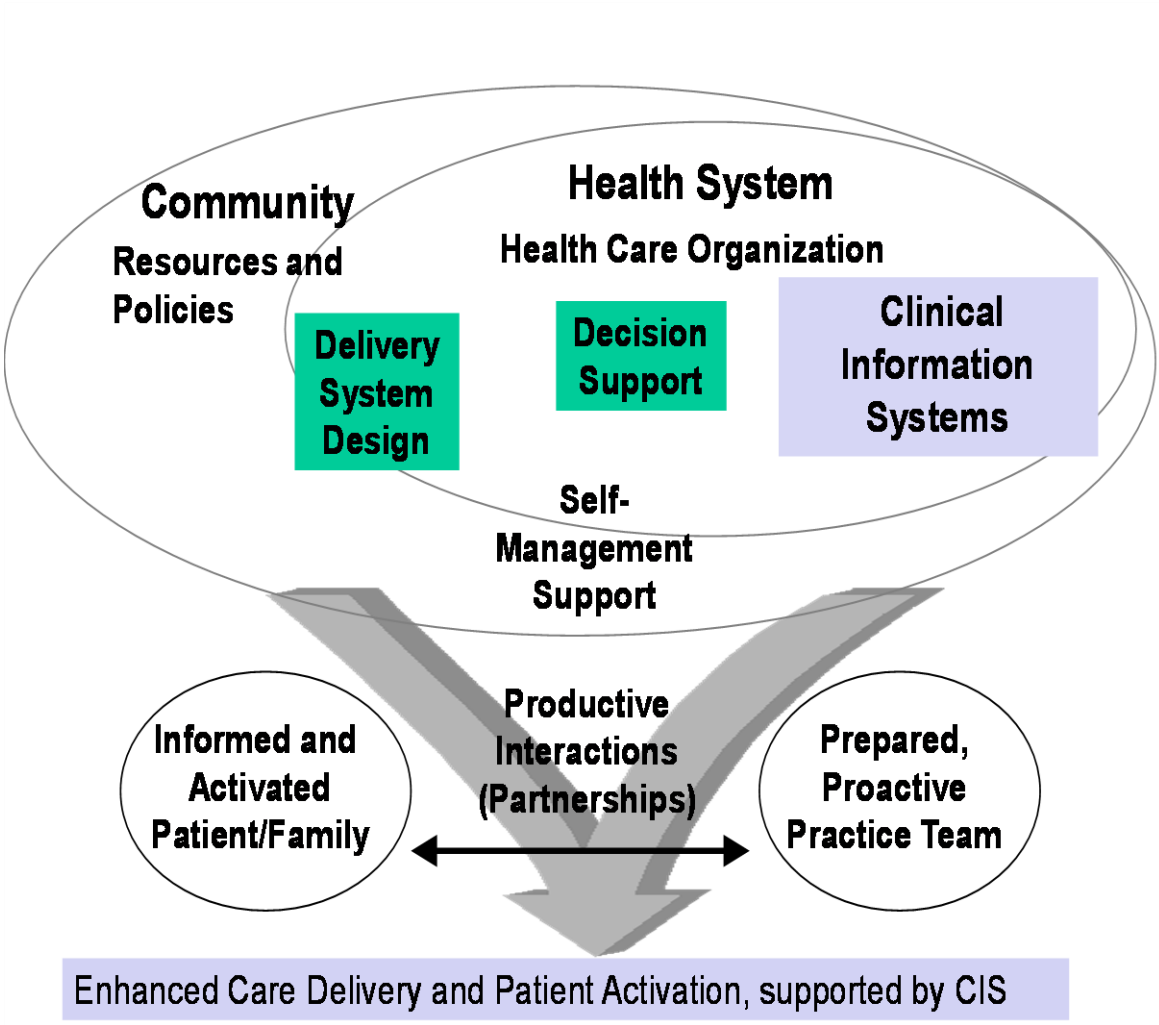
IHQC Change Package
Adaptation of Chronic Care Model*:
Care Delivery and Patient Activation is Supported by Clinical Information Systems



*Adapted from the Chronic Care Model developed by Dr. Ed Wagner et al, McColl Institute Content Provided by The Institute for Healthcare Improvement, www.ihi.org

IHQC Change Package Summary

Summary of Chronic Care Model Change Concepts

Clinical Information Systems (CIS)

Organize patient and population data to facilitate efficient and effective care

- Easy access to data – organizing and integrating patient data before the visit.
- Easy access to data – organizing and integrating data at the point of care.
- Easy access to data – organizing and integrating data after care interaction.
- Proactive care – population management.
- Providing feedback to the care team, organization, and patient about quality of care being delivered.
- Data validation to support improved care.

Decision Support (DS)

Promote clinical care that is consistent with scientific evidence and patient preferences

- Decrease variation and standardize processes to support provision of evidence-based care.
- Utilize technology to assist in the development of highly reliable processes.
- Provide regular performance feedback on key evidence-based guidelines.
- Engage patients/families in understanding evidence-based guidelines for their health conditions.

Delivery System Design (DSD)

Assure the delivery of effective, efficient clinical care and self-management support

- Create organized care teams.
- Define roles and distribute tasks among care team members to optimize all care team members in care delivery.
- Standardize core patient flow processes, like registration, rooming, prescription refills, lab and referral follow-up.
- Proactively prepare for patient interaction.
- Provide support and coordination according to level of need. Assure that complex patients receive indicated services.
- Ensure regular follow-up by the care team.

- Give care that patients understand and that fits with their cultural background.
- Consider alternative care methods, including group visits, email and phone care as appropriate.
- Cross-train staff and expand capabilities to improve case management.
- Improve workflow and remove waste

Self Management Support (SM)

Empower and prepare patients and families to manage their health and healthcare

- Emphasize the patient's central role in managing their health.
- Use effective self-management support strategies that include assessment, goal-setting, action planning, problem-solving and follow-up.
- Organize internal and community resources to provide ongoing self-management support to patients.

The Community (C)

Mobilize community resources to meet needs of patients

- Encourage patients to participate in effective community programs.
- Form partnerships with community organizations to support and develop interventions that fill gaps in needed services.
- Advocate for policies to improve patient care.

Health Care Organizations (HCO)

Create a culture, organization and mechanisms that promote safe, high quality care

- Visibly support improvement at all levels of the organization, beginning with the senior leader.
- Promote effective improvement strategies aimed at comprehensive system change.
- Encourage open and systematic handling of errors and quality problems to improve care.
- Provide incentives based on quality of care.
- Develop agreements that facilitate care coordination within and across organizations.

Productive Interactions between the Patients/Families and Providers are Supported by Clinical Information Systems

IHQC Change Package – Key Concepts, Ideas and Examples of Tests of Change

Clinical Information Systems (CIS)
Organize patient and population data to facilitate efficient and effective care

KEY CHANGE CONCEPTS	CHANGE IDEAS	*EXAMPLES* OF TESTS OF CHANGE
Easy access to data: organizing and integrating patient data before a visit.	Create and utilize a summary sheet (flowsheet, registry summary and/or EHR) for organizing key patient data.	Test changes in workflow to prepare for new clinical information system (CIS) or health information technology (HIT) – e.g., who will open up the program, identify the patients, print the summary sheets, identify needed care.
	Create tools from HIT for care team to proactively plan care at huddles or before visit.	Test printed summary sheet placed on each chart at the time of a visit to see if it increases any screening or treatment.
		Test use of HIT by provider in exam room.
	Utilize all sources of data (regardless of HIT installed) including scheduling system, lab systems, registries, reporting functions, and billing systems to gather data before the patient is seen.	Test use of a tracking report (or exception report or similar) in a team huddle to plan care for individual patients and how to assign tasks and roles for care team members.
Easy access to data: organizing and integrating data at point of care.	Use prompts and reminders to highlight needed care at point of care.	Test visual cues (bright sticker on chart, highlighted parts of flow sheet, red font on screen) to remind care team and provider that screening is due.
	Develop tools and methods to share information with patient – e.g., test results, trends (run charts) and/or what care is needed.	Test showing a patient their blood pressure values over time and ask them their understanding of what the trend means.
Easy access to data: organizing and	Use data to assure all needed follow-up is accomplished for tests, referrals and self-	Test sharing normal lab results with patients by an automatically generated letter.

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KEY CHANGE CONCEPTS	CHANGE IDEAS	*EXAMPLES* OF TESTS OF CHANGE
integrating data after care interaction.	management goals.	
	Plan for the next encounter.	After each patient encounter, write key tasks for next visit in the progress note.
Proactive care: Population Management.	Develop and use (risk assessment) reports or methods to identify patient characteristics and segment patients based on patient-specific data and needs – e.g., patients with a chronic condition or patients with high psycho-social need.	Test having clerk/MA/Care coordinator review panel monthly for each provider and ask provider for follow-up instructions for patients with values (e.g., A1c, LDL, BP) out of range.
		Test (mail merge) letters from HIT to patients overdue to be seen – e.g., send a notice of a prescheduled appointment or send a notice requesting they make an appointment.
		Test having MA mail lab slips to all diabetic patients in the panel who have not had an A1c test in more than 6 months.
		Create a report of all women with abnormal Pap smears who have not had indicated follow-up.
		Test effective ways to outreach so needed care gets done.
Providing feedback to the care team, organization, and patient about quality of care being delivered.	Create and use monthly reports for the organization as whole, the providers, and the care team on organizational quality measures.	Test use of report by sharing with all providers and/or care teams to learn issues.
		Test the time it takes to produce monthly run charts for a current project.

Clinical Information Systems (CIS)
Organize patient and population data to facilitate efficient and effective care

KEY CHANGE CONCEPTS	CHANGE IDEAS	*EXAMPLES* OF TESTS OF CHANGE
Data validation to support improved care.	Pull data from HIT system and validate accuracy. Use sampling methods to reduce burden.	Find duplicate patients and eliminate; develop theory of how errors happened and test ways to avoid.
		Identify patients miscoded as having a certain condition – e.g., patients with metabolic syndrome coded as diabetic.
		Find data entry errors in lab results and eliminate them; develop theory of how errors happened and test ways to avoid.
		Run sample reports before launching new software to test mapping of lab codes to HIT.
	Chart abstraction to improve validity of the information and engage staff in customization of the EHR	Have providers abstract 10 charts of patients in their panel into EHR and provide feedback on ease of use.

Decision Support (DS)
Promote clinical care that is consistent with scientific evidence and patient preferences

KEY CHANGE CONCEPTS	CHANGE IDEAS	*EXAMPLES* OF TESTS OF CHANGE
Decrease variation and standardize processes to support provision of evidence-based care.	Adopt evidence-based guidelines to be used organization-wide for high volume and/or high risk clinical conditions.	Test standard chronic care and screening guidelines against current clinic practices and decide on guidelines that will populate new HIT.
	Optimize and standardize the roles of all care team members in the delivery of evidence-based care.	Test improved A1C control with telephonic follow-up to make sure patients understand diabetes self care.
		Test “Treat to Target" Protocol for long acting insulin by RN, CDE or Pharmacist.
	Develop standing orders, as appropriate within scope of practice, for chronic disease care, based on clinical guidelines.	Test staff understanding of the standing orders.
		Test ease of using standing orders.
		Test whether use of standing orders for 1 week increased screening or referrals over the prior week.
	Develop criteria for frequency of care.	Test having MA (or other staff discharging patients) schedule next appointment at the indicated interval unless the provider recommended a visit sooner.
Utilize technology to assist in the development of highly reliable processes.	Provide prompts and reminders at point of care.	Test using prompts in HIT to guide interventions by clinicians and other staff
	Build guidelines into workflow so that they happen reliably.	Test increasing foot exam completeness by including a foot exam diagram with prompts for all components on the diabetes progress note.
Provide regular performance feedback on key evidence-based guidelines.	Provide provider and care team specific performance data on a regular basis.	Run a provider’s performance data on evidence-based guidelines and provide individual feedback.

Decision Support (DS)
Promote clinical care that is consistent with scientific evidence and patient preferences

KEY CHANGE CONCEPTS	CHANGE IDEAS	*EXAMPLES* OF TESTS OF CHANGE
	Assist, in a systematic and consistent way, providers and care teams in addressing the barriers they face to better performance.	Establish a protocol for MA or clerical assistance with follow up to panel reports.
Engage patients/families in understanding evidence-based guidelines for their health conditions.	Share information with patients about their health conditions and steps they can take, in a manner patients can understand.	Test for understanding and potential patient action, a simple half to one page patient education sheet describing the guidelines for a condition.
		Test Diabetes Health Card in 19 languages to share information with patients about indicated tests and desirable levels of control. https://www.cdph.ca.gov/programs/cdapp/Pages/default.aspx

Delivery System Design (DSD)
Assure the delivery of effective, efficient clinical care and self-management support

KEY CHANGE CONCEPTS	CHANGE IDEAS	*EXAMPLES* OF TESTS OF CHANGE
Create organized care teams.	Organize staffing so that providers and support staff consistently work together.	Model staffing assignments on paper for one week, grouping the same people together. -Test it.
	Assign all patients a PCP and push continuity of care with PCP.	Look at 10 patients in a day for PCP assignment and understand what supported the assignment or what the barriers were.
Define roles and distribute tasks among care team members to optimize all care team members in care delivery.	Cross train all staff rooming the patient to assure smooth patient flow.	Test the front desk person putting a patient in an exam room for a patient who does not need weight taken.
	Test the use of standing orders for needed evidence based care.	Pull 10 charts of patients with diabetes and see how standing order would be applied by a nurse.
Improve Work Flow and Remove Waste	Decrease "No show" rates by proactive interventions	Track the number of no shows who are on the provider's panel versus no shows who are not empanelled to the provider to test the idea that increasing continuity could decrease no shows
		Test a 24 hour cancellation phone line and see if no show rates decrease
		Test a script for outgoing calls to patients who frequently "no show" and track if their kept rate improves.
		Test calling patients the day before the visit; test 2 days before; test automatic calls and live person calls.
	Right visit at the right time: Stop automatic reappointments.	For patient generated appointments, track how far in advance the appt was made for no shows versus those who keep appts; then test the idea that

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		making appts when the patient asks for it could decrease no shows
		Test having a nurse call the patient one week before a visit to see if the visit is still needed or if patient issues could be dealt with without a face to face visit.
	Flowchart patient visit from the patient perspective and redesign or eliminate any identified unnecessary steps/wasted time.	For one day, test if the rooming person can take the first patient of the morning and the afternoon session immediately to the exam room as they check in – i.e., so patient does not check in and then wait in a waiting room.
Standardize core patient flow processes, like registration, rooming, prescription refills, lab and referral follow-up.	Flowchart the visit from the staff perspective and redesign or eliminate any identified unnecessary steps/wasted time.	Test whether grouping needed equipment in the exam room saves staff steps.
	Decrease patient wait (cycle) time	For one week test increased MA support per provider to decrease rooming and discharge time.
	Improve follow up of abnormal labs	Test Having the MA go in the room with the provider initially to start working on needed follow up
		Test having patient go straight to exam room with registration and vitals done in the room
		Gather baseline data by flow charting the steps from the time a test is ordered until it is collected and performed , results are received, signed off and patient notified if they are abnormal

Delivery System Design (DSD)
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KEY CHANGE CONCEPTS	CHANGE IDEAS	*EXAMPLES* OF TESTS OF CHANGE
	Use daily huddles to plan care for patients.	Gather baseline data by tracking time involved in each of the above steps and identify primary causes of delays.
		Test consolidating steps to decrease steps from the time abnormal results are received in the clinic until the patient is notified by having an RN review all lab results.
		Test having one provider test reviewing all lab results before going home each day to see how long it takes.
		Test a 10 minute huddle with all care team members and use of patient level data from HIT (e.g., registry, EHR) to plan care for visits.
Proactively prepare for patient interaction.	Ask patients to fill out a simple questionnaire asking what they want from the visit so that resource needs can be managed.	Test a short set of questions with 4 patients on one day by asking patients to fill it out before taken to exam room or as they wait in exam room.
	Optimize the role of all care team members in providing care for patients.	Test having a front desk staff use the HIT (e.g., registry, EHR, tracking system) to call patients who have not been seen for more than 6 months.
Provide support and coordination according to level of need. Assure that complex patients receive indicated services.	Use monthly or quarterly reports to determine patients who have fallen out of care.	Have one team member do telephone outreach to the highest risk patients.
		Use care management for highly complex patients.
		Test using team members to follow-up on patients who fall out of established care criteria.

Delivery System Design (DSD)
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KEY CHANGE CONCEPTS	CHANGE IDEAS	*EXAMPLES* OF TESTS OF CHANGE
Ensure regular follow-up by the care team.	Have automated system to recall patients with chronic illnesses who miss scheduled follow-up	Test using selected automated system (e.g., robo calls, reminder postcards, registry as tickler to have staff call patients).
	Decrease number of patients who do not pick up on site prescriptions.	Generate ideas to test by calling every patient who does not pick up a prescription within a week to identify major reasons for failure to get Rx. Brainstorm solutions ideas and prioritize which ones to work on. Test changes in procedure for the top 3 reasons.
	Share data with patient for shared decision making.	Test educational material about lab results to see if patients understand it.
Give care that patients understand and that fits with their cultural background.	Create or choose tools and prompts that communicate language, culture, and preferences for individual and population management.	Test patient comprehension of any new tools.
Consider alternative care methods including group visits, email and phone care as appropriate.	Group visits for patients with chronic conditions.	Have one provider invite multiple (10-12) engaged patients to participate in a medical group visit. Test participation; patient satisfaction; productivity.
Cross-train staff and expand capabilities to improve case management.	Obtain senior leader support for training staff in new roles and tasks.	Test having a monthly one hour training session to advance skills.
	Train providers, nurses and medical assistants, in patient assessment skills, self-management goal setting and follow-up, etc., and periodically check staff competency with tasks.	Train MAs to use a self-management goal setting tool to prepare patients while they are rooming them.

Self Management Support (SM)
Empower and prepare patients and families to manage their health and healthcare

KEY CHANGE CONCEPTS	CHANGE IDEAS	*EXAMPLES* OF TESTS OF CHANGE
Emphasize the patient's central role in managing their health.	Define the patient's role in managing their health as central to each encounter.	Test messaging to patients that they are in charge of their health – e.g., At a health maintenance exam, "Your health is in your hands. We would like to help you achieve the best health possible." or At the moment of diagnosis, "X is an ongoing health problem. We are here to provide the best medical care for your condition, but you are the day-to-day manager of the condition."
Use effective self-management support strategies that include assessment, goal setting, action planning, problem-solving, and follow-up.	Use the 5 A's to work with patients: ASSESS, ADVISE, AGREE, ASSIST, and ARRANGE.	See specific examples of tests under each of the 5 A's below
	ASSESS patient's beliefs, behavior, and knowledge.	Test asking patients what they know about their health condition before providing information.
		Test using one or more of the BPHC patient assessment tools at http://www.healthcarecommunities.org/Home.aspx
		Test how to ascertain your patient's health beliefs and knowledge using cultural competency tools to identify potential strategies.
		Test using PHQ9 or other screening tool for depression to identify issues that may impair self-care.
Use effective self-management support strategies that include assessment, goal	ADVISE patients by providing specific information	Test how to help patients link their exam or lab test

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setting, action planning, problem-solving, and follow-up.	about health risks and benefits of change.	findings to behaviors.
		Test using run charts with patients to present information.
		Test using "teach back" to see what patient understands about what you are advising them.
		Test whether patients have the same understanding of common medical words related to their diagnosis - e.g., hypertension, diabetes, HbA1c.
		Test using tools with "visual impact" – e.g., thermometer tool with red for bad, green for good, and yellow for risk zone – for improved patient understanding.
		Test giving patients print-outs of their laboratory results with explanations of what each test means.
		Test asking patients if they want more information about their diagnosis/condition and provide handouts or access to a web-based health database.
Use effective self-management support strategies that include assessment, goal setting, action planning, problem-solving, and follow-up.		Test materials with specific patient groups to address linguistic, cultural and health literacy concerns in all encounters and materials.
	AGREE on collaboratively set goals based on patient's confidence in their ability to change the	Test using methods to assure that concerns of patients and families are surfaced and addressed.

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	behavior.	
		Test using peer mentors, conductors, and/or promotoras as health coaches.
		Assess patient confidence to achieve their action plan using a 1-10 scale following the format of Living a Healthy Life with Chronic Conditions (Lorig et al.).
		Test using personal action plans with patients following the format of Living a Healthy Life with Chronic Conditions (Lorig et al.)
		Test using CARE vital signs from www.howsyourhealth.org to help surface patient issues and set goals.
		Test using techniques from motivational interviewing – e.g., express empathy, develop discrepancy, avoid argumentation, roll with resistance, and support self-efficacy – to discuss self-management with patients.
		Test documenting patient self-management goals on your flowsheet, in your registry or in your EHR.
Use effective self-management support strategies that include assessment, goal setting, action planning, problem-solving,	ASSIST patients with problem-solving by identifying personal barriers, strategies, and social/environmental support.	Test educating one or two clinical staff in problem-solving skills and ask them to test problem solving with one patient each.

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and follow-up.		Test using problem-solving method described by Lorig, et al individually and in groups to teach patients problem-solving skills.
		Test a group visits and incorporate goal-setting, action-planning and problem-solving into the agenda.
		Identify community resources for support - e.g., Tobacco Quit Line, Health Clubs with a wide range of programs. Test how to best refer patients to these services.
		Support efforts for safe walking programs, healthy food choices in schools, PE programs, etc. and test with patients how to make good use of these services.
		Learn through testing how to refer patients to on-line sources of support.
Use effective self-management support strategies that include assessment, goal setting, action planning, problem-solving, and follow-up.	ARRANGE a specific follow-up plan**.**	Test scheduling telephone follow-up for specific issues then make it part of someone's job description.
		Test using volunteers to assist with follow-up.
		Test asking patients to ask friends or family to help them by following up on their action plans.
		Identify community outreach programs and test the

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		feasibility of the programs providing follow-up in homes and community settings.
		Test using email to communicate with patients about goals, action plans, and follow-up.
Organize internal and external resources to provide ongoing self-management support to patients.	Use effective stand-alone programs.	Test proven programs to support patients in self-management. Examples include: • Chronic Disease Self-Management Programs in person and online through Stanford Patient Education Research Center • Open Airways for Asthma (American Lung Association) • Arthritis Self-help Course, Arthritis Foundation
	Providers and staff receive training in self management and patient activation.	Go to a workshop and test a technique learned at the workshop.
		Test having team members learn motivational interviewing techniques.
		Test having team share their training with each other.
	Determine roles of the team to carry out self-management support before office visits, during office visits and between office visits.	Test having different types of staff members learn and practice self-management support.

The Community (C)
Mobilize community resources to meet needs of patient

KEY CHANGE CONCEPTS	CHANGE IDEAS	*EXAMPLES* OF TESTS OF CHANGE
Encourage patients to participate in effective community programs.	Educate patients about community resources.	Test what ways – e.g., posters, flyers, provider-specific referrals written as a prescription, website, radio, meetings, – are effective to connect patients and families to community resources.
	Follow-up with patients receiving community services.	Test calling patients after referral to a program to see if it was acceptable and helpful.
Form partnerships with community organizations to support and develop interventions that fill gaps in needed services.	Invite community programs to participate in care and redesign efforts.	Test having community members serve on improvement teams.
Advocate for policies to improve patient care.	Form or work with community groups to change legislation.	Testify at state legislative hearings on funding for Medi-Cal or community clinic services.

Health Care Organization (HCO)
Create a culture, organization and mechanisms that promote safe, high quality care

KEY CHANGE CONCEPTS	CHANGE IDEAS	*EXAMPLES* OF TESTS OF CHANGE
Visibly support improvement at all levels of the organization, beginning with the senior leader.	The senior leader updates the board, staff and community on progress on a regular basis.	Test the QI Director attending a monthly board meeting and providing a one page progress summary.
	Leaders assure the aim of improvement team is of top strategic importance to the organization.	QI/Improvement Team attends and/or has representation at strategic planning meetings.
	Leaders dedicate the resources in staff, equipment and time to assure success.	Test how much time is needed for the Improvement Team to meet weekly and what resources are needed to keep moving forward.
	All employees of the organization regularly review quality of clinical care.	Test communication strategy of including quality updates in an employee newsletter.
	The senior leader communicates the organization's culture of quality to all staff.	Senior leader tests what quality messages resonate with staff.
		Senior leader reviews QI data frequently and tests how to most effectively share it within the organization.
Promote effective improvement strategies aimed at comprehensive system change.	The organization uses the Chronic Care Model, the Model for Improvement and a learning model to continuously improve the system.	Test organizational adoption of the Chronic Care Model as a guide to delivering care.
		As a senior leader, appoint a spread team, develop a spread plan and timeline and test the plan with mid-managers.
	The senior leader takes responsibility for the spread of improvements.	Test fair and just culture (contact CAPSAC for information on training http://www.capsac.org/our-approach-to-safety/fair-and-just-culture/

Health Care Organization (HCO)
Create a culture, organization and mechanisms that promote safe, high quality care

KEY CHANGE CONCEPTS	CHANGE IDEAS	*EXAMPLES* OF TESTS OF CHANGE
Encourage open and systematic handling of errors and quality problems to improve care.	Create system of handling grievances and errors that promotes system improvement.	

Key Resources for further support:

Quality Improvement:

The Improvement Guide**:** A Practical Approach to Enhancing Organizational Performance
Gerald J. Langley Ronald Moen Kevin M. Nolan Thomas W. Nolan, Clifford L. Norman , Lloyd P. Provost
2nd. Ed. 2009 Jossey-Bass Business & Management Series, San Francisco

Change Packages:

Chronic Care Model: http://www.improvingchroniccare.org/
Chronic Care Model Toolkit: http://www.improvingchroniccare.org/index.php?p=Toolkit&s=244
Healthcare Communities: http://www.healthcarecommunities.org/

HIT and Clinical Quality Improvement:

Go to www.ihi.org and search HIT for numerous resources
Healthcare Communities: http://www.healthcarecommunities.org/

Books for Self-Management Support:

Health Behavior Change: A Guide for Practitioners by Stephen Rollnick

Living a Healthy Life with Chronic Conditions by Kate Lorig et al.