Quality Management for EMS “Beyond Chart Review”

Rob Walker, BS, NRP
Education Specialist
Emergency Health Services Federation
Disclosure of Conflict of Interest

Rob Walker has no financial conflicts of interest relevant to this activity.
Learning Objectives

At the conclusion of this presentation the learner will be able to:

Discuss basic EMS Quality Management strategy
Develop a factual problem statement
Implement “Plan-Do-Study-Act”
Effectively perform these QM concepts at their individual service!
“The QI officer needs to see you in his office...”
Quality Assurance measures individual compliance against standards.

_Not administering aspirin to a patient who se condition indicates aspirin administration is a QA issue._

Quality Improvement is a Continuous Improvement Process that focuses on improving the entire system.

_Having a 72% aspirin compliance rate on patients with ACS is a QI issue._

You need both!
Today, we’re going beyond a simple chart review to explore Quality Management strategy to deeply probe system performance and create change initiatives that work.
Consider handwashing

Let’s begin with a little history.
The process seems simple

- **Identify**: Identify the problem
- **Fix**: Make a change to fix the problem
- **Move on**: Move on to the next thing...
It’s not simple.
It all started with this guy...

W. Edwards Deming – The developer of what’s become known as **Total Quality Management**.

- Consistency in the process
- Remove barriers to the process
- Education to accomplish the process
- Make the process the focus
TQM for EMS

- Continuous Improvement
- Evidence based Decisions
- Systematic Process
- Strong Leadership
- Team Engagement
- Patient-centric
Here's today's big three

Why does it matter?

What (and how) do we measure?

What do we do about it?
Why does it matter?

- QM improves operational safety
- QM improves patient outcomes
- OM improves system efficiency
- OM reduces cost and equipment waste
What do we measure?

Mission: Improving patient outcomes through the collaborative development of quality measures for EMS and health systems of care.
Other groups use YOUR quality metrics...
Measure and act on what matters to YOU.

6.2 CVA/TIA - Blood Glucose Check Performance

5.3 ACS - On Scene Time to 12-Lead ECG

(RST-5) Lights and/or Siren Transport Rate

CPAP Administration for CHF Patients

(ACS-1) Aspirin Administration for STEMI or Suspected Cardiac Chest Pain
Some common patient care measures

**Stroke/TIA**
- Blood Glucose
- FULL Stroke Assessment (CPHSS/mFAST)

**Cardiac Arrest**
- Compression quality
- Airway management (SGA vs. Intubation)

**Chest Pain**
- ASA administration
- 12 lead from time of patient contact
Some common operational measures

**Chute time**
- Dispatch to responding

**Response time**
- 2 minutes a mile

**Scene time**
- 20 minutes medical
- 10 minutes trauma

**Turnaround time**
- Arrival at hospital to return to available status
### Some common individual measures

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<thead>
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<th>Measure</th>
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<tr>
<td>IV success rate by medic</td>
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<tr>
<td>ETI first pass success rate by medic</td>
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<tr>
<td>Controlled substance administration by medic</td>
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<tr>
<td>ALS to BLS downgrade by medic</td>
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</table>
A sidebar on data

Accurate Data
- Spelled correctly
- Correct units of measure

Authentic Data
- Verified times
- Use third party source (CAD, Cardiac Monitor)

Genuine Data
- Real, truthful information
Now we know what to measure

How do we put this data to work for us?
• When and how did we do it?
• What were the results?
• What are we going to change?
• What are we going to do?
• When and how did we do it?
Think about it:

If you fell off when you learned how to ride a bike, you performed a P-D-S-A cycle.
A simple exercise

The chief says,

“The crews are taking way too long at the hospital. It’s taking them close to an hour to get back to available status after getting there! Fix it!”

The fix is obvious, right?
“You guys get back in service!”
Plan, Do, Check, Act.

• **Plan**: Get crews back in service quickly after arrival at the hospital.

• **Do**: Put out a memo and instruct all the crews to clear quickly.

• **Study**: 6 weeks later, nothing changes. In fact, some crews take longer!

• **Act**: What now?
Where did we go wrong?
Create a problem statement

- It must be a real, evidence-based problem.
- Must be concise in scope.
- The problem statement can’t assign fault, assume a cause or presume a solution prior to investigation.
The “5 Whys” can get us there

To determine the cause of a problem, ask “Why?”
Often asking why five times can get us to the root of the problem.

The ambulance was out of service.
Why?
It was out of gas.
Why?
It wasn’t filled at the end of the last shift
Why?
We don’t enforce the “return with a full tank” policy
The problem was stated incorrectly.

“The crews are taking way too long at the hospital. It’s taking them close to an hour to get back to available status after getting there! Fix it!”

A factual, evidence-based problem statement can be written as:

“We are failing in our efforts to provide coverage to our primary districts due to extended turnaround delay. Failure to provide coverage may adversely affect patient outcome, decrease satisfaction and reduce public confidence. The root cause of this problem is unknown, therefore the cost and process of correction is unknown.”
Investigation revealed multiple “Whys”

There were frequent delays in assigning rooms at the ED.

Crews had to travel 20 minutes before arriving back in first due.

Failure to status with CAD correctly.

Crews perceived the only time they could take a break was if they stretched “at hospital” time.

Lots of fraternization on the hospital ED ramp.
Fixing this problem was multifaceted

<table>
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<th>Education on correctly using CAD status.</th>
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<td>Discussions with Hospital EMS liaison to work on throughput</td>
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<td>Increased presence of supervisor on the ramp.</td>
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<tr>
<td>Understanding that sometimes “at hospital” time was going to be extended.</td>
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<td>Cultural change! (The most difficult of all)</td>
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Cardiac Arrest
QM Case Study

September 2018, my former agency placed Zoll X series monitors in service.

Shortly thereafter, we started to review the comprehensive CPR feedback.

And...we discovered our CPR was not as good as we thought it was.
"Upon review of cardiac arrest data, we have discovered gross deficiencies in the rate, depth and overall quality of compressions and frequent CPR pauses that exceed 10 seconds. Failure to correct these deficiencies will decrease chances of survival of out of hospital cardiac arrest (OOHCA). The root cause of deficiencies is unknown, as is the cost and scope of corrective action."
• When and how did we do it?
• What were the results?
• What are we going to change?
• What are we going to do?
• When and how did we do it?
We built a set of data collection tools.
Added metronomes set at 110 BPM to all cardiac monitors.
Daily 2-minute CPR challenge

Each provider performed 2 minutes of compression only CPR each day at shift change to build muscle memory and endurance.
HP-CPR reinforcement

Providers received HP-CPR reinforcement training.

Stressed rate, depth and quality of compressions, minimizing any pauses and quick AED application.
Can YOU make improvements?

Yes, but it takes work.

The best strategy is to start small, with a singular item that can be closely monitored.

Even a small success can lead to a cascade of positive changes.
QM key takeaways

• Avoid collecting meaningless data.
• Keep the focus patient-centric.
• Be transparent with your QM initiatives
• Involve the staff with the process
• The process must be based on system improvement, not punishment.
References


