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## C4I Roadmap March 2005

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Roadmap

Collaborative Center for Clinical Care Improvement

Patient Safety and Quality Care

Submitted: March 10, 2005

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## **VISION**

John Dempsey Hospital: Become the safest hospital in Connecticut.

## **MISSION**

Create a culture of excellence based upon the highest quality of patient care delivered by the best staff in the safest environment.

## **GOALS**

1. **Develop standards of excellence.**
2. **Cultural transition:**
  - a. Continuous improvement.
  - b. Develop organizational pride and sense of community
  - c. Foster collaborative work
  - d. Foster a no blame environment
  - e. Develop policies and processes that are transferable
  - f. Identify and foster research opportunities
3. **Track, evaluate and provide feedback to enhance outcomes.**
4. **Educate and communicate goals to everyone.**

## **Introduction**

Patients expect to be safe from harm inside the walls of a hospital. Increasing reports of medical errors and adverse events have brought these concerns to public attention. Although we have celebrated many scientific advances over the past several decades, many patients do not benefit because the healthcare infrastructure is inadequate to deliver care to all. Studies confirm opportunities to improve in areas such as inpatient vaccination for flu and outpatient screening for breast, cervical or colon cancer. (Institute of Medicine, (IOM), 2000, 2001, 2004). This document outlines the steps needed to further increase our focus on patient safety in John Dempsey Hospital through the development of a multi-disciplinary Collaborative Center for Clinical Care Improvement (CCCCI). The dimensions of safety and outcomes are briefly discussed to provide some perspective on the scope of these challenges (Strongwater, 2003).

## Background

With so many advances in medicine and well intended providers, how can there be ongoing safety problems in hospitals? To be sure hospitals are safer today than at any time in the past. Many “errors” may or may not cause easily detectable adverse outcomes. To understand the dimensions of these issues, it is necessary to understand that healthcare is what is referred to as a *complex adaptive system (CAS)*. The component parts of a complex adaptive system allow providers the freedom to respond to stimuli in many different and fundamentally unpredictable ways (IOM, 2001).

Machines rarely break, even very complex ones, for example, computers, nuclear aircraft, automobiles, etc. How is healthcare different? Mechanical systems are inherently predictable. When a thermostat is set to control the temperature, it performs this function reliably. Healthcare is not a *mechanical system* with a simple linkage between cause and effect but rather is less predictable. *Complex adaptive systems* are inherently:

1. Adaptable: for example, bacteria can become resistant to antibiotics.
2. Follow simple rules: complex outcomes can emerge from a few simple rules.
3. Nonlinear: small changes can have large effects (e.g. impact of a rumor can change the mood and performance of an organization).
4. Demonstrate emergent behavior or novelty. Continual behavior is a natural state of the system; management of pneumonia varies among different regions in the country.
5. Not predictable in detail. Forecasting is inexact. Ultimately, requires observation in spite of modeling and studying.
6. Have some order. No central control required, self organizing (e.g. divisions within a department function independently of the Dean)
7. Have systems within systems or have context and embeddedness.
8. Co-evolve. CAS move forward through constant tension and balance.

A useful example analogous to healthcare is the weather. We know a great deal about the elements which comprise weather, we can measure and model it, but we cannot always accurately predict it. Healthcare functions in much the same manner, requiring direct observation to understand its outcomes. In this context, it has been said: *Think like a farmer and not an engineer. Every aspect of the health care system cannot be designed and predicted. The “farmer” creates the optimal conditions, but the outcomes will be predicted by natural systems (complex adaptive systems)*. Thus, inherent to healthcare systems are elements of chance, due to human nature, and thereby the risk of an error or adverse event.

What are the simple rules that govern healthcare? In general, three have been described:

- General direction pointing (leadership)
- Prohibitions (do no harm)
- Resources and permission providing (incentives)

In discussing a center to assure safe care, it is also important to understand the roles of structure, process and outcomes.

- Structure: Health system capabilities, e.g. information technology, staffing
- Process: Interactions between clinicians, patients, significant others, that lead to an outcome
- Outcomes: Change in-patients health status

One other set of important principles are the elements in healthcare which comprise quality. One classification advanced by Mark Chassin describes quality in terms of overuse, underuse or waste/abuse (IOM, 2001). Examples:

- Overuse: unnecessary surgery.
- Underuse: lack of screening in populations at risk (mammograms, pap smears, blood pressure checks, and eye exams in diabetics).
- Waste or misuse: Reduction of lifetime infections (nosocomial infections); waiting (test result, scheduled test); transportation, processing, more steps than are needed to complete a task; unused inventory; extra motion, wasting both energy and time; defects in production.

### **Safety: Patients and the Healthcare Environment**

*Safety is defined as freedom from accidental injury.* Not all errors cause injury.

Accidental injuries may occur as either the failure of a planned action as intended or use of a wrong plan to achieve an aim. To prevent injury, systems must be designed with redundancy, so called “*highly reliable systems*”, which anticipate problems will arise but are managed in such a way as to avoid harming a patient. The construct of highly reliable systems with redundant safeguards is the approach used with complex systems in industry such as nuclear powered aircraft carriers. It has proven effective in risk reduction (Reason, 2000).

The health care environment should be safe for patients in all its processes and at all times. There should be a comparable standard of care at night and on the weekend. Care should be seamless (interdependent people must act in unison as a whole). Knowledge should not be lost (inadequate handoffs, documentation, and poor communications). There should be teamwork and cooperation among providers to avoid sub optimization (one discipline holding on to authority at the expense of the total system and patients). (IOM, 2001, 2003; Volpp & Grande, 2003)

To this point, healthcare as an industry has attacked these challenges through regulation and is being forced to react to advocacy groups. On the regulatory side, the JCAHO has required performance improvement initiatives, and of late, the public reporting of “core measures”. These are a series of evidence based measures that reflect medical outcomes (Attachment 1) intended to force providers to pay more attention to their medical outcomes. External pressure has been brought to bear by the likes of the Leapfrog Group, who are redirecting employer sponsored contracts based upon evidence based medicine, specifically focusing on reducing mortality through the use of information systems (physician order entry), a requirement for site intensivists, and performance of minimum numbers of surgical procedures. Tactically, hospitals have developed *practice guidelines* or protocols to reach consensus and inform decision making. These initiatives have been

seen by many in the medical community as intrusive, expensive, and restrictive (cook book medicine). Moreover, it is impossible to substitute a guideline for good judgment. Hence, although there is near universal agreement in the goal of improving patient safety, there is not provider consensus as to how to achieve these ends.

### **CCCCI Roadmap: Phases for Change**

DeFeo and Barnard (2004) present a roadmap developed from Juran Institute principles for quality performance. This roadmap moves through five phases which will be reviewed here as they apply to the planning and implementation of the CCCCCI.

#### **Phase One: Decide (Development 2004)**

Our vision is to establish a center focused on enabling John Dempsey Hospital (JDH) to be the most error free hospital in the United States. The dimensions of care and a framework of what is needed to achieve these ends have been described in Crossing the Quality Chasm (IOM, 2001). The focus of CCCCCI will be to implement best practices and define new processes to improve patient safety and reduce patient care errors.

At JDH, our most common adverse events fall into four major categories: medication errors, patient falls, management of patient experience of pain, and nosocomial infections. CCCCCI will target these four areas first. We will also move to improve communications with house staff, attendings, nurses, and ancillary support staff. An assessment and evaluation of the JDH staff culture will be included in this process. These safety nets will attempt to back stop human behaviors to create *highly reliable systems* that anticipate risks (Reason, 2000). CCCCCI will additionally focus on measurement, tracking and reporting systems as well as a reward system to celebrate and retain system gains. Often these gains are best made by small teams of experts working collaboratively to design system improvements and redundancies. We will encourage small team efforts through the use of trained facilitators.

#### **CCCCI Structure**

1. Leadership: Dispersion theory suggests that meaningful change within an organization begins when 15% of its members change. To enable this campaign for safety, an accountable leader will be appointed and empowered by the Executive Vice President.
2. Resources: Staff will be needed to facilitate change, identify opportunities, organize measurement systems, etc. These positions do not have to be full time, but a sufficient percent of time/commitment of each individual needs to be made. Inadequate commitment will result in delays in exploiting known and developing new safety systems. The staff should include:
  - a. Physician Champion (s)
  - b. Nursing Champion (s)
  - c. Facilitators: Management engineer and/or knowledgeable change agents capable of facilitation and data analysis

- d. Information technology support to gather and compile data
- e. Secretarial/administrative support
3. Information systems tracking capabilities: Balanced scorecards (BS) for each work area will be developed and will incorporate safety metrics. Ideally, these will be embedded in the Patient Safety System (e.g. Lifetime Clinical Record). A process has been initiated using the signature programs as templates for these BS.
4. Protocols: As a starting point, UCHC should incorporate into the Patient Safety System available protocols with default orders written by credible sources based upon evidence in the literature or expert consensus panels. Two immediate sources of information: Ambulatory: Institute for Clinical Systems Improvement (ICSI), and Hospital activity: Zynx. There is an annual subscription cost for Zynx (protocols are updated constantly and cross walked to JCAHO accreditation standards). ICSI is in the public domain.
5. Risk tracking: UCHC needs to switch to a commercial product that tracks near miss and actual adverse events, identifies opportunities for improvement and enables a format to link to our other patient safety system. This will replace our RIR (Risk Information Reports). The Patient Safety Net system offered by the University Health System Consortium would accomplish these goals.
6. Space: Staff should be congregated.
7. Advisory Board: To enable the CCCCCI process, we will seek to develop a small external advisory board to provide direction to focus these efforts. Examples of potential members include:
  - a. Qualidigm representative
  - b. Veteran's Affairs representative such as Patricia Quigley, APRN, PhD, national expert in patient falls
  - c. Pharmacist/MD with expertise in medication errors such as David Bates
  - d. A representative from the Aetna Foundation (Aetna Foundation has had several past efforts to fund and support improving patient safety).The advisory board would meet annually or semiannually and also include representation from:
  - a. Clinical Affairs
  - b. Executive Vice-President(EVP)/Dean
  - c. Associate Dean for Clinical Affairs
  - d. Performance Improvement and Patient Safety Director
  - e. Chief of Staff

### CCCCI Process

1. Management direction: To advance the CCCCCI the EVP needs to require a greater degree of accountability and focus on patient safety from organizational leaders. This should include a required semiannual report from each clinical chair outlining the concrete quantifiable steps taken toward improving medical outcomes and safety. These results should be incorporated into annual performance reviews for each clinical chief and published in their annual reports to the Dean.



2. Communicate the vision: The EVP and CCCCCI leaders need to be visible and communicate actively on their clinical work and care concerns.
3. Facilitated teams: Focused initiatives will be developed relative to
  - a. Patient falls
  - b. Nosocomial infections
  - c. Medication error reduction (post implementation of the Patient Safety System).
  - d. Pain management
  - e. Culture transition/change
4. Rewards and celebrations: Improvements should be widely disseminated and celebrated. There should be an:
  - a. Annual meeting where each department presents their achievements and their results celebrated.
  - b. Award. The EVP should confer a patient safety improvement award, analogous to the Codman Award for quality, to recognize UCHC advances in patient safety.
  - c. Grants. A small grants program should be established to incentivize work on patient safety that could serve as seed money toward competing for national grants from federal agencies or foundation support.
5. Focus on Implementation. CCCCCI will always seek to define and implement workable strategies. The literature suggests seven rules that are important for dissemination of new ideas and strategies (Berwick, 2003):
  - a. Find sound innovations. We will build on recommendations from the IOM, National Safety and National Patient Safety Foundations.
  - b. Find and support innovators
  - c. Invest in early adopters
  - d. Make early adopter activity observable
  - e. Trust and enable reinvention
  - f. Create slack for change
  - g. Lead by example

### CCCCCI Outcomes

Measures will be monitored to review data for all the indicators of the five CCCCCI sub groups: medication errors; patient falls; pain management; nosocomial infections; and data on staff culture. More specific metrics will be reviewed to determine performance on significant data sets, e.g., line sepsis, adverse medication events, patient falls with and without occurrence of injury, readmission rates.

### **Phase Two: Prepare (September – November 2004)**

The concepts for CCCCCI have been outlined and defined during Phase One. During this second phase, the five CCCCCI subgroups prepare the initiatives that will be the focus of their work. Communication is established with members of the UCHC community to invite staff to join subgroups and contribute toward achieving the desired outcomes. Each

subgroup develops an action plan to address: the issues identified, outcomes to be achieved, and a time line for the plan to be implemented and evaluated (Attachment 2).

**Phase Three: Launch (December 2004)**

All five CCCC I subgroups and an oversight group convene and begin implementation of subgroup action plans. Communication with all hospital staff is initiated through a series of CCCC I Newsletters that are distributed to all staff members. The first newsletter provides a review of the CCCC I initiative to have JDH be the safest hospital in Connecticut. This newsletter was distributed in January 2005 (Attachment 3). Each subgroup will also develop a newsletter that will be distributed to all hospital staff.

**Phase Four: Expand (Development 2005)**

The focus of CCCC I will expand beyond hospital endeavors during the year 2005. CCCC I has initiated review of patient care/patient safety issues to be addressed in the outpatient clinical care areas. The format for review are recommendations presented in Crossing the Quality Chasm (IOM, 2001). Members will complete review of these recommendations and develop indicators consistent with these recommendations and the National Quality Forum recommendations for safe patient care.

Efforts will be initiated to collaborate closely with professional colleagues from schools within the University of Connecticut: School of Medicine; School of Dental Medicine; School of Nursing; School of Pharmacy; School of Public Health; School of Allied Health; School of Social Work; School of Business and the Neag School of Education. Considerable opportunities will be explored to: evaluate best patient care practice; engage participation of students in CCCC I work and evaluation through observation and research; and encourage development of grants and funded research protocols to explore all that is possible through CCCC I.

UHC has involvement in a number of community services that will be evaluated for a role within CCCC I. For example, patient care clinics where School of Medicine students provide services, Burgdorf and Asylum Hill Clinics; assisted living and extended care facilities where UMG physicians provide attending services. These endeavors will be developed as CCCC I expands beyond the hospital and UMG outpatient areas.

A budget has been developed for CCCC I for FY06. This budget proposal addresses only hospital based initiatives. The budget will need to be increased to meet the expansion of CCCC I to UConn Clinical Operations (UMG, UConn Health Partners), and to collaboration with students and academic professionals, community agencies and other health care facilities.

**Phase Five: Sustain (2005 and Ongoing)**

CCCCI will have an important role in developing and sustaining UCHC as the safest environment for patient care services, and an enviable environment for education and research. Focus on individual indicators will change. The focus will evolve in response to the organization's success in improving patient care, education and clinical research. This work will naturally identify future endeavors to be addressed and successfully improved. Summaries of all CCCCCI work will be prepared and presented at least annually to the Clinical Affairs Subcommittee. Ongoing consultation will be sought from the external Advisory Board. Communication with UCHC staff will be sustained through regular newsletter communication.

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Attachment 1  
 JCAHO Core Measures: Publicly Reported Indicators  
 John Dempsey Hospital

Quality Measures	April 2004 through June 2004 discharges	July 2004 through September 2004 discharges
<b>Heart Attack Care (AMI)</b>		
Aspirin at Arrival	100% if 31 patients	100% if 29 patients
Aspirin at Discharge	100% of 50 patients	100% of 55 patients
ACE Inhib for LVSD AMI	100% of 19 patients	100% of 19 patients
Beta Blocker at Discharge	98% of 46 patients	100% of 55 patients
Beta Blocker at Arrival	100% of 30 patients	100% of 29 patients
<b>Heart Failure Care (HF)</b>		
Assessment for LVF	96% of 46 patients	100% of 44 patients
ACE Inhib for LVSD HF	86% of 14 patients	100% of 17 patients
<b>Pneumonia Care (PN)</b>		
Oxygenation Assessment	100% of 46 patients	100% of 29 patients
Pneumococcal vaccination	41% of 34 patients	58% of 24 patients
Antibiotic within 4 hours after Arrival	77% of 44 patients	82% of 27 patients

Attachment 2  
 CCCC Action Plans: Five Subgroups

**Infection Control Subgroup of CCCC**  
**Richard Garibaldi, M.D.**

The Infection Control Subgroup of CCCI has identified four targets on which we will focus our efforts in the next three years in order to make John Dempsey Hospital the safest hospital in Connecticut with regards to the acquisition of nosocomial infections by patients and employees. These targets are:

- Influenza immunizations
- Handwashing
- Surgical site infections
- Central venous catheter-associated blood stream infections

The following is a work plan that will guide our efforts to achieve measurable performance improvements in each of these areas.

- **Influenza immunizations**

Background: There are no published guidelines on the level of protection from influenza that is needed in employees to prevent excess absenteeism and limit nosocomial transmission among healthcare workers and patients. Our goal is to “pursue perfection”; that is, we plan to immunize all eligible healthcare workers involved in direct patient care by the 2006-07 influenza year, and we will decrease employee absenteeism during that influenza season by 10%.

**Influenza Immunization Program Timeline**

Issues	Desired Outcome	Timeline	Responsible Party
<b>1. Process</b>			
Procure influenza vaccine	Order adequate doses of vaccine for patient and employee immunization programs	Spring 2005 for 2005-06 influenza season	Jaser
Develop strategy for implementing immunization program	Allocate vaccine to specific subgroups of patients and employees according to risk	September 2005 for 2005-06 influenza season	Trapé, Dupont, Whalen, Leone Garibaldi -
Implement immunization program	Administer vaccine to patients and employees	October 2005 to February 2006	Trapé, Barnosky, Dupont, Whalen, Leone

<b>2. Outcomes</b>			
Improve rates of vaccination of employees	Identify units with most likely exposure to influenza	October 2005	Trapé, Dupont
	Identify all employees on these units (denominator) and those who had received vaccine (numerator)	February 2006	Barnosky, Dupont, Trapé
	Calculate effectiveness of vaccine program (goal 75% for 2005-06, and 100% by 2006-07 season)	February 2006	Trapé, Dupont, Barnosky
Improve rates of influenza immunization for hospitalized inpatients (JDH)	Identify high risk patients who are JDH inpatients who are eligible for vaccine through computer-based surveillance system	October 2005 to February 2006	Dupont, Leone, Metersky
	Develop protocol to assure immunization	October 2005	Metersky
	Calculate rate of immunization (goal: 75% in 2005-06, 100% in 2006-07)	Spring 2006	Dupont, Metersky
Improve rates of vaccination for high risk outpatients	Identify high risk patients in the UMG practice through a computer-based information system	Spring 2005	Capo, L Shanley, Garibaldi, Dupont
	Develop protocol to assure immunization	Summer 2005	Dupont, Garibaldi
	Implement program	October 2005	Capo
	Calculate rates of immunization (Goal: 75% of high risk patients in 2005-06)	Spring 2006	Dupont

- **Hand Washing**

Background: We have had an ongoing campaign to improve hand washing in all clinical areas in John Dempsey Hospital. We have encouraged personnel to wash their hands with disinfectant solution before and after every patient contact. We have installed hygienic hand rub solutions in strategic clinical areas to facilitate hand hygiene. We will promote the importance of hand cleanliness as THE prime practice to prevent the transfer of nosocomial organisms from one patient to another via hand carriage by staff.

We will continue to emphasize the importance of hand washing one-on-one with staff through our infection control liaison teams, through special awareness programs and through our annual, web-based infection control update program. We will monitor all cultures positive for methicillin-resistant Staphylococcus aureus, vancomycin-resistant enterococci and Clostridium difficile, three organisms commonly spread by hand contamination, in order to identify instances of nosocomial spread.

### Hand Washing Timeline

Issues	Desired Outcome	Timeline	Responsible Party
<b>1. Process</b>			
Improve compliance of healthcare workers to published guidelines for hand washing	Develop a comprehensive ongoing education campaign to make healthcare workers aware of the need to wash their hands to stop the spread of infection using such methods as: <ul style="list-style-type: none"> <li>• Hands-on symposia</li> <li>• Electronic communications</li> <li>• Health promotion events/blitzes</li> <li>• Demonstrations</li> <li>• Rewards programs</li> <li>• CQI projects</li> <li>• Special studies</li> <li>• Etc.</li> </ul>	Summer 2005	Dupont, Trapé, Pettigrew, Sanford
	<b>Implement awareness programs</b>	<b>Ongoing</b>	<b>All</b>
Improve access to hand washing facilities	Install hand washing units near the bedside or near patient care rooms throughout JDH and UMG	Fall 2005	Penney, Dupont, Leone, Whalen
<b>2. Outcomes</b>			
Monitor compliance of healthcare workers to hand washing guidelines	Establish “study areas” to carry out spot checks (prevalence surveys) of compliance at baseline and at periodic intervals (goal: 50% compliance after direct patient contact)	Winter 2005	Trapé, Dupont, Whalen, Sanford, Leone
Monitor frequency of acquisition of selected nosocomial pathogens in high risk units	Monitor frequency or rate of acquisition of hospital-acquired MRSA, VRE, C. difficile serratia sp, pseudomonas sp and aspergillus sp in the ICU and NICU (goal: decrease the number or rate of infections by 20%)	Winter 2005	Dupont, L. Shanley, Ryan

- **Surgical Site Infections**

Background: We will coordinate the information systems that identify patients, procedures, peri-operative risk factors and intra operative events. We will develop a system that enables us to determine whether or not peri-operative antibiotics were prescribed appropriately for a given surgery and whether or not the time from



prophylactic antibiotic administration to the surgical incision fell between one half hour and two hours preoperatively. Although this task seems rather straight forward, it has thus far been extremely elusive for us to collect this type of surveillance data on all surgeries.

### Surgical Site Infections Timeline

Issues	Desired Outcome	Timeline	Responsible Party
<b>1. Process</b>			
Calculate the interval between the administration of peri-operative antibiotics and surgical incision	Integrate data information systems so that the timing of administration of peri-operative antibiotics is determined for all surgeries at JDH, as well as other useful epidemiologic/clinical risk	Winter 2005	L Shanley, Hinzelman, Civetta, Kozol, Dupont, Garibaldi
	Assess intervals between antibiotic administration and incision to determine compliance with national guidelines.	Fall 2006	Kozol, Civetta, Garibaldi, Peluso, Dupont, Hinzelman
Monitor rates of surgical site infections for selected specialties (Orthopedics, Neurosurgery, Cardiovascular surgery)	Identify NNIS-designated surgical procedures that will be monitored in each specialty	Winter 2004	Dupont, Kozol, Department Chairs, Garibaldi
	Identify infections (numerators)	Quarterly	Dupont
	Develop a computerized data collection system to collect clinical/epidemiologic information and to risk-stratify all patients undergoing these surgeries (denominators)	Winter 2005	L, Shanley, Civetta, Dupont, Garibaldi, Kozol
	Calculate risk-stratified infection rates	Winter 2005	Civetta, Kozol, Garibaldi, Peluso, Dupont

<b>2. Outcomes</b>			
Improve the timing of administration of peri-operative antibiotics	Calculate procedure-specific and operating room-specific intervals for the timing of perioperative antibiotics (goal: 100% compliance with 1/2-2 hour interval)	Fall 2006	Kozol Civetta, Garibaldi, Peluso, Dupont
	Provide feedback to specific departments or surgeons, as needed	Winter 2006	Kozol, Civetta
	Introduce system-wide protocols to assure compliance, if needed	Spring 2007	Kozol, Civetta, Leone, Strongwater
Improve rates of surgical site infections in selected departments	Provide surgeon specific and procedure-specific feedback to each department with comparisons to NNIS data	Spring 2006	Dupont, Kozol, Garibaldi Department Chairs
	Determine corrective actions, if needed	Summer 2006	Kozol, Department Chairs
	Develop a program to monitor and provide feedback of risk-stratified SSI rates on a quarterly basis for surgeries in selected departments	Fall 2006	L Shanley, Sanford, Dupont, Leone, Strongwater
	Expand program to all surgeries in all departments	Winter 2006	All

- **Central Venous Catheter Infections**

Background: Although it is relatively easy to collect information about the occurrence, epidemiology and microbiology of central venous catheter blood stream infections, it is extremely difficult to collect denominator data on these infections. Presently, we have no system in place to collect information on the number of days at risk for patients with central venous catheters, even in a well defined unit such as the Medical Intensive Care Unit. We will set up a system to collect this type of information so that we can determine whether or not the incidence of central venous catheter-associated blood stream infections in our ICU and NICU is below benchmark data from the National Nosocomial Infection Study (NNIS).

**Central Venous Catheter Infections Timeline**

<b>Issues</b>	<b>Desired Outcome</b>	<b>Timeline</b>	<b>Responsible Party</b>
<b>1. Process</b>			
Monitor the rates of central venous catheter-associated infections in the Medical ICU and Newborn ICU	Develop criteria to define and a system to identify all episodes of IV line infection in the MICU and NICU (numerators)	Spring 2005	Dupont, Garibaldi, Ryan, Palmisano, Hussein
	Standardize protocols and equipment for central venous line insertion, maintenance and monitoring	Spring 2005	Palmisano, Hussein, Dupont
	Develop a system to collect information regarding IV catheter-days and risk factors for IV line-associated infections for all patients (denominator)	Fall 2005	L Shanley, Dupont, Civetta
<b>2. Outcomes</b>			
Monitor compliance to protocols	Spot checks to observe compliance for protocols for CV catheter insertion and site care	Summer 2005	Palmisano, Hussein, Dupont, nursing staff
Calculate rates of catheter-associated infections	Rates of risk-stratified catheter-associated infections will be calculated and compared with NNIS and other published data	Winter 2005	Dupont, Garibaldi, Palmisano, Hussein
	Corrective actions, if needed	Spring 2006	Palmisano, Hussein
	Expand program to all hospital units	Fall 2006	L, Shanley, Leone, Strongwater

**Collaborative Center for Clinical Care Improvement  
Subgroup: Reduction of Patient Falls  
Rhea Sanford, RN, PhD**

<b>Responsibilities/Issues</b>	<b>Desired Outcome</b>	<b>Date Action Effected</b>	<b>Responsible Party</b>
<p>1. Review/analysis of data for patient falls</p>	<ul style="list-style-type: none"> <li>• Determine: location/unit, day of week, time of day for fall occurrences</li> <li>• Review occurrence of patient injury</li> <li>• Link effort to development of research quality outcome information for selected populations of older hospitalized patients</li> </ul>	<ul style="list-style-type: none"> <li>• October 1, 2004</li> <li>• January 1, 2005</li> </ul>	<ul style="list-style-type: none"> <li>• R. Sanford, N. Warren</li> <li>• R. Sanford, N. Warren, R. Fortinsky, M. Rathier</li> </ul>
<p>2. Timely identification of inpatients at risk to fall</p>	<ul style="list-style-type: none"> <li>• Fall risk assessment tool developed/implemented for use on inpatient units</li> <li>• Patients evaluated a minimum of once every 24 hours</li> </ul>	<ul style="list-style-type: none"> <li>• January 2005</li> <li>• January 2005</li> </ul>	<ul style="list-style-type: none"> <li>• Fall Risk Review and Patient Movement PI Teams</li> <li>• Nursing staff in collaboration with other clinical care providers</li> </ul>
<p>3. Accurate/timely communication of patient status; interventions ordered</p>	<ul style="list-style-type: none"> <li>• All patients at risk to fall are clearly identified for care providers</li> <li>• Interventions implemented per patient need to reduce risk</li> <li>• Appropriate equipment is employed for patient safety: selection of patient bed, chair; patient lift and movement devices</li> </ul>	<ul style="list-style-type: none"> <li>• January 2005</li> <li>• January 2005</li> <li>• January 2005</li> </ul>	<ul style="list-style-type: none"> <li>• Nursing staff and clinical care providers – incorporate into patient care plan</li> </ul>

Collaborative Center for Clinical Care Improvement: Road Map

<b>Responsibilities/Issues</b>	<b>Desired Outcome</b>	<b>Date Action Effected</b>	<b>Responsible Party</b>
<p>4. Improve care of vulnerable and elderly patients throughout institution</p>	<p>Geriatric Clinical Nurse Specialist to provide:</p> <ul style="list-style-type: none"> <li>• Education, training, support for nursing staff, residents, attending physicians in all hospital departments</li> <li>• Establish/support milieu of excellence for geriatric care</li> <li>• Coordinate implementation of NICHE program at UCHC</li> <li>• Support coordination of patient care services across UCHC and into community</li> <li>• Provide telephone triage and referral for new patients/families and referring physicians</li> <li>• Develop/implement research with this population</li> </ul>	<ul style="list-style-type: none"> <li>• July 1, 2005 (Fiscal Year 06)</li> </ul>	<ul style="list-style-type: none"> <li>• Department of Staff and Patient Education</li> </ul>

**Collaborative Center for Clinical Care Improvement  
Work Plan for the Culture Change Subgroup  
Nick Warren**

**The culture change activities should proceed in two waves:**

**1. Assessment of organizational culture**

- a. Organizational climate, assessed through survey
- b. Organizational culture, assessed through policy and records review, as well as interview of “key informants:” individuals positioned to assess the organizational structure and policies.

**2. Action:** (note that this is skeletal in the following chart; needs to be fleshed out)

- a. Identification of key areas of UCHC culture that have two characteristics:
  - 1) Central to patient safety
  - 2) Present a reasonable chance of change in response to collaborative change activities.

Responsibilities/Issues	Desired Outcome	Date Action Effected	Responsible Party
<b>Assessment</b>			
1. Development of a survey, from existing instruments, that will be administered to all UCHC employees	<ul style="list-style-type: none"> <li>• Creation of an assessment tool that is short and flags all major elements of organizational climate associated with patient safety</li> </ul>	November 1, 2004	<ul style="list-style-type: none"> <li>• Culture subgroup: N Warren, L Jaser, R Simon, E Leone</li> </ul>
5. Coordination with other cultural assessment activities <ul style="list-style-type: none"> <li>• HR</li> <li>• Diversity group</li> </ul>	<ul style="list-style-type: none"> <li>• Identify items that best serve these multiple uses</li> <li>• Develop minimum-size instrument to serve multiple goals</li> </ul>	November 15, 2004	N Warren, HR and diversity groups
6. Development of appropriate administration strategies (i.e.: paper, web, privacy guarantees, etc.)	<ul style="list-style-type: none"> <li>• ID methods from literature, UCHC, and other hospitals</li> <li>• Bring on IT individual with necessary experience for web-based administration</li> <li>• Estimate costs associated with full administration</li> </ul>	(simultaneous w/ above)  December 1, 2004	N Warren, HR and diversity groups

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<b>Responsibilities/Issues</b>	<b>Desired Outcome</b>	<b>Date Effected</b>	<b>Responsible Party</b>
7. Survey administration (associated with qualitative interview data)	<ul style="list-style-type: none"> <li>70% response rate</li> </ul>	<ul style="list-style-type: none"> <li>Dec 15, 2004?</li> <li>Jan 1, 2005?</li> </ul>	N Warren, L Jaser, R Simon, E Leone & institutional personnel
8. Analysis of results	<ul style="list-style-type: none"> <li>Identify key cultural problems at UCHC</li> <li>Identify key cultural strengths</li> </ul>	January 15, 2005	N Warren, others?
9. Pursue outside funding for intervention study	<ul style="list-style-type: none"> <li>Identify funding sources</li> <li>Write grants</li> </ul>	March 1, 2005 (for June funding?)	N Warren, L Jaser, R Simon, E Leone & institutional personnel
<b>Action</b>			
10. Identification of pivotal intervention areas	<ul style="list-style-type: none"> <li>ID cultural or departmental area with appropriate characteristics for intervention site</li> </ul>	February 1, 2005	
11. Identify team members	<ul style="list-style-type: none"> <li>Develop team to carry out and guide intervention</li> <li>Identify external resources needed</li> </ul>	February 15, 2005	
12. Develop intervention strategy and tactics	<ul style="list-style-type: none"> <li>Develop joint labor-management approach to cultural change</li> </ul>	February 15, 2005	
13. Carry out intervention	<ul style="list-style-type: none"> <li>Change cultural characteristics of target</li> <li>Measure costs and outcomes</li> </ul>	March 1, 2005	
14. Analyze results	<ul style="list-style-type: none"> <li>Establish efficacy, cost/benefit, lessons for next cycle</li> </ul>	(depends on length)	N Warren, others?
15. Next intervention cycle			

<b>Collaborative Center for Clinical Care Improvement                      Subgroup for Medication Errors                      Lisa Jaser, RPH</b>			
<b>Issues</b>	<b>Desired Outcome</b>	<b>Date Implemented</b>	<b>Responsible Party</b>
<b>1. Assessment</b>			
Assess current status, identify high-risk areas.	<ul style="list-style-type: none"> <li>- Identify comprehensive tool to assess status of current medication error prevention strategies</li> <li>- Submit UCHC data to collaborate with the ISMP effort</li> </ul>	November 1, 2004 Tool identified: ISMP Medication Safety Self Assessment for Hospitals	Jaser, Sanford, Angus
Proactive status assessment	<ul style="list-style-type: none"> <li>- Utilizing tool assess current status, anticipated status post-POE implementation, and anticipated status post medication administration checking (MAK)</li> </ul>	November 1, 2004	Jaser, Sanford, Angus
Ongoing Assessment	<ul style="list-style-type: none"> <li>- With each stage of implementation reassessment of actual status utilizing the same tool</li> </ul>	Post POE June 1, 2005  Post MAK September 1, 2005	Jaser, Sanford, Angus
<b>2. Technology</b>			
Physician Order Entry	<ul style="list-style-type: none"> <li>- Siemens Patient Safety System <b>Invision</b></li> </ul>	May 1, 2005 Surgery 7	UCHC
Medication Administration Checking	<ul style="list-style-type: none"> <li>- Siemens Patient Safety System <b>MAK</b></li> </ul>	August 1, 2005 Surgery 7	UCHC
Unit of Use Medication Bar-Coding	<ul style="list-style-type: none"> <li>- Oral Solid packaging sys.</li> <li>- Oral Liquid packaging system</li> </ul>	September 2004	Jaser
Infusion Pumps	<ul style="list-style-type: none"> <li>- Alaris Smart Pump Guardrails</li> </ul>	June 2004	UCHC
Computer Generated Discharge Medications	<ul style="list-style-type: none"> <li>- Siemens Patient Safety System <b>Invision</b></li> </ul>		
Direct communication between outpatient and inpatient services to determine medication history	<ul style="list-style-type: none"> <li>- Siemens Patient Safety System <b>Clinical Manager</b></li> </ul>		



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<b>3. Systems</b>			
Computer Generated Paper MARS	- Reduction of transcription errors	January 2005	Jaser
Pyxis Connect	- Improved legibility of handwritten orders	December 2004	Jaser
Standard Medication Concentrations	- Minimize errors with consistent medication concentrations	Ongoing	Jaser
High Risk Medication	- Develop a list of high-risk medications. Create policy/procedure regarding use of high risk medications		
Abbreviations	- Develop unacceptable medical abbreviations list. - Audit use	February 1, 2004	
Sound/Look Alike Medications	- Develop systems to identify and manage	Ongoing	
Patient Allergy	- Documented allergy information on every patient - Generate report to identify patients without documentation	June 14, 2004	
Pharmacist Intervention	- Pharmacists to round with medical teams	Post CPOE implementation	
Pharmacist Review of all Medication Orders	- Increase current level to include all units, including emergency dept and OR.	Post CPOE implementation	
Unit Dose	- All areas of UCHC receive unit dosed medications: NICU		
Intravenous Medication Preparation	- Assess current practice - Goal : 100% preparation by pharmacy or some other contained system ie) AddVantage		
Premixed Medications	- Commercially available premixed medications are obtained when available	Ongoing	Jaser

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<b>4. Education</b>			
Mandatory Annual Education	- Computer based training focus: medication error reduction	November 1, 2004	
Newsletter	<ul style="list-style-type: none"> <li>- Monthly Newsletter to highlight similar sounding drug names or potential look-alikes.</li> <li>- Provide drug information with regard to new medications on the market.</li> <li>- Identify current drug shortages</li> </ul>		

**Collaborative Center for Clinical Care Improvement  
Subgroup for Pain Work Group  
Joseph Civetta, MD**

1. **Assessment Phase**
  - a. Use JCAHO standards
  - b. Determine knowledge base necessary
  - c. Baseline assessment of staff
  - d. Computer based pre-test ('tension to learn')
  
2. **Process**  
**Self Education**
  - a. Review capability (immediately available)
  - b. Computer based post-test (demonstrate ability to learn)
  - c. Feedback to staff on performance
  - d. Advanced test
  - e. Suggestions from Staff regarding more content
  
3. **Outcomes**  
**Intermediate**
  - a. Measure:
    - i. Analyze pain scores (number of high, time)
    - ii. Order changes to adequate control
    - iii. Use of consultants
  - b. Feedback
  - c. Identify gaps between knowledge and practice
  - d. Identify specific individuals and specific remedial plans
  
4. **Final**
  - a. Patient satisfaction
  - b. Feedback

Attachment 3

Collaborative Center for Clinical Care Improvement: Newsletter

Volume 1

“It’s all About the Patient”

(Copy Attached)