Division of Public Health Services

Office of the Assistant Director
Public Health Preparedness Services
Bureau of Emergency Medical Services and Trauma System

150 N. 18th Avenue, Suite 540
Phoenix, Arizona 85007
(602) 364-3150 / 1-800-200-8523
(602) 364-3568 FAX

JANICE BREWER, GOVERNOR
WILL HUMBLE, DIRECTOR

EMERGENCY MEDICAL SERVICES COUNCIL

Date: September 25, 2014 - **Time**: 10:30 AM

Location: 150 N. 18th Ave., Conference Room 215A & 215B

Conference Call: 1-877-820-7831 - **Code**: 450908#

iLinc URL: https://azdhsems.ilinc.com/join/xcphsxt

You must register prior to the meeting to join the web conference session.

AGENDA

I. Call to Order - Ben Bobrow, MD

II. Roll Call – Jennifer Herbert (31 members, 16 required for quorum)

III. Chairman's Report – Ben Bobrow, MD
   a. Attendance report (Attachment III.a.)
   b. Vacancies
   c. 2015 Meeting Schedule (Attachment III.c.)

IV. Bureau Report – Ithan Yanofsky
   a. Rules updates
   b. Electronic EMCT registration/certification

V. Discussion and Action Items
   a. Discuss, amend, approve EMS Council meeting minutes of May 29, 2014 (Attachment V.a.)
   b. Discuss, amend, approve the AZ EMS PI Plan – Chris Salvino, MD (Attachment V.b.)

VI. Reports
   a. Trauma and EMS Performance Improvement Standing Committee – Rebecca Haro
   b. Education Standing Committee – Glenn Kasprzyk
   c. Protocols, Medications and Devices Standing Committee – Charlie Smith
   d. Regional Emergency Medical Services Councils
      i. AEMS - Joe Gibson (Attachment VI.d.i.)
      ii. SAEMS -

Persons with disabilities may request reasonable accommodations such as a sign language interpreter, by contacting Angie McNamara, Program Project Specialist II, 602-364-3156; State TDD Number 1-800-367-8939; or Voice Relay Number 711. Request should be made as early as possible to allow time to arrange accommodations.

"Health and Wellness for all Arizonans"

iii. NAEMS - Paul Coe (Attachment VI.d.iii.)
iv. WACEMS - Rod Reed

e. DQA
   i. EMS Data Collection Coverage Map – Maureen Brophy, MPH
   ii. Operational Excellence – Maureen Brophy, MPH
   iii. Quarterly Reports Update – Rogelio Martinez, MPH

f. Community Integrated Paramedicine Workgroup – Bob Ramsey

VII. Agenda Items to be Considered for Next Meeting

VIII. Call to the Public: A public body may make an open call to the public during a public meeting, subject to reasonable time, place and manner restrictions, to allow individuals to address the public body on any issue within the jurisdiction of the public body. The Committee may ask staff to review a matter or may ask that a matter be put on a future agenda. Members of the public body shall not discuss or take legal action on matters raised during an open call to the public unless the matters are properly noticed for discussion and legal action. A.R.S. § 38-431.01(G)

IX. Summary of Current Events

a. October 6, 2014: Level 1 Trauma Center 8th Annual EMS Conference, St. Joseph's Hospital, Phoenix, AZ
b. November 13-14, 2014: AZTrACC, Talking Stick Resort, Scottsdale, AZ

X. Next Meeting Date: January 29, 2015 @ 10:30 AM in rooms 215A & 215B – 2nd Floor 150 Building

XI. Adjournment

Persons with disabilities may request reasonable accommodations such as a sign language interpreter, by contacting Angie McNamara, Program Project Specialist II, 602-364-3156; State TDD Number 1-800-367-8939; or Voice Relay Number 711. Request should be made as early as possible to allow time to arrange accommodations.

"Health and Wellness for all Arizonans"

Committee Attendance Report

Attachment III a

EMS Council

		Present	Tele	Absent
Bentley Bobrow	Chair/ADHS BEMS Medical Director			
	1/19/2012	✔		
	4/19/2012	✔		
	9/20/2012	✔		
	2/25/2013	✔		
	5/16/2013	✔		
	9/26/2013	✔		
	1/23/2014	✔		
	5/29/2014	✔		
Bob Ramsey	Ambulance Service Corporation			
	1/19/2012	✔		
	4/19/2012	✔		
	9/20/2012			✔
	2/25/2013	✔		
	5/16/2013	✔		
	9/26/2013		✔	
	1/23/2014	✔		
	5/29/2014			✔
Brian Smith	Emergency Medical Technician			
	5/29/2014	✔		
Charlie Smith	Non-Governmental Employer of Interm			
	1/19/2012	✔		
	4/19/2012	✔		
	9/20/2012			✔
	2/25/2013	✔		
	5/16/2013	✔		
	9/26/2013	✔		
	1/23/2014	✔		
	5/29/2014	✔		
Chris Salvino	Trauma Surgeon			
	1/19/2012			✔
	4/19/2012			✔
	9/20/2012	✔		
	2/25/2013	✔		
	5/16/2013	✔		
	9/26/2013	✔		
	1/23/2014	✔		
	5/29/2014	✔		
Christopher Baker	Hospital Administrator (Population < 50			
	9/26/2013	✔		
	1/23/2014	✔		
	5/29/2014		✔	
Dale Woolridge	Public Member			
	1/19/2012	✔		
	4/19/2012		✔	
	9/20/2012	✔		
	2/25/2013		✔	
	5/16/2013			✔

EMS Council

		Present	Tele	Absent
Dale Woolridge	Public Member			
	9/26/2013		✔	
	1/23/2014		✔	
	5/29/2014			✔
Daniel Spaite	Emergency Medicine Physician - Southe			
	1/19/2012	✔		
	4/19/2012	✔		
	9/20/2012	✔		
	2/25/2013			✔
	5/16/2013		✔	
	9/26/2013	✔		
	1/23/2014	✔		
	5/29/2014	✔		
David Ridings	Three Largest Employer			
	1/19/2012		✔	
	4/19/2012	✔		
	9/20/2012	✔		
	2/25/2013	✔		
	5/16/2013	✔		
	9/26/2013	✔		
	1/23/2014	✔		
	5/29/2014	✔		
Gene McDaniel	Pre-Hospital Emergency Medical Trainin			
	2/25/2013	✔		
	5/16/2013	✔		
	9/26/2013	✔		
	1/23/2014			✔
	5/29/2014		✔	
Glenn Kasprzyk	Public Member/Vice Chair (Education Li			
	1/19/2012		✔	
	4/19/2012	✔		
	9/20/2012	✔		
	2/25/2013	✔		
	5/16/2013	✔		
	9/26/2013	✔		
	1/23/2014	✔		
	5/29/2014	✔		
James Hayden	Public Member			
	1/19/2012	✔		
	4/19/2012	✔		
	9/20/2012	✔		
	2/25/2013	✔		
	5/16/2013	✔		
	9/26/2013	✔		
	1/23/2014			✔
	5/29/2014		✔	
Jim Dearing	Hospital Administrator (Population > 50			
	2/25/2013	✔		

EMS Council

		Present	Tele	Absent
Jim Dearing	Hospital Administrator (Population > 50			
	5/16/2013	☑	☐	☐
	9/26/2013	☐	☐	☑
	1/23/2014	☐	☐	☑
	5/29/2014	☐	☑	☐
John Ford	Ambulance Service Corporation			
	1/19/2012	☑	☐	☐
	4/19/2012	☑	☐	☐
	9/20/2012	☑	☐	☐
	2/25/2013	☑	☐	☐
	5/16/2013	☑	☐	☐
	9/26/2013	☑	☐	☐
	1/23/2014	☑	☐	☐
	5/29/2014	☑	☐	☐
John Karolzak	Three Largest Employer			
	1/23/2014	☑	☐	☐
	5/29/2014	☑	☐	☐
Jonathan Maitem	Emergency Medicine Physician - Central			
	1/19/2012	☑	☐	☐
	4/19/2012	☑	☐	☐
	9/20/2012	☑	☐	☐
	2/25/2013	☐	☑	☐
	5/16/2013	☑	☐	☐
	9/26/2013	☐	☑	☐
	1/23/2014	☑	☐	☐
	5/29/2014	☑	☐	☐
Joseph Gibson	Local EMS Coordinating System - Centra			
	1/19/2012	☑	☐	☐
	4/19/2012	☑	☐	☐
	9/20/2012	☑	☐	☐
	2/25/2013	☑	☐	☐
	5/16/2013	☑	☐	☐
	9/26/2013	☑	☐	☐
	1/23/2014	☑	☐	☐
	5/29/2014	☑	☐	☐
Lizette Vasquez	Governor's Office of Highway Safety			
	5/29/2014	☐	☐	☑
Martyn Fink	Department of Public Safety			
	1/19/2012	☑	☐	☐
	4/19/2012	☑	☐	☐
	9/20/2012	☐	☑	☐
	2/25/2013	☐	☐	☑
	5/16/2013	☑	☐	☐
	9/26/2013	☐	☐	☑
	1/23/2014	☐	☐	☑
	5/29/2014	☐	☐	☑
Maura Mahoney	Emergency Medicine Physician - Northe			
	9/26/2013	☑	☐	☐
	1/23/2014	☐	☑	☐
	5/29/2014	☑	☐	☐

EMS Council

Attachment III a

		Present	Tele	Absent
Michael Patten	Public Member			
	1/19/2012	☐	☐	☑
	4/19/2012	☑	☐	☐
	9/20/2012	☑	☐	☐
	2/25/2013	☑	☐	☐
	5/16/2013	☐	☐	☑
	9/26/2013	☑	☐	☐
	1/23/2014	☑	☐	☐
	5/29/2014	☐	☑	☐
Michael Ward	Emergency Medicine Physician - Wester			
	1/19/2012	☐	☑	☐
	4/19/2012	☑	☐	☐
	9/20/2012	☑	☐	☐
	2/25/2013	☑	☐	☐
	5/16/2013	☑	☐	☐
	9/26/2013	☐	☐	☑
	1/23/2014	☐	☑	☐
	5/29/2014	☑	☐	☐
Nathan Lewis	Public Member			
	1/19/2012	☑	☐	☐
	4/19/2012	☑	☐	☐
	9/20/2012	☑	☐	☐
	2/25/2013	☐	☐	☑
	5/16/2013	☑	☐	☐
	9/26/2013	☑	☐	☐
	1/23/2014	☑	☐	☐
	5/29/2014	☑	☐	☐
Patricia Coryea-Hafk	Professional Nurse			
	1/19/2012	☑	☐	☐
	4/19/2012	☑	☐	☐
	9/20/2012	☐	☐	☑
	2/25/2013	☑	☐	☐
	5/16/2013	☐	☐	☑
	9/26/2013	☑	☐	☐
	1/23/2014	☐	☑	☐
	5/29/2014	☐	☑	☐
Paul Coe	Local EMS Coordinating System - North			
	1/19/2012	☐	☑	☐
	4/19/2012	☐	☑	☐
	9/20/2012	☐	☑	☐
	2/25/2013	☑	☐	☐
	5/16/2013	☑	☐	☐
	9/26/2013	☐	☑	☐
	1/23/2014	☑	☐	☐
	5/29/2014	☑	☐	☐
Rebecca Haro	Statewide Fire District Association Repr			
	1/19/2012	☑	☐	☐
	4/19/2012	☑	☐	☐
	9/20/2012	☑	☐	☐
	2/25/2013	☑	☐	☐

Attachment III a

EMS Council

		Present	Tele	Absent
Rebecca Haro	Statewide Fire District Association Repr			
	5/16/2013	☑	☐	☐
	9/26/2013	☑	☐	☐
	1/23/2014	☑	☐	☐
	5/29/2014	☑	☐	☐
Rodney Reed	Local EMS Coordinating System - Weste			
	1/19/2012	☑	☐	☐
	4/19/2012	☑	☐	☐
	9/20/2012	☑	☐	☐
	2/25/2013	☑	☐	☐
	5/16/2013	☑	☐	☐
	9/26/2013	☑	☐	☐
	1/23/2014	☐	☑	☐
	5/29/2014	☑	☐	☐
Ronalee Quarles	Volunteer Medical Rescue Program			
	1/19/2012	☐	☐	☑
	4/19/2012	☑	☐	☐
	9/20/2012	☑	☐	☐
	2/25/2013	☐	☑	☐
	5/16/2013	☐	☑	☐
	9/26/2013	☐	☑	☐
	1/23/2014	☐	☑	☐
	5/29/2014	☐	☑	☐
Taylor Payson	Local EMS Coordinating System - South			
	1/19/2012	☑	☐	☐
	4/19/2012	☑	☐	☐
	9/20/2012	☑	☐	☐
	2/25/2013	☑	☐	☐
	5/16/2013	☑	☐	☐
	9/26/2013	☑	☐	☐
	1/23/2014	☑	☐	☐
	5/29/2014	☑	☐	☐
Todd Harms	Three Largest Employer			
	9/26/2013	☑	☐	☐
	1/23/2014	☐	☑	☐
	5/29/2014	☑	☐	☐
Tyler Matthews	Public Member			
	1/23/2014	☐	☑	☐
	5/29/2014	☐	☑	☐

Bureau of Emergency Medical Services and Trauma System
2015 Statutory/Standing Committee Meetings

Date	Time	Meeting	Conference Room
January 29, 2015	9:00 a.m.	State Trauma Advisory Board	215A & 215B – 2nd Floor 150 Bldg
January 29, 2015	10:30 a.m.	Emergency Medical Services	215A & 215B – 2nd Floor 150 Bldg
January 29, 2015	12:00 p.m.	Medical Direction Commission	215A & 215B – 2nd Floor 150 Bldg
March 19, 2015	9:00 a.m.	Trauma and EMS Performance Improvement (TEPI)	215A & 215B – 2nd Floor 150 Bldg
March 19, 2015	10:30 a.m.	Education Committee	215A & 215B – 2nd Floor 150 Bldg
March 19, 2015	12:00 p.m.	Protocols, Medications and Devices Committee	215A & 215B – 2nd Floor 150 Bldg
May 21, 2015	9:00 a.m.	State Trauma Advisory Board	215A & 215B – 2nd Floor 150 Bldg
May 21, 2015	10:30 a.m.	Emergency Medical Services Council	215A & 215B – 2nd Floor 150 Bldg
May 21, 2015	12:00 p.m.	Medical Direction Commission	215A & 215B – 2nd Floor 150 Bldg
July 16, 2015	9:00 a.m.	Trauma and EMS Performance Improvement (TEPI)	215A & 215B – 2nd Floor 150 Bldg
July 16, 2015	10:30 a.m.	Education Committee	215A & 215B – 2nd Floor 150 Bldg
July 16, 2015	12:00 p.m.	Protocols, Medications and Devices Committee	215A & 215B – 2nd Floor 150 Bldg
September 17, 2015	9:00 a.m.	State Trauma Advisory Board	215A & 215B – 2nd Floor 150 Bldg
September 17, 2015	10:30 a.m.	Emergency Medical Services Council	215A & 215B – 2nd Floor 150 Bldg
September 17, 2015	12:00 p.m.	Medical Direction Commission	215A & 215B – 2nd Floor 150 Bldg
November 19, 2015	9:00 a.m.	Trauma and EMS Performance Improvement (TEPI)	215A & 215B – 2nd Floor 150 Bldg
November 19, 2015	10:30 a.m.	Education Committee	215A & 215B – 2nd Floor 150 Bldg
November 19, 2015	12:00 p.m.	Protocols, Medications and Devices Committee	215A & 215B – 2nd Floor 150 Bldg

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DISCLAIMER: "Meeting schedule subject to change upon the request of the Governor's Office or the Office of the Director. Should this occur, the Bureau will make all reasonable efforts to contact the affected members as soon as feasible."

EMERGENCY MEDICAL SERVICES COUNCIL

May 29, 2014 - 10:30 A.M.

150 N. 18th Ave., Conference room 215A & B

Meeting Minutes – DRAFT

Present

Ben Bobrow
Brian Smith
Charlie Smith
Chris Baker*
Chris Salvino
Dan Spaite
Dave Ridings
Gene McDaniel
Glenn Kasprzyk
James Hayden*
Jim Dearing*
John Ford
John Karolzak
Jon Maitem
Joe Gibson
Maura Mahoney
Michael Patten*
Michael Ward
Nathan Lewis
Patricia Hafkey*
Paul Coe
Rebecca Haro
Rod Reed
Ronalee Quarles*
Taylor Payson
Todd Harms
Tyler Matthews*

*Indicates teleconference

Absent

Bob Ramsey
Dale Woolridge
Martyn Fink
Lizette Vasquez

I. Call to Order - Ben Bobrow, MD at 10:32 AM

II. Roll Call – Jennifer Herbert (31 members, 16 required for quorum). A quorum was present.

III. Chairman's Report – Ben Bobrow, MD
   a. Attendance report
   b. EMS Council recognition of service to Taylor Payson & Fred Killingsbeck (Doug Crunk)
   c. EMS & Trauma week
   d. Parliamentarian discussion of need
   e. Normal saline shortage update (Garth Gemar, MD)

IV. Bureau Report – Ithan Yanofsky
   a. Introduction of new staff
   b. Rules updates
   c. Website updates
   d. Electronic EMCT registration/certification

V. Discussion and Action Items
   a. Discuss, amend, approve EMS Council meeting minutes of January 23, 2014. Charlie Smith made the motion to approve the minutes as presented, seconded by Jon Maitem, DO. **The motion carries.**
   b. Approve the revised EMS Council Bylaws. Rod Reed made the motion to approve the Bylaws, seconded by Brian Smith. A discussion ensued and the friendly amendment to change the wording to Article VII was proposed by Dan Spaite, MD. The **motion carries** with the friendly amendment.

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VI. Reports
   a. Trauma and EMS Performance Improvement Standing Committee – Rebecca Haro
   b. Education Standing Committee – Glenn Kasprzyk
   c. Protocols, Medications and Devices Standing Committee – Charlie Smith
   d. Regional Emergency Medical Services Councils
      i. AEMS - Joe Gibson
      ii. SAEMS - Taylor Payson
      iii. NAEMS - Paul Coe
      iv. WACEMS - Rod Reed
   e. DQA Report – Rogelio Martinez, MPH
   f. Community Integrated Paramedicine Workgroup – Maura Mahoney. Will Humble addressed the group as well.

VII. Agenda Items to be Considered for Next Meeting: Will Humble suggested looking into a licensing fee for EMT/Paramedics where the proceeds would go to fund EMS initiatives.

VIII. Call to the Public: None presented

IX. Summary of Current Events
   i) 2nd Annual Arizona Resuscitation Academy - January 24, 2014, Mesa
   b. 2014 Arizona Pediatric Symposium, March 9-10, 2014 - Prescott, AZ
   c. EMS Odyssey, June 5-6, 2014 – Desert Willow Conference Center, Phoenix, AZ

X. Next Meeting Date: TBD

XI. Adjourned at 11:26 AM

Approved by EMS Council
Date:

DRAFT

VISITORS PLEASE SIGN IN

EMS Council

DATE - May 29. 2014 @ 10:30 a.m.

	Name (PLEASE PRINT)	Organization & Position	Email	Phone #
1	Mickey Kovach	BDMC	mickey.kovach@bannerhealth.com	
2	RONALD MARTINEZ	FLAGSTAFF MEDICAL CTR	RON.MARTINEZ@NAHEALTH.COM	
3	Marsha Mahoney	Flagstaff Medical Center	mo.mahoney@gmail.com	
4	Sara Perotti	SAEMS	Sara.perotti@uahealth.com	
5	Garth German	R/M-SWA, GFD, SFD, AEMS	garth.german@rmetro.com	
6	Lori Wass	Chandler Regional TPM	lori.wass@dignityhealth.org	
7	Roy Ryais	CONSULTANT	ROYLRYAIS@GMAIL.COM	
8	DAVID SULLIVAN	Rural/Metro	David.Sullivan@rmetro.com	
9	BRIAN G. BOWLING	NATIVE AIR/LIFENET-AIR METHODS	brian.bowling@airmethods.com	
10	BRIAN MEANY	ADHS		
11	Laurie Wood	BTMC	Laurie.Wood@Bannerhealth.com	
12	Joshua Reidler	RMC / MCMC / PMT		
13	DAVID HARDEN	ADHS		
14	CARL LIND	WIZARD EDU	CARL@WIZARDEDUCATION.COM	
15	ANNETTE TIPTON	Wizard Edu	annette@wizardeducation.com	
16	Marc Matthews	" "	" "	
17	Toni gross	PCH Emerg Dept.	tgross@phoenixchildrens.com	
18				

Attachment V.b.

Arizona Department of Health Services
Bureau of EMS and Trauma System
EMS Agency Performance Improvement Plan Manual

Approved by TEPI: July 17, 2014
Pending Approval from STAB, MDC, EMS council in September 2014

We would like to acknowledge the efforts of the following individuals who were responsible for preparing this resource:

Chair: Mary McDonald, RN, BSN	Tucson Fire Department
Brian Smith, EMT-P	Flagstaff Medical Center
Glenn Kasprzyk	Life Line Ambulance
Jill McAdoo, RN	Life Line Ambulance
Josh Gaither, MD	University of Arizona Medical Center
Kevin Burkhart	Southwest Rural/Metro
Paul Dabrowski, MD	Banner Good Samaritan Hospital
Robert Corbell	Northwest Fire/Rescue District
Sandra Nygaard, EMT-P	Banner Ironwood Medical Center Banner Goldfield Medical Center
Sean Culliney, MPH, CEP	Northwest Fire/Rescue District

With staff support from:

Rogelio Martinez, MPH Data and Quality Assurance Section Chief	Bureau of EMS and Trauma System

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Purpose

The purpose of this EMS Performance Improvement manual is to assist agencies in identifying improvements in care; implementing loop closure for Quality Improvements (QI); improving patient outcomes through an achievable system of support and education for agencies and providers.

EMS Performance Improvement Plan

An EMS Performance Improvement Plan will drive the performance of providers to patients in the pre-hospital environment. It will be used in the EMS community to implement and monitor best practices, allow for collaboration with stakeholders, and lead to high functioning care in every patient contact in the state of Arizona.

The goal of the plan is to provide effective, safe, cost-beneficial, patient-focused, pre-hospital medical and trauma services to those presenting to the EMS System. Programs should focus on quality improvement; education and training; effective healthcare delivery systems; public education and prevention programs; and developing strong working relationships with other community partners. *A presentation of the EMS continuum of care in a patient interaction is presented in Appendix A.*

Examples of Performance Improvement Objectives

- Improve pre-hospital care in my agency for patients with Out-of Hospital Cardiac Arrest
- Improve pre-hospital care in my agency for patients with stroke
- Improve pre-hospital care in my agency for patients with major trauma
- Improve pre-hospital care in my agency for patients with ST-segment Elevation Myocardial Infarction (STEMI)

Definitions

- Performance Improvement - A system that improves the execution or accomplishment of its intended purpose.
- Process Improvement - A measurement technique that analyzes a series of actions to improve its effectiveness or efficiency
- Quality Improvement - A system that improves the overall quality of a product or service
- Quality Assurance - A system that ensures a desired level of quality in the development, production, or delivery of products and/or services.
- Loop Closure - Demostrating that a corrective action has the desired effect as determined by continous evaluation. Although some process loops may never be completely closed, all initiatives should demonstrate the continous pursuit of performance improvement and patient safety.

Beginning a Performance Improvement Plan

Ideally, an agency should identify the goals of their agency PI plan prior to any data collection, analysis, or PI implementation. The process should begin with an identification of evidenced based criteria, standardization in data collection, proper selection of analytical methods, and most importantly timely loop closure of any proposed changes.

For agencies that are unable to purchase their own ePCR software, the Arizona Pre-Hospital Information & EMS Registry System offers FREE software and assistance in the implementation of this process.

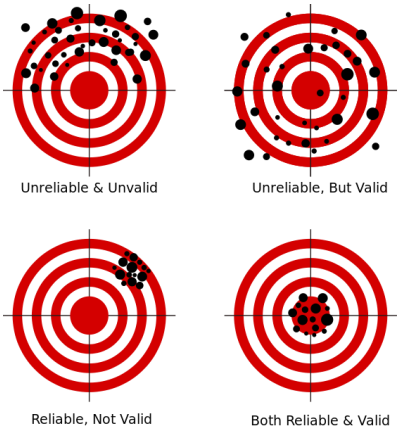
Data Collection

The data collection process should be part of daily operations in EMS care. Data collection is done by providers in the field, reviewed by managers, and used by organizational leadership to drive decisions. Information that is gathered should be done in a purposeful, reliable, and standard format, preferably with an electronic patient care reporting (ePCR) system. It is essential to note that a performance improvement program should not be a punitive process. A proactive, multi-disciplinary effort will improve patient care significantly.

Everyone, whether it is one individual or a set of assigned EMS personnel, should be interpreting the documentation on the electronic Patient Care Report (ePCR) in a similar fashion using a QA tool that has definitions for each criteria being audited. Interpretation of data gathering should not be dependent on individual discretion. An elaborate web-based system will not be of use, if incoming data is flawed. Collection of data should be weighted (scored) and consistent across patient encounters.

There are three distinct concepts in the data collection process; validity, reliability, and accuracy. Additional data definitions are presented in Appendix B.

Figure 1: Data concepts



Validity- the extent to which a measurement captures what it is supposed to measure. Example: Does an EKG interpretation identify a ST-elevation Myocardial Infarction?

Reliability- the extent to which a measurement tool can be repeated and yield repeatable results. Example: Does an automated blood pressure device provide measurements that are consistent?

Accuracy- the extent to which the measurement represents the true value. Example: The comparison of a field blood glucose monitor to a lab value obtained at a hospital.

Data Analysis

The process of data analysis can take many different forms. The Premier EMS Agency Program (PEAP) requires that 100% of runs with STEMI, Stroke, Out of Hospital Cardiac Arrest (OHCA), and major trauma are reviewed. Agencies can work with their base hospital, Medical Direction Authority, and/or quality assurance officers to establish their protocols and procedures for criteria audit filters, trends, performance, and other useful information in your agency. Agencies should strive to benchmark their services and outcomes against others to understand how they compare against similar agencies. Regular, quarterly reports are sent to agencies that participate in AZ-PIERS that include benchmarked information on confirmed cases of STEMI, stroke, OHCA, and Major Trauma.

PI Implementation

The remainder of this manual identifies the PI implementation process. The individuals internal to the agency are identified along with the processes and examples. **This is the most difficult part of any system and requires constant attention; done correctly this will allow for agencies to determine best practices for their individual agencies.**

Individuals Involved

Role of Organizational Leadership

Performance Improvement requires absolute commitment from Organization Leadership in order to succeed. These individuals could be the Chief Executive Officer, Fire Chief, Medical and Operations District Management Teams or President of an organization. Organization Leadership, which includes Medical Direction, should provide the authority and direction to their personnel to have an honest, non-punitive approach to resolve issues with processes.

Role of Medical Director

A Medical Director provides guidance, leadership, and oversight over all prehospital practice. An EMCT in the field serves as an extenstion of the Medical Director in an organization. In addition to providing medical direction they MUST identify critical criteria for performance improvement, and delegate to the Educator/Training Department to establish the tools to achieve the desired results. Medical Directors also establish protocols, policies, and procedures that guide patient care.

Role of Quality Assurance Team/Manager

Individual(s) will be designated with the role and responsibility for performance improvement. This individual(s) is a person in direct and constant communication with the designated liason for medical direction. This role should ensure that there is timely loop closure and see themselves as directly supporting the providers in their day-to-day role. Lastly, this role should

work with receiving facilities to obtain patient outcomes in a timely fashion that ultimately drive care.

Role of EMS Educator

EMS Educators should work to establish and implement best practices within all aspects of the department/company training program. These individuals must be able to gather and identify community and organizational resources that lead to improvement in care. EMS educators should work with the QA team to reinforce evidence based education or training.

Role of Emergency Medical Care Technician (EMCT)

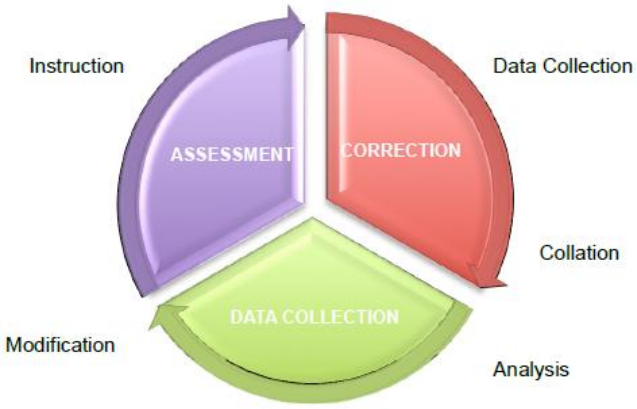
The role of the EMCT includes providing excellent care and documentation for their patients using best practices. EMCTs should proactively look for feedback from their agencies to improve the care they provide in the field. EMCTs are essential to implementing changes as guided by their agency's PI plan. Additionally, EMCTs in an organization need to be aware of the goals and mission of the agency to ensure success of the program.

Implementation of a PI Program

A performance improvement plan consists of a foundation in data collection, identification of potential issues, and continuous surveillance of processes. Figure 2 and 3 are two examples of the merger in these principles.

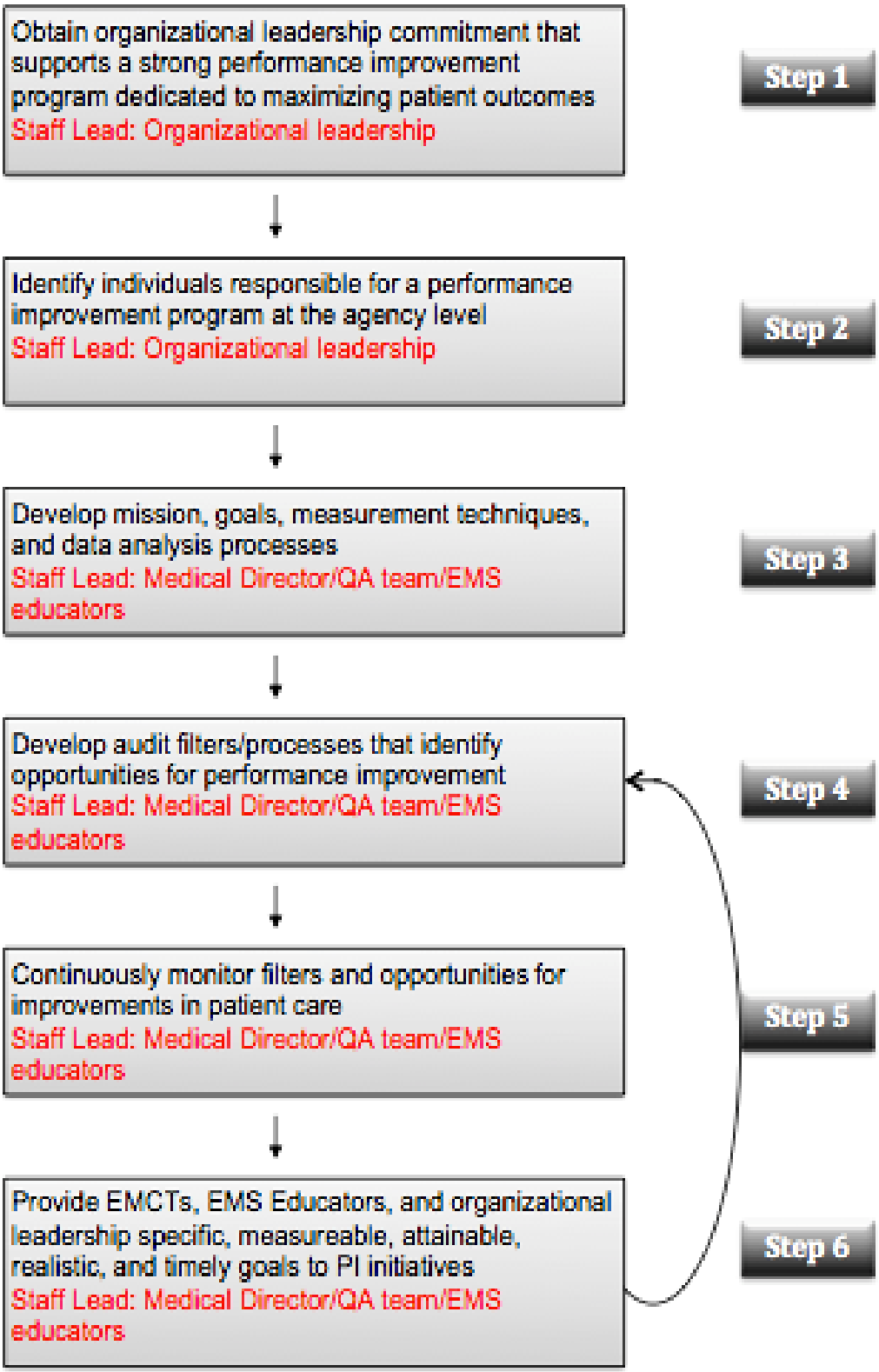
Figure 2: Systems Management in Public Health

Figure 3: ACS Performance Improvement



Once the organizational leadership commits to optimizing patient care above all else, the performance improvement plan can begin. The leadership will need to identify individuals that are passionate, determined, and persistent to solve arising issues. A major importance to a PI program is the constructive and mutually supportive relationship that must occur between the QA individual(s) and the Medical Director. Figure 4 below identifies a sample implementation process for performance improvement.

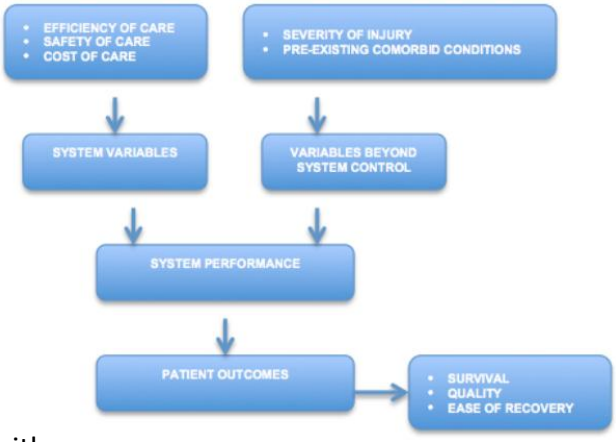
Figure 4: Implementation of a PI program



Filters for PI

Filters can be used to flag issues that require the attention of the QA team. In certain cases, these situations may be appropriate but further exploration is required. Although these filters are not all encompassing, they are a good place to start. Agencies can look at developing their own filters for acceptable thresholds (90% is common), documentation, clinical excellence, research projects, and protocol adherence.

Figure 5: Categorization of Influential Variables



- Trauma cases with:
  - Scene times > 20 min,
  - No documentation of patient destination (when transported),
  - Endotracheal Intubation,
    - Number of cases with ETI,
    - Number of cases with RSI,
    - Number of attempts per case prior to success,
    - Number of cases with use alternative rescue airways.
- STEMI cases with:
  - Missing an ECG,
  - No administration of aspirin,
  - No administration of oxygen,
  - Failure to transport to a cardiac receiving center.
- Stroke cases with:
  - Performing a stroke assessment,
  - Not obtaining a blood glucose value,
  - Failure to pre-notify hospital.
- Out of Hospital Cardiac Arrest cases with:
  - No documentation of chest compressions,
  - No documentation of defibrillation time,
  - No documentation of date/time at which resuscitative measures are withdrawn.

Closing the PI loop

In EMS there are two types of categories of variables impacting the outcome of a patient; the internal (system) variables and external (beyond system control) variables. The internal-variables for a patient who suffered a Traumatic Brain Injury would be time of response of unit after receiving notification, adherence to EPIC protocols, and timely transportation to a designated trauma center. The external agency variables would be factors such as weather, injury severity, and age of patients.

Agencies with a PI plan will have to decide the degree of response each issue will require. Appendix C provides a schematic on a typical response to an issue. Issues of improvement can be classified as a **first level** (minor), **second level** (moderate), or **third level** (major issue). A first level review could typically require only the response of the QA team (delay in submission of an ePCR). A second level review could require a response from the QA team and the Medical Director and can be used as a teaching moment (improper protocol adherence, medication mix-up, complex case). A third level is a systemic failure that could require the attention of the QA manager, Medical Director, and a peer review committee (STEMI patients failing to meet door to balloon times, trauma patients failing to receive pain medication).

Additional resources and theories have been established to identify opportunities for improvements and solutions. These include an Ishikawa diagram (fishbone/root cause analysis), (Lean) Six Sigma, System Managements in Public Health, and others (*see Additional Resources for further information*).

After opportunities for improvement and solutions have been established with success it is important to train and educate within the agency on these new findings. Education programs can use successful cases to train providers through real life scenarios. An excellent education program will challenge providers to understand potential pitfalls, challenges, and solutions. Agency progress should be integrated and reinforced into the training, course material, and staff. Education programs can consider using guest speakers who experienced the problem first hand and found solutions.

It is important to note that sentinel events, errors, and areas of improvement should follow the EMS agency's PI program. Appropriate personnel from the department(s) that will be affected should attend. The Medical Director, or the equivalent, should be involved in the process.

EMS agencies should strive to resolve issues in three months. In some complex cases the inquiry might extend further, however, timely resolution is essential to a PI program.

Sample Case Studies

Case Study 1

An EMS Agency has decided to investigate the administration of its narcotics in patients undergoing musculoskeletal injuries. The EMS Agency decides to evaluate the effectiveness of pain management in patients through the EMCTs' documentation of a pain score and the appropriateness of the administration of narcotics.

[First Level Review]

The EMS Agency analyzes 100% of musculoskeletal injuries for one month. Each musculoskeletal injury is broken into two specific categories, pain scale assessment performed and narcotic administration. The QA Manager identifies that 10% of the charts did not document a pain scale and 45% of all patients did not receive pain medication.

[Second Level Review]

The QA Manager surveys the field providers on reasons for the lack of pain management and use of a pain scale. After analyzing the results, the QA Manager finds that many providers were unaware that a pain scale was on the ePCR. The QA Manager contacts the vendor to have the pain scale tool placed within the vital signs field. A department in-service is done on proper documentation of a pain scale assessment and includes a closed call rule that forces providers to answer the assessment field.
The QA Manager brings the results of the survey to the Organization Leadership that many providers felt that management pressed field providers to get into service too quickly and that the hospital prioritized replacing an EMCT's controlled substances as unimportant to operations. The Medical Director contacts the hospital pharmacy group to request a faster and more streamlined process for medication replacement.

[Third Level Review]

After a few weeks of inquiry, the QA Manager identified the lack of a field implementation of a pediatric pain scale. The EMS Agency identifies community stakeholders to determine the implementation of best practices into a pediatric pain assessment. A small workgroup is assigned to re-educate, monitor, track progress, and find solutions to the issue. They are tasked with presenting their policies to the EMS Agency. The committee decides to follow up with monthly and quarterly reports. Additionally, the committee embeds audit filters to determine if any improvements are occurring within the department.

After a year of continuous monitoring, the group finds a department wide compliance of 95% for pain assessments and 65% for the distribution of narcotics. The workgroup disbands and the QA manager begins to monitor the issue every quarter.

Case Study 2

A rural EMS Agency receives an AZ-PIERS quarterly report on STEMI outcomes from ADHS. After reviewing their performance against the aggregate, the QA Manager determines that they would like to find ways to improve their patient's outcomes.

[First Level Review]

In the AZ-PIERS STEMI report, the EMS Agency learns that they had 70 patients who were treated at a hospital for a STEMI in the past three months. Of those cases, only 21 patients went to a cardiac receiving/referral center. Additionally, all cases failed to document an ECG assessment. The QA manager believes that these results led to more patients being discharged to hospice or a long term skilled nursing facility. The QA Manager identifies this as an issue and recruits the Medical Director to increase the percentage of patients who get discharged home.

[Second Level Review]

The QA Manager discovers that the cardiac monitors are outdated and require replacement in order to reliably interact with their ePCR. Due to recent funding cuts, the board has been unable to approve the purchase of new monitors. As a community with a large demographic of older adults, the Medical Director urges the significance of having more reliable cardiac monitors. The fire district board approves the Medical Director's plan of replacing the cardiac monitor, transporting patients to cardiac receiving/referral centers, and monthly STEMI chart reviews.

[Third Level Review]

The fire district board members, QA manager, and Medical Director begin looking for funds to replace the monitors. They ask for assistance from their closest cardiac receiving/referral center, regional council, professional EMS organization, and other nearby fire districts. After some months the department finds a small rural specific grant that allows for the purchase of three refurbished cardiac monitors. The fire district board, Medical Director, and QA manager monitor their surveillance of STEMIs in their community for the next year.

Additional Resources

Arizona Trauma and EMS Performance Improvement toolkit:

- http://www.azdhs.gov/bems/documents/data/users/stemi.pdf
- http://www.azdhs.gov/bems/documents/data/users/cardiac-arrests.pdf
- http://www.azdhs.gov/bems/documents/data/users/major-trauma.pdf
- http://www.azdhs.gov/bems/documents/s data/users/stroke.pdf

American College of Surgeons "Resources for Optimal Care of The Injured Patient" 2006.

BMGI Videos and Topics: *Search for topics*

- Introduction to Lean
- Introduction to Lean Six Sigma
- The Five Principles of Lean
- The Eight Types of Waste
- Visual Management
- Current State Value Stream Maps
- Creating a Pareto Charts
- Data Collection

Center for Disease Control and Prevention:

- http://www.cdc.gov/stltpublichealth/performance/

Emergency Medical Services System Quality Improvement Program Model Guidelines:

- http://emsa.ca.gov/media/default/pdf/emsa166.pdf

Joint Commission: Accreditation, Health Care, Certification

- http://www.jointcommission.org/Sentinel_Event_Policy_and_Procedures/

National Public Health Performance Standards Program:

- http://www.cdc.gov/NPHPSP/PDF/UserGuide.pdf

Public Health Quality Improvement Exchange:

- https://www.phqix.org/

Sample PI Plan

Purpose: The EMS Agency shall follow the comprehensive Performance Improvement Program that addresses policies to continuously improve clinical quality.

Performance Improvement Plan: The EMS Agency shall include prospective, concurrent, and retrospective initiatives designed to improve the care delivered by the agency's providers (whether ALS or BLS levels of care).

- All aspects of the Clinical Performance Improvement Program shall be developed in conjunction with Medical Administration and receive approval from the Medical Director.
- The EMS Agency's Operations Division will identify and develop the avenue for the implementation of the Performance Improvement Plan.

Objectives: The EMS Agency shall have measurable clinical indicators that are regularly assessed for compliance with established thresholds. These indicators shall include, at a minimum, the following:

- Accurate patient assessment
- Medical interventions delivered in accordance with established Administrative Orders;
- Success of skills;
- Clinical documentation quality, and
- Outcome data.

Note: If the agency Medical Director allows Permissive Skill(s), the EMS Agency shall also conduct appropriate review of these services.

Closing the PI Loop: The EMS Agency shall have a process for identifying and addressing instances where measurable indicators are not in compliance with established thresholds. This process shall include individual exceptions and department trends. Both circumstances should be addressed with on-going education.

The EMS Agency shall define reporting process for Performance Improvement activities and issues. This shall include, at a minimum: documenting & reporting individual issues; following through with the respective individuals to resolve the problem, documenting and reporting data to the Organizational Leadership, Operations, Medical Director, and others as needed. Areas of the program determined to be in need of improvement will be identified, changed, reassessed, and reported on every quarter.

Identified improvements in the standard of care will be initiated by Medical Director and follow through the EMS Agency's chain of command.

Intended for Quality Assurance Purposes Only

Filters:

Stroke:

- Documentation of a patient's last well known time
- Documentation of stroke assessment and results
- Contact date/time hospital was contacted
- Documentation of a blood glucose
- Transport to a Stroke Center

STEMI:

- Obtain an ECG as soon as unit arrives on scene
- Notify the hospital on the ECG (results/transmit)
- Documentation of aspirin administration (unless contraindicated)
- Documentation of oxygen administration (unless contraindicated)
- Transport to a Cardiac Center

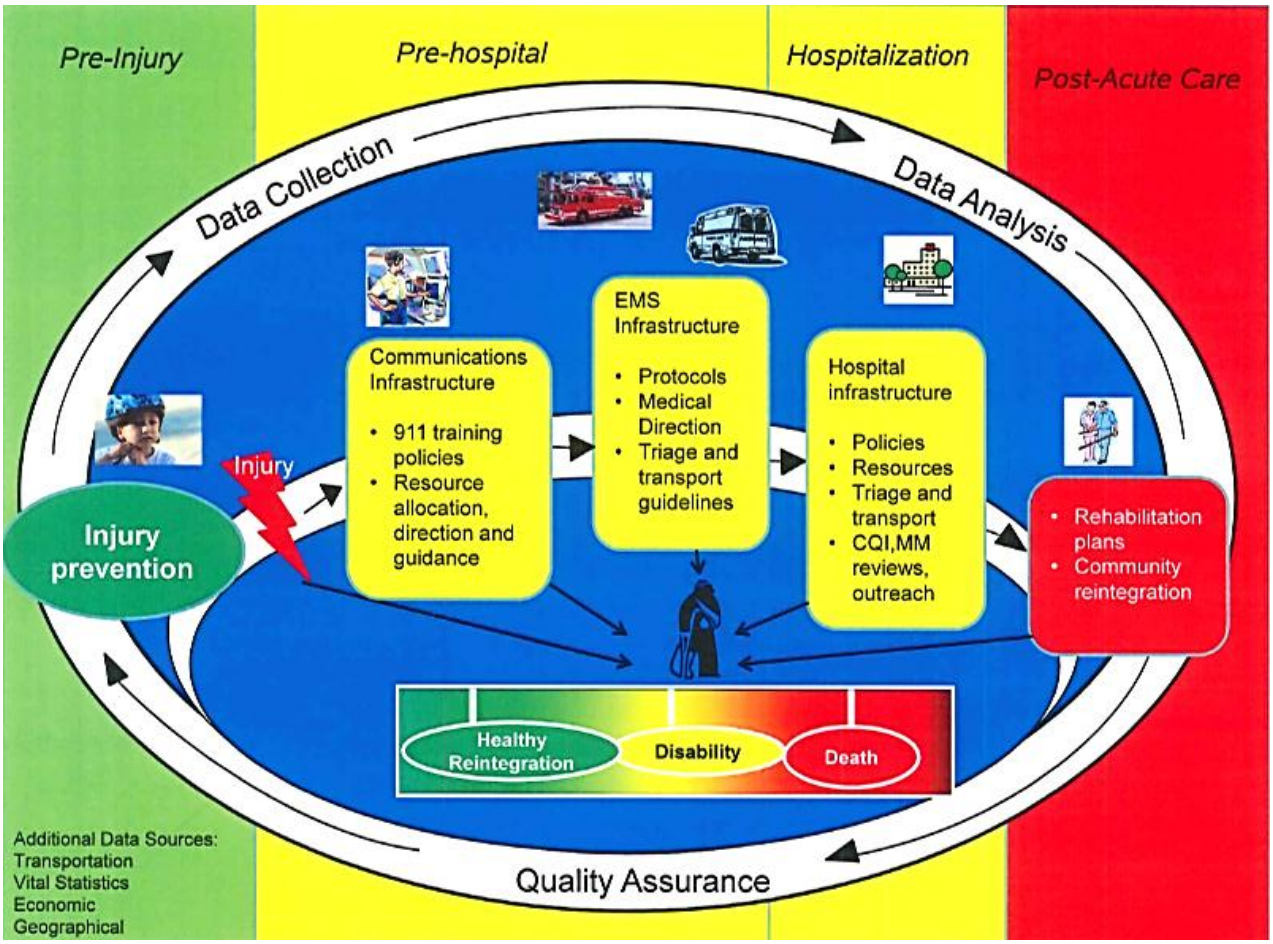
Out of Hospital Cardiac Arrest:

- Document whether bystander CPR was performed
- Document whether cardiac arrest was witnessed
- Document initial cardiac rhythm
- Document spontaneous circulation
- Document termination of resuscitation
- Reduce time to first compression upon unit arrival on scene
- Reduce time to defibrillation upon unit arrival on scene
- Transport to a Cardiac Center

Major Trauma:

- Reduce on scene time
- Document trauma triage criteria
- Document time and date of measurements for systolic blood pressure, respiratory rate, total GCS
- Document any transfers of patients
- Document intubations attempts and successes
- For TBI patients over the age of 18, maintain $ETCO_2$ between 35% and 45%, systolic blood pressure above 90 mmHg, and pulse oximetry above 90%
- For TBI patients under the age of 18, maintain $ETCO_2$ between 35% and 45%, systolic blood pressure (70 + 2 x age), and pulse oximetry above 90%
- Transport to a designated Trauma Center

Appendix A: EMS Integration Across All Phases of Care



An EMS data collection model should look at all potential legs of care from the patient perspective. Data sources include injury prevention activities, 911 dispatch/communication, pre-hospital, hospital, and rehabilitation. The focus of the system should be treating the patient and preventing death/disability in order to maximize the health reintegration of the patient into society.

The goal of every EMS system is to minimize the amount of mortality and morbidity occurring in their communities.

Appendix B: Definitions of Common Data Measurements

I. Statistical

A. Measures of Central Tendency: These are data measurements which show how the data is the same or; where most of the people, places or things tend to score or behave. These measurements are in the middle of what has often been called the “bell shaped curve”.

1. Mean (average) – The sum of all measured, or counted, data divided by the total number of data points; for example in the below data, if all the data values added together equal = 223 is divided by the total number of data points which are 15, then the product would be 14.8. Thus, the mean value of the data is 14.8.

2. Mode – the value repeated most often in raw data. For example in the data below the value 12 is repeated the most. Thus the mode value is 12

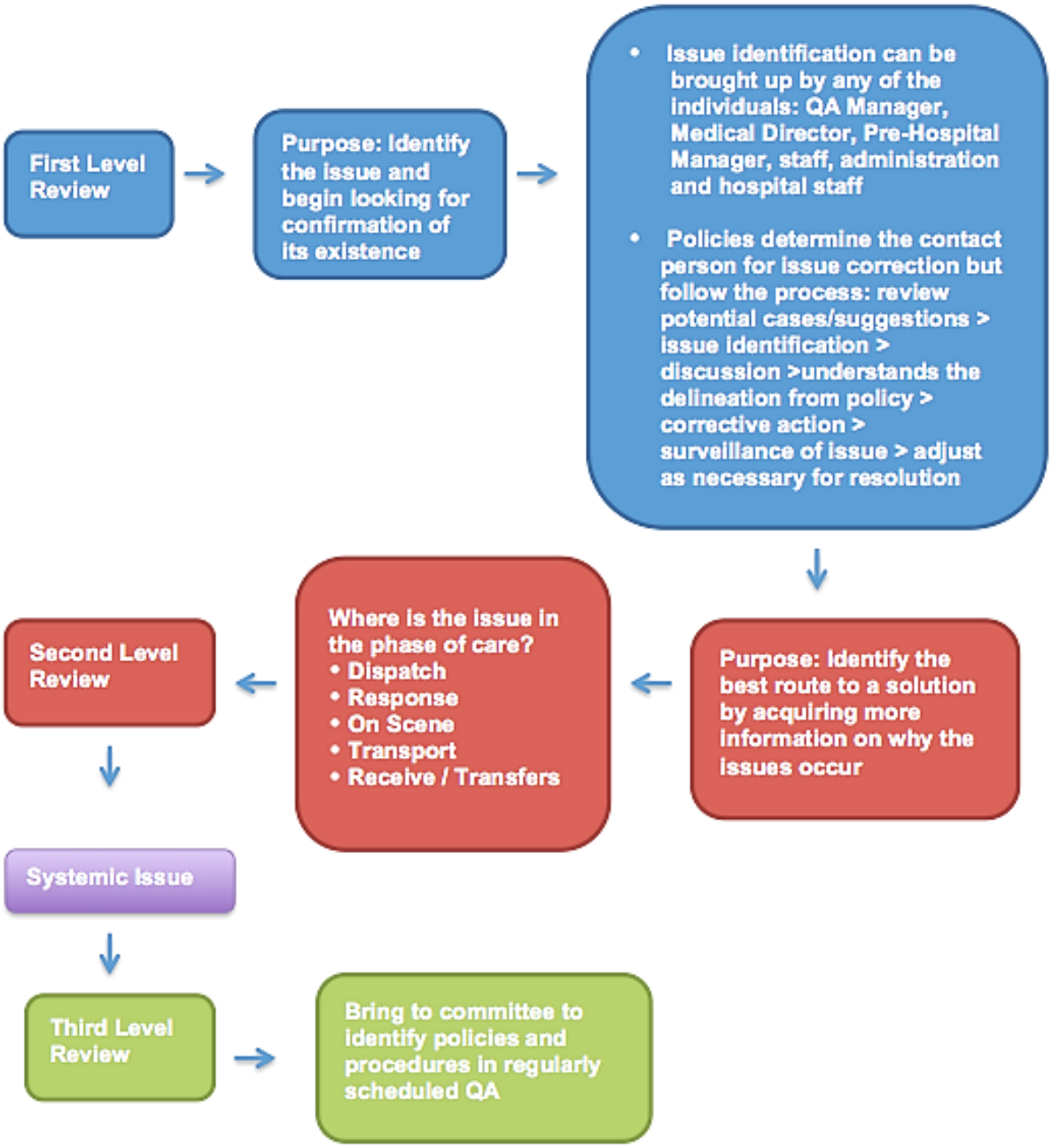
3. Median – the middle of all the measured or counted data points. For example, in the data below, all values are placed in numerical order and then the middle value is found by dividing by 2 and counting the ordered values until the middle value is identified. Thus, 12 is the middle of the ranked data points. Sample data: 8, 8, 9, 10, 10, 12, 12, 12, 14, 16, 16, 18, 20, 28, 30

B. Measures of Dispersion: These are data measurements which show how the data is different or; where most of the people, places or things are different. These measurements are on the outside of what has often been called the “bell shaped curve”.

1. Range – the maximum value minus the minimum data value.

2. Standard Deviation – A measurement which shows how widely spread (dispersed) any set of data is from the mean (average) of an entire data distribution. The standard deviation takes into account all the data points.

Appendix C: Hierarchy of Review Levels in an EMS Program



Closing

The Arizona Department of Health Services and Bureau of EMS & Trauma System would like to thank the EMS providers in the state for their innumerable counts of service, bravery, and sacrifice to the people in Arizona. The intention of this manual is to serve as a resource for individuals on the front lines striving to improve the care they provide to EMS patients at their time of greatest need. Special thanks are extended to the Trauma and EMS Performance Improvement standing committee and the EMS PI Plan workgroup responsible for this most valuable resource.

Further information and technical assistance can be accessed online at http://www.azdhs.gov/bems/data/index.htm or by contacting the DQA section chief directly at 602-542-2246.

EMS Council Report
Central Arizona Region
June - September 2014
Prepared by Arizona Emergency Medical Systems, Inc. (AEMS)

- The AEMS Functional Group meetings were held July 16 and September 17.
  During the July 16 meeting, and as part of our Topical Focus, Bruce Barnhart, with Arizona Emergency Medicine Research Center, presented an EPIC update. William D. McCluskey presented MedEvent as part of our Central Region Agency/Hospital Profile. As part of our Lunch N Learn, Kevin Todd, with Southwest Ambulance-Pinal County, presented Challenges of Providing EMS in Rural Arizona.

  During our September 17 meeting, as part of our Topical Focus, Franco Castro-Marin, MD, with Scottsdale Healthcare, presented Medical Direction of EMS. As part of our Central Region Agency/Hospital Profile, Sandy Nygaard presented Banner Goldfield Medical Center and Willie Haro presented West Valley Hospital. As part of our Lunch N Learn, Jeff Dobberpuhl, RN, MS, CP, with Mayo Clinic Hospital, presented LVAD Patient Management for First Responders.

  The next AEMS Functional Group meeting will be held on November 19, 2014.

- AEMS Board meetings were held June 18 and August 20. The June 18 meeting focused on our close-out of the 2013-14 fiscal year. The August 20 Board meeting focused on the new fiscal year, including reviewing year-end financial report and approving the budget for 2014-15.

  The next AEMS Board of Governors meeting – which is our Annual Meeting - will be held October 15, 2014.

- We are preparing for AEMS 2015 membership campaign. Our goal for the 2015 campaign is $65,000. Membership dues remain an important part of AEMS base funding and underwrite many of our operational expenses.

- AEMS successfully implemented the 14th Annual EMS Odyssey Conference. This year's conference was held June 4-6, 2014 at the Desert Willow Conference Center in Phoenix. An additional day (Wednesday) was added for a special four hour pre-conference which was the Traffic Incident Management (TIM) training. Some of the presentation topics included: geriatric trauma, pediatric airway, trauma, suicide prevention, unusual case studies, grant writing, pediatric altered mental states, prehospital use of ultrasound, spinal motion restriction, and community paramedicine. Next year's conference will be held June 10-12, 2015 at the Desert Willow Conference Center.

- For several months, we have been diligently updating Categorization Questionnaire and preparing it in an online format for the AEMS website. We have encountered a technology glitch involving web browser compatibility on the part of the user – an issue we will have to address individually with those impacted facilities. We are now in the process of implementing the Categorization process with those facilities who can meet our computer requirements. While we anticipate that this process will require some time given the technology; we expect to have the new Categorization Matrix ready by early next year.

- AEMS is seeking nominations for our annual Service Awards that will be presented during our Annual Meeting of the Board on October 15, 2014. Service Awards recognized individuals for their outstanding contributions provided to the AEMS organization.

- The AEMS Board of Governor is seeking nominations for one vacancy - Representative of the Administration of Non-Trauma Center Hospital. An election for this position will be held during the next AEMS Board of Governors' meeting on October 15.

REPORT TO THE STATE EMS COUNCIL

September 2014

Since the last State EMS Council meeting, NAEMS met on August 8, 2014.

- NAEMS' final financial report for the 2013-2014 fiscal year has been submitted.
- Updated Flagstaff Medical Center Trauma Guidebooks (4th edition), subsidized by NAEMS, have been distributed throughout the Region.
- There was further conversation regarding the State EMS Operating Fund for the Regions. Regional representatives met with DHS. Legislation may be needed in order to distribute excess funds to the Regions.
- NAEMS adopted the State BLS guidelines.

Funding Requests

- Reimbursement for EMT certification at Lakeside.
- Reimbursement for paramedic certification.

Events

- The 2015 Pediatric Symposium is scheduled for February 8th & 9th in Sedona and the venue will be the Hilton at the Village of Oak Creek.
- The Cardiology Conference for Primary Care was held at Twin Arrows Navajo Casino Resort on June 20 and June 21, 2014.
- The scheduled Traffic Incident Management (TIM) was held on July 11, 2014 in Flagstaff.

Regular Meetings: (2014)

- January 10
- March 7
- May 2
- August 8
- November 7

Next NAEMS Meeting: November 7, 2014, Flagstaff