

# Plains to Peaks Regional CQI Plan Proposal

## Introduction

### Situation

The Plains to Peaks RETAC has identified a need to introduce a structured approach to continuous improvement within the region. Many agencies currently have quality improvement efforts underway in some form or another. The QI programs are aimed at helping improve the provision of patient care within their organizations and improve the coordination of efforts between the agencies and the facilities that they routinely interact with. These efforts, however, rarely result in region wide improvement. There is a strong need to coordinate these efforts so that EMS in the region can be improved for the benefit of patients and other key stakeholders.

### Background

It has long been recognized that our current EMS system produces errors resulting in unnecessary morbidity and mortality for patients and for our providers. The best efforts of individuals are not sufficient to overcome the shortcomings of the EMS system and its interface with the healthcare system overall. Many other industries and services have successfully improved the quality of their products and services by focusing on systematically improving the system of production and delivery. EMS, and healthcare overall, are seeking to employ these practices to achieve meaningful improvement in the delivery of patient care.

### Assessment

There are considerable challenges to creating a coordinated regional CQI effort. In order to create a coordinated regional continuous improvement effort several challenges must be overcome. These include:

- Creating a shared need for such an effort
- Creating a common regional CQI mission, methodology and toolkit
- Overcoming the impression that such an effort is too costly
- Overcoming the reluctance to share data in a coordinated fashion
- Determining the minimum regional data set, how to collect the data, how to use it and how to disseminate information learned from the analysis of it.

### Results

The decision was made to develop a regional strategic plan. The aim of this Regional CQI Strategic Plan is to provide a roadmap to develop and launch a coordinated regional approach to CQI. The key objectives of regional CQI are to:

- promote awareness of sound CQI practices,
- coordinate improvement of EMS delivery and outcomes at the regional level
- provide training and education in CQI
- drive a common regional approach to CQI at the agency level
- promote the value of ongoing performance improvement,
- establish a minimum data set to support regional CQI efforts,

## Summary of the Implementation Plan:

Below is a brief overview of the plan.

1. Identify the stakeholders, the structure, and the roles and responsibilities of stakeholders needed for a Regional CQI Council
2. Create the Regional CQI Council
3. Educate the Council in Continuous Improvement methodology, the Malcolm Baldrige Criteria for Improvement, Change Management methodology and Facilitation Skills
4. Conduct a regional assessment using Baldrige Criteria to assess baseline QI practices, current data collection capabilities, and current system performance using available data from the region. Identify key customer requirements and expectations of Regional CQI initiatives and the proposed Regional CQI Council.
5. Share the findings of the assessment regionally and identify improvement goals and timeframes
6. Develop a regional plan to achieve improvement goals that includes:
  - a. Leadership- assess, and modify as needed, the composition and responsibilities of the Regional CQI Council
  - b. Information and Analysis- analysis of baseline regional data and development of additional data requirements, collection mechanisms, ongoing analysis and effective dissemination
  - c. Human Resource Development and Management- how to train and engage the people needed to achieve the next layer of improvement goals and how to lead change effectively
  - d. EMS Process Management- understanding how key processes support or hinder patient care delivery and outcomes and how processes support or hinder Regional CQI efforts
  - e. EMS System Results-how the system overall supports the regional objectives of EMS delivery and aligns to key customer requirements
  - f. Satisfaction of Patients and Other Stakeholders- understanding what the key customer requirements are for EMS

## Regional CQI Plan- Overview

The overall goal of this plan is to achieve “Stage II” as described in “A Leadership Guide to Quality Improvement”. This stage is characterized as the phase where a

structural foundation is established that enables full integration of QI into the strategic planning process. In this stage emphasis is placed on ensuring that the entire workforce of an EMS system is informed about and participates in the development of the strategic quality improvement plan. Members of this workforce need a working knowledge of basic QI philosophy, tools, and techniques so that they can be full partners in the strategic quality improvement planning process. By the end of this stage, the region should have a structure and a process that allows for evaluation and comparison of the quality indicators identified in the strategic plan. Organizations should be able to take action to attain the quality targets identified in the plan, determine the success of their efforts, and revise the plan as necessary when it fails to meet the desired goals and initial QI efforts across the region should begin to see meaningful results.

A Leadership Guide to Quality Improvement for Emergency Medical Services Systems, Department of Transportation, National Highway Traffic Safety Administration, Contract DTNH 2-95-C-05107, Page 9 Stage II: Knowledge Expansion

#### Mission:

The Plains to Peaks Regional CQI plan will provide a framework for coordinating regional efforts to continuously improve the regional emergency medical and trauma care system so that it is safe, effective, patient centered, timely, efficient and equitable.

#### Vision:

A Regional CQI Council will be formed to provide regional collaboration in the development of performance measures and standards, regional collection and analysis of EMS system data, and provide a venue where regional decisions can be made about how to systematically improve EMS throughout the region. When fully functional the region will consistently use a common CQI methodology and use data as the basis for targeted issue analysis to identify processes in need of improvement.

#### Values:

Regional CQI will focus on the improvement of the system and will, above all, be non-punitive. All data gathering and analysis will be done with the aim of making the delivery of patient care as safe, effective, patient centered, timely, efficient and equitable as possible. Through this work, a culture of continuous process improvement will be fostered in which inquiry into positive and negative outcomes will lead to better and better delivery of EMS to the region.

#### Goals:

The goal of this effort is to establish a structural foundation that will drive a regional collaborative approach to EMS system quality improvement that includes:

1. A means to conduct regional assessments and disseminate results of the assessment to key stakeholders
2. Analysis and understanding of key data elements needed to effectively assess the regional delivery of EMS.
3. A mechanism to efficiently collect this data from all sources needed
4. The ability to store and analyze the data to be used for regional improvement

5. A leadership structure that supports regional collaboration to review the results of the assessment, set the direction and goals for improvement within the region, monitor progress and review the results
6. Conducting strategic quality planning
7. Fostering the creation of a shared need to do CQI across the region
8. Provision of tools and education to people who will engage in CQI efforts

## The Proposed Approach

The key high-level steps of this plan are summarized as follows:

1. Identify the stakeholders, the structure, and the roles and responsibilities of stakeholders needed for a Regional CQI Council
2. Create the Regional CQI Council
3. Educate the Council in Continuous Improvement methodology, the Malcolm Baldrige Criteria for Improvement, Change Management methodology and Facilitation Skills
4. Conduct a regional assessment to assess baseline QI practices, current data collection capabilities, and current system performance using available data from the region. Identify keycustomer requirements and expectations of Regional CQI initiatives and the Regional CQI Council.
5. Share the findings of the assessment regionally and identify improvement goals and timeframes
6. Develop a regional strategic quality plan to achieve improvement goals that includes the following areas:
  - a. Leadership- assess, and modify as needed, the composition and responsibilities of the Regional CQI Council and the overall approach to CQI in the region
  - b. Information and Analysis- analysis of baseline regional data and development of additional data requirements, appropriate collection mechanisms, ongoing analysis and effective dissemination
  - c. Human Resource Development and Management- how to train and engage the people needed to achieve the next layer of improvement goals and how to lead change effectively
  - d. EMS Process Management- understanding how key processes support or hinder patient care delivery and outcomes and how processes support or hinder Regional CQI efforts
  - e. EMS System Results-how the system overall supports the regional objectives of EMS delivery and aligns to key customer requirements
  - f. Satisfaction of Patients and Other Stakeholders- understanding what the key customer requirements are for EMS

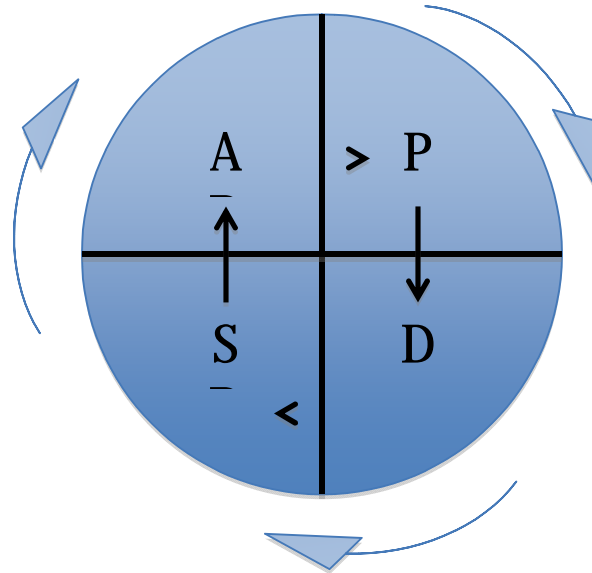
The expected outcome of this effort is to:

- promote awareness of sound CQI practices,
- coordinate improvement of EMS delivery and outcomes at the regional level

- provide training and education in CQI
- drive a common regional approach to CQI at the agency level
- promote the value of ongoing performance improvement,
- establish a minimum data set to support regional CQI efforts

### The PDSA Cycle

The premise behind this plan is the PDSA cycle or Plan, Do, Study, Act. This cycle is depicted below. The aim of this cycle is to create a process for continuous improvement over time.



The value of planning cannot be underestimated. It is in this phase that key customer requirements are understood, a systematic assessment of the current state of a process is undertaken, the plan for improvement is hatched and the potential of the new process is estimated. This is also the phase where a shared need is engendered and a common vision for improvement is established. These are essential for acceptance and successful adoption of the new process.

During the Do phase, the plan is enacted and the new process is measured to see how it is performing against expectations. The shortcomings and successes of the new process are uncovered.

In the Study phase, the process is assessed to determine where improvements are warranted. In Act changes are implemented to successively improve the process. Stabilizing the new process is essential before proceeding through the cycle again. Variation in the new process is systematically measured, its sources identified and removed. Once the new process is stable a new cycle of improvement can be initiated.

## Key Steps

### Step 1: Understanding Key Customer Requirements for Regional CQI

A small team of local leaders (formal and informal) in the EMS and healthcare communities should be gathered to identify key customers/stakeholders and key customer/stakeholder requirements for what a regional CQI infrastructure should look like. One practical way to efficiently identify customer requirements and stakeholders is to perform a high-level value stream analysis of the existing system or of a proposed system if none presently exists. Identify the major core process steps from the end user customer's perspective. Sometimes a process has multiple customers with specific needs that must be catered to. By listing out the key customer requirements for each of these constituent groups, common themes and high level goals can often be identified.

Expected goals and outcomes of this meeting would be to establish:

1. What the EMS community and other key stakeholders expect from a regional CQI plan
2. What level of participation in the development of the plan they desire
3. What level of participation in regional CQI efforts is reasonable
4. What the appetite is for regionally coordinated CQI, what they see as the challenges to implementation and what aspects of the existing system and QI efforts support a regional CQI effort
5. What roles would be essential to have on a Regional CQI Council and what function would the council serve
6. By what method should people be invited to serve on the Regional CQI Council
7. How will people not directly involved in the Council be able to have input into the Regional CQI plan development process
8. How will progress be communicated out to the greater EMS community and how often will communications be sent
9. Who specifically will sit on the initial Regional CQI Council to develop an initial Strategic Quality Plan

### Steps 2 and 3: Establish the Regional CQI Council and Provide Formal Training

Leading groups of people through change is difficult. It is even more difficult to do this when the group lacks a common language and understanding of CQI methodology. For continuous process improvement to be truly effective not only must a good process be developed but people must accept the process. This is characterized by the equation  $Q \times A = E$ .

Q= the quality of the solution or process being proposed

A= the acceptance of the solution to be implemented

E= the effectiveness of the implemented solution

It is as important to have a strategy for developing acceptance, as it is to have a plan for developing and implementing the solution. For this reason, every core team who

will actively work on process improvement should have training not just in quality improvement methodologies but also in change management and facilitation.

The team should also settle on a particular CQI methodology that will form the basis for improvement conversations and strategic quality planning. The IHI Model for Improvement is in widespread use throughout healthcare. It is simple and there are available resources at both medical centers who currently use this methodology and could be of assistance in its effective application. A second methodology that has proven highly effective, especially in the initial phases of healthcare improvement, is the Lean methodology. These two methodologies together provide a solid basis for improvement of processes and systems.

The Malcolm Baldrige criteria also provide a useful framework for assessment of systems and can help identify key areas where improvement is needed. The broad framework provides a handy way of breaking down essential system components so that none is overlooked as improvement strategies are formulated.

An initial multi-day meeting might be the most effective way to launch the Regional CQI Council. Training could be held on one day, followed by a review of the current assessment results and the formulation of the basic CQI structure for the region. Large-scale projects often suffer from a loss of momentum in the early stages. It is preferable to carve out some significant working sessions rather than relegate the progress to a series of short meetings over time. Wait time between meetings, especially during the initial phases of project scoping and planning, is the enemy and can be cited as the root cause for many failed initiatives.

#### Expected goals and outcomes:

1. Foster a baseline common understanding of CQI
2. Establish ground rules regarding confidentiality of data and discussions within the council, how to disseminate information on project progress and findings out to the region, and how regional QI work will be chosen.
3. Review the regional assessment, determine if additional information is needed and how to obtain it.
4. Develop a structure, including the flow of information for Regional CQI
5. Identify a first project to test the Regional CQI structure
6. Review available data and determine the minimum data set needed for the region

## Recommended Regional CQI Council Composition

Role Name	Role Responsibility
Medical Director	Provide medical input into process improvement and authorize modification of regional protocols where appropriate. Liaise with other Medical Directors if applicable
EMS Agency Reps	Provide subject matter expertise on EMS operations and QI. Liaise with other agency leaders to obtain input on Regional CQI plans and proposals. Assist with coordination and implementation of CQI projects at the agency level
Facility Reps	Provide subject matter expertise on Facility operations and QI. Liaise with key facility stakeholders to obtain input on Regional CQI plans and proposals. Assist with coordination of CQI projects in the region
Provider Reps	Provide the front line perspective on CQI. Help formulate practical solutions to quality problems that will work in the field. Liaise with other providers in the region to vet improvement ideas and help with regional training and implementation of proposed improvements
Key Community Stakeholders	Provide the voice of the customer. Help to plan and study quality improvement ideas.
Data Administrator/Analyst	Provide technical support to the region in the collection, analysis, and dissemination of data and regional assessments. Manage the data collection, maintenance and analysis for the region
Ad Hoc Members (as needed)	Fill specific roles as required by the particular focus of the Regional CQI Council at a moment in time. These roles might include a Quality Coach/Trainer, specific Subject Matter Experts with expertise in the specific focus of a process improvement effort, key Community Representatives or authorities.

## Proposed Framework for Regional CQI

The proposed framework consists of both long and short range planning components and the ability to grow coordinated Regional CQI efforts while also improving the quality and delivery of EMS in the region.

To be effective it is essential that the Regional CQI framework incorporate the ability to obtain timely input from local and regional entities on how to implement these long-range and short-range plans. It must also provide for timely feedback to the region on plan progress and improvement made as a result of CQI effort. Data must be the basis for all decisions along with feedback from key stakeholders.

### Long Range Planning:

Every 3 -5 years the Regional CQI Council should:

- Establish/review key system quality improvement goals
- Solicit input from local and regional entities both from data and qualitative feed back on how the CQI program is working
- Identify regional needs for improvement in EMS to make it more safe, effective, patient centered, timely, efficient, equitable
- Benchmark best practices and identify available national standards
- Conduct an internal assessment to determine regional strengths and weaknesses in the seven Baldrige action areas: Leadership, Information and Analysis, Strategic Quality Planning, Human Resource Development and Management, EMS Process Management, EMS System Results, and Satisfaction of Patients and Other Stakeholders
- Establish measures and goals for each action area- in some instances the goals may be to hold constant on a particular area while progress is sought on another area
- Determine availability of data and plan to obtain any additional data items needed
- Determine baseline measures for each area
- Publish the long range plan, process improvement goals and plan to develop/obtain data needed for ongoing measurement of the system

### Short Range Planning

Every Yearthe Regional CQI Council should:

- Create and publish a short-range annual plan that specifies goals and objectives within the 7 Baldrige areas that will be the focus for the year. Goals should be Specific, Measurable, Attainable, Relevant and Time-bound (SMART)
- Review Regional System progress against the plan
- Publish interim progress reports of accomplishments to date, current and historical measures of each improvement goal, and any interim improvement goals. A Regional scorecard could be useful in accomplishing this efficiently

## Initiating the Regional CQI Plan

Initial phases of a project often entail one time, start up activities and this plan is no exception. In addition to the steps identified above, the key elements that need to be accomplished to launch this first cycle of progress to achieving “Stage II” of a Quality Improvement Program are:

- Figuring out how to collect data in the region, where to store it, and what the minimum regional data set needs to be.
- What is the plan for services that do not currently have or do not currently gather the data needed by the region in a way that can be shared
- Determining the budget and resources necessary to support data collection and analysis
- What are the current QI practices in the region and how can these be leveraged to support a regional approach to QI
- Determining a minimum starting data set

Prior work suggested the below data as a minimum data set to assess current system performance. A CQI committee will be established to assess these data elements and modify them as needed to meet the needs of the CQI plan.

Determine baseline yearly call volume for all EMS response agencies within the RETAC

- a) Number of EMS calls
  - i) Percentage of calls that result in an emergent response
  - ii) Percentage of calls that result in a non-emergent response
- b) Percentage of calls that result in transport to a healthcare facility
  - i) Percentage of transports that are emergent
  - ii) Percentage of transports that are non-emergent
  - iii) Percentage of calls that are inter-facility transports
- c) Percentage of calls that did not result in transport to a healthcare facility
  - i) Percentage of calls in which no patient was located
  - ii) Percentage of calls in which no medical care was required
  - iii) Percentage of calls in which medical care was provided but there was no medical necessity for transport
  - iv) Percentage of calls in which patient refused transport
- d) Determine baseline level of care provided by all EMS response agencies within the RETAC
  - i) Estimated percentage of calls where the highest level of responder for that agency was CPR Provider
  - ii) Estimated percentage of calls where the highest level of responder for that agency was First Aid
  - iii) Estimated percentage of calls where the highest level of responder for that agency was First Responder
  - iv) Estimated percentage of calls where the highest level of responder for that agency was EMT-Basic
  - v) Estimated percentage of calls where the highest level of responder for that agency was EMT-Basic with IV

- vi) Estimated percentage of calls where the highest level of responder for that agency was EMT-Intermediate
- vii) Estimated percentage of calls where the highest level of responder for that agency was EMT-Paramedic
- viii) Estimated percentage of calls where the highest level of responder for that agency was RN or higher

It is also recommended that some data be collected on existing agency level QI activities. What sort of QI activities are routinely undertaken? Who performs or leads these activities for the agency? Are there dedicated QI resources or is QI assigned as an additional responsibility to a particular role?

## Creating a Delineation Between Regional CQI and Agency Level CQI Practices

It is important that the regional CQI process focus on improving delivery and outcomes of EMS for the region by improving the processes associated with delivery and care. Agency QI has the added burden of monitoring individual adherence to protocol, standard practice and appropriate scope of practice based on provider certification level. If the region is to determine which practices produce the most safe, efficient, effective, patient centered and equitable care strong adherence to current standards of care need to be carried out at the agency level. Agency QI practice should include an element of individual event review for the purposes of understanding and mistake proofing the day-to-day delivery of patient care and agency operations. The Regional CQI Council needs to remain focused on the functioning of the EMS system overall. The Regional Council should avoid becoming focused on individual event review and only concern itself with the potential impact of some incidents on the overall quality and interpretation of the regional data. This is an important distinction between overall, system focused QI and agency level QI practices.

Agency level QI processes and practices may be a focus of the Regional CQI Council but only in an effort to create a common regional approach so that the quality of overall system data is more uniform, best practices can be shared, and so that Regional CQI efforts have solid points of contact to engage with at the agency level. The Regional CQI program should not become a secondary event review forum or a required pathway for notifying the State EMS Office of issues. By avoiding the role, the Regional CQI program will be able to stay focused on improving the EMS system overall.

## Timeframe

Depending on the appetite of the Council, the initial start up should take approximately a year with regular monthly meetings and a good project manager/driver. Development of the regional data mechanisms and collection will

take additional time. It may be possible for EMS agencies to cobble together specific data as needed for a project with a specific focus as an interim process while data collection capabilities are designed and built.

Work on CQI practices, structure and education should not be delayed because of a lack of data collection capabilities at the regional level. The plan should be modified to focus on agency level education in CQI practices and supporting good quality CQI practices at that level. More time can be put into fostering regional collaboration on agency level CQI practices with the aim of creating similar practices across the region. Once CQI is being fairly consistently done, there will be a natural drive to want to develop regional level data in order to be able to take QI to the next level in the region.