carved-out service under Medi-Cal.

Expected Outcomes:

- 1) 60% of patients discharged from an inpatient psychiatric unit will be assigned a medical home
- 2) A 45% increase in patients who have access to behavioral health services among those patients identified as having a behavioral health care need.

Relation to Category 3 Population-Focused Improvement: Integrating physical and behavioral health will reduce readmissions and improve quality, since patients will have access to more coordinated outpatient care. Integrating physical health care with those patients who are already receiving mental health care will also improve screening rates, thereby increasing preventive health. More coordinated care will also improve the patient experience.

Relation to Category 2 Improvement Projects: Integrating behavioral and physical health aligns with the goals of a medical home, which is to have a health care home that is tailored to their needs and either provides or coordinates a full spectrum of health care.

¹⁶ California Department of Public Health and California Conference of Local Health Officers. County Health Status Profiles 2010. Accessed at: <http://www.kernpublichealth.com/departments/divisionofhealthassessment/pdfs/OHIRProfiles2010.pdf>

¹⁷ Employment Development Department. Kern County Profile. December 2010.

¹⁸ Roy A. Five risk factors for depression. The British Journal of Psychiatry. 1987. 150: 536-541.

¹⁹ Weisberg R, Bruce S, Machan J, et al. Nonpsychiatric illness among primary care patients with trauma histories and posttraumatic stress disorder. Psychiatric Services. 2002. 53:848-854.

Project 3: Integrate Physical and Behavioral Health Care					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
<p>1. Process Milestone: Train at least 15 primary care clinicians on primary care management of behavioral health conditions Metric: Number of primary care clinicians trained primary care management of behavioral health conditions, as evidenced by training sign-in sheets and training curriculum and materials.</p> <p>2. Process Measure: Establish, implement and distribute referral guidelines for referring to the behavioral health care provider. Metric: Submission of developed referral guidelines/policies.</p>	<p>3. Process Milestone: Train at least 20 additional (35 total) primary care clinicians on primary care management of behavioral health conditions Metric: Number of primary care clinicians trained in primary care management of behavioral health conditions, as evidenced by training sign-in sheets and training curriculum and materials.</p> <p>4. Process Milestone: Co-locate behavioral health and primary care, as measured by at least 2 behavioral health providers in primary care clinics. Metric: Documentation of behavioral health providers located in primary care clinics</p> <p>5. Process Milestone: Development of a tracking mechanism of referrals from primary care providers to on-site behavioral health professionals.</p>	<p>6. Process Milestone: Establish policies and procedures for more robust inpatient discharge coordination with outpatient medical home providers for patients with behavioral health needs. Metric: Submission of developed policies and procedures.</p> <p>7. Improvement Measure: Increase from baseline 15% of patients with a behavioral health care need as identified by the primary care provider, who have access to behavioral health care (e.g., visits with social workers, case managers or psychiatrists), as needed. Metric: Primary care-initiated scheduled visits with behavioral health professionals.</p> <ul style="list-style-type: none"> • Numerator: Number of patients with a behavioral health care need as identified by the primary care provider 	<p>8. Improvement Milestone: Assign 40% of patients discharged from the inpatient psychiatric unit to a medical home. Metric: Patients discharged from the inpatient psychiatric unit who have an assigned medical home.</p> <ul style="list-style-type: none"> • Numerator: Number of patients discharged from the inpatient psychiatric unit who have an assigned medical home • Denominator: Total number of total patients discharged from the inpatient psychiatric unit. <p>9. Improvement Measure: Increase from baseline 25% of patients with a behavioral health care need as identified by the primary care provider, who have access to behavioral health care (e.g., visits with social workers, case managers or psychiatrists), as</p>	<p>10. Improvement Milestone: Assign 60% of patients discharged from the inpatient psychiatric unit to a medical home. Metric: Patients discharged from the inpatient psychiatric unit who have an assigned medical home.</p> <ul style="list-style-type: none"> • Numerator: Number of patients discharged from the inpatient psychiatric unit who have an assigned medical home • Denominator: Total number of total patients discharged from the inpatient psychiatric unit. <p>11. Improvement Measure: Increase from baseline 45% of patients with a behavioral health care need as identified by the primary care provider, who have access to behavioral health care (e.g., visits with social workers,</p>	<ul style="list-style-type: none"> • Patient/caregiver experience (Cat 3) • Preventive health (Cat 3) • Care coordination (Cat 3) • Expand medical home (Cat 2)

Project 3: Integrate Physical and Behavioral Health Care					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
	Metric: Process or mechanism must identify the current number of referrals for use as baseline data.	who receive an appointment with behavioral health professionals <ul style="list-style-type: none"> • Denominator: Number of patients with a behavioral health care need as identified by the primary care provider 	needed. Metric: Primary care-initiated scheduled visits with behavioral health professionals. <ul style="list-style-type: none"> • Numerator: Number of patients with a behavioral health care need as identified by the primary care provider who receive an appointment with behavioral health professionals • Denominator: Number of patients with a behavioral health care need as identified by the primary care provider 	case managers or psychiatrists), as needed. Metric: Primary care-initiated scheduled visits with behavioral health professionals. <ul style="list-style-type: none"> • Numerator: Number of patients with a behavioral health care need as identified by the primary care provider who receive an appointment with behavioral health professionals • Denominator: Number of patients with a behavioral health care need as identified by the primary care provider 	

4. Establish a Patient Care Navigation Program

Goal: To help and support patients especially in need of coordinated care navigate through the continuum of health care services so that patients can receive coordinated, timely services when needed with smooth transitions between health care settings.

Although access to primary care is important in improving quality of care and reducing avoidable hospitalizations, often patients, especially safety net patients, face an additional burden in navigating the health care system due to fragmentation of care and little communication among providers^{20, 21}. Although KMC has emergency, inpatient, outpatient, pharmacy and ancillary services, they currently operate as

²⁰ Bodenheimer T. Coordinating care: a perilous journey through the health care system. *N Engl J Med*. 2008;358:1064 –1071.

independent departments within the hospital, so patients requiring multiple resources within the hospital have an increasingly difficult time coordinating and remembering their needed services and appointments. For this reason, we propose implementing a navigation program with two care navigators for populations most at risk of receiving disconnected care. Criteria for the program would be patients with high past utilization of inpatient and emergency services. Research has shown that among the safety net population, nearly 4% of the patient population account for nearly half of all costs, indicating a need for intervention within the population.²²

Patients are often most at risk of facing difficulty navigating the health care system once they leave the emergency department. Patients often present to the ED for non-urgent conditions that could have been treated in a primary care setting. Although estimates vary, up to 49% of emergency department visits are for avoidable causes.²³ To help patients better navigate the system, we will also implement an ED navigator program. The ED navigator would educate patients about the importance of primary care. The ED navigator would also coordinate with other community clinics and the county primary clinics to provide appointment slots that can be given to the patient upon discharge from the emergency department. Assigning patients to a medical home from the ED has been shown to reduce avoidable ED visits.²⁴

Expected Outcomes:

1. Reduce ED visits and avoidable admissions among patients receiving navigation services by 25%
2. Increase the number of patients who are discharged from the emergency department with a primary care appointment.

Relation to Category 3 Population-Focused Improvement: Assisting patients with navigating the system will improve the patient/caregiver experience. It will also better ensure that patients receive services when they need them, improving preventive care and therefore reducing readmissions and improving chronic care outcomes.

Relation to Category 2 Improvement Projects: Assisting with navigating services helps provide more coordinated care for the patients, which is a specific goal of expanding the medical home. The care navigator will also play an important role as part of the patients' care team in the medical home.

²¹ Sofaer S. Navigating poorly charted territory: patient dilemmas in healthcare “nonsystems.” *Med Care Res Rev.* 2009;66(suppl1):75S–93S.

²² Smith V, Gifford K, Ellis E, et al. Low Medicaid spending growth amid rebounding state revenues. Menlo Park, CA: The Henry J. Kaiser Family Foundation; 2006.

²³ MaCurdy T, Chan R, Chun R, et al. Medi-Cal expenditures: historical growth and long term forecasts. San Francisco, CA: Public Policy Institute of California; 2005.

²⁴ Roby D, Pourat N, Pirritano M, et al. Impact of patient-centered medical home assignment on emergency room visits among uninsured patients in a county health system. *Medical Care Research and Review.* 2010. 67:412-430.

Project 4: Establish a Patient Care Navigation Program					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
<p>1. Process Milestone: Establish care navigation program to provide support to patient populations who are at most risk of receiving disconnected and fragmented care. Metric: Documentation of implementation plan, including timelines and work plan, as well as, baseline data outcomes.</p> <p>2. Process Milestone: Provide care management and navigation services to 60 targeted patients who are high utilizers of the Emergency Department and/or Inpatient services. Metric: Number of patients enrolled in the program; frequency and intensity of contact with care navigators.</p>	<p>3. Process Measure: Increase patient engagement, by completing 5 patient engagement initiatives. Metric: Number of classes and/or initiatives offered. Initiatives could include: patient education, self-management support, improved patient-provider communication techniques, and/or coordination with community resources.</p> <p>4. Process Milestone: Expand program to include ED Navigator, who educates patients on importance of primary care; connects patients to a new Primary Care Clinic and/or assists patient in getting following appointment with established PCP. Metric: HR documentation on hire and expanded program policies and procedures.</p>	<p>5. Process Milestone: Provide navigation services to patients using ED for episodic care. Metric: Documentation of navigation services:</p> <ul style="list-style-type: none"> • Number of patients without a primary care provider who received education about a primary care provider in the ED • Number of patients without a primary care provider who were referred to a primary care provider in the ED • Number of patients without a primary care provider who are given a scheduled primary care provider appointment • Number of patients with a primary care provider who are given a scheduled primary care provider appointment <p>6. Improvement Milestone: Measure ED visits and/or avoidable hospitalizations for patients enrolled in the</p>	<p>7. Process Milestone: Provide navigation services to patients using ED for episodic care. Metric: Documentation of navigation services:</p> <ul style="list-style-type: none"> • Number of patients without a primary care provider who received education about a primary care provider in the ED • Number of patients without a primary care provider who were referred to a primary care provider in the ED • Number of patients without a primary care provider who are given a scheduled primary care provider appointment • Number of patients with a primary care provider who are given a scheduled primary care provider appointment <p>8. Improvement Milestone: Measure ED visits and/or avoidable</p>	<p>9. Improvement Measure: Provide a primary care appointment to 30% of the patients who need a follow-up primary care appointment after being discharged from the ED. Metric: Percent of patients who leave the ED with a scheduled primary care appointment out of the number of patients who need an appointment upon discharge from the ED.</p> <ul style="list-style-type: none"> • Numerator: Number of patients who received a primary care appointment upon discharge from the ED • Denominator: Number of patients who needed a follow-up primary care appointment as documented on the patient's ED visit chart. 	<ul style="list-style-type: none"> • Patient/caregiver experience (Cat 3) • Care coordination (Cat 3) • Preventive health (Cat 3) • At-risk populations (Cat 3) • Expand medical home (Cat 2)

Project 4: Establish a Patient Care Navigation Program					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
		<p>care management/navigator program for high utilizers of the Emergency Department and/or Inpatient services. Metric: Reduce ED Visits and avoidable IP Admissions among these Care Managed patients by 15% when compared to utilization of services 1 year prior to enrollment.</p> <ul style="list-style-type: none"> • Numerator: Among patients who have been enrolled for at least one year, the number of ED/IP visits one year prior to enrollment subtracted from the number of ED/IP visits one year after enrollment • Denominator: Among patients who have been enrolled for at least one year, the number of ED/IP visits one year prior to enrollment 	<p>hospitalizations for patients enrolled in the care management/navigator program for high utilizers of the Emergency Department and/or Inpatient services. Metric: Reduce ED Visits and avoidable IP Admissions among these Care Managed patients by 25% when compared to utilization of services 1 year prior to enrollment.</p> <ul style="list-style-type: none"> • Numerator: Among patients who have been enrolled for at least one year, the number of ED/IP visits one year prior to enrollment subtracted from the number of ED/IP visits one year after enrollment • Denominator: Among patients who have been enrolled for at least one year, the number of ED/IP visits one year prior to enrollment 		

Category 4

A. Required Interventions:

Intervention #1: Improve Severe Sepsis Detection and Management

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

If not treated quickly, sepsis can harm and kill patients. It 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. It is estimated that there are 751,000 incidences of severe sepsis in the United States with 215,000 deaths annually with a mortality rate of 29%²⁵. Currently, approximately a quarter of patients with severe sepsis and/or septic shock die in public hospitals. Severe sepsis accounts for 20% of all admission to intensive care units (ICUs) and is the leading cause of death in non-cardiac ICUs cases²⁶. KMC has approximately 941 ICU admissions annually. KMC publicly reports sepsis mortality to California Hospital Assessment and Reporting Taskforce (CHART). From January through November 2010, 129 patients were admitted to KMC with a “sepsis” diagnosis. KMC’s sepsis mortality average rate for that time period was 21.7% with the lowest rate being 13.9% (second quarter 2010). KMC sees this as an excellent opportunity for implementation of sepsis resuscitation bundle which is an essential element to improve quality of care and the safety of our patients.

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

Patients must receive the safest and highest quality healthcare possible. Through the use of continuous quality improvement we will improve severe sepsis detection and management to reduce unnecessary death and harm. As recommended by the 2008: Surviving Sepsis Campaign: International guidelines for management of severe sepsis and septic shock: “the greatest outcome improvement can be made through education and process change for those caring for severe sepsis patients in non-ICU setting and across the spectrum of acute care.” We propose to improve sepsis treatment in our organization through consistent implementation of sepsis resuscitation bundle benchmarking and sharing with implementation of best practices over the next five years.

²⁵ Angus DC et al, Crit Care Med. 2001;29(7):1303-1310

²⁶ Depborah Brauser, “Surviving Sepsis Campaign Link to Decreased Hospital Mortality”, January 25, 2010, <<http://www.medscape.com/viewarticle/715749>> (assessed February 16, 2011)

Improve Severe Sepsis Detection and Management				
Year 1	Year 2	Year 3	Year 4	Year 5
<p>1. Put in place a sepsis bundle data collection and reporting method to as evidenced by written audit study tool in KMC's data collection database software (MIDAS), which allows for data input and reporting data on sepsis bundle.</p>	<p>2. Implement the Sepsis Resuscitation Bundle, as evidenced by :</p> <ul style="list-style-type: none"> • Complete a gap analysis of current processes for detecting and treating severe sepsis as evidenced by completion of report. • Develop a formalized inter-professional "Severe Sepsis Treatment Protocol" based on Sepsis Resuscitation Bundle as evidenced by completed physician order set and approved policy and procedure. • Participate in Patient Safety First Collaborative of Sacramento and Central Valley Region for Sepsis to learn and share best practices as evidence by submission of data to collaborative. • Implement education on treatment of Severe Sepsis in both critical and non-critical patient care settings per KMC 	<p>5. Achieve X% compliance with Sepsis Resuscitation Bundle, where "X" will be determined in Year 2 based on baseline data.</p> <p>6. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.</p> <p>7. Report Sepsis Resuscitation Bundle and Sepsis Mortality results to the State.</p>	<p>8. Achieve X% compliance with Sepsis Resuscitation Bundle, where "X" will be determined in Year 2 based on baseline data.</p> <p>9. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.</p> <p>10. Report results to the State.</p>	<p>11. Achieve X% compliance with Sepsis Resuscitation Bundle, where "X" will be determined in Year 2 based on baseline data.</p> <p>12. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.</p> <p>13. Report results to the State.</p>

Improve Severe Sepsis Detection and Management				
Year 1	Year 2	Year 3	Year 4	Year 5
	<p>protocol as evidence by the number of staff completing education course.</p> <p>3. Report at least 6 months of data collection on Sepsis Resuscitation Bundle to SNI for purposes of establishing the baseline and setting benchmarks.</p> <p>4. Report the Sepsis Resuscitation Bundle results to the State.</p>			

Intervention #2: Central Line-Associated Bloodstream Infection (CLABSI) Infection Prevention

Key Challenge: Reducing harm or death to patients seeking care due to central line-associated blood stream infections (CLABSI).

An estimated 248,000 bloodstream infections occur in United States hospitals each year²⁷. It is believed that a large proportion of these are associated with the presence of a central vascular catheter. Bloodstream infections are usually serious infections typically causing a prolongation of hospital stay and increased cost and risk of mortality²⁸. Forty-eight percent of ICU patients in the United States have central venous catheters, accounting for 15 million central venous catheters-days per year in ICUs²⁹. It is estimated that Central Line-Associated Bloodstream Infection (CLABSI) prolongs hospitalization by a mean of 7 days with the attributed cost of a CLABSI averaging between \$3,700 and \$29,000 per infection³⁰. The cost of a CLABSI and the associated complications averages 43% of total hospital cost of care. CLABSI can be prevented through proper management of the central line. KMC has publicly reported data related to CLABSI to National Health Safety Network since March 2009. Our current overall CLABSI rate per 1000 central line days for 2010, covering ICU and NICU is

²⁷ 1Klebens RM, Edward JR, et al. Estimating health care-associated infections and deaths in U.S. hospitals, 2002. Public Health Reports 2007;122:160-166.

²⁸ Centers for Disease and, June 2010, <http://www.cdc.gov/nhsn/PDFs/pscManual/4PSC_CLABScurrent.pdf> (accessed February 15, 2011)

²⁹ Soufir L, Timsit JF, Mahe C, Carlet J, Regnier B, Chevret S. Attributable morbidity and mortality of catheter-related septicemia in critically ill patients: a matched, risk-adjusted, cohort study. Infect Control Hosp Epidemiol. 1999 Jun;20(6):396-401.

³⁰ Ibid

9.04%. KMC sees this as an excellent opportunity for implementation of central line insertion practice (CLIP) which is an essential element to improve quality of care, improve safety of our patients, and reduce central line bloodstream infection rate.

Major Delivery System Solution: Reduce avoidable harm or deaths due to central line-associated blood stream infections (CLABSI) to patients receiving inpatient services at Kern Medical Center.

Patients must receive the safest and highest quality healthcare possible. Through the use of continuous quality improvement we will improve CLABSI detection and management of central lines to reduce occurrence of blood stream infection and unnecessary death or harm. Our interventions and improved processes will be based upon the Centers for Disease Control and Prevention, IHI recommended CLABSI Bundle Campaign and National Health Safety Network requirements to establish reliable detection and treatment for blood stream infections. This includes implementing central line bundle and creating a reliable infrastructure for accurately defining, recording, and collecting data in the diagnosis, treatment, and evaluation of blood stream infections. We propose to improve CLABSI rate over the next five (5) years through the implementation of CLIP, benchmarking and sharing with implementation of best practices.

Central Line-Associated Bloodstream Infection (CLABSI) Infection Prevention				
Year 1	Year 2	Year 3	Year 4	Year 5
1. Put in place a central line insertion practice (CLIP) data collection and reporting method to as evidenced by written audit study tool in KMC's data collection database software (MIDAS), which allows for data input and reporting data on CLIP.	2. Implement the Central Line Insertion Practices (CLIP), as evidenced by <ul style="list-style-type: none"> Complete a gap analysis of our current processes for inserting and maintaining central lines evidenced by completion of report. Develop a formalized inter-professional Central -line Treatment Protocol based on Central line Bundle as evidenced by a completed physician order set and revision of policy and procedure. Participate in Patient Safety First 	10. Achieve X% compliance with CLIP, 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.	17. Achieve X% compliance with CLIP, where "X" will be determined in Year 2 based on baseline data. 18. Reduce Central Line Bloodstream Infections by X%, where "X" will be determined in Year 2 based on baseline data. 19. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.

Central Line-Associated Bloodstream Infection (CLABSI) Infection Prevention				
Year 1	Year 2	Year 3	Year 4	Year 5
	<p>Collaborative Sacramento and Central Valley Region for CLIP to learn and share best practices as evidence by submission of data to collaborative.</p> <ul style="list-style-type: none"> • Implement education on Central -line treatment and management per KMC protocol as evidence by the number of staff completing education course. <p>7. Report at least 6 months of data collection on CLIP to SNI for purposes of establishing the baseline and setting benchmarks.</p> <p>8. Report at least 6 months of data collection on CLABSI to SNI for purposes of establishing the baseline and setting benchmarks.</p> <p>9. Report CLIP results to the State.</p>			20. Report CLIP and CLABSI results to the State.

B. Kern Medical Center Selected Interventions from Super Set:

Intervention #3: Venous Thromboembolism (VTE) Prevention and Treatment

Key Challenge: Reducing harm or death to adult patients seeking care in both in ICU and medical surgical areas.

The Agency for Healthcare Research and Quality calls thromboprophylaxis against venous thromboembolism (VTE) the “number one patient safety practice”. This disease includes both deep vein thrombosis and pulmonary embolism (PE). Pulmonary embolism resulting from deep vein thrombosis (DVT) is the most common preventable cause of hospital death. The exact incidence of VTE is unknown; however it is believed there are approximately 2 million cases of VTE in the United States each year with nearly two thirds of all VTE events resulting from hospitalization with an estimated 300,000 VTE-related deaths annually³¹. Hospitalized medical and surgical patients routinely have multiple risk factors for VTE, making the risk for VTE nearly universal among all inpatients 18 years or older. Without the benefit of VTE prophylaxis, the incidence of proximal deep vein thrombosis (DVT) and clinical pulmonary embolism (PE) in the majority of surgical patients is unacceptably high. Up to 20 percent of surgical patients in the highest risk category (e.g., those undergoing hip or knee arthroplasty or hip fracture surgery) develop proximal DVT. Large prospective studies continue to demonstrate that pharmacological (anticoagulation prophylaxis) methods are significantly underutilized and reduce the incidence of asymptomatic and symptomatic DVT and PE by 50-65 percent. Without prophylaxis, the range of DVT risk is from 10 to 26 percent in general medical patients, 17 to 34 percent in patients with myocardial infarction, 20 to 40 percent in patients with congestive heart failure, 11 to 75 percent in patients with stroke, and 25 to 42 percent in general medical intensive care patients³². The incremental length of stay and costs of treating preventable VTE event are substantial. The Agency for Healthcare Research and Quality (AHRQ) Healthcare Cost and Utilization Projects’ estimates of incremental inpatient cost are \$10,000 per DVT and \$20,000 per PE. During 2010, Kern Medical Center had: 18,129 total inpatient admissions with: 941 ICU; 5,500 general medical; 8,728 surgeries; with 5341 coded VTE cases. In Kern Medical Center's SCIPs studies of select surgical cases 82 % had VTE prophylaxis ordered. Our organization sees this project as a significant opportunity to increase both quality of care and patient safety throughout the patient's hospitalization.

Major Delivery System Solution: Reduce avoidable harm or deaths to adult patients due to hospitalization in ICU and medical surgical inpatient services at Kern Medical Center.

Patients must receive the safest and highest quality healthcare possible. Through the use of continuous quality improvement we will improve prevention and treatment VTE for adult patients. Our improvements will be based on the Agency for Health care Research and Quality (AHRQ) and National Hospital Inpatient Quality Measures. We propose to improve the delivery of inpatient services through the

³¹ Heit JA, O’Fallon WM, Petterson TM, et al: Relative impact of risk factors for deep vein thrombosis and pulmonary embolism: A population-based study. Arch Intern Med. 2002, 162: (11): 1245-1248.

³² Agency for Healthcare Research and Quality, “Preventing Hospital-Acquired Venous Thromboembolism; Appendix A: Talking Points to Attract Administration Support for Venous Thromboembolism Prevention Programs”, <<http://www.ahrq.gov/qual/vtguide/vtguideapa.htm>> (accessed February 15, 2011)

implementation of a standardized VTE prevention program as evidenced by the following: 1) assessment of adult patient (18 years or older) for VTE upon admission; 2) implementation VTE prophylaxis for patients that do not have a contraindication; 3) implementation of parenteral (intravenous [IV] or subcutaneous [subcu]) anticoagulation and warfarin therapy for patients diagnosed with confirmed VTE; 4) documentation of why no VTE prophylaxis was given; and 5) improve the rate of patients who receive VTE prophylaxis and/or documentation of why no VTE prophylaxis was given.

Intervention #3: Venous Thromboembolism (VTE) Prevention and Treatment

Venous Thromboembolism (VTE) Prevention and Treatment				
Year 1	Year 2	Year 3	Year 4	Year 5
1. Put in place a VTE data collection and reporting method to as evidenced by written audit study tool in KMC's data collection database software (MIDAS), which allows for data input and reporting data on VTE protocol and documentation.	2. Implement the VTE prevention program as, evidenced by: <ul style="list-style-type: none"> • Complete a gap analysis of current processes for assess and prophylactic treatment of VTE evidenced by completion of report. • Develop a formalized inter-professional VTE Prevention Treatment Protocol based on AHRQ as evidenced by completed physician order set and approved policy and procedure. • Implement education on VTE Prevention and Treatment per 	5. 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. 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 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	12. 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. 13. 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	19. 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. 20. 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. 21. Increase the rate of patients

Venous Thromboembolism (VTE) Prevention and Treatment				
Year 1	Year 2	Year 3	Year 4	Year 5
	<p>KMC protocol as evidence by the number of staff completing education course.</p> <p>3. Report at least 6 months of data collection on the VTE process measures to SNI for purposes of establishing the baseline and setting benchmarks.</p> <p>4. Report the 5 VTE process measures data to the State.</p>	<p>admission (or transfer) by X, where "X" will be determined in Year 2 based on baseline data.</p> <p>7. 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.</p> <p>8. Increase the rate of patients diagnosed with confirmed VTE who received intravenous (IV) UFH therapy dosages AND had their platelet counts monitored using defined parameters such as a nomogram or protocol by X, where "X" will be determined in Year 2 based on baseline data.</p> <p>9. Increase the rate of patients diagnosed with confirmed VTE that are discharged to</p>	<p>data.</p> <p>14. 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.</p> <p>15. Increase the rate of patients diagnosed with confirmed VTE who received intravenous (IV) UFH therapy dosages AND had their platelet counts monitored using defined parameters such as a nomogram or protocol by X, where "X" will be determined in Year 2 based on baseline data.</p> <p>16. 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</p>	<p>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.</p> <p>22. Increase the rate of patients diagnosed with confirmed VTE who received intravenous (IV) UFH therapy dosages AND had their platelet counts monitored using defined parameters such as a nomogram or protocol by X, where "X" will be determined in Year 2 based on baseline data.</p> <p>23. 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.</p> <p>24. Share data, promising</p>

Venous Thromboembolism (VTE) Prevention and Treatment				
Year 1	Year 2	Year 3	Year 4	Year 5
		<p>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.</p> <p>10. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.</p> <p>11. Report the 5 VTE process measures results to the State.</p>	<p>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.</p> <p>17. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.</p> <p>18. Report the 5 VTE process measures and incidence of potentially-preventable VTE data to the State.</p>	<p>practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.</p> <p>25. Report the 5 VTE process measures and incidence of potentially-preventable VTE data to the State.</p>

Intervention #4: Hospital-Acquired Pressure Ulcer Prevention

Key Challenge: Reducing the incidence of Hospital Acquired Pressure Ulcers.

Acute-care hospitals treat about 2.5 million pressure ulcers each year, and as many as 15% of hospitalized patients may have pressure ulcers at any one time, according to the Institute for Healthcare Improvement. Pressure ulcers are usually expensive, painful and preventable. Pressure ulcers slow down or stop the recovery process; make hospital stays longer; cause extreme pain and discomfort; become infected and debilitate patients. Nearly 60, 000 hospital patients die each year in the United States from complications related to hospital-acquired pressure ulcers³³. The cost of treating a pressure ulcer ranges from \$2,000 to \$70,000 per wound, with the total costs for the average hospital being between \$400,000 and \$700,000 annually³⁴. Our average percent of patients with hospital-acquired pressure ulcers stage II-IV for 2010 is 7.81%. Our organization sees this project as an essential in delivering quality of care and patient safety throughout the patient's hospitalization.

Major Delivery System Solution: Reduce the incidence of preventable Stage II, III , IV and Unstageable Pressure Ulcers for patients 18 and older receiving inpatient services at Kern Medical Center.

Patients must receive the safest and highest quality healthcare possible. Through the use of continuous quality improvement we will reduce hospital –acquired pressure ulcers. In an effort to ensure optimal outcomes for our adult (18 years and older) patients and prevent secondary complications, we propose to work in a collaborative effort to implement and support evidence based care, products and interventions that are recommended and supported by IHI, NPUAP, WOCN, CALNOC and the NDNQI. Our strategies will focus on decreasing the incidence/prevalence of hospital acquired pressure ulcers at Kern Medical Center by the following: 1) consistent risk assessment; 2) utilizing the gold standard of risk assessment tools, the Braden Scale; 3) routine skin inspection and standardized wound care when appropriate; 4) strategies to ensure all patients are repositioned per established policy; 5) implementing strategies that decrease/remove pressure, supporting all efforts in progressive mobility; 6) keep patients clean, dry and moisturized, utilize various support surfaces; and 6) promote adequate food and fluids and Education and training for healthcare providers.

³³ Billy Cunningham, "Pressure Ulcers Are Preventable: Medicare and Medicaid Agree, January 12, 2009, <<http://mobile.injuryboard.com/miscellaneous/pressure-ulcers-are-preventable-medicare-and-medicaid-agree.aspx?googleid=255006>> ,(accessed February 15, 2011)

³⁴ Courtney B, Ruppman J, Cooper H. Save our skin: initiative cuts pressure ulcer incidence in half. Nurs Manage. 2006;37(4):36-45. [PubMed]

Hospital-Acquired Pressure Ulcer Prevention				
Year 1	Year 2	Year 3	Year 4	Year 5
1. Put in place a HAPU data collection and reporting method to as evidenced by written audit study tool in KMC's data collection database software (MIDAS), which allows for data input and reporting data on HAPU standardized procedure.	<p>2. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.</p> <p>3. Report hospital-acquired pressure ulcer prevalence results to the State.</p>	<p>4. Achieve hospital-acquired pressure ulcer prevalence of less than 5.5 %.</p> <p>5. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.</p> <p>6. Report hospital-acquired pressure ulcer prevalence results to the State.</p>	<p>7. Achieve hospital-acquired pressure ulcer prevalence of less than 3.2%.</p> <p>8. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.</p> <p>9. Report hospital-acquired pressure ulcer prevalence results to the State.</p>	<p>10. Achieve hospital-acquired pressure ulcer prevalence of less than 1.1 %.</p> <p>11. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.</p> <p>12. Report hospital-acquired pressure ulcer prevalence results to the State.</p>