



RHP9 ED/Readmissions

Improvement Collaborative

**(Access Cohort, ED/Readmissions Cohort
& Chronic Disease Cohort)**

Handbook

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RHP9 ED/Readmissions Improvement Collaborative (Access Cohort, ED/Readmissions Cohort & Chronic Disease Cohort)

INTRODUCTION

An Improvement Collaborative is an improvement method that relies on spread and adaptation of existing knowledge to multiple settings to accomplish a common aim. – IHI Breakthrough Series

OVERALL TOPICS:

The overall topics for the ED/Readmissions improvement collaborative include:

- Expanding primary and specialty healthcare capacity
- Improving clinical assessment and monitoring for chronic diseases
- Identification of patients at high risk for readmissions
- Improving the Patient Experience

COLLABORATIVE FRAMEWORK

Collaborative Charter

The charter defines the collaborative purpose, summarizes the evidence that will direct your work, outlines methods that your team will use to achieve the purpose and list what teams can expect from the Collaborative leadership as well as what the leadership expects of teams.

Purpose

RHP9 providers will provide the right care, in the right setting, and the right time for individuals within their target population(s). The teams will achieve this through a variety of methods such as increasing patient access through new and expanded programs and facilities, evidence based assessment and intervention, creating best practice support systems, and incorporating technology such as telehealth/telemedicine and chronic disease registries for managing complex patient care. This will be accomplished through providers of primary health care, acute care, behavioral health, county health and human services, academic health and dental systems, and the criminal justice system. These providers will change and improve systems of communication, collaboration, and coordination with each other to enhance patient wellness.

The Improvement Collaborative Process goal is to share experiences and learning around like processes and topics to achieve improved outcomes in the areas desired. The models identified below outline various methods that providers can use to achieve the desired RHP9 project goals within their individual projects. The improvement collaborative is part of the RHP9 approved Learning Collaborative Plan. The improvement collaborative has been modified from the IHI Breakthrough Series Model to reflect the unique nature of DSRIP projects. Per the Texas Waiver, projects, objectives, and specific milestones, metrics, and outcomes were provided by a state approved menu. Many projects are already using the best practices identified in the models outlined to test, implement, and measure their projects.

To achieve the goals of the RHP9 ED/Readmissions Improvement Collaborative, RHP9 providers will continue to plan, implement, test, and monitor their individual DSRIP projects. These projects align with the RHP9 community health needs assessment and the CMS Triple Aim of improved patient experience, improved health of population, and reduction in per capita cost of healthcare. In addition, providers will report on one or more learning collaborative outcome measures related to their DSRIP projects to provide a Regional health perspective..

Case for Improvement

The RHP9 Community Needs Assessments outlines why it is important for the region to focus on the topics identified for this improvement collaborative.

Regional Health Care Capacity - Primary and Specialty Care - The demand for primary and specialty care services exceeds that of available medical physicians in these areas, thus limiting healthcare access.

Physician Supply and Availability

RHP 9 is affected by the limited physician capacity in primary and select specialties. According to the Health Professions Resource Center, primary care physician supply trends have consistently increased to a current statewide rate of 70 per 100,000 people in 2011.¹ In 2011, the RHP 9 region demonstrated a physician need in excess of over 30% of the current workforce and by 2016 the physician need is expected to be 50% higher than projected availability.² With such a shortage of physicians, which is disparately worse in rural areas of Texas, many residents seek primary care and non-emergent treatment in emergency departments, resulting in increased healthcare costs and higher volumes of preventable and avoidable cases in the ED.

¹ Health Professions Resource Center, Center for Health Statistics, Department of State Health Services, October 2011.

² *ibid.*

Medical Education

Dallas County is home to the University of Texas Southwestern Medical Center, an academic medical center that trains over 1000 medical students and approximately 1300 clinical residents annually. Many training and residency placements are completed within the DFW Metroplex providing an important source of physicians to the local healthcare system.

Medically Underserved and Shortage Areas

A Health Professional Shortage Area (HPSA) is a federally designated geographic area, a facility or population group with a shortage of primary care physicians (or dental or mental health providers) as defined by a population-to-primary care physician ratio of at least 3,500:1 in addition to other requirements designated by the U.S. Department of Health and Human Services.³ Poverty rate, infant mortality rate, fertility rate and physical distance from care are all considerations in scoring for HPSA designation.

Medically Underserved Areas or Populations (MUA/MUP) are generally defined by the federal government to include areas of populations with a shortage of personal health care services or groups of people who may have cultural or linguistic barriers to health care. In RHP 9, Dallas County has significant HPSA and MUA regions that overlap and Kaufman County is a county-level HPSA with no MUAs.

Children/Youth

The impact of the limited primary and specialty care is profound for children and families in the region. The current pediatric need is more than 80% of the current supply in the region. In Dallas County alone, over 36.2% of children were enrolled in Medicaid in 2010, exacerbating the issue of availability of pediatric primary care access and treatment.⁴ Data also indicates that many of the pediatric specialists have limited capacity, creating a backlogged pipeline for those needing specialty services after seeking primary care.

Patient Safety and Hospital Acquired Conditions – Hospitals in the region address patient safety and care quality on a daily basis. It is a continuous improvement initiative and is always at the forefront of any strategy for a health care entity. An ongoing coordinated effort among providers is needed to improve patient safety and quality throughout the region.

The DFWHC Foundation's 77 hospitals had 1,706 adverse hospital events in 2010. These events included air embolism, Legionnaires, Iatrogenic Pneumothorax, delirium, blood incompatibility, glycemic control issues and Clostridium difficile, which are not part of the ten adverse events

³ US Department of Health and Human Services. 2012.

⁴ Children's Medical Center. Beyond ABC Report, 2011.

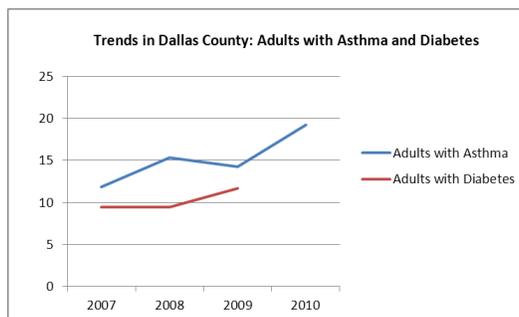
specified by CMS. A significant portion was made up of Medicare patients (46%) and insured (54%) according to the claims data within the DFWHC Foundation claims data warehouse.

Emergency Department Usage and Readmissions - Emergency departments are treating high volumes of patients with preventable conditions, or conditions that are suitable to be addressed in a primary care setting. Additionally, readmissions are higher than desired, particularly for those with severe chronic disease or behavioral health.

Chronic Disease

Similar to national trends, North Texas is experiencing increasing rates of many chronic diseases, including heart disease, cancer and stroke. Also there are increasing rates of asthma and diabetes in adults within the Dallas County Metropolitan Statistical Area as shown below.

Figure 10: Dallas County Adults with Asthma and Diabetes



In an assessment of ED utilization, the five encounter types that were most frequent and of highest volume are those for chronic conditions of asthma, chronic bronchitis, pain/aching of joints, sinusitis, and hay fever.⁵ There were slight variations presented when encounters were analyzed by payer type. More Medicaid and uninsured patients sought treatment for asthma than those with insurance or Medicare and for the uninsured specifically, diabetes was listed as the 5th top condition, while not even listed as a top 5 condition for the insured or Medicaid.

An analysis of the emergency department encounters demonstrates that many in the population are accessing emergency departments for both urgent and non-urgent conditions. Over the most recent four quarters of data, the conditions for which the most volume of care was provided in an emergency outpatient setting were: low back pain, hypertension, pain/joint aching, chronic bronchitis, and asthma.

Further assessment demonstrates that, with the exception of asthma, over 68% of the encounters for the top primary health conditions listed above were either non-emergent or emergent/primary care treatable, in that the care could have been provided effectively in a

⁵ Dallas Fort Worth Hospital Council Foundation, Information and Quality Services Data Warehouse. March 2011.

primary care setting. For asthma, approximately 98.1% of all encounters were emergent, however the condition could have been potentially avoidable or preventable if effective ambulatory care could have been received during the illness episode.⁶

For emergency department encounters that resulted in a hospital admission, the most common health conditions by volume include stroke, diabetes, congestive heart failure, weak/failing kidneys, chronic bronchitis and heart attack. When reviewing by payer type, diabetes is the top condition for the uninsured and Medicaid and the 5th top condition for those who are insured

Cost/Charge

From quarter 3 of 2010 to quarter 3 of 2011, the estimated charges associated with all regional emergency outpatient encounters was \$312,816,490 and for emergency inpatient encounters, the total charges increase to \$2,076,778,420. For emergency inpatient encounters, there was little charge variation across insured, Medicaid, Medicare, and Uninsured payer types.

Oral Health - In Texas, preventive dental visits are below the recommended levels, and access can be a problem for minorities, the elderly, children on Medicaid, and other low income

Tooth decay (dental caries) is the most common chronic childhood disease. In 2003, the proportion of Texas children reported to have teeth in excellent or very good condition was lower than the national average and lower within all age, sex, and racial/ethnic subgroups.

Dental problems in adults are equally problematic. According to the U.S. Surgeon⁷ most adults in the U.S. show signs of periodontal or gingival diseases and severe periodontal disease affects 14 percent of adults (ages 45–54 years). However, a little less than two-thirds of adults report visiting a dentist within the past 12 months, and those with incomes at or above the poverty level are twice as likely to report a dental visit in the past 12 months as those below the poverty level. The American Dental Association cited the major reason for not accessing regular oral health care is the high cost of dental care. And the number of individuals who lack dental insurance is more than 2.5 times the number of those who lack medical insurance.

Effective health policies intended to expand access, improve quality, or contain costs must consider the supply, distribution, preparation, and utilization of the workforce. According to the National Health Service Corps, Texas needs 784 additional dentists to achieve the recommended ratio of one dentist for every 3,000 residents. The overall supply of dentists in

⁶ DFWHC Foundation, Information and Quality Services Data Warehouse, 2011.

⁷ National Institute of Health. National Institute of Dental and Craniofacial Research. “Oral Health in America: A Report of the Surgeon General. 2000.

Texas has been consistently below the national average of 59-60 dentists per 100,000 for many years.⁸ In 2006, Texas had 36.0 dentists per 100,000 and it has been declining since.

The goal providing the right care, in the right setting, and the right time more effectively to meet the needs of individuals within the target populations and areas identified above requires using and possibly combining multiple theories of best practice to improve overall outcomes.

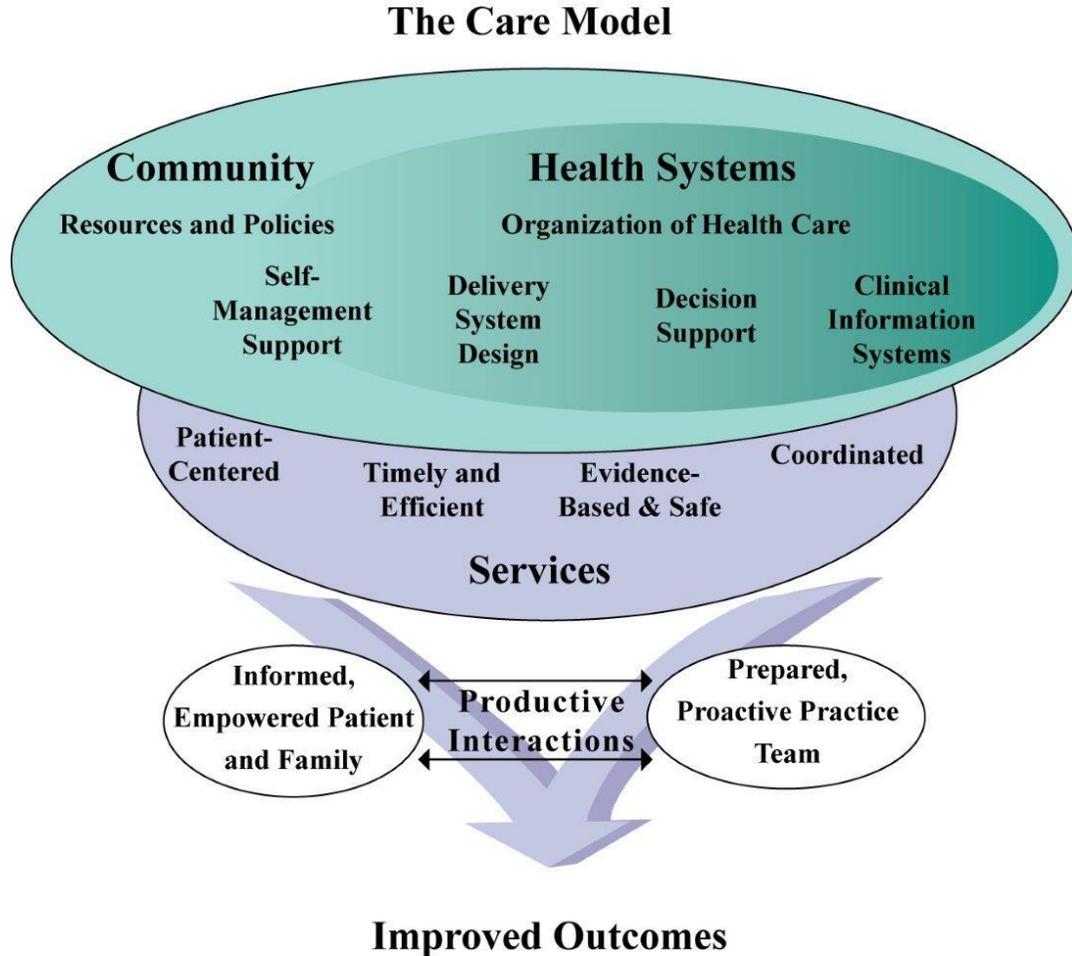
⁸ State Department of Health & Human Services, Center for Health Statistics Health Professions Resource Center. Publication No. 25-12581. E-Publication No. E25-12581. March 2007.

METHODS

Models of Success

The Care Model⁹

The Care Model (aka Chronic Care Model) summarizes the basic elements for improving care in health systems at the community, organization, practice, and patient levels and was developed to speed the transformation of healthcare, from a system that is essentially reactive – responding mainly when a person is sick – to one that is proactive and focused on keeping a person as healthy as possible. It was developed by Ed Wagner and his colleagues under the Improving Chronic Illness Care Program. The principles of this model outline the items needed to provide the proactive care for all types of integrated health care and can be adapted for a variety of different types of care.



© 2002 The MacColl Center for HealthCare Innovation, Group Health Research Institute

⁹ The MacColl Center for HealthCare Innovation, Group Health Research Institute, 2002.

Six Components of the Care Model

Health Care Organization

- Goals for chronic illnesses are a measurable part of the organization's annual business plan.
- Benefits that health plans provide are designed to promote good chronic illness care.
- Provider incentives are designed to improve chronic illness care.
- Improvement strategies that are known to be effective are used to achieve comprehensive system change.
- Senior leaders visibly support improvement in chronic illness care.

Community Resources and Policies

- Effective programs are identified and patients are encouraged to participate.
- Partnerships with community organizations are formed to develop evidence-based programs and health policies that support chronic care.
- Health plans coordinate chronic illness guidelines, measures and care resources throughout the community.

Self-management Support

- Providers emphasize the patient's active and central role in managing their illness.
- Standardized patient assessments include self-management knowledge, skills, confidence, supports, and barriers.
- Effective behavior change interventions and ongoing support with peers or professionals are provided.
- Collaborative care-planning and assistance with problem-solving are assured by the care team.

Decision Support

- Evidence based guidelines are embedded into daily clinical practice.
- Specialist expertise is integrated into primary care.
- Provider education modalities proven to change practice behavior are utilized.
- Patients are informed of guidelines pertinent to their care.

Delivery System Design

- Roles are defined and tasks delegated.
- Planned visits are used to provide care.
- Continuity is assured by the primary care team.
- Regular follow-up is ensured.

Clinical Information Systems

- There is a registry with clinically useful and timely information.
- Care reminders and feedback for providers and patients are built into the information system.
- Relevant patient subgroups can be identified for proactive care.
- Individual patient care planning is facilitated by the information system.

Implementation Guide to Reduce Avoidable Readmissions¹⁰

Health Research & Educational Trust (HRET) in Partnership with AHA identified several best practices and ideas for improvement in their Implementation Guide to Reduce Avoidable Readmissions.

Primary Drivers	Secondary Drivers
Identify patients at high-risk for readmission	<ul style="list-style-type: none"> ✓ Use a risk of readmission assessment tool and validate it using your own data ✓ Develop a method to stratify patients at higher risk of readmission ✓ Adopt an enhanced admission assessment ✓ Assess the patient's engagement and assertiveness in managing their own care
Self-management skills	<ul style="list-style-type: none"> ✓ Assign clear accountability for medication reconciliation ✓ Educate patient regarding medication, need for medication, method of obtaining and taking medication once discharged ✓ Educate patient on their condition, symptoms and what to do if symptoms worsen ✓ Provide clearly written medication instructions using health literacy concepts
Coordination of care across the continuum	<ul style="list-style-type: none"> ✓ Obtain accurate information about primary care physician at the time of admission and create a patient centered record ✓ Ensure effective communication to non-hospital based care team members ✓ Medication reconciliation at each transition of care ✓ Send discharge summary to primary care physician with 48 hours of discharge
Adequate follow-up and community resources	<ul style="list-style-type: none"> ✓ Prior to leaving the hospital, determine what after-hospital resources and appointments are needed and ensure appropriate planning ✓ Work with patient and care provider to identify and address any barriers to making and attending follow-up appointment(s) and other follow-up needs such as medications, special diet, etc.

Key Resources:

- Re-engineered Discharge (RED): <http://www.bu.edu/fammed/projectred/index.html>
- Better Outcomes for Older Adults through Safe Transitions (BOOST): http://www.hospitalmedicine.org/ResourceRoomRedesign/RR_CareTransitions/CT_Home.cfm
- STAAR How to Guide: [Improving transitions from the hospital to post-acute care](#)
- AHRQ Tools on Medication Reconciliation: <http://www.ahrq.gov/qual/match/>
- The Care Transitions Program (Eric Coleman): <http://www.caretransitions.org/>
- The Care Transitions Model (Mary Naylor): <http://www.caretransitions.org/>

¹⁰ Implementation Guide to Reduce Avoidable Readmissions., HRET – Health Research & Educational Trust, found at http://www.dcha.org/wp-content/uploads/readmission_changepackage_508.pdf

ENVISIONING THE CHANGE (Change Package)

For the purpose of the Learning Collaborative and the ED/Readmissions Improvement Collaborative, the RHP9 ED-Readmission, Access, and Chronic Disease Cohort projects have been consolidated into primary drivers and several associated secondary drivers that have been identified by various local and national experts to drive the changes that will impact our patient populations at both the local and regional level. Each cohort will continue to meet and use the combined driver diagram to drive and focus their changes as appropriate to the specific cohort.

Driver Diagram

Driver Diagram – A driver diagram is an improvement tool used to organize theories and ideas in an improvement effort. It displays visually, our theory about why things are the way they are and/or potential areas we can leverage to change the status quo. The driver diagram is often used to guide the plan for reaching the aim.

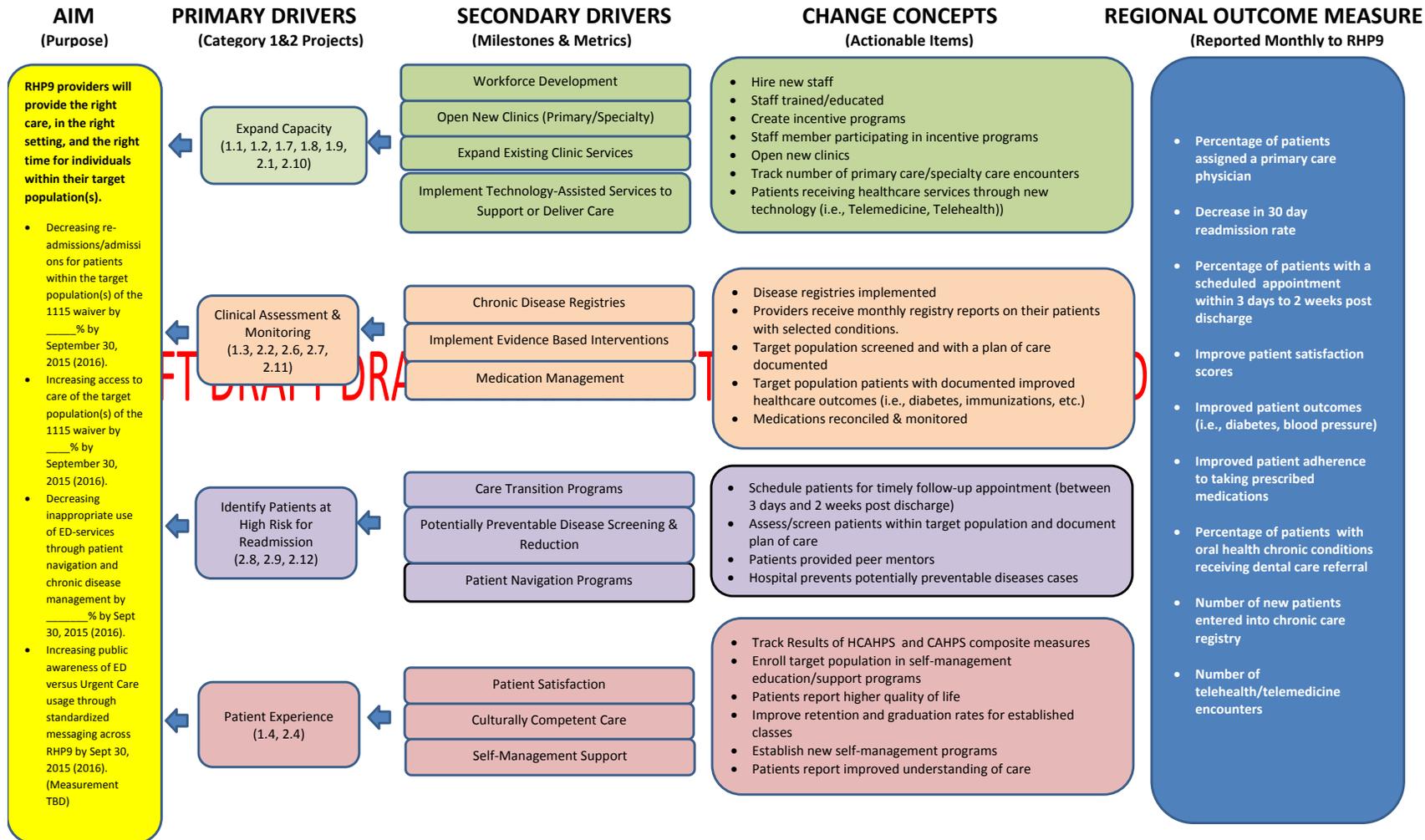
The primary drivers for the Behavioral Health Improvement Collaborative were identified through pre-work learning collaborative sessions with the RHP9 providers. Building on these primary drivers, secondary drivers and change concepts were identified through previous best practice models and evidence based results. .

- Expand Capacity
- Clinical Assessment & Monitoring
- Identifying Patients at High Risk for Readmission
- Patient Experience

RHP9 Improvement Collaborative – ED/Readmissions

(Access Cohort, ED/Readmissions Cohort, & Chronic Disease Cohort)

DRAFT-DRAFT-DRAFT-DRAFT



Primary Drivers:

- Major processes, operating rules, or structures that will contribute to moving towards the Aim.
- *Our Primary Drivers are the Category 1 & 2 projects.*

Secondary Drivers:

- Elements or portions of the primary drivers.
- The secondary drivers are system components necessary in order to impact primary drivers, and thus reach project aim.
- *Our Secondary Drivers for RHP9 are driven by our Milestones & Metrics*

Specific changes/change concepts: *(driven by steps needed to achieve Category 3 & 4 outcome measures):*

- Specific changes: concrete actionable ideas to take to testing.
- Change concepts are broad concepts that are not yet specific enough to be actionable but which will be used to generate specific ideas for change.
- RHP9 providers are currently testing and implementing change concepts as part of their DSRIP projects.

Project Measures (Regional Reported Measures):

- How will we know we achieved our aim?
- *Combination of our outcome measures for Category 3 & 4*
- Not all outcome measures will apply to every project, but at minimum one will
- Each provider will report on a monthly basis on outcomes measures that apply to their project.
- Monthly outcome measures will be aggregated into a monthly RHP9 progress report.

CHANGE CONCEPTS

Expand Capacity		
Secondary Driver (Milestones & Metrics)	Change Concepts	Specific Testable Ideas
Workforce Development	<ul style="list-style-type: none"> • Hire new staff • Educate/Train staff • Create incentive programs for staff • Build new or open new clinic • Create telehealth/telemedicine opportunities 	<ul style="list-style-type: none"> • Track number of primary care/specialty care encounters • Track number of telehealth/telemedicine encounters • Additional TBD – Added for next cohort session
Open New Clinics (Primary/Specialty)		
Expand Existing Clinics Services		
Implement Technology-Assisted Services to Support or Deliver Care		

Clinical Assessment & Monitoring		
Secondary Driver (Milestones & Metrics)	Change Concepts	Specific Testable Ideas
Chronic Disease Registries	<ul style="list-style-type: none"> • Disease registries implemented • Providers receive monthly registry reports on their patients with selected conditions. • Target population screened and with a plan of care documented • Target population patients with documented improved healthcare outcomes (i.e., diabetes, immunizations, etc.) • Medications reconciled & monitored 	<ul style="list-style-type: none"> • Perform accurate medication reconciliation at a minimum on admission and at discharge so that the medication list is as accurate as possible. • Educate patients regarding each medication, need for medication, and method of obtaining and taking medication once discharged. • Provide clearly written medication instructions using health literacy concepts. • Involve pharmacy in medication reconciliation process. • For those patients who are at the highest risk of readmission, consider home health referrals, home visits, telehealth referrals, etc.
Implement Evidence Based Interventions		
Medication Management		

Identifying Patients at High Risk for Readmission		
Secondary Driver (Milestones & Metrics)	Change Concepts	Specific Testable Ideas
Care Transition Program	<ul style="list-style-type: none"> • Schedule patients for timely follow-up appointment (between 3 days and 2 weeks post discharge) • Assess/screen patients within target population and document plan of care • Patients provided peer mentors • Hospital prevents potentially preventable diseases cases 	<ul style="list-style-type: none"> • Use a risk of readmission assessment tool and validate it using your own data. • Make readmission risk assessments easy for all to see and address. • Use risk assessment findings to stratify/identify patients' intervention group such as high/low risk. • Assign health coach to high-risk patients. • Adopt an enhanced admission assessment for discharge needs. • Find out who the primary caregiver is (if it is not the patient) and include them in discharge planning. • Communicate who the primary caregiver is to members of the health care team, use white board, chart special entry, etc., so that there is a standard place for this information. • Involve case management and discharge planners early in stay. • Prior to leaving the hospital, determine what after-hospital resources and appointments are needed and ensure they are incorporated in the after-care plan. • Create a concise, standardized discharge form • Evaluate best practices and resources and already developed tools such as the Project RED after Hospital Care Plan (AHCP) and Coleman Personal Health Record. • Obtain accurate information about primary care physician at the time of admission. • Send completed discharge summary to post care provider/ PCP within 72 hours of discharge.
Potentially Preventable Disease Screening & Reduction		
Patient Navigation Programs		

Patient Experience		
Secondary Driver (Milestones & Metrics)	Change Concepts	Specific Testable Ideas
Patient Satisfaction Culturally Competent Care Self-Management Support	<ul style="list-style-type: none"> • Track Results of HCAHPS and CAHPS composite measures • Enroll target population in self-management education/support programs • Patients report higher quality of life • Improve retention and graduation rates for established classes • Establish new self-management programs • Patients report improved understanding of care 	<ul style="list-style-type: none"> • Develop patient-centered diagnosis and symptom educational tools that use health literacy concepts. • Standardize educational materials across units and departments. • Involve patients and families in development of materials. • Train clinical staff on teach-back using role play and observe their technique once trained. <ul style="list-style-type: none"> ○ Use “I” statements when speaking with patient and caregiver. “To make sure I did a good job explaining your medications, can you tell me ...?” ○ Validate patient and caregiver understanding of discharge instructions. ○ Script specific teach-back questions for staff • Schedule follow-up appointment with post-acute care provider/PCP within 7 days of discharge. • Work with patient and care providers to determine any barriers to making and attending follow-up appointment(s). • Implement post discharge follow-up phone calls within 24-72 hours to reinforce discharge plan and identify any problems. • Develop partnerships with community networks such as health ministry, pharmacies, the Office on Aging, or cardiac rehabilitation centers. • For those patients who are at the highest risk of readmission, consider home health referrals, home visits, telehealth referrals, etc. • For patients without a PCP, work with health plans, Medicaid agencies and other safety net programs to identify a PCP. Consider hospital follow-up clinics run by hospitals, or NPs if timely access to a PCP is not available.

MEASUREMENT

Regional Cohort Outcome Measures

RHP9 providers will provide the right care, in the right setting and at the right time through

- Decreasing re-admissions/admissions for patients within the target population(s) of the 1115 waiver by ____% by September 30, 2015 (2016).
- Increasing access to care of the target population(s) of the 1115 waiver by ____% by September 30, 2015 (2016).
- Decreasing inappropriate use of ED-services through patient navigation and chronic disease management by _____% by Sept 30, 2015 (2016).
- Increasing public awareness of ED versus Urgent Care usage through standardized messaging across RHP9 by ____ % by Sept 30, 2015 (2016).

All RHP9 providers will be expected to report on one or more of the regional metrics that will roll-up to the regional outcome measures, as they relate to their project. The providers will update the measure on a monthly basis in Performance Logic in the appropriate Learning Collaborative Folder.

Team Reporting Metrics

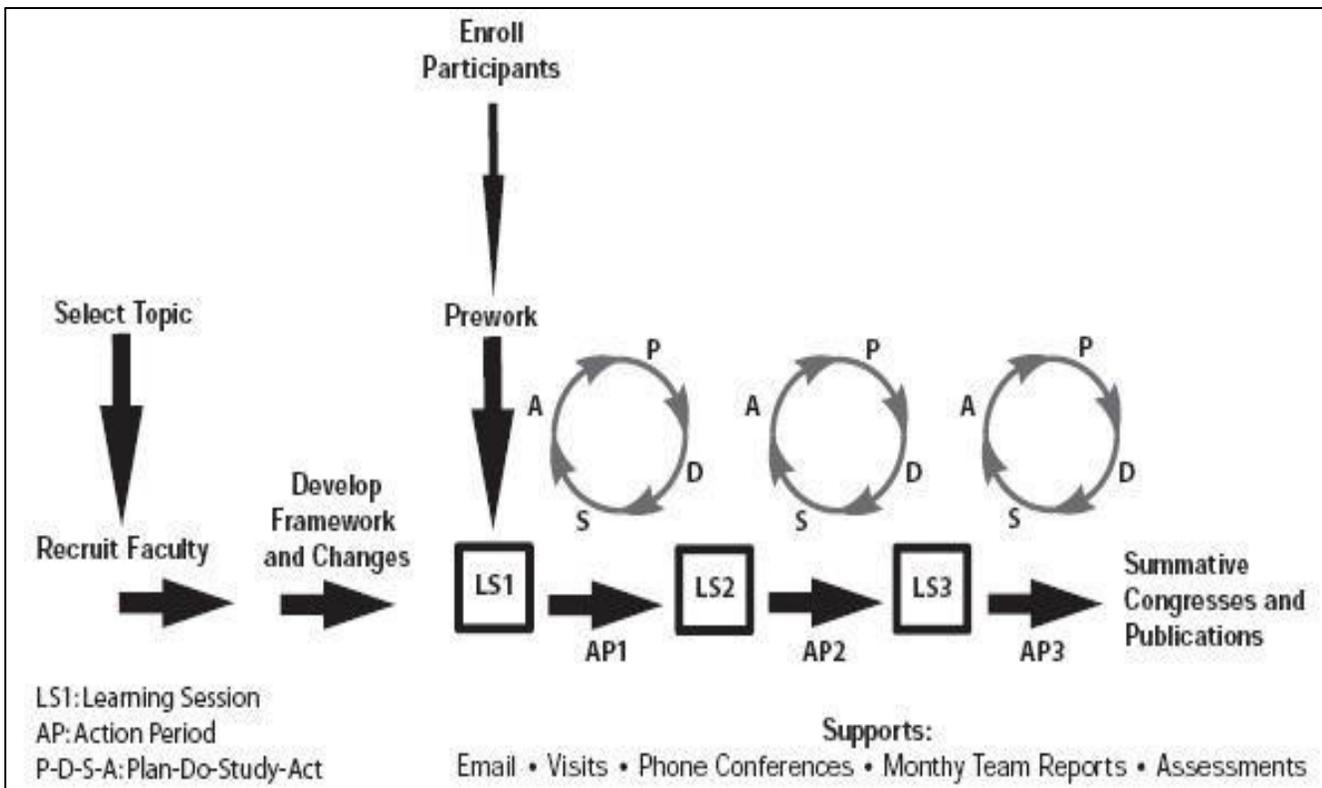
Regional Reported Metrics (need to define more, perhaps in a table)

- Percentage of patients assigned a primary care physician
- Decrease in 30 day readmission rate
- Percentage of patients with a scheduled appointment within 3 days to 2 weeks post discharge
- Improve patient satisfaction scores
- Improved patient outcomes (i.e., diabetes & blood pressure)
- Improved patient adherence to taking prescribe medications
- Percentage of patients with oral health chronic conditions receiving dental care referral
- Number of new patients entered into chronic care registry
- Number of telehealth/telemedicine encounters

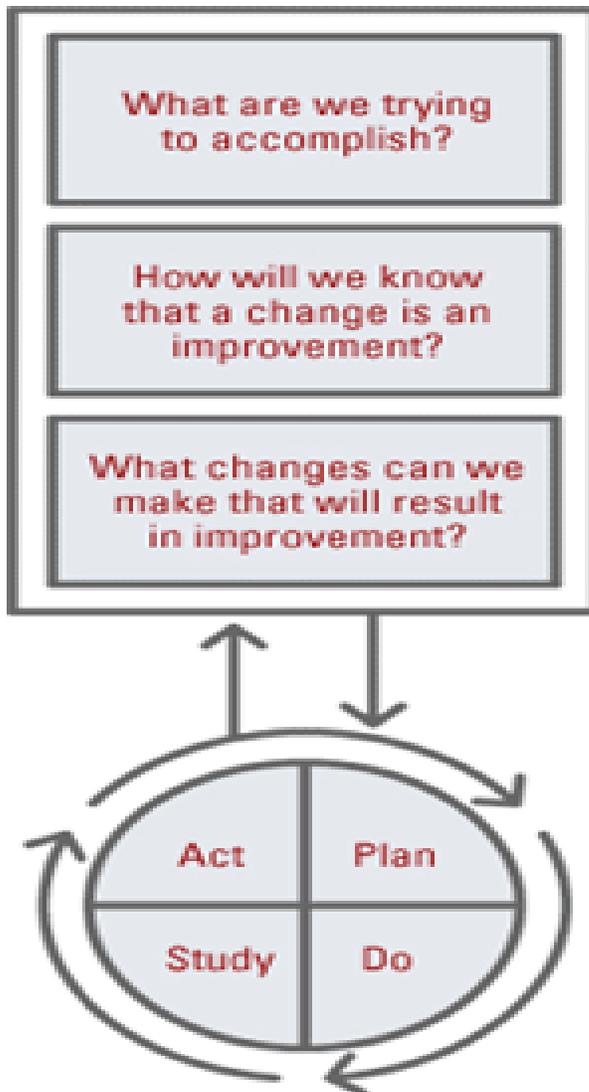
IMPROVEMENT MODEL

RHP9 is modifying the IHI Collaborative Model¹¹ for the learning/improvement collaborative. The Collaborative Model is designed to conduct rapid small test in order to prepare for large scale spread of those changes to show improvement reach the goal. It is typically introduced at the beginning of a collaborative, however due to the nature of the Texas waiver a modified version is being utilized for RHP9. This package includes best practices, change concepts, and an overview of the IHI Improvement Model. RHP9 providers are encourage to use the PDSA Cycle to conduct small tests of change concepts prior to full implementation of their projects in order to assess the impact those changes will have in advance of a large scale implementation. If you conduct a PDSA Cycle, please send documentation to the RHP9 Anchor office.

The Collaborative Model (also called the Breakthrough Series Model)



¹¹ *The Breakthrough Series: IHI's Collaborative Model for Achieving Breakthrough Improvement*. IHI Innovation Series white paper. Boston: Institute for Healthcare Improvement; 2003.



Setting Aims

Improvement requires setting aims. The aim should be time-specific and measurable; it should also define the specific population of patients or other system that will be affected.

Establishing Measures

Teams use quantitative measures to determine if a specific change actually leads to an improvement.

Selecting Changes

Ideas for change may come from the insights of those who work in the system, from change concepts or other creative thinking techniques, or by borrowing from the experience of others who have successfully improved.

Testing Changes

The Plan-Do-Study-Act (PDSA) cycle is shorthand for testing a change in the real work setting — by planning it, trying it, observing the results, and acting on what is learned. This is the scientific method adapted for action-oriented learning.

Implementing Changes

After testing a change on a small scale, learning from each test, and refining the change through several PDSA cycles, the team may implement the change on a broader scale — for example, for an entire pilot population or on an entire unit.

Spreading Changes

After successful implementation of a change or package of changes for a pilot population or an entire unit, the team can spread the changes to other parts of the organization or in other organizations.

The Model for Improvement,* developed by [Associates in Process Improvement](#), is a simple yet powerful tool for accelerating improvement. The model is not meant to replace change models that organizations may already be using, but rather to accelerate improvement. This model has been used very successfully by hundreds of health care organizations in many countries to improve many different health care processes and outcomes.

*Langley GL, Nolan KM, Nolan TW, Norman CL, Provost LP. *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance* (2nd edition). San Francisco: Jossey-Bass Publishers; 2009.

The PDSA Cycle

Making improvements requires changing things. Change can seem threatening or overwhelming for busy people doing demanding work. The PDSA method is a way to break down change into manageable chunks, and test each small part to make sure that things are improving and no effort is wasted.

What is it?

PDSA stands for Plan, Do, Study, Act. It's a model for testing ideas that you think may create an improvement. It can be used to test ideas for improvement quickly and easily based on existing ideas, research, feedback, theory, review, audit, etc or practical ideas that have been proven to work elsewhere. It uses simple measurements to monitor the effect of changes over time. It encourages starting with small changes, which can build into larger improvements in the service through successive quick cycles of change.

It is:

- A common sense of approach to change and improvement
- Quick and simple
- Doable

It is not:

- Complicated
- Difficult
- Gimmicky

Why is it useful?

It works! The PDSA cycle has been used for decades as an effective tool for improvement and it's still going strong! The method is well established and validated and is particularly suited to small, dynamic organizations like general practice. It's an extremely practical, common sense based approach that is easy to understand.

How do I do it? - The step-by-step guide to the PDSA cycle:

Step 1 PLAN

Identify what change you think will create improvement and then plan the test of the change. What is your objective in introducing the change? It is important to establish the scope of the change to be introduced, and how you are going to collect information about the differences that occur, how will you know whether the change made has 'worked' or not?

The change should bring about differences which are measurable in isolation. A major change could be broken down into smaller more manageable 'chunks'. Once the actual change to be introduced has been agreed, the following questions should be asked:

- What are we trying to do during this cycle?
- What exactly will you do?
- Who will be involved?

- Where will it take place?
- When will it take place?
- What do you predict will happen?
- What data/information will you need to collect?

Step 2 DO

Put the plan into practice - test change by collecting the data. This stage involves carrying out the plans agreed in step 1. It is important that the Do stage is kept short as possible. There may be changes that should only be measured over long periods. Record any unexpected events, problems and other observations. Start analyzing the data.

Step 3 STUDY

Review and reflect. Complete the analysis of the data. Has there been an improvement? Did your expectations match the reality of what happened? What could have been done differently?

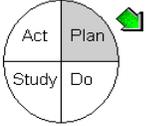
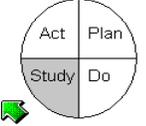
Step 4 ACT

Make further changes or amendments after you have decided what worked and what didn't and collect data again. Carry out an 'amended' version of what happened during the Do stage and measure any differences.

Handy Hints

- Keep it simple
- Keep it small and manageable to start - massive projects can be broken down into a number of small, quick PDSA cycles.
- Cycles should happen quickly - think in terms of a day or two not a month!
- There is no wrong answer, if you find something that works - use it!

PDSA Worksheet (Template I)

Cycle #1 Meeting # - date	Start Date: End Date:
Objective of Cycle	___Collect Data to Develop a Change___ Test a Change* ___Implement a Change** Short Objective of the Cycle:
Plan 	Questions: 1. ? a. Prediction: 2. ? a. Prediction: 3. ? a. Prediction: 4. ? a. Prediction:
Note: *For Test reference p. 96 of <i>Improvement Guide for Testing Checklist</i> **For Implementation Cycle reference p. 136 of <i>Improvement Guide for Implementation Checklist</i>	Test/Implementation Plan: What change will be tested or implemented? How will the change be tested or implementation be conducted (consider small scale early)? Who will run the test or implementation? Where: When will the test or implementation take place?
	Collect Data Plan (Usually required for all PDSA cycles): What information is important to collect? Why is it important? Who will collect the data? Who will analyze the data prior to Study? Where will data be collected? When will the collection of data take place? How will the data (measures or observations) be collected?
Do: 	Observations: Record observations not part of the plan: Did you need to modify the original Plan? If so, how? Begin analysis of data (graph of the data, picture)
Study 	Questions: (copy and paste Questions and Predictions from Plan above and add Results. Complete analysis of the data. Insert graphic analysis whenever possible.) 1. ? a. Prediction: b. Learning (Comparison of questions, predictions, & analysis of data.): 2. ? a. Prediction: b. Learning: New Issues: Summary:
 Act	Describe next PDSA Cycle; New Questions to Answer/Decisions made/Action to be taken 1.
Ad Hoc Contributors	Recognize subject matter experts and others who have contributed to the learning

Note: You do not have to answer every question on this sample PDSA template. They are there to provide you with guidance for thinking through the process.

PDSA Worksheet (Template II)

PDSA (plan-do-study-act) worksheet

Name of Organization _____

Date _____

City _____

Selected improvement area (identify only one per worksheet)

Organizational Commitment _____

Community _____

Residents and Families _____

Prevention Strategies _____

Treatment _____

Assessment and Monitoring _____

TOOL:

STEP:

CYCLE:

PLAN

We plan to:

We hope this produces:

Steps to execute:

DO

What did you observe?

STUDY

What did you learn? Did you meet your measurement goal?

ACT

What did you conclude from this cycle?

PDSA Multiple Cycles Template Completed Example

PDSA (plan-do-study-act) worksheet

Name of Organization _____

Date _____

City _____

Selected improvement area (identify only one per worksheet)

Organizational Commitment _____

Community _____

Residents and Families _____

Prevention Strategies _____

Treatment _____

Assessment and Monitoring X

TOOL: Patient Feedback

STEP: Dissemination of surveys

CYCLE: 1st Try

PLAN

I plan to: We are going to test a process of giving out satisfaction surveys and getting them filled out and back to us.

I hope this produces: We hope to get at least 25 completed surveys per week during this campaign.

Steps to execute:

1. We will display the surveys at the checkout desk.
2. The checkout attendant will encourage the patient to fill out a survey and put it in the box next to the surveys.
3. We will try this for 1 week.

DO

What did you observe?

- We noticed that patients often had other things to attend to at this time, like making an appointment or paying for services and did not feel they could take on another task at this time.
- The checkout area can get busy and backed up at times.
- The checkout attendant often remembered to ask the patient if they would like to fill out a survey.

STUDY

What did you learn? Did you meet your measurement goal?

We only had 8 surveys returned at the end of the week. This process did not work well.

ACT

What did you conclude from this cycle?

Patients did not want to stay to fill out the survey once their visit was over. We need to give patients a way to fill out the survey when they have time.

We will encourage them to fill it out when they get home and offer a stamped envelope to mail the survey back to us.

PDSA (plan-do-study-act) worksheet

TOOL: Patient Feedback

STEP: Dissemination of surveys

CYCLE: 2nd Try

PLAN

I plan to: We are going to test a process of giving out satisfaction surveys and getting them filled out and back to us.

I hope this produces: We hope to get at least 25 completed surveys per week during this campaign.

Steps to execute:

1. We will display the surveys at the checkout desk.
2. The checkout attendant will encourage the patient to take a survey and an envelope. They will be asked to fill the survey out at home and mail it back to us.
3. We will try this for 2 weeks.

DO

What did you observe?

- The checkout attendant successfully worked the request of the survey into the checkout procedure.
- We noticed that the patient had other papers to manage at this time as well.
- Per Checkout attendant only about 30% actually took a survey and envelope.

STUDY

What did you learn? Did you meet your measurement goal?

We only had 3 surveys returned at the end of 2 weeks. This process did not work well.

ACT

What did you conclude from this cycle?

Some patients did not want to be bothered at this point in the visit - they were more interested in getting checked out and on their way.

Once the patient steps out of the building they will likely not remember to do the survey.

We need to approach them at a different point in their visit when they are still with us - maybe at a point where they are waiting for the doctor and have nothing to do.

PDSA (plan-do-study-act) worksheet

TOOL: Patient Feedback

STEP: Dissemination of surveys

CYCLE: 3rd Try

PLAN

I plan to: We are going to test a process of giving out satisfaction surveys and getting them filled out and back to us.

I hope this produces: We hope to get at least 25 completed surveys per week during this campaign.

Steps to execute:

1. We will leave the surveys in the exam room next to a survey box with pens/pencils.
2. We will ask the nurse to point the surveys out/hand them out after vitals and suggest that while they are waiting they could fill out our survey and put it in box.
3. We will see after 1 week how many surveys we collected.

DO

What did you observe?

- Upon self report, most nurses reported they were good with pointing out or handing the patient the survey.
- Some patients may need help reading survey but nurses are too busy to help.
- On a few occasions the doctor came in while patient filling out survey so survey was not complete.

STUDY

What did you learn? Did you meet your measurement goal?

We had 24 surveys in the boxes at the end of 1 week. This process worked better.

ACT

What did you conclude from this cycle?

Approaching patients while they are still in the clinic was more successful.

Most patients had time while waiting for the doctor to fill out the survey.

We need to figure out how to help people who may need help reading the survey.

Aim Statement Worksheet

Team's Name:

Date:

Developing an Aim

Improvement requires setting aims. The aim should be time-specific and measurable; it should also define the specific population of patients that will be affected. Agreeing on the aim is crucial; so is allocating the people and resources necessary to accomplish the aim.

Source: [IHI.org How To Improve section - setting aims](#) (adapted)

Sample Aim Statement:

The following aim statement demonstrates important characteristics of well-crafted aim statements:

Aim: Decrease patient appointment wait times in our clinic by 50%, on average, within 2 months.

- It is precise. It includes a numerical goal. "Decrease patient appointment wait times in our clinic by 50%..."
- It is feasible. The goal is set at a 50% decrease. This is more achievable than trying for something like "zero defects."
- It is measurable. The general outcome measure is clear: the average length of patient appointment wait times. However, the start time still needs to be precisely defined. Is it a) Time patient signs in? or b) Time patient enters the exam room? And what is the end time? c) Time clinician enters the exam room?
- It includes a time frame. The team wishes to achieve the change in 2 months.

1. What is your overall goal for this project?

2. Write your Aim:

3. How will you measure it?

Check yourself:

1. Is the aim stated clearly? _____ yes _____ no
2. Does the aim contain at least one numerical component? ____ yes ____ no
3. Does it include a time frame? ____ yes ____ no
4. Is it feasible? ____ yes ____ no
5. Will it be clear to the others when the aim is achieved? ____ yes ____ no

Aim statement material adapted from the [ihi.org](#) and [improvementskills.org](#) websites.

SCHEDULE

DY4 Improvement Collaborative

August 2014	Learning Session I
November 2014	Learning Session II
February 2015	Learning Session III
May 2015	Support Session I
August 2015	Support Session II
November 2015	DY4 Improvement Collaborative Summary
TBD	Support Calls & Webinars

DY 5 Improvement Collaborative will begin October 2015