

VIRGINIA BEACH DEPARTMENT OF EMS

QUALITY MANAGEMENT PLAN

Table of Contents

1	RELATIONSHIP TO OTHER DOCUMENTS	2
1.1	State scope.....	2
1.2	Regional scope	2
1.3	Local scope	4
2	GUIDING PRINCIPLES	6
3	MEANING OF QUALITY.....	7
4	RECOGNIZED COMPONENTS & LOCAL TERMINOLOGY	8
5	PROGRAM PROCEDURES	9
5.1	PDSA method	10
5.2	Tools and techniques.....	10
5.3	Communicating to the workforce	12
5.4	QM project approval and registration	13
6	QM'ING THE QM PROGRAM	14
	References	15

1 RELATIONSHIP TO OTHER DOCUMENTS

The Virginia Beach EMS Department Quality Management Plan (“Plan”) is related to other documents as follows:

1.1 State scope

Virginia EMS Regulation 12VAC5-31-600[1] requires an EMS agency to:

...have an ongoing Quality Management (QM) Program designed to objectively, systematically and continuously monitor, assess and improve the quality and appropriateness of patient care provided by the agency. The QM Program shall be integrated and include activities related to patient care, communications, and all aspects of transport operations and equipment maintenance pertinent to the agency’s mission. The agency shall maintain a QM report that documents quarterly PPCR reviews, supervised by the operational medical director.

This Plan defines the Quality Management Program developed by the Virginia Beach EMS Department to fulfill the regulatory requirement.

1.2 Regional scope

The Tidewater EMS Council (TEMS), of which the Virginia Beach EMS Department is a member, in accordance with the legal, regulatory, and contractual framework in which it operates, has developed a set of plans geared toward coordinating regional EMS activity to address specific causes of death and disability. These plans are:

- TEMS Prehospital and Inter-Hospital Regional Trauma Triage Plan[14, 13]
- TEMS Stroke Triage Plan[11]
- TEMS Regional STEMI Plan[12]

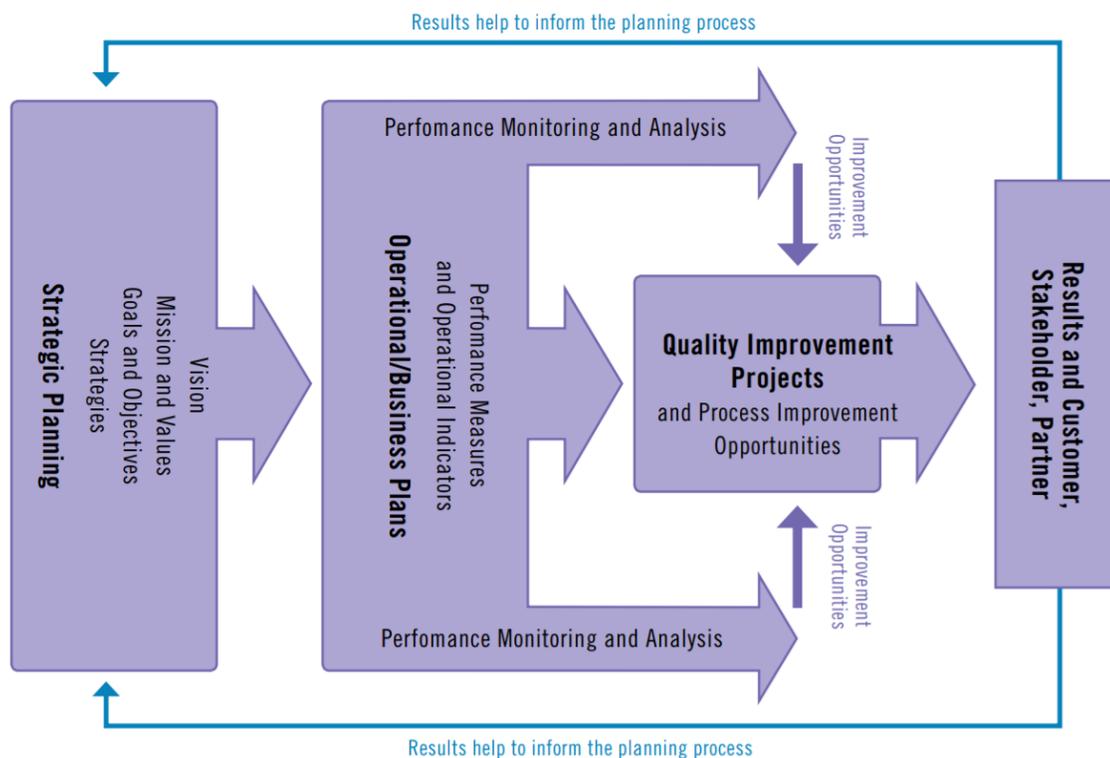
The regional plans do not make any explicit demands, requests, or expectations on the design or activities of agency-level quality management or performance improvement plans.

All expectations or requests originating from the regional EMS council regarding the design or activities of the Virginia Beach EMS Quality Management Program are subject to review and approval by the Virginia Beach EMS Chief. Those involving clinical matters are also subject to the review and approval of the Virginia Beach EMS Operational Medical Director.

Each clinical protocol in the TEMS Regional Medical Protocols^[10] includes a “Performance Indicators” section containing very brief hints for increasing documentation reliability. They were developed as building blocks for inter-agency quality benchmarking, but in practice such efforts have largely been driven by other, usually national-level, entities.

1.3 Local scope

Linkages between this Quality Management Plan and other key local documents are summarized in the following chart[3]:



The Virginia Beach EMS Quality Management Program interacts with many of the Department's policies, and has a special relationship to four of them.

- **Virginia Beach EMS Strategic Plan[19]:** This document defines the Department's vision, mission, goals, objectives, and strategies.
- **EMS Operational Response Plan[16]:** This document describes the fundamental structures, relationships, and tactics used by the Department to execute its mission.
- **Medical Oversight Review Board Policy[18]:** The expressed purpose of this "MORB" policy is to establish a board "to review and evaluate the pre-hospital delivery of medical care and services to the citizens; collect data; review and recommend protocols; review medical equipment; identify and recommend Continuous Quality Improvement (CQI) objectives; and make recommendations concerning city-wide pre-hospital medical operations and training issues to the Emergency Medical Services Chief and Operational

Medical Director”. The MORB policy is geared toward overall Quality Management as defined herein.

Recommendations from the MORB that achieve EMS Chief and OMD approval affect the Department’s Quality Management Program as defined by this Plan. Among such recommendations should be a schedule of current and future goals, objectives, metrics, interventions, etc.

- **Medical Incident Review Policy[17]:** The expressed purpose of this policy is “to provide guidelines for the reporting, review, and resolution of circumstances related to clinical skills performance”. It establishes roles and processes for reacting to alleged untoward medical events, and is geared toward proper use of corrective tools such as counseling; skills-, class-, and research-based remediation; disciplinary action; and suspension. This policy relates to Quality Control as defined herein, which is one component of the Department’s Quality Management Program as defined by this Plan.

2 GUIDING PRINCIPLES

The Virginia Beach EMS Quality Management Program is based on the following principles^[5]:

1. **Customer Focus:** We have many kinds of customers, internal and external. They include: the people in our community who are here to live, work, learn, play, and visit – whether we ever encounter them as individuals or not; the taxpayers and/or donors; the patients we assess, treat, and/or transport – and their families and associates; the staff at hospitals and other care facilities; our own members as individuals; our city's other public safety and healthcare departments; and EMS agencies in nearby jurisdictions. In each case, we owe our existence to our customers and therefore we should understand their current and future needs, meet their requirements, and strive to exceed their expectations.
2. **Leadership:** Our leaders establish the unity of purpose and the direction of our organization. They should create and maintain the internal environment in which workers can become fully involved in achieving the organization's objectives.
3. **Engagement of Workforce:** Workers at all levels are the essence of an organization. Their full involvement enables their abilities to be used for the organization's benefit.
4. **Process Approach:** We can achieve a desired result more efficiently when our activities and related resources are managed as processes.
5. **Improvement:** Improvement of the organization's overall performance should be an active and permanent objective of the organization.
6. **Evidence-Based Decision Making:** We make effective decisions by basing them on the analysis of data and information.
7. **Relationship Management:** An organization and its external providers (suppliers, partners, etc) are interdependent, and mutually beneficial relationships enhance the ability of all involved to create value for customers.

3 MEANING OF QUALITY

“Quality” is a notoriously difficult term to define to everyone’s satisfaction. In the service sector, which is where the Virginia Beach EMS Department operates, customer expectations are fundamentally important, and quality has even been defined as “whatever the customer perceives it to be”. Perceptions that may drive service quality may be difficult to describe tangibly, such as the degree to which the service is dependable, responsive, understanding, competent, and/or clean. Judgements about quality in the service sector tend to be intangible and fleeting. Quality can be adversely affected when management’s perceptions do not align with customer expectations due to lack of communications or failure to conduct market research (or keep up with industry journals). It can also suffer from a lack of (or improper) delivery of skill-based knowledge to workers[4].

In an earlier business model, quality forms the base of a pyramid of mutually supportive objectives including speed, dependability, flexibility, and cost. It is widely recognized across industries that quality is a function of the “iron triangle” factors of scope, cost, and schedule – and that a change to one of those factors requires changes to the others, or quality suffers[4].

Many models of quality management have been developed since the days of the industrial revolution. A survey of the complete evolution of quality management is beyond the scope of this Plan and could actually interfere with taking meaningful action.

<p>The Virginia Beach EMS Department will strive to identify and implement the most fundamental and enduring elements of quality management.</p>
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4 RECOGNIZED COMPONENTS & LOCAL TERMINOLOGY

Unfortunately, consensus definitions on quality management terminology have not quite settled. The Virginia Beach EMS Department recognizes four major components of quality management and will use the following terminology and definitions[8] consistently in their application:

- **QUALITY PLANNING (QP):** The activities of determining who the customers are, identifying ways to determine their needs, and developing the tools (systems, processes, etc) needed to meet those needs. This document and those related to it at the state, regional, and local scopes are artifacts of this component.
- **QUALITY ASSURANCE (QA):** The activities of providing enough confidence that statutory, regulatory, and business requirements and goals (as outlined in QP) will be fulfilled. We accomplish this through systematic measurement, comparisons with standards, and monitoring of processes. Agency licenses, worker certifications, and industry recognitions are artifacts of this component.
- **QUALITY CONTROL (QC):** The activities of confirming that outputs meet organizational goals. We accomplish this through audits and inspections. Although not always inappropriate, QC tends not to address root causes, and in a service industry can provoke worker apprehension, which can be detrimental to the principle of Engagement of Workforce.
- **QUALITY IMPROVEMENT (QI):** The activities of improving processes in terms of their efficiency, effectiveness, consistency, and flexibility. We accomplish this with a continual mixture of major (noticeably significant) changes and incremental changes. QI tends to address root causes, and when combined with the principle of Engagement of Workforce, can provide workers with pride of workmanship.

5 PROGRAM PROCEDURES

Procedures employed by the Virginia Beach EMS Quality Management Program are influenced by the following core concepts[3]:

- **Simplicity in design:** Emphasizing simplicity assures scalability and minimal administrative burden.
- **Just-in-time training:** Training is designed to coincide with actual use, which reinforces the learning process.
- **Clear goals:** This disciplined approach is used to establish project and process improvement goals, strategies, and performance measures.
- **Commitment to oversight:** This includes monitoring and evaluating results to design and implement program improvements. It is important to understand the current situation, or the current level of performance, to allow comparison after improvements are implemented.
- **A focus on the front line:** Workers on the front line will be both a dominant source of input data and the tip of the spear of service delivery. They must be made aware of ongoing quality management projects, knowledgeable about their role in improving performance, and encouraged to propose quality management projects. Their pride of workmanship will drive an organizational culture of quality improvement.
- **Concentration on meaningful business issues:** The ongoing work plan will focus on strategic improvements and significant business practices with measurable gains for internal and external customers.

5.1 PDSA method

Plan-Do-Study-Act is an iterative four-step management method used in business for the control and continual improvement of processes and products. The PDSA cycle is used at all levels of EMS activity, from the treatment of individual patients to the evaluation of the effectiveness of the quality management program itself.



[15]

5.2 Tools and techniques

A wide range of tools and techniques are available for quality management projects: Brainstorming sessions, process maps, fishbone diagrams, and pareto charts are among them[3], and they all may serve their purpose at different times.

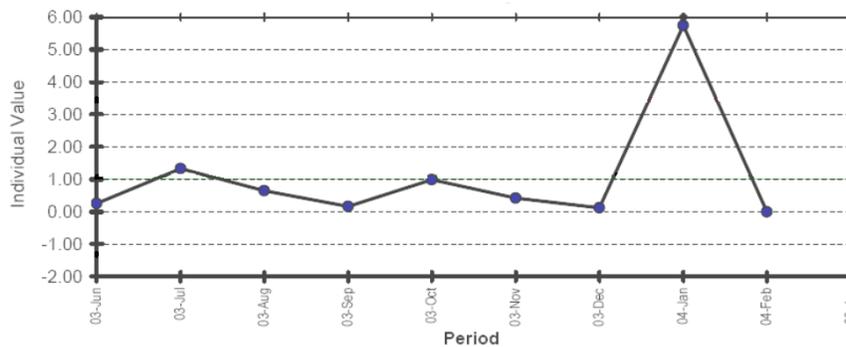
Stoplight Scorecards (green for ideal, yellow for acceptable, red for blocked or unacceptable) are useful dashboard indicators for communicating the current status of a performance measure

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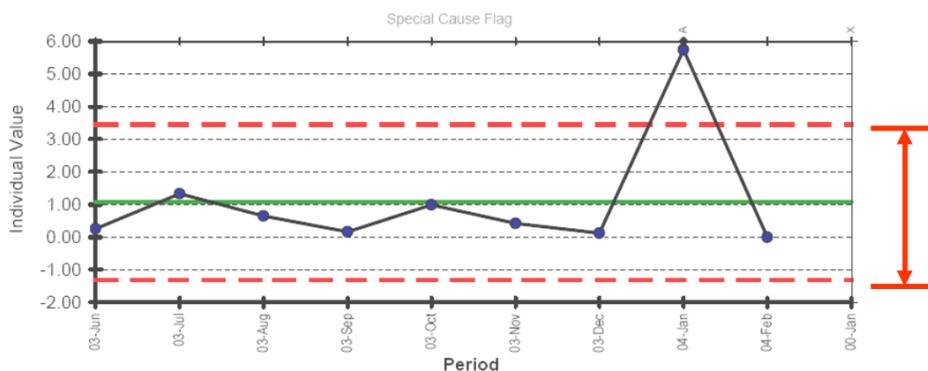
to stakeholders, and are often the only indicators desired by upper management for “executive dashboard” purposes. They are not ideal for deeper quality analysis, however, because they do not indicate runs, trends, or variations of either common cause or special cause.[2]

Keeping in mind the *Simplicity In Design* concept, the Virginia Beach EMS Quality Management Program will emphasize the use of simple Run Charts (as appropriate) as its basic indicators for performance analysis. These are charts that show the value of a single well-defined metric calculated at regularly-defined intervals, like per month[9, 6].



Simple Run Chart

When technically feasible without violating Simplicity In Design, Control Charts will be treated as the preferred indicators[2, 6] for performance analysis. These are Run Charts that also show the metric’s mean or median value and the borders of the metric’s calculated common-cause variation range[7]. This range represents three standard deviations above the median and three below – “six sigma” altogether. Metric values within the six sigma range represent typical “noise”, whereas values outside this range represent an unusual “signal”, and are considered to be due to “special cause”. Typically, the six sigma range is calculated by a special-purpose software package.



Control Chart

Valid and important questions about metric data presented in Control Chart format include[6]:

- Is the indicated median where we want to see it?
- What's responsible for special-cause ("unusual signal") values?
- Is there a need to narrow the common-cause ("typical noise") variation?

5.3 Communicating to the workforce

Regular communication about QM activities are vital to the success of the QM program[3]. Several aspects of QM rely on strong communication: Customer Focus, Engagement of Workforce, Leadership, Relationship Management, etc. To develop a culture of QM, it essential that the program be very visible throughout the organization and amongst partners. Thinking strategically about audiences and possible modes of communication and reporting will yield benefits in support for the program, implementation of QM projects, and the success of the QM plan.

The following are sample communication strategies that organizations have used to communicate QM successes:

- Regular QM newsletter emailed to all staff and also available in hard copy
- QM updates and presentations during regular staff meetings
- Emails pushed to all staff as projects are completed
- Presentations at leadership meetings
- Intranet or SharePoint sites where people can pull information about QM tools, methods, ongoing projects, and successes
- Celebrations of QM project completion
- QM plan rollout marketing
- Storyboards and signs in lobbies and hallways

- Website updates
- One-pager describing the QM program and results.

5.4 QM project approval and registration

The mechanism for achieving approval from the Virginia Beach EMS Chief (and, for clinical projects, the OMD) begins with completing a Virginia Beach EMS Quality Management Project Registration Form and submitting it to the chair of the MORB. The MORB chair shall present the registration form to the EMS Chief (and OMD as appropriate). The EMS Chief and the OMD may initiate QM projects themselves, and in this case the MORB chair shall simply complete a registration form on their behalf. The MORB chair shall route registration forms for projects receiving approval to the EMS Continuous Quality Improvement Officer, the EMS Public Safety Analyst, and any other appropriate parties. The MORB chair shall announce the approval of the project to the MORB and shall archive (register) the registration form appropriately.

The blank version of the Virginia Beach EMS Quality Management Project Registration Form shall be maintained by the MORB chair and made available to the entire workforce. It is incorporated by reference into this Plan.

6 QM'ING THE QM PROGRAM

Just like service delivery to customers, the Virginia Beach EMS QM Program itself is an ongoing activity that needs to be evaluated and improved continuously. The goal of evaluating the QM program should be to develop an improved Plan and to grow and sustain a culture of performance. At a general level, evaluation questions about the QM program should[3] include:

1. Is the plan being implemented as designed and working well?
2. How can the plan be improved?
3. To what extent is the workforce actually engaged?
4. What was the impact of the QM program?

Review, evaluation, and updating of the Plan and activities are the responsibility of the MORB. The MORB should evaluate the Plan annually, although specific aspects of the Plan may need to be reviewed more often. Documentation of lessons learned and improvements that have been made or planned are an important part of the evaluation process.

<p>The Virginia Beach EMS Department will primarily utilize stakeholder surveys for evaluating the QM Plan itself.</p>
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