Mission:

To use and provide data in the communication of process improvement, best practices, and advances in patient care to all.
October 15, 2012

Dear Reader,

This publication “Data and Quality Assurance (DQA) Section Guidebook” from the Arizona Department of Health Services (ADHS) will introduce you to the roles and responsibilities of our section. Under the direction of the Bureau of EMS and Trauma System (BEMSTS), the Data and Quality Assurance (DQA) section “uses and provides data in the communication of process improvement, best practices, and advances in patient care to all”. Our goal is to provide you with highest quality of trauma-related data for insight into Arizona.

Trauma is the leading cause of death for all people between 1-44 years of age in the Arizona. As an example, there was a total medical cost of $199,674,106 and a work loss cost of $543,889,050 related to motor vehicle accidents in 2010\(^1\). These figures impact each and every one of us and will require collaboration, support, and data for informed decision making.

Of most importance to us, we would like to send our deepest and most heartfelt thanks to the members of the trauma community. It is your dedication to our citizens and your willingness to report this information that allow for us to have insight into the trauma problem facing Arizona.

Please visit [http://www.azdhs.gov/bems/data/index.htm](http://www.azdhs.gov/bems/data/index.htm) for up to current policies and paperwork. Attached to this report are all of the applications and paperwork that we have for our section. If you require additional help please contact the Data and Quality Assurance Section Chief in the Bureau of EMS and Trauma System, at 602-542-2246 or at [Rogelio.Martinez@azdhs.gov](mailto:Rogelio.Martinez@azdhs.gov).

Sincerely,

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

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\(^1\)Cases that were captured in ASTR and calculated using WISQARS with 2010 data.
Data & Quality Assurance History & Mission

In 2006, the Bureau of Emergency Medical Services and Trauma System (BEMSTS) established the Data and Quality Assurance (DQA) Section. This section collects, manages, and provides data from the trauma system through its two major databases; Arizona State Trauma Registry (ASTR) and the Arizona Pre-Hospital Information and EMS Registry System (AZ-PIERs).

The administrative structure of the DQA Section includes a section chief, a state trauma registry manager, an EMS and trauma care biostatistician, and an EMS data manager.

The DQA Webpage link is found in the Arizona Department of Health Services (ADHS):

http://www.azdhs.gov/bems/DQA.htm

The mission of the DQA Section is:

To use and provide data in the communication of process improvement, best practices, and advances in patient care to all.
Data & Quality Assurance Section Staffing

The following BEMSTS staff members comprise the DQA Section:

Section Chief
Rogelio Martinez, MPH
DQA Section Chief
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Profile:
Rogelio Martinez holds a Master’s of Public Health degree in Public Health Practice from the University of Arizona Mel and Enid Zuckerman College of Public Health. His undergraduate work was in Kinesiology and in Nutrition Science; both were awarded from the University of Illinois at Chicago. The bulk of his work experience has been in the implementation of new projects in communities, the integration of evidence into policy interventions, and effective communication to stakeholders on comprehensive large scale projects.

EMS and Trauma Data Biostatistician:
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chikanv@azdhs.gov

Profile:
Vatsal Chikani holds an MPH from Northern Illinois University, DeKalb, Illinois. She also holds a Bachelor of Homeopathic Medicine and Surgery (Physician in Alternative Medicine) from C.M.P.H. Medical College, Mumbai, India. Ms. Chikani is a Biostatistician at the BEMSTS, providing assistance to internal and external entities regarding research and statistical analysis, managing databases, designing questionnaires and survey instruments, data cleaning, linking and manipulating datasets to monitor data collection, developing analysis plans and research strategies. She provides advanced statistical analysis of quantitative data using SAS/SPSS. Ms. Chikani has experience working with large population-based studies and has published several manuscripts on chronic diseases as a first author, coordinated a number of major research and statistical projects on chronic diseases, children with special health care needs, cardiac arrest, and stroke.

EMS and Trauma Epidemiologist:
Maureen Brophy, MPH
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Profile:
Maureen Brophy holds a Masters of Public Health degree in Epidemiology and International Health from Boston University School of Public Health. She also holds a Bachelors of Arts degree in Sociology from Southern Connecticut State University. She has experience as an Emergency Medical Technician in both Connecticut and Massachusetts. She has also worked as a Project Coordinator for the Zambia Center for Applied Health Research and Development, where she was largely involved with data collection, management, and supervision of project implementation.
EMS and Trauma Data Manager:

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vossbra@azdhs.gov

Profile:
Anne Vossbrink holds a Master of Science in Microbiology from Arizona State University, a Bachelor of Arts in International Affairs from Northern Arizona University. She also completed the graduate-level Public Health Epidemiology Certification program from Arizona State University, W.P. Carey School of Business. Ms. Vossbrink has more than ten years of experience in public health as an Infectious Disease Epidemiologist, a Public Health Scientist with the Arizona State Laboratory, and for the past two years has been working as the DQA Section’s EMS and Trauma Data Manager. Ms. Vossbrink’s publications include: Public Health Surveillance for Coccidioidomycosis in Arizona, Vossbrink et al, Annals of the New York Academy of Sciences, Volume 1111, pp. 96 – 102, September 2007. Coccidioidomycosis Sixth International Symposium.
ASTR Data Collection & Submission

Arizona State Trauma Registry (ASTR) data collection rules:

Designated trauma centers are required to submit (non-designated facilities are optional) records of patients who satisfy the following trauma registry inclusion criteria specified in Title 9, Ch. 25, Article 14, § R9-25-1402(A) of the Arizona Administrative Code:

1. A patient with injury or suspected injury who is triaged from a scene to a trauma center or ED based upon the responding EMS provider’s trauma triage protocol;
   B. A patient with injury who is transported via EMS transport from one acute care hospital to another acute care hospital; or
2. A patient with injury or suspected injury for whom a trauma team activation occurs; or
3. A patient with injury who
   A. Is admitted as a result of the injury or who dies as a result of the injury, who has an ICD-9-CM N-code within categories 800 through 959, and who does not only have:
      a. Late effects of injury or another external cause, as demonstrated by an ICD-9-CM N-code within categories 905 through 909;
      b. A superficial injury or contusion, as demonstrated by an ICD-9-CM N-code within categories 910 through 924;
      c. Effects of a foreign body entering through an orifice, as demonstrated by an ICD-9-CM N-code within categories 930 through 939;
      d. An isolated femoral neck fracture from a same-level fall, as demonstrated by:
         i. An ICD-9-CM N-code within category 820; and
         ii. An ICD-9-CM E-code within category E885 or E886;
      e. An isolated distal extremity fracture from a same level fall, as demonstrated by:
         i. An ICD-9-CM N-code within categories 813 through 817 or within categories 823 through 826; and
         ii. An ICD-9-CM E-code within category E885 or E886;
      f. An isolated burn, as demonstrated by an ICD-9-CM N-code within categories 940 through 949.

Additional information about the ASTR Rules and the Guide to Trauma Patient Inclusion Criteria can be retrieved from Trauma Registry Rules

The ASTR is currently comprised of two datasets: A Full Data Set of 187 data elements (required or auto-calculated) and a Reduced Data Set of 70 data elements (required or auto-calculated). Levels I, II, and III Trauma Centers submit the Full Data Set while Level IV and non-designated hospitals have the option of submitting the full or reduced. Only Level I Trauma Centers are required to submit AIS 2005 injury codes; all hospitals submit ICD-9-CM injury diagnosis codes.

ASTR 2008-2010 Required Data Elements;
ASTR Full Dataset 2008-2010 Data Dictionary;
ASTR Reduced Dataset 2009-2010 Data Dictionary

Trauma data records from ASTR-participating hospitals are collected on a quarterly basis. Participating hospitals are required to submit their respective trauma data no later than 90 days of the close of the immediately preceding quarter. The ASTR data submission guidelines and the ASTR export instructions can be retrieved from:

The ASTR Data Submission Guidelines;
ASTR Export Instructions

<table>
<thead>
<tr>
<th>Reporting Quarter</th>
<th>Quarter 1</th>
<th>Quarter 2</th>
<th>Quarter 3</th>
<th>Quarter 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTR Due Date</td>
<td>7/1/2012</td>
<td>10/1/2012</td>
<td>1/3/2013</td>
<td>4/1/2013</td>
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</tbody>
</table>
AZ-PIERS Data Collection & Submission

Contrarily to the ASTR database, AZ-PIERs is voluntary for EMS agencies. ADHS provides the capability for pre-hospital providers to generate and transmit electronic Patient Care Records (ePCRs). These records are used for quality improvement processes throughout the trauma system.

The AZ-PIERS dataset measures four crucial time sensitive illness and injuries:
- ST-Elevation Myocardial Infarction (STEMI)
- Out of Hospital Cardiac Arrest (OHCA)
- Stroke
- Trauma

The response time and success of these four processes provide insight on the quality of the trauma system and organizations. The table below is a proposed timeline for quality care reports for submitting organizations. These reports will benchmark de-identified performance of the system as a whole and provide for performance improvement.

### Proposed Timeline for Performance Improvement Data Reports:

<table>
<thead>
<tr>
<th>Reporting Quarter</th>
<th>Bi-Annual Year 1</th>
<th>Bi-Annual Year 1</th>
<th>Bi-Annual Year 2</th>
<th>Bi-Annual Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS Due Date</td>
<td>7/1/2013</td>
<td>1/3/2014</td>
<td>7/1/2014</td>
<td>1/3/2015</td>
</tr>
</tbody>
</table>

This Data Dictionary is founded on the National EMS Information System (NEMSIS) 2.2.1 elements. NEMSIS has set the standard for measuring pre-hospital data. In developing AZ-PIERS, DQA has integrated the needs of the Arizona community with NEMSIS. AZPIERS measures a total of X element, X are state required and X are optional.

**Data Dictionary**

Additional information on AZ-PIERS can be found at

**AZ-PIERS**
Requesting Data from the EMS & Trauma System

Confidentiality Statement and Other Data Request Forms:

DQA can process and provide data requests from any of the following registries and databases:

- Arizona State Trauma Registry (ASTR)
- Arizona Pre-Hospital Information & EMS Registry System (AZ-PIERS)
- STEMI Database
- Out-of-Hospital Cardiac Arrest (OHCA) Database
- Stroke Database (data availability pending)

The following checklist has been provided for your convenience for requesting data:

<table>
<thead>
<tr>
<th>Non-Public Health Information</th>
<th>Public Health Information</th>
<th>Commercial Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Request Form</td>
<td>Data Request Form</td>
<td>Data Request Form</td>
</tr>
<tr>
<td>N/A</td>
<td>Institutional Review Board Approval (IRB) within organization</td>
<td>Notarized Public Records Request Form</td>
</tr>
<tr>
<td>N/A</td>
<td>Arizona Department of Health Services IRB approval</td>
<td>N/A</td>
</tr>
</tbody>
</table>

DQA takes extreme care and caution in protecting the identities of providers, individuals, and patients. Identifiable information requires approval from ADHS and an Institutional Review Board (IRB). **Any information that could identify the patient, the patient’s family, the health care provider, or the Agency is fully protected from being discovered or subpoenaed. BEMSTS is PROHIBITED from using quality improvement data to inform its regulatory activities.**

Appendix B contains the regulations that DQA must follow for compliance with ADHS and the Human Subjects Review Board and relevant paperwork for approval.

Requests for data that contains de-identified protected health information (PHI) must be approved by the ADHS Human Subjects Review Board (HSRB) before the DQA Section Chief can approve the request.

Complete instructions, contacts, policies, and on-line forms are available at the ADHS/Office of Administrative Counsel & Rules website.