



**RIVERSIDE COUNTY
REGIONAL MEDICAL CENTER**

**DELIVERY SYSTEM REFORM
INCENTIVE PROGRAM
FIVE YEAR PLAN**

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**RIVERSIDE COUNTY REGIONAL MEDICAL CENTER
DELIVERY SYSTEM REFORM INCENTIVE PAYMENTS PLAN**

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EXECUTIVE SUMMARY

Riverside County Regional Medical Center (RCRMC) is a 439-bed acute care public teaching hospital with campuses in Moreno Valley and the city of Riverside. It is a state-of-the-art medical center with a strong mission to provide superior quality health care to Riverside County residents with a special focus on individuals and populations in need.

RCRMC, which is the only county-owned and operated hospital in Riverside County, provides a wide range of primary and specialty care services. It is a Level II trauma center for adult and pediatric patients and treats nearly half of all trauma cases in the county. The hospital has the only pediatric intensive care unit in the county, plus a neonatal intensive care unit and pediatric inpatient unit which are all certified by California Children's Services. In addition, RCRMC has more than 70 primary and specialty care clinics at its Moreno Valley campus. Acute psychiatric services are located at its city of Riverside campus. It includes a 77-bed inpatient unit which treats adults and adolescents, plus an emergency treatment facility.

The medical center serves a culturally diverse patient population. Hispanics account for approximately 54% of the patients served, followed by Whites (26%), Blacks (13%), and all other races/ethnicities (7%).

In terms of payor mix, Medi-Cal accounts for 37% of patient days, followed by uninsured (20%), mental health (15%), Medicare (9%), Detention Health/Corrections (9%), third party insurance (7%), and other (3%).

RCRMC has teaching affiliations with several schools, including the Loma Linda School of Medicine and the Western University of Health Sciences. Residencies are offered in specialties such as Family Medicine, Orthopedics, and Anesthesia with a total of 60 residents participating in these programs. RCRMC will also serve as the primary teaching facility for the new University of California-Riverside Medical School which is slated to open in 2012.

RCRMC is located in Riverside County which has approximately 2.1 million residents and is roughly the geographic size of New Jersey. The county has been hit hard by the sluggish economy with an unemployment rate of 14.2% which is higher than the statewide average. In addition, there has been a dramatic growth in the number of uninsured adults seeking health care services through Riverside County's Medically Indigent Adult Services Program. The county also has a severe shortage of primary care physicians where the supply represents roughly half of the estimated community need.

Chronic disease is a serious health care issue impacting a significant number of county residents. Riverside County has a higher estimated percentage of adults with diabetes than the statewide average. In addition, the county is ranked 53rd for coronary heart disease mortality out of the 58 counties in California. In 2005 heart disease accounted for nearly 30% of all deaths among Riverside County residents.

In this plan RCRMC has outlined its vision for transforming its delivery system to better meet the health care needs of Riverside County residents in response to health care reform. An ambitious set of initiatives has been identified that reflect the following themes:

- Provide an integrated system of care where patients receive the right care at the right time in the right setting.
- Transition from providing acute, episodic care to a more proactive, coordinated system of care through the establishment of medical homes.
- Deliver proactive preventive and primary care services to enhance population health.
- Implement a comprehensive approach to address chronic disease, especially in the area of diabetes, which covers the spectrum of services from inpatient to ambulatory care.
- Expand capacity in response to growing community need for primary care services.
- Redesign primary care services to promote greater efficiency and more timely service for patients.
- Address the critical shortage of primary care physicians in Riverside County by expanding the number of family medicine and internal medicine residencies.
- Improve patient safety and quality through evidence-based practices for targeted medical conditions which, if not optimally managed, can result in prolonged hospitalization, high resource consumption, and/or poor clinical outcomes.

Some of our key challenges to achieving this vision include:

- Steady growth in patient volume and the subsequent demand for services which is rapidly exceeding RCRMC's ability to provide these services when patients require them.
- Patients do not always receive health care services from a regular source of care that promotes primary and preventive services.
- Health care services for the patient are not always well coordinated or provided in a timely manner.
- Services are not always provided where the patient lives due to the large geographic size of the county, the lack of a comprehensive public transportation system, and the inadequate supply of providers in outlying regions of the county.

- Care tends to be organized around the provider rather than being patient-centered.

To address these challenges, we have created this five year plan which includes improvement projects for Category 1: Infrastructure Development, Category 2: Innovation and Redesign, and Category 4: Urgent Improvement in Quality and Safety. Improvement projects for Category 3: Population Health will be incorporated in this plan at a later date. This plan includes a comprehensive set of strategies in thirteen project areas that have multiple milestones. These projects are interrelated and synergistic to achieve optimal results that will benefit the Riverside County residents through the provision of quality health care services and enhanced patient experience.

Listed below is a summary of the expected results from Category 1 and 2 projects at the end of five years:

- Provide at least an additional 12,000 primary care visits per year.
- Increase the number of school and/or community locations receiving primary care services from three to sixteen total sites.
- Increase the number of primary care residents by 37% and expand training rotations for physician assistants by 40%.
- Launch a new chronic disease clinic dedicated to congestive heart failure that will see at least 1,040 patients per year.
- At least 95% of diabetic patients and 85% of congestive heart failure patients will be entered in chronic disease registries which will support effective care coordination.
- At least 80% of eligible patients seen in the Family Care Clinic will be assigned to a medical home provider team.
- Improve the percentage of diabetic patients who select a self-management goal by 50%.
- Increase the number of telephone calls made to targeted high risk diabetic patients by 750 calls to provide individualized lifestyle coaching and other support.
- Improve the productivity of provider teams in the Family Care Clinic by 15%.
- Implement patient experience pilot programs in three hospital clinics.
- Increase the rate of appropriate or accepted referrals for specialty care services by 40% over baseline.

In terms of Category 4, RCRMC will be reporting on the two required interventions which all California public hospitals are addressing: Improve Severe Sepsis Detection and Management and Central Line-Associated Bloodstream Infection Prevention. In addition, RCRMC has selected the following two interventions based on their significance to improve the quality of care provided to our patient population: Surgical Site Infections and Stroke Management. Baseline information has, or will be, collected to measure improvement against

self. Multidisciplinary teams are working to address each of these interventions in an effort to produce measurable and significant results.

The approaches discussed in this plan are aligned with those proposed by other California public hospitals where best practices are shared. This sharing is facilitated by our statewide partnership with the California Association of Public Hospitals and Health Systems and its affiliate, the California Health Care Safety Net Institute (SNI). This statewide collaboration will result in essential improvements made in the provision of care for low income Californians, thus paving the way for a more successful implementation of health care reform in California.

In summary, RCRMC's five-year plan will support the transformation of its health care delivery system, resulting in health care services that are more effectively coordinated, patient-centered, efficient, and cost effective.

BACKGROUND:

Founded in 1893, RCRMC is a 439-bed acute care public teaching hospital with campuses in Moreno Valley and the city of Riverside. It is a state-of-the-art medical center with over 23,000 discharges per year. RCRMC's mission is to provide superior quality health care to Riverside County residents with a special focus on individuals and populations in need.

The medical center is located in Riverside County which has approximately 2.1 million residents. It is the fourth largest county in California out of 58 counties. It is also a large county geographically, roughly equivalent to the size of New Jersey. RCRMC is Riverside County's only public hospital.

RCRMC's main campus, located in Moreno Valley, has an Emergency Department which averages 100,000 visits per year. It is designated as a Level II trauma center for both adult and pediatric patients and treats nearly half of all trauma cases in the county. The Center of Excellence for Abuse Services is the only program of its kind in the county, providing services to abused children, victims of domestic violence and sexual assault, elders, and dependent adults suffering from abuse. A multidisciplinary team involving hospital staff, peace officers, social service providers, and others provide medical exams, crisis intervention, and other services to victims and their families.

RCRMC also provides a wide range of other services. It has the only pediatric intensive care unit in Riverside County, plus a neonatal intensive care unit and pediatric inpatient unit which are all certified by California Children's Services. RCRMC has acute psychiatric services located on its campus in the city of Riverside. It includes a 77-bed inpatient unit which treats adults and adolescents, plus an emergency treatment facility. A psychiatric evaluation team is also onsite at RCRMC's Emergency Department, located on the main campus in Moreno Valley, to evaluate and assist patients suffering from mental illness. In addition, RCRMC offers more than 70 primary and specialty care clinics at its Moreno Valley campus. There are over 130,000 outpatient visits per year.

RCRMC has over 2,000 employees and 443 physicians on its medical staff. The hospital has teaching affiliations with several schools, including the Loma Linda School of Medicine and the Western University of Health Sciences. Residencies are offered in specialties such as Family Practice, Orthopedics, and Anesthesia. A total of 60 residents participate in these programs. A new residency program will soon be offered in General Surgery. There will be six residents in the first year. RCRMC will also serve as the primary teaching facility for the new University of California-Riverside Medical School which is slated to open in 2012.

CATEGORY 1: INFRASTRUCTURE DEVELOPMENT

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, the initiatives in this category include infrastructure development, including investment in people, places, processes, and technology. This category is foundational to the success of Categories 2 and 3. This plan describes how the Category 1 infrastructure development will enhance capacity to conduct, measure, and report on quality/performance improvement, expand access to meet demand, and enable improved care with strong emphasis on building coordinated systems that promote preventive and primary care.

CATEGORY 1: INFRASTRUCTURE DEVELOPMENT

1. Increase Primary Care Capacity *(ref. Category 1- Project #1 page 12)*

Goal: Current capacity in RCRMC's Family Care Clinic is able to serve about 21,000 visits per year, compared to an estimated demand of 33,000 patient visits per year. Infrastructure, resources, and primary care capacity are extremely limited. In addition, patient demand for primary care services has significantly increased during the last few years. According to the California Employment Development Department, Riverside County had an unemployment rate of 14.2% in December 2010, compared to the statewide average of 12.3%. The sluggish economy has severely impacted a number of industries in the county, including housing construction which accounts for a significant number of jobs. The high unemployment rate has contributed to the steady growth in the number of uninsured adults seeking health care services from Riverside County's Medically Indigent Services Program (MISP). In addition, the number of working poor who either are not offered health insurance through their employer or elect not to purchase it because of cost has also impacted the growth of the MISP program. In June 2006 there were approximately 8,100 enrollees. Currently, there are about 22,000 people participating in the program.

The Family Care Clinic (FCC), which is RCRMC's main clinic offering primary care services, currently has 16 exam and/or procedure rooms. The average wait for a non-urgent appointment is approximately 30 days. The FCC is a training site for the Family Medicine residents who treat patients under the supervision of attending family medicine physician preceptors.

Several strategies have been identified to address the growing patient demand for primary care services. Prior to November 2010, clinic hours were expanded to include a Saturday clinic. Evening clinic hours were also extended on Mondays through Thursdays from 5-6:30 pm. There are plans to extend these hours until 8 pm on Mondays through Thursdays during the next few months. There are also plans after July 1, 2011 to add evening hours on Fridays and to open the clinic on Sundays. In addition, plans were initiated to expand the physical space for the FCC by doubling its capacity from 16 to 32 exam and/or procedure rooms. This construction is well underway and should be completed during the next few months. Through this expanded capacity the goal is to increase clinic volume by a total of 12,000 visits over the baseline of 20,662 visits (July 2009-June 2010).

In conjunction with this expanded capacity, changes in patient care delivery will also be occurring. While residents will continue to see patients, additional primary care physicians have been designated to treat their own panel of

patients. Patients will be assigned to provider teams who will serve as the patient's "medical home" to coordinate all aspects of their care. This care redesign process will be explained in more detail in other sections of this plan. Through these various strategies it is anticipated that the wait for a primary care appointment will be significantly decreased.

Geographic access to primary care services and the inadequate supply of health care providers, especially in rural and outlying regions of Riverside County, are also key issues to be addressed. Besides being the fourth most populous county in California, Riverside County is also the fourth largest geographically. It covers over 7,200 square miles and includes a broad mix of urban and rural landscapes which are separated by expansive mountain ranges and deserts. The geographical spread of Riverside County poses challenges for residents who often lack transportation, making health care access difficult. In addition, Riverside County has roughly half the supply of primary care physicians needed to meet the estimated patient need.¹

To address the issue of access to primary care services in underserved communities, a school/community-based clinics program was established in August 2009. A health care team comprised of a nurse practitioner, licensed vocational nurse, pharmacist and support staff travel to schools and/or community site locations at least once or twice per month to provide services such as general medical exams, immunizations, health education, and medication counseling. The team, which is supervised by a Family Medicine physician, currently visits three different site locations at least twice per month in the county.

Services are provided onsite, using the physical space provided by the school or community organization. In some cases this practice can limit the team's ability to provide services, especially if a newly proposed site does not have the proper space to accommodate them. Therefore, this outreach program will be expanded through the implementation of a mobile health clinic program which is expected to be launched during the next few months. The mobility of this new clinic program will allow services to be provided to a broader segment of the underserved population in Riverside County.

To summarize, our goal is to better serve the primary care needs of vulnerable patients within Riverside County. Therefore, we propose to expand:

- primary care clinic space.
- primary care clinic hours.
- outreach efforts to bring primary care services to local, underserved communities.

¹ "Fewer and More Specialized: A New Assessment of Physician Supply in California," California HealthCare Foundation, June 2009.

Expected Results:

- Provide at least an additional 12,000 primary care patient visits per year.
- Increase the number of school and/or community sites in Riverside County receiving primary care services from three to sixteen sites.

Related Projects: Expanded primary care capacity supports the assignment of patients to medical homes and more organized care delivery through primary care redesign. It also facilitates better management of chronic conditions. With expanded primary care capacity, additional patients can access primary and preventive care which increases the potential to prevent disease and/or treat it at an earlier stage. Primary care expansion also allows for a more organized transition from inpatient to outpatient care. Upon discharge, patients can be scheduled for follow-up appointments at a primary care clinic which reduces the risk of readmissions. It should also improve the patient experience because, with additional capacity, appointments should be available in a more timely manner.

1. Expand Primary Care Capacity					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
<p>1. Milestone: Create a plan that outlines how the expanded space in the Family Care Clinic will be used, including new patient flow processes, staffing changes, and implementation work plan. (ref. pg 8-ii)</p> <p>• Metric: Documented plan</p> <p>2. Milestone: Hire (1) primary care provider to support primary clinic expansion. (ref. pg. 8-x)</p> <p>• Metric: HR documents</p> <p>3. Milestone:</p>	<p>4. Milestone: Expand the Family Care Clinic from 16 to 32 exam rooms. (ref. pg 12- i)</p> <p>• Metric: Number of expanded rooms; implementation documented by OSHPD Certificate of Occupancy</p> <p>5. Milestone: Expand primary clinic hours by an additional (10) hours per week. (ref. pg 13- iv)</p> <p>• Metric: Number of additional clinic hours as documented by new primary clinic schedule</p>	<p>8. Milestone: Expand the community/school-based clinics program by adding (2) new sites. (ref. pg 12- ii)</p> <p>• Metric: Number of additional clinic sites, as documented by the program schedule</p> <p>10. Milestone: Expand the mobile health clinic program by adding (3) new sites. (ref. pg 13- iii)</p> <p>• Metric: Number of additional clinic sites, as measured by clinic schedule.</p>	<p>12. Milestone: Expand the mobile health clinic program by adding (2) new sites. (ref. pg 13- iii)</p> <p>• Metric: Number of additional clinic sites, as measured by clinic schedule.</p> <p>13. Milestone: Increase primary care clinic volume by an additional 3,000 visits over baseline. (ref. pg 14- ii)</p> <p>• Metric: Number of visits over baseline, as documented by registration data</p>	<p>14. Milestone: Expand the mobile health clinic program by adding (2) new sites. (ref. pg 13- iii)</p> <p>• Metric: Number of additional clinic sites, as measured by clinic schedule.</p> <p>15. Milestone: Increase primary care clinic volume by an additional 3,000 visits. (ref. pg 14- ii)</p> <p>• Metric: Number of visits over baseline, as documented by registration data</p>	<ul style="list-style-type: none"> • Improve Preventive Screening Rates (Cat. 3) • Improve Chronic Care Management and Outcomes (Cat. 3) • Reduce Readmissions (Cat. 3) • Expand Medical Homes (Cat. 2) • Redesign Primary Care (Cat. 2)

1. Expand Primary Care Capacity					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
<p>Expand the community/school-based clinics program by adding (2) new sites. <i>(ref. p. 12-ii)</i></p> <ul style="list-style-type: none"> • Metric: Number of additional clinic sites, as documented by the program schedule 	<p>6. Milestone: Implement a mobile health clinic at (2) sites to increase the community's access to primary care services. <i>(ref. pg 13- iii)</i></p> <ul style="list-style-type: none"> • Metric: Number of new clinic sites, as measured by mobile clinic site schedule <p>7. Milestone: Increase primary care clinic volume by 3,000 patient visits annually over baseline. <i>(ref. pg 14- ii)</i></p> <ul style="list-style-type: none"> • Metric: Number of visits over baseline, as documented by registration data 	<p>11. Milestone: Increase primary care clinic volume by an additional 3,000 visits over baseline. <i>(ref. pg 14- ii)</i></p> <ul style="list-style-type: none"> • Metric: Number of visits over baseline, as documented by registration data 			

CATEGORY 1: INFRASTRUCTURE DEVELOPMENT

2. Increase Training of Primary Care Workforce *(ref. Category 1-Project #2 page 14)*

Goal: The shortage of primary care physicians to meet patient need is well documented. California barely meets the nationally recognized standard for supply of primary care physicians. In Riverside County the shortage is more severe. According to the California Healthcare Foundation², Riverside County has approximately 36 primary care physicians for every 100,000 residents compared to California's rate of 59 primary care physicians per 100,000 population. This supply represents roughly **half** of the estimated need. This shortage will become more critical as additional people have access to health insurance under the federal health care reform law. In addition, the needs of an aging population, a decline in the number of medical students choosing primary care as their career focus, and a significant number of physicians nearing retirement will worsen this shortage.

The shortage of primary care providers has contributed to increased wait times in primary care clinics and to the lack of primary care providers in underserved and rural communities throughout the county. The goal of this project is to train more primary care physicians. There are only two residency programs in Riverside County that train primary care physicians: RCRMC's Family Medicine Residency Program which graduates nine primary care physicians per year and Kaiser Hospital-Riverside's Family Medicine Residency Program which graduates six primary care physicians per year. These two programs account for a grand total of only 15 primary care physician graduates per year. RCRMC has 6.2 FTE faculty physicians serving as preceptors. An additional physician will be designated to serve as a preceptor for the residents.

The University of California is planning to establish a new medical school at its Riverside campus in 2012. RCRMC will serve as its primary teaching facility. The medical school will be establishing a Family Medicine Residency Program which will increase the number of residents trained at RCRMC. In addition, the medical school has plans to establish an Internal Medicine residency program which will result in Internal Medicine residents being trained at the hospital.

In addition to physicians, mid-level providers, such as physician assistants and nurse practitioners, play an important role in expanding patient access to primary care services. Therefore, it is important to encourage the training of mid-level providers in primary care settings. RCRMC and Riverside Community College jointly operate a physician assistant program. Currently, 15 students rotate through RCRMC's Family Care Clinic. It is our intention to

² "Fewer and More Specialized: A New Assessment of Physician Supply in California," California HealthCare Foundation, June 2009.

increase the number of students participating in these rotations by an additional six students to expand the primary care workforce.

Expected Results:

- Increase the number of primary care residents by ten residents, representing a 37% increase over the baseline of 27 residents.
- Increase the number of physician assistant student rotations by six students over the baseline of 15 students, representing a 40%.

Related Projects: Expanding the primary care workforce will play an important role in improving the rate of preventive health screenings. It will also support the expansion of medical homes by providing additional resources to build the provider teams who will coordinate care provided to patients assigned to the medical home. This enhanced care coordination should improve the early detection and treatment of chronic diseases, enhancing population's health.

2. Increase Training of Primary Care Workforce

Increasing Primary Care Capacity

Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
<p>1. Milestone: Expand primary care residency training program by designating (1) additional primary care faculty member/preceptor. (ref. pg 15- i)</p> <p>• Metric: Expand the primary care residency training program as documented by faculty list which includes date of hire.</p>	<p>2. Milestone: Increase primary care training by increasing the number of primary care residents by (2). (ref. pg 17- i) (Baseline: 27)*</p> <p>• Metric: Increase the number of primary care residents, as measured by percent change of class size over baseline; documented enrollment by class by year by program</p> <p><i>*Baseline of 27 residents represents a combination of 1st, 2nd, and 3rd year residents.</i></p>	<p>5. Milestone: Increase primary care training by increasing the number of primary care residents by an additional (2). (ref. pg 17- i)</p> <p>• Metric: Increase the number of primary care residents, as measured by percent change of class size over baseline; documented enrollment by class by year by program</p> <p>6. Milestone: Increase primary care rotations for physician assistant students</p>	<p>7. Milestone: Increase the number of primary care residents by an additional (4). (ref. pg 17- i)</p> <p>• Metric: Increase the number of primary care residents, as measured by percent change of class size over baseline; documented enrollment by class by year by program</p> <p>8. Milestone: Expand the primary care training program by implementing the ACGME</p>	<p>9. Milestone: Increase the number of primary care residents by an additional (2) (ref. pg 17- i)</p> <p>• Metric: Increase the number of primary care residents, as measured by percent change of class size over baseline documented enrollment by class by year by program.</p>	<ul style="list-style-type: none"> • Improve Preventive Screening Rates (Cat. 3) • Improve Chronic Care Management and Outcomes (Cat. 3) • Expand Medical Homes (Cat. 2) • Expand Primary Care Capacity (Cat. 1)

2. Increase Training of Primary Care Workforce

Increasing Primary Care Capacity

Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
	<p>3. Milestone: In collaboration with the new University of California-Riverside Medical School, expand primary care training by applying for an ACGME residency training program in Internal Medicine. <i>(ref. pg 16-viii)</i></p> <ul style="list-style-type: none"> • Metric: Application documentation <p>4. Milestone: In collaboration with Riverside Community College, expand primary care training rotations</p>	<p>by an additional (3) trainees. <i>(ref. pg 17- i)</i></p> <ul style="list-style-type: none"> • Metric: Increase the number of trainees as documented by student rotation schedule 	<p>Internal Medicine residency training program. <i>(ref. pg 16-viii)</i></p> <ul style="list-style-type: none"> • Metric: Training program agreement 		

2. Increase Training of Primary Care Workforce

Increasing Primary Care Capacity

Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
	for physician assistant students in one primary care clinic by at least an additional (3) students (Baseline: 15). <i>(ref. pg 17- i)</i> • Metric: Increase number of primary care trainees rotating at RCRMC as documented by student rotation schedule				

CATEGORY 1: INFRASTRUCTURE DEVELOPMENT

3. Implement and Utilize Disease Management Registry Functionality

(ref. Category 1 Project #3 page 18)

Goal: Chronic health conditions are critical health care issues impacting the U.S. population. Approximately 45% of the population has at least one chronic condition such as heart disease, diabetes, cancer, stroke, or asthma.³ Uncontrolled diabetes and heart failure contribute significantly to avoidable emergency department visits, hospitalizations, and peri-operative complications at RCRMC.

One of the key infrastructure requirements relating to effective disease management programs is the use of a comprehensive disease registry which can assist care teams actively manage patients. In 2008 the Chronic Disease Electronic Management System (CDEMS) registry was implemented to track the care provided to diabetes patients. CDEMS includes demographic data on the patient, plus other information such as lab tests results, blood pressure, and cholesterol values. It also tracks whether patients have selected self-management goals and highlights those patients who are due for specific laboratory tests or examinations.

While CDEMS has proven useful in tracking the care provided to diabetes patients, it also has limitations. It is primarily a manual-driven registry, requiring staff to enter data directly into it. In addition, it is not available on the hospital-wide computer network; it must be installed on individual computers which limits clinician accessibility to the information.

Given the registry's importance to RCRMC's chronic disease management initiatives, several steps have, or soon will be, taken to expand its capabilities. Within the last year, an electronic interface was developed to allow the automatic transfer of hospital laboratory test results directly into CDEMS. Plans are also underway to place the CDEMS registry on the hospital-wide network which should significantly expand its usefulness to clinicians. In addition, hospital information services staff are exploring the feasibility of automatically downloading patient demographic and billing information from the hospital's registration system into CDEMS. Within three years, a new ambulatory electronic health record system should be available as RCRMC completes its installation of a hospital information system organization-wide.

Until these systems are implemented, however, it will remain a labor-intensive process to enter data and/or update information in CDEMS. As of June 2010, information pertaining to approximately 42% of diabetic patients, or about 702 patients out of an estimated total 1,682 known diabetic patients seen in the

³ "The Almanac of Chronic Disease," 2008 edition, Partnership to Fight Chronic Disease.

Family Care Clinic had been entered into the registry. We are proposing to train three additional staff on the use of the diabetes registry to optimize its use and efficacy.

RCRMC is in the process of expanding its chronic disease management initiatives by launching a new congestive heart failure (CHF) clinic. The CDEMS registry will be implemented to support the tracking of care provided to CHF patients in this clinic. We are proposing to train three staff on the use of the CHF registry which would include one data entry person and clinical staff. In this way we can significantly increase the percentage of patient information reflected in the registry and ensure the registry provides added value to the care process. Building comprehensive registries for diabetes and CHF patients are important components of developing the necessary infrastructure for effective care coordination.

To summarize, we propose to:

- Increase the number of patients entered in the diabetes registry.
- Implement a CHF registry.
- Train six additional staff on using the diabetes and/or CHF registries.

Expected Results:

- At least 95% of diabetic patients are entered in the diabetes registry.
- At least 85% of CHF patients are entered in the CHF registry.

Related Projects: The availability of registries for diabetes and CHF patients can promote more effective management of population health because they can produce reports for groups of patients according to common clinical indicators. The registries can help improve preventive screening rates since it highlights patients who are due for specific screenings or exams. They can also support the expansion of medical homes by tracking the care provided to patients by provider teams. Providing current information on diabetic patients supports enhanced patient outcomes in key areas such as reduced blood sugar and cholesterol levels and decreased blood pressure. The use of a CHF registry can contribute to reductions in readmissions.

3. Implement and Utilize Disease Management Registry Functionality					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Category Feeds Into
<p>1. Milestone: Train at least (1) additional staff on populating and/or using the diabetes registry. (ref. pg 20-v)</p> <p>• Metric: List of staff members; with competency checklist</p> <p>2. Milestone: At least 50% of all known diabetic patients are entered in the registry. (ref. pg 20-i)</p> <p>• Metric: Percentage of diabetic patients entered into the registry, as measured by: -Numerator: Number of diabetic patients in registry -Denominator: Number of patients assigned to this clinic as their medical home</p>	<p>3. Milestone: Implement a functional disease registry for CHF patients. (ref. pg 19-iii)</p> <p>• Metric: Disease management registry functionality is available for an expanded number of targeted clinical conditions, as measured by: - Numerator: Number of targeted clinical conditions with disease management registry functionality -Denominator: Total number of</p>	<p>7. Milestone: At least 70% of all known diabetics are entered in the registry. (ref. pg 20-i)</p> <p>• Metric: Percentage of diabetic patients entered into the registry, as measured by: -Numerator: Number of diabetic patients in registry -Denominator: Number of patients assigned to this clinic as their medical home</p> <p>8. Milestone: At least 40% of CHF patients are</p>	<p>9. Milestone: At least 80% of all known diabetics are entered in the registry. (ref. pg 20-i)</p> <p>• Metric: Percentage of diabetic patients entered into the registry, as measured by: -Numerator: Number of diabetic patients in registry -Denominator: Number of patients assigned to this clinic as their medical home</p> <p>10. Milestone: At least 60% of CHF patients are</p>	<p>11. Milestone: At least 90% of all known diabetics are entered in the registry. (ref. pg 20-i)</p> <p>• Metric: Percentage of diabetic patients entered into the registry, as measured by: -Numerator: Number of diabetic patients in registry -Denominator: Number of patients assigned to this clinic as their medical home</p> <p>12. Milestone: At least 85% of CHF patients are</p>	<ul style="list-style-type: none"> • Improve Quality (Cat. 3) • Reduce Readmissions (Cat. 3) • Improve Screening Rates (Cat. 3) • Improve Diabetes Care Management and Outcomes (Cat. 3) • Expand Medical Homes (Cat. 2) • Expand Chronic Care Management Models (Cat. 2)

3. Implement and Utilize Disease Management Registry Functionality

Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Category Feeds Into
<p>Number of diabetic patients in registry -Denominator: Number of patients assigned to this clinic as their medical home</p>	<p>targeted clinical conditions -As evidenced by documentation of installation</p> <p>4. Milestone: Train at least (5) more staff on populating and/or using the diabetes and/or CHF registries. (ref. pg 20- v)</p> <p>• Metric: List of staff members; with competency checklist</p> <p>5. Milestone: At least 60% of all known diabetic patients are entered in the registry. (ref. pg 20-i)</p>	<p>entered in the registry. (ref. pg 20-i)</p> <p>• Metric: Percentage of CHF patients in the registry as measured by: -Numerator: Number of CHF patients in registry -Denominator: Number of patients treated in CHF clinic</p>	<p>entered in the registry. (ref. pg 20-i)</p> <p>• Metric: Percentage of CHF patients in the registry as measured by: -Numerator: Number of CHF patients in registry -Denominator: Number of patients treated in CHF clinic</p>	<p>entered in the registry. (ref. pg 20-i)</p> <p>• Metric: Percentage of CHF patients in the registry as measured by: -Numerator: Number of CHF patients in registry -Denominator: Number of patients treated in CHF clinic</p>	

3. Implement and Utilize Disease Management Registry Functionality					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Category Feeds Into
	<ul style="list-style-type: none"> • Metric: Percentage of diabetic patients entered into the registry, as measured by: -Numerator: Number of diabetic patients in registry -Denominator: Number of patients assigned to this clinic as their medical home <p>6. Milestone: At least 25% of CHF patients are entered in the registry. (<i>ref. pg 20-i</i>)</p> <ul style="list-style-type: none"> • Metric: Percentage of CHF patients in 				

3. Implement and Utilize Disease Management Registry Functionality

Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Category Feeds Into
	the registry as measured by: -Numerator: Number of CHF patients in registry -Denominator: Number of patients treated in CHF clinic				

CATEGORY 1: INFRASTRUCTURE DEVELOPMENT

4. Expand Specialty Care Capacity *(ref. Category 1 Project #11 page 38)*

Goal: According to the Riverside County Department of Public Health's Community Health Profile 2008 report, Riverside County is ranked 53rd for heart disease mortality out of the 58 counties in California. Heart disease accounted for nearly 30% of all deaths among Riverside County residents.

CHF represents one of the most common discharge diagnoses at RCRMC. In 2010, there were approximately 100 patient discharges per month with a primary or secondary diagnosis of CHF. Many of these patients are unable to receive timely and appropriate outpatient follow-up care once leaving the hospital. Upon discharge, patients are scheduled for a follow-up outpatient visit with a cardiologist in a clinic that is offered only twice a month. Approximately ten patients are scheduled per clinic and there is a 40% no-show rate. Delays in the transition of care from inpatient to the outpatient setting have contributed to increased readmission rates.

RCRMC plans to launch a CHF chronic disease clinic that will be coordinated by a full-time nurse practitioner under the supervision of a cardiologist. The clinic is being designed to close the treatment gap patients are currently experiencing from the inpatient to outpatient setting and to standardize care processes. All patients will receive treatment with guideline-recommended, evidence-based therapies known to reduce hospitalizations and mortality. A multidisciplinary team approach will be used in the clinic. The nurse practitioner will be joined by a dietician, pharmacist, and case manager.

The nurse practitioner will:

- visit all inpatients with a CHF primary diagnosis prior to discharge to ensure their management is appropriate per recommended guidelines.
- arrange the scheduling of appointments in the CHF clinic within one week of the patient's discharge.
- coordinate the scheduling of appropriate cardiac tests for patients.
- participate with the cardiologist in providing advanced treatment and follow up with CHF patients with defibrillators.
- contact patients by telephone between clinic visits to address prescription needs and other CHF-related care issues.

It is anticipated that the clinic will eventually be offered four half-day clinics per week. It is the program's goal to have 95% of CHF patients scheduled with a clinic appointment within seven days of discharge.

Expected Result:

- Increase the number of patient referrals to the CHF clinic to 20 patients per week, or 1,040 patients per year.

Related Projects: The implementation of the CHF clinic should assist in reducing CHF readmission and mortality rates. It should also enhance the patient experience by providing more timely appointments.

4. Expand Specialty Care Capacity					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Categories This Project Feeds Into
<p>1. Milestone: Designate nurse practitioner to work in the CHF clinic. (ref. pg 8- x)</p> <p>• Metric: HR documents</p>	<p>2. Milestone: Launch a new CHF specialty clinic. (ref. pg 39- v)</p> <p>• Metric: Establish specialty care clinic, as documented by clinic schedule</p> <p>3. Milestone: Establish a baseline number of patients to be referred to the CHF clinic. (ref. pg 8- viii)</p> <p>• Metric: Number of patients referred to CHF Clinic; CHF Registry</p>	<p>4. Milestone: Increase the number of patient referrals to the CHF clinic by 10 patients/week. (ref. pg 40- iii)</p> <p>• Metric: Documentation of increase over baseline; CHF Registry</p>	<p>5. Milestone: Increase the number of patient referrals to the CHF clinic by 15 patients per week. (ref. pg 40- iii)</p> <p>Metric: Documentation of increase over baseline; CHF Registry</p>	<p>6. Milestone: Increase the number of patient referrals to the CHF clinic by 20 patients per week. (ref. pg 40- iii)</p> <p>Metric: Documentation of increase over baseline; CHF Registry</p>	<ul style="list-style-type: none"> • Improve Quality (Cat. 3) • Expand Chronic Care Management Models (Cat. 2) • Improve Patient Experience (Cat 3)

CATEGORY 2: INNOVATION AND REDESIGN

Per the Waiver Terms and Conditions, the purpose of Category 2 Innovation and Design is “investment in new and innovative models of care delivery (e.g., medical homes) that have the potential to make significant, demonstrated improvements in patient experience, cost and disease management.” Our projects in Category 2 include the testing and spreading of innovative care models. The patient population we serve face significant challenges associated with poverty, such as psychosocial barriers to health and multiple concurrent medical conditions. We have had to address the needs of our patients with extremely limited resources. We will be further refining these innovations, testing new ways of meeting the needs our target populations, and disseminating learnings to spread promising practices.

CATEGORY 2: INNOVATION AND REDESIGN

1. Expand Medical Homes *(ref. Category 2-Project #1 page 45)*

Goal: Riverside County is in the early stages of establishing the infrastructure for a patient-centered medical home. At least 95% of patients in the Family Care Clinic are currently not assigned to a health care team. They receive care in a more fragmented manner, having appointments with different physicians in the primary care clinics, depending on the day of their appointment. In addition, patients tend to seek care on an episodic basis, thereby losing the value of a more coordinated approach which the medical home represents. As a result, patients do not experience continuity of care and are at increased risk for avoidable Emergency Department visits and hospital admissions, plus complications arising from suboptimally managed chronic conditions. Assignment to medical homes is critical for panel management where the patient can develop an ongoing relationship with a care team who coordinates all of the patient's care, from primary and preventive care to specialty care services. Having the patient receive care on a regular basis at a medical home also enhances the management of the patient's chronic illnesses, can increase the rate of preventive screenings, improve the patient experience, and reduce avoidable Emergency Department visits and hospital admissions.

Beginning in December 2010, a pilot program was initiated where approximately 300 patients will be assigned to a panel with one family medicine physician who will be responsible for managing the patient's health on an ongoing basis. The pilot also includes process changes such as improved appointment scheduling to ensure these patients see this same family physician at their next clinic visit. In addition, there is better tracking of laboratory and diagnostic test results so this information is available to the provider and patient at the scheduled visit where the results will be discussed. This improvement is being accomplished by assigning a health services assistant to the physician who is responsible for coordinating this information.

As referenced in Category 1: Expand Primary Care Capacity section of this plan, exam room capacity is being doubled in the Family Care Clinic which will allow RCRMC to serve a larger number of patients. This expansion also presents a unique opportunity to redesign the way in which care is delivered to patients, including assigning a greater number of patients to medical home care teams for more effective care coordination. Patients will be assigned based on several criteria that have been established. The primary guideline is that assignment will apply to patients who have had at least two clinic visits within the last twelve months. The team will include either an attending physician or a Family Medicine resident physician under the supervision of an attending physician. Other team members will include a health services

assistant and a licensed vocational nurse. The care teams will be supported by a dietician, case manager, and pharmacist.

Additional process redesign changes are being made and will be discussed in greater detail in Category 2: Redesign Primary Care. RCRMC recognizes that, in addition to these process changes, the transition to a patient-centered home will also involve a change in the way providers think about delivering care to the patient. Instead of focusing on the acute, episodic needs of individual patients, which has been our traditional focus, a true medical home model will need to shift to an organized, proactive approach to improving the health of a population of patients.

Expected Result:

- At least 80% of eligible patients will be assigned to a medical home.

Related Projects: By assigning the majority of patients seen in the Family Care Clinic to medical home provider teams, patients will be able to develop an ongoing relationship with their team which should enhance the patient's clinic experience. By adopting a more population health-based delivery of care, preventive screening rates should be improved. For patients with chronic conditions, their health should also improve due to more effective care coordination. Readmissions should also be reduced. Assigning patients to a medical home in combination with primary care redesign should result in a more organized, efficient delivery of care.

1. Expand Medical Homes					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
<p>1. Milestone: Establish criteria for medical home assignment. (ref. pg 45-vi)</p> <ul style="list-style-type: none"> • Metric: Medical home assignment criteria, as evidenced in hospital medical home work plan. <p>2. Milestone: Implement a pilot program in the Family Care Clinic where 300 eligible patients, or approximately 5% will be empaneled with a care team in one primary care clinic, where “eligible” is defined as adult patients who had at least two clinic</p>	<p>3. Milestone: Assign at least 25% of eligible patients to a medical home in the Family Care Clinic. (ref. pg 49- i)</p> <ul style="list-style-type: none"> • Metric: Percent of eligible patients assigned to a medical home -Numerator: Number of eligible patients assigned to a medical home -Denominator: Total number of eligible patients 	<p>4. Milestone: Assign at least 50% of eligible patients to a medical home in the Family Care Clinic. (ref. pg 49- i)</p> <ul style="list-style-type: none"> • Metric: Percent of eligible patients assigned to a medical home -Numerator: Number of eligible patients assigned to a medical home -Denominator: Total number of eligible patients 	<p>5. Milestone: Assign at least 70% of eligible patients to a medical home in the Family Care Clinic. (ref. pg 49- i)</p> <ul style="list-style-type: none"> • Metric: Percent of eligible patients assigned to a medical home -Numerator: Number of eligible patients assigned to a medical home -Denominator: Total number of eligible patients 	<p>6. Milestone: Assign at least 80% of eligible patients to a medical home in the Family Care Clinic. (ref. pg 49- i)</p> <ul style="list-style-type: none"> • Metric: Percent of eligible patients assigned to a medical home -Numerator: Number of eligible patients assigned to a medical home -Denominator: Total number of eligible patients 	<ul style="list-style-type: none"> • Improve Screening Rates (Cat 3) • Improve Diabetes Care Management and Outcomes (Cat. 3) • Redesign Primary Care (Cat 2) • Improve Patient Experience (Cat. 3) • Redesign to Improve Patient Experience (Cat. 2)

1. Expand Medical Homes					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Category Projects This Project Feeds Into
visits in the past 12 months, as evidenced by a report from the registration system. (ref. pg 8-iii) • Metric: Medical home assignment -Numerator: Number of eligible patients assigned to a primary care provider -Denominator: Number of eligible patients					

CATEGORY 2: INNOVATION AND REDESIGN

2. Expand Chronic Care Management Models *(ref. Category 2-Project #2 page 51)*

Goal: Diabetes is a disease in which high levels of glucose, or blood sugar, result from problems with the body's production or use of insulin. In Riverside County diabetes is a serious health care issue. According to the Diabetes in California Counties report issued in April 2009 by the California Diabetes Program, Riverside County has a higher estimated percentage of adults with diabetes (8.5%) than California (7.0%).

Uncontrolled diabetes contributes to emergency department visits and hospitalizations at RCRMC. Between October 2009 and October 2010, diabetic patients accounted for nearly 5,400 visits to the Emergency Department and over 1,000 inpatient admissions. In addition, they accounted for over 12,000 outpatient visits to RCRMC's primary and/or specialty care clinics. As of June 30, 2010, nearly 43% of patients seen in the Family Care Clinic had a blood sugar (HbA1c) level of 8.0% or greater.

RCRMC is in the process of launching a major initiative to address diabetes by improving glycemic control across the continuum of hospital services – from inpatient care to peri-operative care to outpatient care. This new comprehensive program will build upon foundational efforts the hospital identified in 2007-2008 to combat this chronic disease:

- In 2007 RCRMC participated in the SNI "Spreading Effective and Efficient Diabetes Care in California's Public Hospitals." The goal of this learning collaborative was to improve the effectiveness of primary care clinics affiliated with public hospital systems in caring for patients with diabetes through the adoption of the Chronic Care Model and the use of a chronic disease registry at the point of care. In response RCRMC implemented the CDEMS diabetes registry and trained staff in targeted clinics on the Chronic Care Model to improve care to patients with diabetes.
- In 2008 RCRMC developed a partnership with Kaiser Permanente through a two-year Kaiser-sponsored grant program called Project A-L-L (Aspirin, Lisinopril, Levostatin). The program's purpose was to decrease the risk of heart attack and stroke in adult diabetes patients through medication protocols which Kaiser had successfully used to treat diabetes patients within its health care system. Over 2,000 diabetes patients 45 years of age and older were enrolled in this program. Over 40% of the patients reduced their HbA1c level, cholesterol, and blood pressure.

Diabetes outpatient services were enhanced in 2010 with the launching of a Diabetes Management Clinic to assist high risk adult patients with uncontrolled diabetes. Patients are referred to the clinic based on criteria such as HbA1c > 9%, LDL > 100, blood pressure > 130/80, non-healing wounds, co-morbidities such as coronary artery disease or nephropathy, and high utilization of the Emergency Department and/or recurrent admissions for diabetes-related complications.

The clinic features a multidisciplinary team approach, including a family medicine physician who specializes in diabetes care, a nurse case manager/certified diabetes educator, and a dietician. Patients will receive individualized counseling and support. A clinical pharmacist will be joining the team as part of the implementation of a diabetes medication titration program to provide special support to patients who have been unable to reach clinical goals. Serving as the medication manager for the diabetes treatment team, the pharmacist will work with up to 20 patients per day to counsel them on their medication and adjust it as necessary per established protocols. The pharmacist will evaluate the drug treatment regimen and the patient's medication adherence.

Hyperglycemia in surgical patients has been clearly associated with an increased risk of medical complications, including surgical site infections, post-operative infections, extended hospital lengths of stay, acute renal failure, and death. Preliminary data gathered on a sample of RCRMC surgical patients indicated that less than 50% had a HbA1c available prior to the surgical procedure, reflecting either unknown or uncontrolled diabetes. Of those surgical patients who did have a pre-operative HbA1c, almost 50% had a HbA1c over 9%. The data also indicated that a substantial number of patients had relatively high blood sugar levels just before the surgical procedure was initiated as well as after right after the procedure.

A plan has also been developed to establish a peri-operative glucose control program. Patients requiring surgery who are being seen in RCRMC's surgical clinics will have their HbA1c level tested in the clinic before the surgical procedure is scheduled. If the HbA1c level is greater than 9%, or the patient is otherwise deemed high risk, the patient will be referred to the Diabetes Management Clinic so their blood glucose level can be stabilized. Once this stabilization has occurred, the patient will be medically cleared for surgery and the procedure will be scheduled.

One of the key components to the peri-operative glucose control program is the role of the pharmacist in monitoring and managing peri-surgical glucose control. Specific protocols have been established to ensure the patient's blood glucose level is controlled prior to and after surgery. On the day of surgery the patient's HbA1c level and point of care blood glucose will be checked. If the blood glucose level is too high per defined protocols certain

measures will be implemented. The patient will receive either an insulin bolus prior to the procedure, or an insulin drip, during the surgery to ensure the blood sugar levels are within the peri-operative blood sugar range.

A pharmacist will monitor the patient's insulin administration in the operating room during the procedure with the anesthesiologist. The pharmacist will continue to monitor patients in the post-operative setting, and manage blood glucoses that are outside the target range. For patients admitted to the hospital for surgery, blood glucoses levels will continue to be monitored by the pharmacist assigned to the nursing unit. Patients will be followed by the diabetes consult team comprised of a physician, pharmacist, and nurse throughout the hospital stay. Patients with uncontrolled diabetes will be referred to the Diabetes Management Clinic for follow up care.

The new inpatient glycemic control program will provide an opportunity to identify and treat uncontrolled hyperglycemia, iatrogenic hypoglycemia, and diabetes-related complications. The program is designed to improve care coordination across all levels of treatment within the organization and to standardize processes for improving glycemic control. A dedicated inpatient diabetes consult team comprised of a physician, diabetes nurse, and pharmacist will implement effective, evidence-based glycemic control practices for adult inpatients. The pharmacist will play a key role in this program by collecting glycemic data, verifying that the established glycemic protocol is used, actively adjust medication as necessary, and provide patient education. The physician in collaboration with the diabetes nurse will provide consultation on those patients whose diabetes is still uncontrolled despite using the glycemic protocol, and will also provide recommendations on the optimal medications for each uncontrolled diabetes patient prior to discharge. This glycemic control program will also directly support hospital efforts to reduce the number of surgical site infections which is discussed in Category 4 of this plan.

Personal lifestyle choices pertaining to diet and nutrition, physical activity, and smoking can create barriers impacting the patient's ability to control their diabetes. One of the key components of RCRMC's diabetes program is to educate patients on healthy behaviors and to empower them to take control of their chronic condition through the adoption of a self-management goal. As of July, 2010, 10% of diabetes patients had selected a self-management goal. This area is one that RCRMC has targeted for improvement.

RCRMC also recognizes that some diabetic patients need additional support and coaching between clinic visits. A pilot program is being implemented in the Diabetes Management Clinic where a member of the care team, such as a diabetic educator, health coach, or nurse will contact targeted patients by telephone to provide individualized health and lifestyle education.

Expected Results:

- Improve the percentage of diabetic patients who select a self-management goal by 50%.
- Increase the number of telephone calls made to targeted high risk diabetic patients by 750 calls to provide individualized lifestyle coaching and other support.

Related Projects: RCRMC's comprehensive diabetes management program supports the work of medical home provider teams in effectively managing the care provided to patients. It should result in improved outcomes in key areas such as reduced blood glucose and cholesterol levels, decreased blood pressure, and a reduction in readmissions. This program should also have a positive impact in reducing the rate of surgical site infections, and reducing the incidence of stroke in adult diabetic patients. It should also improve patient experience.

2. Expand Chronic Care Management Models

Year 1	Year 2	Year 3	Year 4	Year 5	Other Categories Projects This Project Feeds Into
<p>1. Milestone: Create a plan to implement an outpatient diabetic medication titration program supported by pharmacy, including program protocols. (ref. pg 8-ii)</p> <p>• Metric: Documentation of program work plan and protocols</p> <p>2. Milestone: Create a plan to implement a peri-operative glucose control program. (ref. pg 8-ii)</p> <p>• Metric: Documentation of completed work plan</p>	<p>6. Milestone: Implement an outpatient diabetic medication titration program supported by pharmacy. (ref. pg 55- xviii)</p> <p>• Metric: Documentation of program implementation, including medical staff committee minutes</p> <p>7. Milestone: Implement a peri-operative glucose control program. (ref. pg 54- v)</p> <p>• Metric: Documentation of program implementation, including medical staff committee</p>	<p>11. Milestone: Improve the percentage of diabetic patients who select a self-management goal by 30% over baseline. (ref. pg 55- ii)</p> <p>• Metric: Patients with self-management goals -Numerator: Number of diabetic patients in the registry with at least one recorded self-management goal -Denominator: Total number of diabetic patients</p> <p>12. Milestone: Expand the number of</p>	<p>13. Milestone: Improve the percentage of diabetic patients who select a self-management goal by 40% over baseline. (ref. pg 55- ii)</p> <p>• Metric: Patients with self-management goals -Numerator: Number of diabetic patients in the registry with at least one recorded self-management goal -Denominator: Total number of diabetic patients</p> <p>14. Milestone: Expand the number of</p>	<p>15. Milestone: Improve the percentage of diabetic patients who select a self-management goal by 50% over baseline. (ref. pg 55- ii)</p> <p>• Metric: Patients with self-management goals -Numerator: Number of diabetic patients in the registry with at least one recorded self-management goal -Denominator: Total number of diabetic patients</p> <p>16. Milestone: Expand the number of</p>	<ul style="list-style-type: none"> • Improve Diabetes Care Management and Outcomes (Cat. 3) • Reduce Readmission Rates (Cat. 3) • Improve Patient Experience (Cat. 3) • Expand Medical Homes (Cat. 2) • Surgical Site Infections (Cat. 4) • Stroke Management (Cat. 4)

2. Expand Chronic Care Management Models

Year 1	Year 2	Year 3	Year 4	Year 5	Other Categories Projects This Project Feeds Into
<p>3. Milestone: Designate a clinical pharmacist to join the multidisciplinary team providing care in the Diabetes Management Clinic. <i>(ref. pg 8- x)</i></p> <ul style="list-style-type: none"> • Metric: Documentation assigning clinical pharmacist to the clinic. <p>4. Milestone: Improve the percentage of diabetic patients who select a self-management goal by 10% over baseline. <i>(ref. pg 55- ii)</i></p> <ul style="list-style-type: none"> • Metric: Patients with self- 	<p>minutes</p> <p>8. Milestone: Implement an inpatient glycemic control program to assist patients with poor blood sugar control, targeting patients admitted to the hospital. <i>(ref. pg 54- v)</i></p> <ul style="list-style-type: none"> • Metric: Documentation of program implementation, including medical staff committee minutes <p>9. Milestone: Improve the percentage of diabetic patients who select a self-management goal</p>	<p>telephone interactions between diabetic patients and the health care team by an additional 200 calls. <i>(ref. pg 55- xiv)</i></p> <ul style="list-style-type: none"> • Metric: Number of telephone visits with diabetic patients, as documented by telephone visit reports 	<p>telephone interactions between diabetic patients and the health care team by an additional 200 calls. <i>(ref. pg 55- xiv)</i></p> <ul style="list-style-type: none"> • Metric: Number of telephone visits with diabetic patients, as documented by telephone visit reports 	<p>telephone interactions between diabetic patients and the health care team by an additional 200 calls. <i>(ref. pg 55- xiv)</i></p> <ul style="list-style-type: none"> • Metric: Number of telephone visits with diabetic patients, as documented by telephone visit reports 	

2. Expand Chronic Care Management Models

Year 1	Year 2	Year 3	Year 4	Year 5	Other Categories Projects This Project Feeds Into
<p>management goals -Numerator: Number of diabetic patients in the registry with at least one recorded self-management goal -Denominator: Total number of diabetic patients</p> <p>5. Milestone: Implement a pilot program in the Diabetes Management Clinic to document interactions between diabetic patients and the health care team beyond one-to-one visits to include 50 telephone visits.</p>	<p>by 20% over baseline. (ref. pg 55- ii)</p> <ul style="list-style-type: none"> • Metric: Patients with self-management goals -Numerator: Number of diabetic patients in the registry with at least one recorded self-management goal -Denominator: Total number of diabetic patients <p>10. Milestone: Expand the number of telephone interactions between diabetic patients and the health care team by an additional</p>				

2. Expand Chronic Care Management Models

Year 1	Year 2	Year 3	Year 4	Year 5	Other Categories Projects This Project Feeds Into
<p><i>(ref. pg 45- v)</i> <ul style="list-style-type: none"> Metric: Number of telephone visits with diabetic patients, as documented by telephone visit reports </p>	<p>150 calls. <i>(ref. pg 55- xiv)</i> <ul style="list-style-type: none"> Metric: Number of telephone visits with diabetic patients, as documented by telephone visit reports </p>				

CATEGORY 2: INNOVATION AND REDESIGN

3. Redesign Patient Care *(ref. Category 2-project #3 page 57)*

Goal: The Family Care Clinic does not operate at maximum efficiency. Patients have difficulty scheduling appointments and often must wait at least 30 days to see a primary care provider for a non-urgent condition. There are traditionally high no-show rates. In December 2010 the rate was 36%. Patients also experience long waits once they arrive at the hospital for their clinic visit. The entire clinic visit can take up to 110 minutes from the time the patient arrives to when the visit is completed.

Other operational issues also exist. Information that is required for the visit, (e.g., test results that the primary care provider will be discussing with the patient) is often not on the chart at the time of the visit. This omission causes delays which can be frustrating for the patient, provider, and other clinic staff. It can also lead to the same test being repeated unnecessarily. There can also be a lack of coordination and communication between staff members. For example, the front desk staff may not know when the provider will see the patient so they are not able to tell the patient how long they must wait. The provider does not know when a follow-up appointment can be scheduled because only the schedulers have that information. Due to the lack of permanent team assignments, staff members work with different providers each day. This practice creates inefficiencies in care processes, resulting in suboptimal workflow.

As cited in Category 1: Expand Primary Care Capacity, the number of exam rooms is being doubled from 16 to 32. This expansion is providing a key opportunity to redesign the way care is provided to patients in this clinic. In addition, RCRMC is participating in the SNI Seamless Care Initiative which will be addressing process redesign strategies to improve the patient experience in a primary care clinic such as:

- Reorganizing staff into care teams to maximize efficiency. Each provider will be paired with a health services assistant who will work with the provider on a daily basis and serve as the patient's health coach during and between clinic visits; this process should result in greater efficiencies during the clinic visit and establish an important bond between the patient and the medical home team.
- Implementing a hybrid-open access model which will allow patients more flexibility in scheduling appointments either in advance or on the same day which should decrease the no-show rate and improve patient satisfaction.
- Keeping the patient in the same exam room and location where staff performs functions such as vital signs without moving the patient to other areas of the clinic to perform the function.

- Introducing a “one-stop shop” process where services such as EKGs, diabetic retinopathy screenings, and spirometry will be performed by clinic staff onsite rather than in other clinics or departments.
- Ensuring the patient has a follow-up appointment, prescription order, and/or orders for other services at the conclusion of their clinic visit.

The Family Care Clinic staff members who will support this redesign effort have been identified. Training of relevant clinic staff will occur so they can become knowledgeable about methods to improve clinic efficiencies and to support the redesign effort.

It is anticipated these changes will increase the staff productivity because the work will be focused around a care team rather than individual providers. The productivity measure will be defined as the number of patient visits completed divided by the time it took to see those patients from start up to wrap up, including charting and relevant chart work. The baseline productivity measure as of July-December 2009 is 1.69 patients per hour. This productivity measure reflects that patients in the Family Care Clinic are seen by Family Medicine residents under the supervision of an attending physician. Because the clinic is used as a training site, the number of patients seen per hour will be somewhat lower by comparison to a clinic where only attending physicians see patients.

These redesign changes should also result in lowering no-show rates, decreasing the length of time for an appointment, and reducing the length of the clinic visit.

Expected Result:

- Improve the productivity of the team by 15%.

Related Projects: Implementing more efficient processes in the Family Care Clinic will support the expansion of medical homes by providing a more organized system of care. It should also enhance the patient’s clinic experience due to decreased waits for appointments and a reduction in the time spent waiting in the clinic to see their provider. With improved access to services, patients will be able to establish an ongoing relationship with their primary care team, resulting in continuity of care.

3. Redesign Primary Care					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Categories This Project Feeds Into
<p>1. Milestone: Designate relevant staff in the Family Care Clinic to support the primary care redesign process. (ref. pg 8- x)</p> <p>• Metric: Number of designated staff, as evidenced by list of designated staff</p>	<p>2. Milestone: Train 70% of relevant staff in the Family Care Clinic on methods for redesigning clinic to improve efficiency. (ref. pg 59- v)</p> <p>• Metric: Proportion of staff trained: -Numerator: Number of relevant clinic staff trained -Denominator: Total number of relevant clinic staff -Evidenced by HR documents and training program materials</p>	<p>3. Milestone: Train an additional 20% of relevant staff in the Family Care Clinic on methods for redesigning clinic to improve efficiency. (ref. pg 59- v)</p> <p>• Metric: Proportion of staff trained: -Numerator: Number of relevant clinic staff trained -Denominator: Total number of relevant clinic staff -Evidenced by HR documents and training program materials</p> <p>4. Milestone: Improve</p>	<p>5. Milestone: Improve productivity of team by 10%. (ref. pg 61- iv)</p> <p>• Metric: Team productivity, as measured by: -Number of patient visits completed divided by the time it took to see those patients from start up to wrap up, including charting and relevant chart work -Evidenced by the Family Care Clinic Productivity Report</p>	<p>6. Milestone: Improve productivity of team by 15%. (ref. pg 61- iv)</p> <p>• Metric: Team productivity, as measured by: -Number of patient visits completed divided by the time it took to see those patients from start up to wrap up, including charting and relevant chart work -Evidenced by the Family Care Clinic Productivity Report</p>	<ul style="list-style-type: none"> • Improve Patient Experience (Cat. 3) • Expand Medical Homes (Cat. 2) • Redesign to Improve Patient Experience (Cat. 2)

3. Redesign Primary Care					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Categories This Project Feeds Into
		<p>productivity of team by 5%. (ref. pg 61- iv)</p> <ul style="list-style-type: none"> • Metric: Team productivity, as measured by: <ul style="list-style-type: none"> -Number of patient visits completed divided by the time it took to see those patients from start up to wrap up, including charting and relevant chart work -Evidenced by the Family Care Clinic Productivity Report 			

CATEGORY 2: INNOVATION AND REDESIGN

4. Redesign to Improve Patient Experience *(ref. Category 2-Project #4 page 61)*

Goal: Limited information is currently collected on the patient experience in the outpatient clinics. An outpatient telephone survey, which is based on a random sample of all outpatients, is administered on a regular basis. The survey has limited value to all of the hospital's clinics since the sample size is small and responses cannot be broken out by clinic. In addition, there is no process to actively solicit more representative input from patients in such areas as how to improve their clinic visit experience.

RCRMC plans to make a concerted effort to change the organizational culture to improve patient experience. Organizational leaders recognize that improved patient experience is as important as clinical excellence and patient safety. The hospital plans to kick off this effort by establishing a patient experience pilot program in the Family Care Clinic. This area of the organization was identified as a starting point because of other initiatives which are currently underway that are designed to create an environment which is more patient-centered, e.g., assigning patients to medical home care teams to better coordinate their care and redesigning primary care processes to create greater efficiencies. The hospital plans to build upon the work which the Institute for Healthcare Improvement (IHI) has done in the area of patient experience in the following ways:

- Establish a steering committee comprised of organizational leaders, employees, and patients to advise and provide oversight on initiatives to improve patient experience.
- Develop a plan to initiate a patient experience pilot program in the Family Care Clinic; the plan will identify a process by which to regularly survey patients about their clinic experience.
- Train staff on the patient experience program goals and objectives and obtain their commitment to support the process.
- Plan to gradually expand the pilot program into two specialty clinics.

Expected Results:

- Patient experience pilot program will have been implemented in three hospital clinics.
- Patient experience data will be shared with patients and employees on a regular basis, including identifying the changes that have been implemented in direct response to the input received from patients.
- RCRMC will inform the community about its organizational commitment to improve the patient experience and highlight specific changes that have resulted, including patient stories which illustrate these changes.

Related Projects: The pilot programs to redesign the patient experience will offer patients the opportunity to actively provide feedback on their clinic experience which will directly support efforts relating to the primary care redesign initiative. This input will help RCRMC staff assess the impact of these changes on patient satisfaction. It will also support the expansion of medical homes because patients will be empowered to take a more proactive role in their health care in collaboration with the members of their provider team.

4. Redesign to Improve Patient Experience					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Categories This Project Feeds Into
<p>1. Milestone: Designate staff to support and coordinate the pilot patient experience initiative in the Family Care Clinic. <i>(ref. pg 8-x)</i></p> <ul style="list-style-type: none"> • Metric: Documentation of project assignment, listing personnel 	<p>2. Milestone: Establish a steering committee comprised of organizational leaders, employees, and patients/families to oversee improvements in patient and/or employee experience in the Family Care Clinic. <i>(ref. pg 62- iv)</i></p> <ul style="list-style-type: none"> • Metric: Steering Committee meets at least bi-monthly, as documented by meeting minutes <p>3. Milestone: Develop a plan to roll out a regular</p>	<p>5. Milestone: Administer regular inquiry into patient experience in the Family Care Clinic through the survey tool that will be identified in the patient experience plan. <i>(ref. pg 64- xi)</i></p> <ul style="list-style-type: none"> • Metric: Report on survey results <p>6. Milestone: Train an additional 30% of Family Care Clinic staff on patient experience program goals and objectives, as measured by HR documents; training program records. <i>(ref. pg 66-xvii)</i></p>	<p>9. Milestone: Train 50% of staff in targeted specialty clinic on patient experience program goals and objectives, as measured by HR documents; training program records. <i>(ref. pg 66-xvii)</i></p> <ul style="list-style-type: none"> • Metric: Percentage of staff trained -Numerator: Number of staff trained -Denominator: Total number of relevant staff <p>10. Milestone: Administer regular inquiry into patient experience in the targeted specialty</p>	<p>13. Milestone: Train an additional 30% of staff in first specialty clinic on patient experience program goals and objectives, as measured by HR documents; training program records. <i>(ref. pg 66-xvii)</i></p> <ul style="list-style-type: none"> • Metric: Percentage of staff trained -Numerator: Number of staff trained -Denominator: Total number of relevant staff <p>14. Milestone: Train 50% of relevant staff in second specialty care clinic on</p>	<ul style="list-style-type: none"> • Improve Patient Experience (Cat. 3) • Expand Medical Homes (Cat. 2) • Redesign Primary Care (Cat. 2)

4. Redesign to Improve Patient Experience					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Categories This Project Feeds Into
	<p>inquiry into patient experience in the Family Care Clinic. (ref. pg 64- x)</p> <ul style="list-style-type: none"> • Metric: Submission of patient experience expansion plan <p>4. Milestone: Train 50% of Family Care Clinic staff on patient experience program goals and objectives, as measured by HR documents; training program records. (ref. pg 66- xvii)</p> <ul style="list-style-type: none"> • Metric: Percentage of staff trained <p>-Numerator: Number of staff trained</p>	<ul style="list-style-type: none"> • Metric: Percentage of staff trained <p>-Numerator: Number of staff trained</p> <p>-Denominator: Total number of relevant staff</p> <p>7. Milestone: Develop a plan to roll out a regular inquiry into patient experience to new area: one specialty clinic. (ref. pg 64- x)</p> <ul style="list-style-type: none"> • Metric: Submission of patient experience expansion plan <p>8. Milestone: Develop regular organizational display of patient</p>	<p>care clinic through the survey tool that will be identified in the patient experience plan. (ref. pg 64- xi)</p> <ul style="list-style-type: none"> • Metric: Report on survey results <p>11. Milestone: Develop a plan to roll out a regular inquiry into patient experience in a second specialty care clinic, which currently does not collect patient experience information. (ref. pg 64- x)</p> <ul style="list-style-type: none"> • Metric: Patient experience expansion plan, as documented by plan 	<p>patient experience program goals and objectives, as measured by HR documents; training program records.</p> <ul style="list-style-type: none"> • Metric: Percentage of staff trained <p>-Numerator: Number of staff trained</p> <p>-Denominator: Total number of relevant staff</p> <p>15. Milestone: Administer regular inquiry into patient experience in the second targeted specialty care clinic through the survey tool that will be identified in the patient</p>	

4. Redesign to Improve Patient Experience

Year 1	Year 2	Year 3	Year 4	Year 5	Other Categories This Project Feeds Into
	<p>-Denominator: Total number of relevant staff</p>	<p>and/or employee experience data and provide updates to employees on organizational efforts to improve experience of patients and their families. <i>(ref. pg 66-iii)</i></p> <ul style="list-style-type: none"> • Metric: Demonstrate at least one organizational wide display about the organization's performance in patient/family experience per year, and at least one example of CEO communication on the experience improvement work. 	<p>submission</p> <p>12. Milestone: Make patient experience data available externally to the community and provide updates to the general public on organizational efforts to improve patient/family experience. <i>(ref. pg 67-iv)</i></p> <ul style="list-style-type: none"> • Metric: Demonstrate at least one external communication per year targeted to general public's understanding of organizational results and improvement efforts in the area of patient/family 	<p>experience plan. <i>(ref. pg 64-xi)</i></p> <ul style="list-style-type: none"> • Metric: Report on survey results 	

4. Redesign to Improve Patient Experience

Year 1	Year 2	Year 3	Year 4	Year 5	Other Categories This Project Feeds Into
			experience.		

CATEGORY 2: INNOVATION AND REDESIGN

5. Increase Specialty Care Access/Redesign Referral Process

(ref. Category 2-Project #7 page 77)

Goal: The referral system which authorizes patient appointments for specialty care services at RCRMC's clinics is currently undergoing a redesign process due to a number of key operational issues. RCRMC's Provider Relations Department, which processes the referrals, handles nearly 3,700 requests a month through an inefficient paper and fax system. Referral requests originate from a number of different sources, including referring providers located at RCRMC's primary care clinics, Riverside County's ten public health clinics, other community clinics, and community physicians. Current referral guidelines are not closely followed by many referring physicians as evidenced by the following data: In CY 2010 there were a total of 43,228 referral requests received. Of this total, only 31% of the requests were approved. The relatively high rejection rate was due to the determination that the referral was unnecessary or the request was not accompanied by the proper pre-visit work-up documents justifying the reason for the referral.

Other problems also exist with the referral process. Patients must wait a significant amount of time for appointments, especially in high demand specialties. As an example, a non-urgent appointment for gastroenterology services can exceed six months. Poor and/or the lack of communication also exists between the specialist and the referring physician. A common complaint from referring physicians is that they never receive a consultation report or any feedback from the specialist explaining the outcome of the patient's visit or what the specialist's recommendations are for the patient's treatment.

Management personnel from RCRMC and the Riverside County's public health clinics have recently formed a workgroup to begin addressing these referral issues. They will be focusing their discussions in a number of areas including:

- Establishment of more standardized referral guidelines to ensure that patients meet common criteria requiring a specialty care visit.
- Ensuring that patients are triaged according to the urgency of their medical condition to increase specialty care access to those most in need of these services.
- Requiring that tests and other necessary pre-visit work-ups are performed before the visit is scheduled.
- Identifying ways to enhance communication between referring and specialty care providers about a patient's condition to create the opportunity for better coordinated care and to ensure the patient is treated in the most appropriate setting.

RCRMC is in the process of installing an electronic medical record that will be completed in approximately three years. Once completed, a plan will be developed to implement a fully operational electronic referral (e-referral) system. In the interim, however, the workgroup will explore options for implementing a smaller scale e-referral solution that could include a web-based system.

Expected Result:

- Increase the rate of appropriate or accepted referrals by 40% over baseline.

Related Projects: Redesigning the specialty care referral process will result in greater efficiencies and improved quality of care. Patients with urgent medical care needs will be able to access services in a more timely manner. This enhanced access should result in reducing the rate of readmissions and improving the patient experience.

5. Increase Specialty Care Access/Redesign Referral Process					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Categories This Project Feeds Into
<p>1. Milestone: Designate a workgroup to lead the effort to redesign the specialty referral process to make it more efficient and responsive to patient needs for specialty care. (ref. pg 8- x)</p> <p>• Metric: Number of staff assigned to workgroup, as documented by list of participants</p>	<p>2. Milestone: Create a plan to redesign the specialty referral process that will address: (1) development of standardized criteria, (2) preliminary work-up/assessment guidelines, and (3) prioritization of specialty care referrals. (ref. pg 77- i)</p> <p>• Metric: Referral and work up guidelines as documented by referral policies and procedures.</p> <p>3. Milestone: Train 50 staff in Riverside County-based primary</p>	<p>5. Milestone: Increase the rate of appropriate or accepted referrals by 20% over baseline. (ref. pg 80- iii)</p> <p>• Metric: Rate of accepted primary care provider-initiated referrals to specialty care, calculated on a quarterly basis; to be measured by: -Numerator: Number of referrals from primary care providers to specialists that were accepted -Denominator: Total number of referrals made by primary care</p>	<p>6. Milestone: Increase the rate of appropriate or accepted referrals by 30% over baseline. (ref. pg 80- iii)</p> <p>• Metric: Rate of accepted primary care provider-initiated referrals to specialty care, calculated on a quarterly basis; to be measured by: -Numerator: Number of referrals from primary care providers to specialists that were accepted -Denominator: Total number of referrals made by primary care</p>	<p>8. Milestone: Increase the rate of appropriate or accepted referrals by 40% over baseline. (ref. pg 80- iii)</p> <p>• Metric: Rate of rejected primary care provider-initiated referrals to specialty care, calculated on a quarterly basis; to be measured by: -Numerator: Number of referrals from primary care providers to specialists that were rejected by specialists -Denominator: Total number of referrals made by primary care providers to</p>	<ul style="list-style-type: none"> • Reduce Readmissions (Cat. 3) • Improve Quality (Cat. 3) • Improve Patient Experience (Cat. 3)

5. Increase Specialty Care Access/Redesign Referral Process					
Year 1	Year 2	Year 3	Year 4	Year 5	Other Categories This Project Feeds Into
	<p>and specialty clinics, plus staff in referring clinics regarding new referral guidelines. Metric: Number of personnel trained, as measured by documentation of training materials and list of attendees (ref. pg 79- viii)</p> <p>4. Milestone: Educate 50 referring primary care physicians on the new referral guidelines. (ref. pg 79- viii)</p> <p>• Metric: Number of referring</p>	<p>providers to specialists</p>	<p>providers to specialists</p> <p>7. Milestone: Complete a planning process/submit a plan to implement electronic referral technology. (ref. pg 77- ii)</p> <p>• Metric: Development of an implementation plan for e-referral, as documented by e-referral plan which describes the technical mechanisms needed to operate e-referral system</p>	<p>specialists</p> <p>9. Milestone: Implement e-referrals technology and processes that enable improved and more streamlined provider communications(ref. pg 78- iv)</p> <p>• Metric: Documentation of e-referral technology</p>	

5. Increase Specialty Care Access/Redesign Referral Process

Year 1	Year 2	Year 3	Year 4	Year 5	Other Categories This Project Feeds Into
	physicians educated, as measured by documentation of educational materials and list of referring physicians educated.				

RIVERSIDE COUNTY REGIONAL MEDICAL CENTER

CATEGORY 3: POPULATION-FOCUSED IMPROVEMENT

(This section was added as an addendum to the DSRIP Plan on April 18, 2011)

Per the California Section 1115 Waiver Terms and Conditions, the purpose of Category 3: Population-Focused Improvement is “investments in enhancing care delivery for the 5-10 highest burden (morbidity, cost, prevalence, etc.) conditions in public hospital systems for the population in question.” The Category 3 measures are: 1) aligned with the low-income, Medicaid, and uninsured population in question; 2) identified as high priority, given the health care needs and issues of the patient population served by designated public hospital systems (DPH); and 3) viewed as valid health care indicators to inform and fuel improvements in population health within the health care safety net.

Category 3 data measures include the following domains:

- Patient/Caregiver Experience
- Care Coordination
- Preventive Health
- At-Risk Populations

Patient Safety is being addressed in Category 4 of RCRMC’s DSRIP plan.

Related Projects:

The Category 3 milestones are supported by initiatives included in other sections of RCRMC’s DSRIP Plan:

- Through the implementation of medical homes, patients will receive care in a more coordinated rather than episodic manner. They will be able to establish an ongoing relationship with their medical home provider team who will manage all of their care. As a result, patients should receive the right care at the right time at the right place, including ongoing preventive care.

(Category 2: Expand Medical Homes)

- Many of the health status measures to be tracked in Category 3 pertain to chronic diseases, including diabetes. RCRMC will be implementing a comprehensive set of diabetes management initiatives that encompasses the continuum of hospital services – from inpatient care to perioperative care to outpatient care. Clinicians will use a diabetes registry to track the care provided to ensure patients receive screenings, lab tests, and other exams at the proper intervals. These initiatives should assist in improving

patient clinical outcomes, including lower blood glucose and cholesterol levels.

(Category 2: Expand Chronic Care Management Models; Category 1: Implement and Utilize Disease Management Registry Functionality)

- One of the Category 3 measures for the at-risk population includes the 30-day Congestive Heart Failure (CHF) readmission rate. RCRMC's plan to establish a CHF Clinic will standardize treatment processes and provide continuity of care between inpatient and outpatient services. This initiative should assist in decreasing the CHF readmission rate.

(Category 1: Expand Specialty Care Capacity)

- The patient/caregiver experience pilot programs targeted for the Family Care Clinic and other clinics are designed to create an environment which is more patient-centered. Patient satisfaction data measures in Category 3 will assist the Patient/Caregiver Experience Steering Committee in tracking the impact of proactive changes being made to enhance the patient/caregiver's clinic experience.

(Category 2: Redesign to Improve Patient Experience)

1. Patient/Caregiver Experience				
Year 1	Year 2	Year 3	Year 4	Year 5
	<p>1. Undertake the planning, redesign, translation, training and contract negotiations with vendors in order to implement CG CAHPS in Year 3 (DY 8).</p>	<p>2. Report results of CG CAHPS questions for “Getting Timely Appointments, Care, and Information” theme for at least data from the last two quarters of the demonstration year to the State.</p> <p>3. Report results of CG CAHPS questions for “How Well Doctors Communicate with Patients” theme for at least data from the last two quarters of the demonstration year to the State.</p> <p>4. Report results of CG CAHPS questions for “Helpful, Courteous, and Respectful Office Staff” theme for at least data from the last two quarters of the demonstration year to the State.</p>	<p>7. Report results of CG CAHPS questions for “Getting Timely Appointments, Care, and Information” theme to the State.</p> <p>8. Report results of CG CAHPS questions for “How Well Doctors Communicate with Patients” theme to the State.</p> <p>9. Report results of CG CAHPS questions for “Helpful, Courteous, and Respectful Office Staff” theme to the State.</p> <p>10. Report results of CG CAHPS questions for “Patients’ Rating of the Doctor” theme</p>	<p>12. Report results of CG CAHPS questions for “Getting Timely Appointments, Care, and Information” theme to the State.</p> <p>13. Report results of CG CAHPS questions for “How Well Doctors Communicate with Patients” theme to the State.</p> <p>14. Report results of CG CAHPS questions for “Helpful, Courteous, and Respectful Office Staff” theme to the State.</p> <p>15. Report results of CG CAHPS questions for</p>

1. Patient/Caregiver Experience				
Year 1	Year 2	Year 3	Year 4	Year 5
		<p>5. Report results of CG CAHPS questions for “Patients’ Rating of the Doctor” theme for at least data from the last two quarters of the demonstration year to the State.</p> <p>6. Report results of CG CAHPS questions for “Shared Decision Making” theme for at least data from the last two quarters of the demonstration year to the State.</p>	<p>to the State.</p> <p>11. Report results of CG CAHPS questions for “Shared Decision Making” theme to the State.</p>	<p>“Patients’ Rating of the Doctor” theme to the State.</p> <p>16. Report results of CG CAHPS questions for “Shared Decision Making” theme to the State.</p>

2. Care Coordination				
Year 1	Year 2	Year 3	Year 4	Year 5
	1. Report results of the Diabetes, Short-Term Complications measure to the State. 2. Report results of the Uncontrolled Diabetes measure to the State.	3. Report results of the Diabetes, Short-Term Complications measure to the State. 4. Report results of the Uncontrolled Diabetes measure to the State. 5. Report results of the Congestive Heart Failure measure to the State. 6. Report results of the Chronic Obstructive Pulmonary Disease measure to the State.	7. Report results of the Diabetes, Short-Term Complications measure to the State. 8. Report results of the Uncontrolled Diabetes measure to the State. 9. Report results of the Congestive Heart Failure measure to the State. 10. Report results of the Chronic Obstructive Pulmonary Disease measure to the State.	11. Report results of the Diabetes, Short-Term Complications measure to the State. 12. Report results of the Uncontrolled Diabetes measure to the State. 13. Report results of the Congestive Heart Failure measure to the State. 14. Report results of the Chronic Obstructive Pulmonary Disease measure to the State.

Care Coordination Denominator:

The following are RCRMC’s primary care clinics:

1. Family Care Clinic
2. Internal Medicine Clinic
3. Women’s Health Clinic
4. Pediatrics Clinic

Additionally, in order for there to be consistent reporting across DPH systems, the “past 12 months” for all care coordination measures will be defined as the prior demonstration year (July 1 – June 30) of the prior year.⁴

⁴ “The past 12 months” is defined as the prior demonstration year (July 1 – June 30 of the prior year) because:

- This definition allows the DPH system’s year-end DSRIP report to build on the 6-month DSRIP report by using the same population in the denominator, which is consistent with the program mechanics and therefore, with how the other categories are being reported.
- The visit/admission/discharge in which the numerator event occurred (e.g., LDL recorded, admission for diabetes complications) will have occurred after the two visits to primary care, which is consistent with the reason for defining the population as patients for whom the health system has had sufficient opportunity to provide good care and influence good health.

3. Preventive Health				
Year 1	Year 2	Year 3	Year 4	Year 5
	<p>1. Report results of the Mammography Screening for Breast Cancer measure to the State.</p> <p>2. Report results of the Influenza Immunization measure to the State.</p>	<p>3. Report results of the Mammography Screening for Breast Cancer measure to the State.</p> <p>4. Report results of the Influenza Immunization measure to the State.</p> <p>5. Report results of the Child Weight Screening measure to the State.</p> <p>6. Report results of the Pediatrics Body Mass Index (BMI) measure to the State.</p> <p>7. Report results of the Tobacco Cessation measure to the State.</p>	<p>8. Report results of the Mammography Screening for Breast Cancer measure to the State.</p> <p>9. Report results of the Influenza Immunization measure to the State.</p> <p>10. Report results of the Child Weight Screening measure to the State.</p> <p>11. Report results of the Pediatrics Body Mass Index (BMI) measure to the State.</p> <p>12. Report results of the Tobacco Cessation measure to the</p>	<p>13. Report results of the Mammography Screening for Breast Cancer measure to the State.</p> <p>14. Report results of the Influenza Immunization measure to the State.</p> <p>15. Report results of the Child Weight Screening measure to the State.</p> <p>16. Report results of the Pediatrics Body Mass Index (BMI) to the State.</p> <p>17. Report results of the Tobacco Cessation measure to the State.</p>

3. Preventive Health				
Year 1	Year 2	Year 3	Year 4	Year 5
			State.	

Preventive Health Denominator:

The following are RCRMC's primary care clinics:

1. Family Care Clinic
2. Internal Medicine Clinic
3. Women's Health Clinic
4. Pediatrics Clinic

Additionally, in order for there to be consistent reporting across DPH systems, the "past 12 months" for all preventive health measures will be defined as the prior demonstration year (July 1 – June 30 of the prior year).⁵

⁵ "The past 12 months" is defined as the prior demonstration year (July 1 – June 30 of the prior year) because:

- This definition allows the DPH system's year-end DSRIP report to build on the 6-month DSRIP report by using the same population in the denominator, which is consistent with the program mechanics and therefore, with how the other categories are being reported.
- The visit/admission/discharge in which the numerator event occurred (e.g., LDL recorded, admission for diabetes complications) will have occurred after the two visits to primary care, which is consistent with the reason for defining the population as patients for whom the health system has had sufficient opportunity to provide good care and influence good health.

4. At-Risk Populations				
Year 1	Year 2	Year 3	Year 4	Year 5
	<p>1. Report results of the Diabetes Mellitus: Low Density Lipoprotein (LDL-C) Control (<100mg/dl) measure to the State.</p> <p>2. Report results of the Diabetes Mellitus: Hemoglobin A1c Control (<9%) measure to the State.</p>	<p>3. Report results of the Diabetes Mellitus: Low Density Lipoprotein (LDL-C) Control (<100mg/dl) measure to the State.</p> <p>4. Report results of the Diabetes Mellitus: Hemoglobin A1c Control (<9%) measure to the State.</p> <p>5. Report results of the 30-day Congestive Heart Failure Readmission Rate measure to the State.</p> <p>6. Report results of the Hypertension (HTN): Blood Pressure Control (<140/90 mmHg) measure to the State.</p> <p>7. Report results of the Pediatrics Asthma Care measure to the State.</p> <p>8. Report results of the Optimal Diabetes Care Composite for at least data from the last two</p>	<p>10. Report results of the Diabetes Mellitus: Low Density Lipoprotein (LDL-C) Control (<100mg/dl) measure to the State.</p> <p>11. Report results of the Diabetes Mellitus: Hemoglobin A1c Control (<9%) measure to the State.</p> <p>12. Report results of the 30-day Congestive Heart Failure Readmission Rate measure to the State.</p> <p>13. Report results of the Hypertension (HTN): Blood Pressure Control (<140/90 mmHg) measure to the State.</p> <p>14. Report results of the Pediatrics Asthma Care measure to the State.</p> <p>15. Report results of the Optimal Diabetes Care Composite to the State.</p>	<p>17. Report results of the Diabetes Mellitus: Low Density Lipoprotein (LDL-C) Control (<100mg/dl) measure to the State.</p> <p>18. Report results of the Diabetes Mellitus: Hemoglobin A1c Control (<9%) measure to the State.</p> <p>19. Report results of the 30-day Congestive Heart Failure Readmission Rate measure to the State.</p> <p>20. Report results of the Hypertension (HTN): Blood Pressure Control (<140/90 mmHg) measure to the State.</p> <p>21. Report results of the Pediatrics Asthma Care measure to the State.</p> <p>22. Report results of the</p>

4. At-Risk Populations				
Year 1	Year 2	Year 3	Year 4	Year 5
		quarters of the demonstration year to the State. 9. Report results of the Diabetes Composite for at least data from the last two quarters of the demonstration year to the State.	16. Report results of the Diabetes Composite to the State.	Optimal Diabetes Care Composite to the State. 23. Report results of the Diabetes Composite to the State.

At-Risk Populations Denominator:

The following are RCRMC’s primary care clinics:

1. Family Care Clinic
2. Internal Medicine Clinic
3. Women’s Health Clinic
4. Pediatrics Clinic

Additionally, in order for there to be consistent reporting across DPH systems, the “past 12 months” for all at-risk populations measures will be determined as the prior demonstration year (July 1 – June 30 of the prior year).⁶

⁶“The past 12 months” is defined as the prior demonstration year (July 1 – June 30 of the prior year) because:

- This definition allows the DPH system’s year-end DSRIP report to build on the 6-month DSRIP report by using the same population in the denominator, which is consistent with the program mechanics and therefore, with how the other categories are being reported.
- The visit/admission/discharge in which the numerator event occurred (e.g., LDL recorded, admission for diabetes complications) will have occurred after the two visits to primary care, which is consistent with the reason for defining the population as patients for whom the health system has had sufficient opportunity to provide good care and influence good health.

CATEGORY 4: URGENT IMPROVEMENT IN QUALITY AND SAFETY

The goal of Category 4 is to make urgent improvement in care that:

- Has a Promised Impact on the Patient Population, including interventions that have been demonstrated to produce measurable and significant results across different types of hospital settings, including in safety net hospitals;
- Has a Strong Evidence Base, meaning interventions that have been endorsed by a major national quality organization, with reasonably strong evidence established in the peer reviewed literature, including within the safety net; and
- Is Meaningful to Populations Served in California's Public Hospital Systems because, without significant improvement in this intervention, California public hospitals' patients are at risk of harm, needless suffering, or premature/preventable death.

CATEGORY 4: URGENT IMPROVEMENT IN QUALITY AND SAFETY

1. Improve Severe Sepsis Detection and Management

(REQUIRED INTERVENTION)

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

Sepsis is a range of clinical conditions that occur in response to the body's systemic reaction to infection. It may develop into multi-organ dysfunction or failure and is one of the leading causes of death in the hospital's intensive care unit. Mortality rates are nearly 30% within the first month of diagnosis and 50% within six months. Approximately 25% of patients with severe sepsis or septic shock die in public hospitals. In 2010 preliminary data collected on RCRMC patients with severe sepsis indicated an average mortality of 37.31% with an average length of stay of 20.78 days.

Many of the initial symptoms associated with sepsis are general, making diagnosis challenging. Rapid diagnosis and management are key to successful treatment. Early goal-directed therapy, including fluid resuscitation and antibiotic treatment is vital. Data suggest that approximately 10% of patients do not receive prompt and appropriate antibiotic therapy, increasing mortality by 10%-15%.

RCRMC has developed a new process for severe detection and management which is discussed below. Prior to this new initiative, there was not a consistent process to help in the early detection of sepsis. Physicians determined if and when a patient met the criteria for sepsis, and used treatment interventions that included elements of the sepsis bundle, but not necessarily the entire package. Some physicians were not aware of the sepsis form being used. There was no established responsibility in terms of a person or department to ensure that the first 24 hours of the sepsis bundle were being followed

Major Delivery System Solution: Reduce avoidable patient harm or death due to severe sepsis through rapid diagnosis and management of the patient's condition.

RCRMC is committed to continuous quality improvement so patients receive the safest and highest quality health care possible. Consequently, we propose to improve severe sepsis detection and management to reduce unnecessary death and harm attributable to sepsis.

As noted above, rapid diagnosis and management are cornerstones to successful outcomes. In 2007 we implemented a Rapid Response Team (RRT) in support of The Joint Commission's National Safety Goal 16.01.01 to

“improve recognition and response to changes in a patient’s condition.” Our RRT, when first initiated, included a doctor, nurse, and respiratory therapist who responded to situations where a patient’s medical condition was deteriorating. Specific clinical criteria were identified to note when the RRT should be called. It did not specifically address severe sepsis detection.

The RRT process has been continually refined since 2007 to improve the care provided to patients. A determination was made that severe sepsis detection should be incorporated into the RRT process and that a formalized sepsis management program should be established, facilitated by a specialty-trained clinical pharmacist. The program was launched in February 2011 and represents a multidisciplinary effort involving representatives from the departments of Medicine, Surgery, Pharmacy, Nursing, Respiratory Therapy, Education Services, Medical Records, and Administration.

Patients are now assessed for sepsis according to three criteria: 1) whether specified triggers for systemic inflammatory response syndrome are present, e.g., a nurse calling for the RRT to respond to a critical patient situation; 2) presence of infection; and 3) whether criteria for severe sepsis are met, as defined on the order sheet. If all three of these criteria are met, the sepsis bundle will be initiated. For patients being treated in the Emergency Department, triggers to notify the RRT for a sepsis assessment will include a lactate level greater than 4 or systolic blood pressure less than 90 after fluid bolus.

The sepsis resuscitation bundle will be implemented within six hours for patients with severe sepsis, septic shock, and/or lactate > 4mmol/L (36mg/dl). The four elements of the sepsis resuscitation bundle for which there is the most evidence of reliability and efficacy (based on the recommendations of the Gordon and Betty Moore Foundation’s Integrated Nurse Leadership Program and other sepsis prevention collaboratives) include:

- Serum lactate is measured.
- Blood cultures are obtained prior to antibiotic administration.
- Improve time to broad-spectrum antibiotics: within three hours for Emergency Department admissions and one hour for non-Emergency Department intensive care unit admissions
- In the event of hypotension and/or lactate >4 mmol/L (36mg/dl):
 - Deliver an initial minimum of 20 ml/kg of crystalloid (or colloid equivalent)
 - Apply vasopressors for hypotension not responding to initial fluid resuscitation to maintain mean arterial pressure (MAP) > 65mm Hg.

The clinical pharmacist will be responsible for monitoring compliance with the sepsis bundle, and will continue to monitor the patient at specified intervals to

determine that appropriate management measures in accordance with the bundle are properly executed.

Sepsis bundle compliance has been expanded to all nursing units and to the Emergency Department, as noted above. Training of hospital staff, including those in nursing, pharmacy, respiratory therapy, and the Emergency Department, has been completed. The expansion of existing protocols has been completed, including the listing of additional triggers on the RRT/sepsis event record to better identify patients at risk for sepsis.

Data will begin to be collected in Year 1 of this plan to establish a baseline for measuring compliance with the sepsis bundle. Staff from the Pharmacy and Quality Management Departments will perform chart reviews on 100% of sepsis cases. This baseline number will form the basis for measuring improvement against self. RCRMC will join other designated public hospital systems in reporting baseline data to the SNI for the purpose of setting benchmarks. Data pertaining to the hospital's compliance with the sepsis resuscitation bundle will be reported to the State.

RCRMC will also report sepsis mortality data to the State of California. It will be measured as follows:

1. Numerator: Number of patients in population expiring during current month hospitalization with sepsis, severe sepsis or septic shock and/or an infection and organ dysfunction.
2. Denominator: Number of patients identified in the population that month with sepsis, severe sepsis or septic shock and/or an infection and organ dysfunction.

Since deep evidence does not exist linking a particular process bundle to predictable levels of improvement in outcomes, RCRMC will measure and report on mortality, but will not have specific milestones associated with specific improvements in mortality.

RCRMC staff will participate in the Hospital Association of Southern California's (HASC) Southern California Patient Safety Collaborative to share data and best practices with other hospitals relating to sepsis detection and management.

Implementation of this pharmacist-facilitated sepsis detection and management program in collaboration with the RRT should result in the early identification of patients with sepsis and improve outcomes, including decreased mortality rates and reductions in lengths of stay.

1. Improve Severe Sepsis Detection and Management (Required)				
Year 1	Year 2	Year 3	Year 4	Year 5
<p>1. Add pharmacist to the Rapid Response Team who will be responsible for monitoring hospital compliance with the Sepsis Resuscitation Bundle, as evidenced by the RRT/Sepsis response sheet.</p>	<p>2. Participate in the HASC Southern California Patient Safety Collaborative to share data and practices with other hospitals.</p> <p>3. Report at least six 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>	<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>

CATEGORY 4: URGENT IMPROVEMENT IN QUALITY AND SAFETY

2. Central Line-Associated Bloodstream Infection (CLABSI) Prevention

(REQUIRED INTERVENTION)

Key Challenge: Sustain RCRMC's high compliance rate with the Central Line Insertion Practices (CLIP) bundle in an effort to further reduce the CLABSI rate.

A central venous catheter, or central line, is a catheter placed into a large vein in the neck, chest, or groin. It is used to administer medication or fluids, obtain blood, and directly obtain cardiovascular measurements such as the central venous pressure. Patients who require central lines are usually critically ill. If they develop an infection, they are at greater risk of dying. Catheter-related bloodstream infections are associated with increased morbidity and prolonged hospitalization which contribute to increased health care costs. Preventing infections not only reduces the risk of dying, but also lowers the risk of obtaining other infections.

RCRMC has been following the Centers for Disease Control (CDC) Healthcare Infection Control Practices Advisory Committee *Guidelines for the Prevention of Intravascular Catheter-Related Infections*. These guidelines identify the evidenced-based central line insertion practices known to reduce the risk of subsequent CLABSI. They include:

- Hand washing
- Using full barrier precautions upon insertion.
- Cleaning the skin with chlorhexidine.
- Optimal catheter site selection, with avoidance of using the femoral vein for central venous access in adult patients.
- Daily review of catheter necessity, with prompt removal of unnecessary catheters.

RCRMC staff has been collecting data on the CLIP bundle in the following areas of the hospital: Adult Critical Care Units, Neonatal Intensive Care Unit (NICU), and the Pediatric Intensive Care Unit. Data have been reported to the CDC/National Healthcare Safety Network (NHSN). RCRMC's baseline measure for the CLIP bundle, which is based on the timeframe of July-December 2010, is 99.0%. RCRMC's challenge will be to sustain the CLIP bundle's high compliance rate to further reduce the CLABSI rate.

Baseline data for the CLABSI rate, which includes all hospital inpatient units, is based on the timeframe of July-December 2010. The rate is 1.75/1000 central venous catheter days.

Major Delivery System Solution: Continue to decrease the CLABSI rate through staff education on the CLIP bundle interventions which will reduce patient complications due to infection and improve the quality of care provided.

A multidisciplinary work team has been identified to oversee the efforts on this initiative. Members include an infection preventionist, physicians, nurse managers of intensive care units, and two medical student volunteers. RCRMC will report at least six months of data collection on CLIP and CLABSI to SNI for purposes of establishing the baseline and setting benchmarks.

A major campaign will be launched in February and March 2011 to educate nursing staff, attending physicians, and resident physicians on the CLIP bundle interventions to sustain RCRMC's high compliance rate and to help reduce CLABSI occurrences. The hospital units to be targeted include adult critical care, neonatal intensive care, and the pediatric intensive care unit. This educational initiative will be followed by a presentation at Grand Rounds in May 2011 regarding health care-associated infection prevention.

During the educational process, staff will be instructed on procedures to facilitate compliance with the bundle, including: using an insertion checklist that includes all bundle elements for central line insertions; empowering nursing to stop insertion if element(s) of the bundle are not being executed; including an assessment for removal of central lines as part of the daily goal sheets; keeping soap or alcohol-based hand gel dispensers prominently placed in or near patient rooms; and measuring bundle compliance as an "all or nothing" measurement; and sharing compliance data with staff.

Intensive care teams will continue collecting monthly data, in collaboration with hospital infection control staff, on the CLIP bundle and CLABSI rates. Compliance with the CLIP bundle will be measured as follows:

1. Numerator: Number of patients with central lines that occur in all intensive care units (ICUs) including adult, pediatric, and NICUs within the facility for whom all elements of the CLIP are documented.
2. Denominator: Total number of patients with central lines that occur in all ICUs including adult, pediatric, and NICUs within the facility.

The CLABSI rate will be measured as follows:

1. Numerator: Laboratory-confirmed primary bloodstream infections that are not secondary to another infection and that occur in critical care units or inpatient ward patients in whom a central line was in place at the time of, or within 48 hours before, onset of infection.
2. Denominator: Device days, i.e., number of critical care units or inpatient ward patients with one or more central lines or umbilical catheters enumerated daily and summed over the measurement interval.

Sustaining RCRMC's high compliance with the CLIP bundle through ongoing staff education should result in further reductions in the CLABSI rate which should improve the quality of care provided to patients, reduce hospital lengths of stay and the risk of complications, and decrease costs.

2. Central Line-Associated Bloodstream Infection (CLABSI) Infection Prevention (Required)				
Year 1	Year 2	Year 3	Year 4	Year 5
<p>1. Support the training of personnel by developing training materials to be used at the education sessions targeted to physicians and nurses to sustain staff compliance with the CLIP bundle, as documented by training/ presentation materials.</p>	<p>2. Report at least six months of data collection on the CLIP bundle to SNI for purposes of establishing the baseline and setting benchmarks.</p> <p>3. Report CLIP and CLABSI results to the State.</p>	<p>4. Achieve X% compliance with CLIP, where “X” will be determined in Year 2 based on baseline data.</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 CLIP and CLABSI results to the State.</p>	<p>7. Achieve X% compliance with CLIP, where “X” will be determined in Year 2 based on baseline data.</p> <p>8. Reduce Central Line Bloodstream Infections by X%, 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 CLIP and CLABSI results to the State.</p>	<p>11. Achieve X% compliance with CLIP, where “X” will be determined in Year 2 based on baseline data.</p> <p>12. Reduce Central Line Bloodstream Infections by X%, where “X” will be determined in Year 2 based on baseline data.</p> <p>13. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.</p> <p>14. Report CLIP and CLABSI results to the State.</p>

CATEGORY 4: URGENT IMPROVEMENT IN QUALITY AND SAFETY

3. Surgical Site Infections

(OPTIONAL INTERVENTION)

Key Challenge: Surgical site infections are a significant cause of morbidity and mortality among RCRMC's hospitalized patients.

Postoperative surgical site infection is a common cause of morbidity in the United States. It is the third most common hospital-acquired infection and represents about 14%-17% of all such infections. In surgical patients, surgical site infection is the most common nosocomial infection. Research has demonstrated that these infections extend hospital length of stay after surgery and significantly increase the use of emergency services and health care costs.⁷ While advances have been made in infection control practices, such as improved operating room ventilation, sterilization methods, and availability of antimicrobial prophylaxis, surgical site infections remain a significant cause of morbidity and mortality among hospitalized patients.

RCRMC is focused on improving its surgical infection rate. The hospital's overall surgical infection rate for CY 2010 was 4.6%. There are several contributing factors which account for this rate. Many of our patients have uncontrolled diabetes or are not aware they have high blood sugar. Hyperglycemia in surgical patients has been clearly associated with increased risk of medical complications, such as surgical site infections, post-operative infections, and acute renal failure. In addition, all patients should have a chlorexidrine gluconate (CHG) bath at home prior to surgery to lower the risk of bacteria on the skin. It is unknown whether all surgical patients receive these instructions and the cleansing material from their provider prior to surgery. It is also difficult to determine how closely patients adhere to these instructions if they do receive them. Additional factors include the fact that hospital staff may not always cleanse their hands and forearms as thoroughly as recommended prior to surgery. In addition, adherence to standard principles of operating room asepsis, such as maintaining sterile fields, may not always be strictly followed.

Major Delivery System Solution: Reduce the surgical site infection rate to decrease the risk of complications to patients.

RCRMC is currently collecting surgical site infection rates on a number of surgical procedures. ~~For the purposes of this plan, all California public hospitals will be reporting surgical site infections on a targeted number of surgeries. As of~~

⁷ "Postoperative Hyperglycemia and Surgical Site Infection in General Surgery Patients," Ashar Ata, MBBS, MPH; Julia Lee, BS; Sharon Bestle, RN; James Desemone, MD; and Steven Stain, MD, Archives of Surgery, Volume 145, September 2010, Page 858.

~~the date this plan was written, a new state law was pending in the legislature that would establish new state reporting requirements for surgical site infections. RCRMC will be in compliance with state law in its surgical site infection reporting.~~

~~Once the surgeries for which surgical site infection reporting have been determined,~~ Given the imperative to establish a baseline for improvement in the prevention of SSIs in DY 7, it is necessary to specify the surgical procedures to be targeted for RCRMC's SSI project. To select these procedures, various factors were considered, including national and state priorities⁸, as well as those that would have the most meaning to RCRMC's patient population, such as high volume procedures and/or procedures that have higher infection rates.

Aligned with Category 4 goals, the following surgical procedures will be measured:

1. C-Sections, selected based on the criteria of high volume and high infection rate. During the baseline period of July 2009 – June 2010, there were 653 procedures and the infection rate was 5.5%.
2. Hernias, selected based on the criteria of high volume and high infection rate. During the baseline period of July 2009 – June 2010, there were 336 procedures and the infection rate was 3.6%.
3. Hip Prostheses, selected based on the procedure's high infection rate and because it is on the priority list of procedures identified by the Healthcare Associated Infections Advisory Committee to the California Department of Public Health. During the baseline period of July 2010 – June 2011, there were 95 procedures and the infection rate was 5.3%.

These procedures are listed on the CDC's National Healthcare Safety Network (NHSN) list of operative procedures related to SSI events.⁹

RCRMC will report at least six months of data collection on surgical site infections to SNI for purposes of establishing a baseline and setting benchmarks to measure improvement against self. This reporting will be based on the CDC/NHSN guidelines. The metric will be the rate of surgical site infection for Class 1 and 2 wounds. The surgical site infection rate will be defined as follows:

1. Numerator: Number of surgical site infections
2. Denominator: Number of targeted NHSN surgical procedures performed

⁸ See Appendix A: National and State Reporting of SSIs Following Targeted Surgical Procedures

⁹ CDC, Surgical Site Infection Event, Table 1. NHSN Operative Procedure Category Mappings to ICD-9-CM Codes, 9-2 – 9-5 (June 2011); <http://www.cdc.gov/nhsn/PDFs/pscManual/9pscSSICurrent.pdf>.

A multidisciplinary project team has been identified to oversee this initiative. Members include an infection preventionist, medical director of surgery, operating room nurse manager, a surgeon, and two medical student volunteers. All surgical teams will be instructed on the use of the following evidence-based recommendations to reduce surgical site infections from the CDC:

- Glucose control for diabetes patients;
- Increase the dosing of a prophylactic antimicrobial agent for morbidly obese patients;
- Patients should stop smoking within 30 days of the procedure;
- Patient should have received a chlorhexidine gluconate bath preparation prior to the surgery;
- Hair removal by clipping with no use of razors;
- Surgical team members scrub hands and forearms;
- Skin around incision site should be washed and cleaned;
- Antimicrobial prophylaxis should be administered only when indicated;
- Antimicrobial prophylaxis should be administered within one hour before incision;
- Antimicrobial prophylaxis should be stopped within 24 hours after the procedure;
- Surgeon should handle tissue carefully and eradicate dead space;
- Staff should adhere to standard principles of operating room asepsis;
- Ventilation: Staff should follow the American Institute of Architects' recommendation;
- Operating room traffic should be minimized;
- Hospital disinfectant that is approved by the Environmental Protection Agency should be used to clean surfaces and equipment; and
- Use of flash sterilization should be minimized.

The surgical teams will be instructed to sustain these interventions and to integrate them into staff orientation. In collaboration with the infection control staff, the teams will collect monthly data on the number of procedures, number of surgical site infections, and demographic data from patients involved in these procedures.

The infection control staff, supported by the medical student volunteers, will monitor compliance with this bundle of interventions through chart review and by direct observation of staff for specific elements of the bundle. A statistical analysis will be performed to determine the proper sample size of surgeries to be monitored at the 95% confidence interval.

One of the elements of the surgical bundle is to control the patient's blood sugar at the time of surgery. This intervention will be supported and integrated with the hospital's comprehensive glycemic control and peri-operative glucose control initiatives which are discussed in Category 2: Expand Chronic Care Management Models.

RCRMC will report the surgical infection rate on a regular basis to the State of California through the CDC/NHSN. RCRMC will also, as part of its continuous quality improvement efforts, be expanding its reporting of surgical site infections to include all surgical specialties. This information will be reported on a regular basis to the National Surgical Quality Improvement Project (NSQIP). The hospital will also share data as well as promising practices and findings with SNI to foster shared learning and benchmarking across California's public hospitals.

Through the combined efforts of adherence to the evidence-based surgical bundle, plus the hospital-wide glycemic control and peri-operative control programs, improved outcomes should result. Through this methodology the rate of surgical site infections should be significantly reduced.

Appendix A: National and State Reporting of SSIs Following Targeted Surgical Procedures

National: CMS has been measuring surgical care processes using the Surgical Care Improvement Project measures since 2006. In 2008, the Department of Health and Human Services established a senior-level Steering Committee for the Prevention of Healthcare-Associated Infections (HAIs), providing a roadmap for HAI prevention in acute care hospitals, focusing on those infections where the associated morbidity and mortality was most severe, and where scientific information on prevention and the capacity to measure improvement was most complete. An action plan was established with six priority areas, including SSI. Additionally, the House Committee on Appropriations asked in a 2009 report that CMS include a SSI rate in its “pay for reporting” system that had been developed by the Hospital Quality Alliance.

As a result, CMS adopted a SSI measure for the Hospital Inpatient Quality Reporting Program as part of the federal FY 2014 measure set, and data submission on the measure will begin with January 2012 events. This measure will include SSIs following these procedures: coronary artery bypass graft surgery, certain orthopedic procedures, and bariatric surgery for obesity.¹⁰ Additionally, as part of the federal government’s aligned policy, both Medicare and Medicaid will no longer pay for SSIs resulting from those procedures.

State: On February 17, 2011, the HAI Advisory Committee to the California Department of Public Health presented a priority list of surgical procedures based on: (1) volume; (2) risk of infection; (3) consequences of infection; and (4) suitability for public reporting. These prioritized procedures were all drawn from the NHSN operative procedures list, and the top procedures include: hip prosthesis, coronary artery bypass graft surgery, colon surgery, cardiac surgery, and knee prosthesis.¹¹ Beyond this guidance, there remains a lack of clarity at the state level on which procedures will be reported statewide for SSI.¹²

¹⁰ Medicare Program; Proposed Changes to the Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System and Fiscal Year 2012 Rates, CMS – 1518-P, Hospital Inpatient Quality Reporting (IQR) Program.

¹¹ California HAI Advisory Committee, SB 1058 SSI Reporting Requirements Discussion, February 8, 2011, <http://www.cdph.ca.gov/services/boards/Documents/SSIsandOperativeProceduresSSI%202-8-11.pdf>; SSI procedures listed in order of priority.

¹² There have been two conflicting state regulations issued on public reporting of SSIs in March and April of 2011, as well as litigation contesting the regulations. As a result, there remains a lack of consensus on SSI reporting in California at this time.

3. Surgical Site Infections				
Year 1	Year 2	Year 3	Year 4	Year 5
1. Share information relating to RCRMC's surgical site infection rate and infection prevention practices at the HASC Southern California Patient Safety Collaborative.	2. Report on at least six months of data collection on the following surgical site infections to SNI for purposes of establishing the baseline and setting benchmarks: C-sections, hernias, and hip prostheses . 3. Report results to the State.	4. Reduce the rate of surgical site infections for Class 1 and 2 wounds C-sections, hernias, and hip prostheses by X%, where "X" will be determined in Year 2 based on baseline data. 5. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals. 6. Report results to the State.	7. Reduce the rate of surgical site infections for Class 1 and 2 wounds C-sections, hernias, and hip prostheses by X%, where "X" will be determined in Year 2 based on baseline data. 8. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals. 9. Report results to the State.	10. Reduce the rate of surgical site infection for Class 1 and 2 wounds C-sections, hernias, and hip prostheses by X%, where "X" will be determined in Year 2 based on baseline data. 11. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals. 12. Report results to the State.

CATEGORY 4: URGENT IMPROVEMENT IN QUALITY AND SAFETY

4. Stroke Management

(OPTIONAL INTERVENTION)

Key Challenge: Patients in Riverside County don't always receive timely treatment for stroke symptoms which can lead to disability and death.

Stroke is a disease that affects the arteries leading to and within the brain. It is the third leading cause of death and the leading cause of disability in the United States. A stroke occurs when a blood vessel carrying oxygen and nutrients to the brain is either blocked by a clot or it bursts. There are three different types of stroke:

- **Ischemic:** An artery that supplies blood to the brain becomes blocked.
- **Hemorrhagic:** A weakened artery supplying blood to the brain ruptures or breaks.
- **Transient ischemic attacks:** Arteries that supply blood to the brain become temporarily blocked; also referred to as “mini-strokes.”

Risk factors for stroke include high blood pressure, tobacco use, diabetes mellitus, carotid or other artery disease, atrial fibrillation, certain blood disorders (i.e., sickle cell anemia), high cholesterol, obesity, excessive alcohol use, illicit drug use, increased age, heredity, and race. African Americans are more likely to die or suffer disability from a stroke than Caucasians. The Hispanic population is also at greater risk for stroke. In Riverside County Hispanics represent approximately 54% of the population while African Americans comprise 13% of the population.

In 2005 stroke took the lives of nearly 7% of Riverside County residents.¹³ Currently, there is only one hospital in Riverside, located in the desert region of the county, which is a designated stroke center. Patients demonstrating stroke symptoms are often transported to hospitals located outside the county for treatment. Those patients who do arrive at local hospital emergency rooms may not always receive timely treatment intervention that is required for effective outcomes. In June 1996 tissue plasminogen activator (tPA) was the first drug to be approved by the US Food and Drug Administration for the acute treatment of stroke. This drug has been proven to be most effective if it is administered within the first three hours of the onset of symptoms. Therefore, this short treatment window requires rapid treatment response which all hospital emergency departments may not be necessarily equipped to provide.

¹³ Community Health Profile 2008 Riverside County Department of Public Health, page 46

The United States spends \$30 billion dollars annually in medical expenses and lost productivity due to stroke. Each year, more than 750,000 Americans will suffer a new or recurrent stroke. Strokes currently leave four million Americans with mild, moderate or severe impairments. The sheer cost and impaired quality of life for patients suffering from stroke make it imperative for RCRMC to change the way stroke is treated in Riverside County.

Major Delivery System Solution: Reduce death and disability to patients at risk of, or suffering from, stroke

We are committed to continuous quality improvement so patients receive the safest and highest quality health care possible. Consequently, we propose to improve stroke detection and management by seeking to become a designated primary stroke center accredited by The Joint Commission. Randomized clinical trials and observational studies suggest that implementing a primary stroke center has the potential to significantly improve the care of patients suffering from a stroke.

A planning process was launched in February 2011 to develop a plan for the hospital to establish a stroke center. The effort is being led by a multidisciplinary team representing several departments including Neurology, Neurosurgery, Emergency Medicine, Nursing, Pharmacy, Rehabilitation Services, Quality Management, and Administration. The interventions and improved processes implemented will be based on the American Stroke Association's "Get with the Guidelines" campaign to promote awareness, prevention, and early detection and treatment of strokes.

The planning team will focus on key processes required to establish a successful primary stroke center which have been identified as a result of randomized clinical trials and observational studies. Written multidisciplinary care protocols will be developed to create uniform, evidence-based practice standards for all members of the stroke management team. A multidisciplinary acute stroke team will be established to respond to a code page and deliver urgent treatment on a 24/7 basis. Training of Emergency Department personnel will be conducted in the early detection of stroke and use of tPA for patients with acute ischemic stroke within three hours of the onset of symptoms. Important support services will include the availability and interpretation of computed tomography scans on a 24/7 basis and rapid laboratory testing. The development of a strong patient and family education support program will also be critical. A primary stroke center will also play a key role in educating the general community about the risk factors and warning signs of stroke, and the importance of early arrival to the Emergency Department for effective acute stroke management.

Key process indicators for measuring progress in reducing patient death and/or disability related to stroke include ensuring that patients with:

- acute ischemic stroke are administered tPA within a total of 180 minutes from onset of symptoms;
- ischemic stroke receive antithrombotic therapy by the end of their second day of hospital inpatient care;
- an ischemic stroke receive prescribed antithrombotic therapy at discharge;
- an ischemic stroke and atrial fibrillation/flutter will be discharged on anticoagulation therapy;
- ischemic stroke, who have high cholesterol, were on cholesterol-reducing therapy prior to hospitalization, or did not have their cholesterol measured, are discharged on statin medications;
- ischemic or hemorrhagic stroke and their caregivers receive educational information during the patient's hospital stay about warning signs for stroke, activation of the emergency medical system, need for follow up after discharge, and medications prescribed at discharge; and
- ischemic stroke or hemorrhagic stroke are assessed for rehabilitation services.

Baseline data on these seven measures will be reported in Year 2 of this plan. Data will be collected according to retrospective chart review. RCRMC will use the baseline data to measure improvement over self. In addition, RCRMC will report on stroke mortality rates according to the following formula:

1. Numerator: Number of acute stroke deaths
2. Denominator: Number of acute stroke cases

The source of the data definition is the Office of Statewide Health Planning and Development. RCRMC will measure and report on mortality, but it is not required to have milestones associated with the achievement of specific improvements in mortality. Data pertaining to the seven stroke process measures and stroke mortality will be reported to the State of California.

The establishment of a designated stroke center at RCRMC has the potential to significantly improve the quality of care provided to patients in Riverside County suffering from stroke.

4. Stroke Management				
Year 1	Year 2	Year 3	Year 4	Year 5
1. Identify the multidisciplinary team who will be responsible for leading the hospital's planning effort to become a designated stroke center, as evidenced by committee meeting minutes.	2. Designate physician(s) to provide 24/7 program coverage, as evidenced by HR documents and/or management contract. 3. Develop uniform practice standards and protocols to effectively manage and coordinate the stroke program, as evidenced by documentation of practice standards and protocols. 4. Designate personnel to establish the multidisciplinary Acute Stroke Team, as evidenced by HR documents.	8. Demonstrate at least one external communication per year targeted to educating the general public about the risk factors, warning signs of stroke and availability of stroke treatments, as evidenced by documentation of communication. 9. Increase the rate of patients with an ischemic stroke prescribed antithrombotic therapy at discharge by X, where "X" will be determined in Year 2 based on baseline data. 10. Increase the rate of patients with an	18. Demonstrate at least one external communication per year targeted to educating the general public about the risk factors, warning signs of stroke, and availability of stroke treatments, as evidenced by documentation of communication. 19. Increase the rate of patients with an ischemic stroke prescribed antithrombotic therapy at discharge by X, where "X" will be determined in Year 2 based on baseline data. 20. Increase the rate of patients with an	28. Demonstrate at least one external communication per year targeted to educating the general public about the risk factors, warning signs of stroke, and availability of stroke treatments, as evidenced by documentation of communication. 29. Increase the rate of patients with an ischemic stroke prescribed antithrombotic therapy at discharge by X, where "X" will be determined in Year 2 based on baseline data. 30. Increase the rate of patients with an

4. Stroke Management				
Year 1	Year 2	Year 3	Year 4	Year 5
	<p>5. Train at least 25 multidisciplinary staff on stroke program protocols, as evidenced by training program materials and HR documents.</p> <p>6. Report at least six months of data collection on the seven stroke management process measures to SNI for purposes of establishing the baseline and setting benchmarks.</p> <p>7. Report the data to the State.</p>	<p>ischemic stroke with atrial fibrillation/flutter discharged on anticoagulation therapy by X, where "X" will be determined in Year 2 based on baseline data.</p> <p>11. Increase the rate of acute ischemic stroke patients who arrive at the hospital within 120 minutes (2 hours) of time last known well and for whom IV tPA was initiated at this hospital within 180 minutes (3 hours) of time last known well by X, where "X" will be determined in Year 2 based on baseline data.</p>	<p>ischemic stroke with atrial fibrillation/flutter discharged on anticoagulation therapy by X, where "X" will be determined in Year 2 based on baseline data.</p> <p>21. Increase the rate of acute ischemic stroke patients who arrive at the hospital within 120 minutes (2 hours) of time last known well and for whom IV tPA was initiated at this hospital within 180 minutes (3 hours) of time last known well by X, where "X" will be determined in Year 2 based on baseline data.</p>	<p>ischemic stroke with atrial fibrillation/flutter discharged on anticoagulation therapy by X, where "X" will be determined in Year 2 based on baseline data.</p> <p>31. Increase the rate of acute ischemic stroke patients who arrive at the hospital within 120 minutes (2 hours) of time last known well and for whom IV tPA was initiated at this hospital within 180 minutes (3 hours) of time last known well by X, where "X" will be determined in Year 2 based on baseline data.</p>

4. Stroke Management				
Year 1	Year 2	Year 3	Year 4	Year 5
		<p>12. Increase the rate of patients with ischemic stroke who receive antithrombotic therapy by the end of hospital day two by X, where "X" will be determined in Year 2 based on baseline data.</p> <p>13. Increase the rate of ischemic stroke patients with LDL>100, or LDL not measured, or who were on cholesterol-reducing therapy prior to hospitalization are discharged on statin medication by X, where "X" will be determined in Year 2 based on baseline data.</p>	<p>22. Increase the rate of patients with ischemic stroke who receive antithrombotic therapy by the end of hospital day two by X, where "X" will be determined in Year 2 based on baseline data.</p> <p>23. Increase the rate of ischemic stroke patients with LDL>100, or LDL not measured, or who were on cholesterol-reducing therapy prior to hospitalization are discharged on statin medication by X, where "X" will be determined in Year 2 based on baseline data.</p> <p>24. Increase the rate</p>	<p>32. Increase the rate of patients with ischemic stroke who receive antithrombotic therapy by the end of hospital day two by X, where "X" will be determined in Year 2 based on baseline data.</p> <p>33. Increase the rate of ischemic stroke patients with LDL>100, or LDL not measured, or who were on cholesterol-reducing therapy prior to hospitalization are discharged on statin medication by X, where "X" will be determined in Year 2 based on baseline data.</p>

4. Stroke Management				
Year 1	Year 2	Year 3	Year 4	Year 5
		<p>14. Increase the rate of patients with ischemic or hemorrhagic stroke or their caregivers who were given education and/or educational materials during the hospital stay addressing all of the following: personal risk factors for stroke, warning signs for stroke, activation of emergency medical system, need for follow-up after discharge, and medications prescribed at discharge by X, where "X" will be determined in Year 2 based on baseline data.</p> <p>15. Increase the rate</p>	<p>of patients with ischemic or hemorrhagic stroke or their caregivers who were given education and/or educational materials during the hospital stay addressing all of the following: personal risk factors for stroke, warning signs for stroke, activation of emergency medical system, need for follow-up after discharge, and medications prescribed at discharge by X, where "X" will be determined in Year 2 based on baseline data.</p> <p>25. Increase the rate of patients with an</p>	<p>34. Increase the rate of patients with ischemic or hemorrhagic stroke or their caregivers who were given education and/or educational materials during the hospital stay addressing all of the following: personal risk factors for stroke, warning signs for stroke, activation of emergency medical system, need for follow-up after discharge, and medications prescribed at discharge by X, where "X" will be determined in Year 2 based on baseline data.</p>

4. Stroke Management				
Year 1	Year 2	Year 3	Year 4	Year 5
		<p>of patients with an ischemic stroke or hemorrhagic stroke who were assessed for rehabilitation services by X, where "X" will be determined in Year 2 based on baseline date.</p> <p>16. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.</p> <p>17. Report the seven process measures and stroke mortality rate results to the State.</p>	<p>ischemic stroke or hemorrhagic stroke who were assessed for rehabilitation services by X, where "X" will be determined in Year 2 based on baseline date.</p> <p>26 Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.</p> <p>27. Report the seven process measures and stroke mortality rate results to the State.</p>	<p>35. Increase the rate of patients with an ischemic stroke or hemorrhagic stroke who were assessed for rehabilitation services by X, where "X" will be determined in Year 2 based on baseline date.</p> <p>36. Share data, promising practices, and findings with SNI to foster shared learning and benchmarking across the California public hospitals.</p> <p>37. Report the seven process measures and stroke mortality rate results to the State.</p>

