STEMI TREATMENT PROTOCOL AND DATA COLLECTION MANUAL

A Statewide Consensus Document on the Care of ST Elevation Myocardial Infarctions

 Adopted November 9, 2006

Dirigo Health Agency/Maine Quality Forum
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INTRODUCTION

Nationally, approximately one third of acute heart attack victims do not receive the care they need, when they need it, to save heart muscle and reduce the death rate. As discussed in the ACC/AHA Practice Guidelines certain kinds of acute myocardial infarction (ST elevation AMI, STEMI) are very likely to have a clot block critical arteries to the heart (“coronary thrombus occluding the infarct artery”) and these patients respond well to new clot busting treatments. These treatments, referred to as reperfusion therapies, include clot busting drugs (thrombolytics) and catheter procedures (percutaneous coronary intervention: PCI). Clot busting drugs can be given by most medical personnel and are available in all of Maine’s hospital emergency departments. Clot busting catheter treatments are provided, in emergency situations, by three referral PCI programs (located in Bangor, Lewiston and Portland) and one community PCI program (located in York). Because damage to the heart can occur within 15 minutes of occlusion and progresses rapidly, the more quickly the appropriate care can be provided the more likely the patient is to survive and the more likely damage to the heart muscle is reduced. Timely treatment of ST elevation AMI’s requires early recognition, quick treatment decisions, and efficient patient transport systems. Because the care of patients experiencing a STEMI may occur across multiple care settings, efficient coordination of that care is critical to improving patient outcomes.

In recognition of the need for effective coordination of care, the Maine State Health Plan asked the Maine Quality Forum/Dirigo Health Agency to initiate a coordination effort. Dr. Costas “Gus” Lambrew agreed to serve as the Medical Director for the project. In April of 2006 a multi-stakeholder conference was held to introduce the idea of a coordinated care model for STEMI’s in Maine and explore the critical goals of the project. Following that session the following goals were established:

- To establish a consensus care pathway based upon treatment guidelines established by the American College of Cardiologists and the American Heart Association
- To establish regionally appropriate treatment plans for using the consensus pathway
- To establish critical metrics, data collection and analysis methods, and actionable reporting processes
- To establish an Executive Committee, comprised of individuals representing: emergency department physician, cardiologist, nurse, basic/advanced life support, dispatch, data selection/collection, hospital administration and public awareness/action to provide oversight and long-term guidance to the project
- To establish workgroups to address topics associated with: medical response and treatment, data and metrics, and community engagement
- To maintain a connection to the larger multi-stakeholder group to report out and receive feedback on project efforts and decisions

With the collaboration of varied stakeholders this coordination effort, known as In a Heartbeat, has, over the course of eight months, developed a model for coordinating the care of ST Elevation AMI patients across the state. Presented here is the manual outlining the consensus treatment protocol, the organizational principles, and the data collection principles, elements and tools. The Maine Quality Forum thanks the many dedicated individuals who gave their time and knowledge to this effort and remain committed to its continuation.
**IN A HEARTBEAT**

**PRINCIPLES OF ORGANIZATION**

*In a Heartbeat* is a self-governing, state-wide, multidisciplinary effort to coordinate the care (clot busting, reperfusion) of STEMI. The Executive Committee is responsible for oversight of the project. The Executive Committee consists of the spectrum of stakeholders in the chain of care. The Data and Metrics Workgroup develops and maintains the care guide for the chain of care and the metrics needed to inform the participants of the success of their efforts in providing the right care at the right time. The HART workgroup is an offshoot of a state Emergency Medical Services committee that shares responsibility for coordinating dispatch, initial response and transfer. The AMI Community Engagement (ACE) has assumed the task of program development, coordination and delivery addressing the known gap in public’s knowledge that prevents appropriate calls to 911.

*In a Heartbeat* depends on resources in part provided by Maine Quality Forum, stakeholder participants and foundations such as Maine Health Access Foundation and the Bingham Fund.

On at least an annual basis, the work groups and the Executive Committee will reconsider their programs and plans based on collected data, resources and changing science. Maine Quality Forum has assumed the responsibility for contracting for data collection and reporting. The Executive Committee will oversee the data feedback to chain of care participants individually and in aggregate as needed to provide the essential information about process success and most importantly individual and population based outcome.

The lifespan of *In a Heartbeat* will be determined by the evolution of the science of care of STEMI and the consensus of the participants as to the need for a mechanism for state-wide, rapid cycle quality improvement. The project will become inherently self-correcting based on the common definition metrics of process and outcome.
GOAL: Process improvement and ultimate public information and reassurance using IHB data.

No data with patient identifiers is provided to IHB groups and committees. No specific practitioner (physician, nurse EMS etc.) identification is collected by IHB or its contractor. Data collection and reporting subject to IRB review.

Data Structure
The data are grouped by treatment providers across the pathway of care. Within each provider group’s metrics are a set of core metrics. Core metrics when analyzed together will provide a snapshot of the systemic outcomes associated with coordinated STEMI care. Metrics not identified as core metrics are considered internal quality improvement (QI) metrics. Analysis of these metrics will allow practitioners and providers to assess areas of the care process for the purposes of quality improvement.

Data Collection
A contractor, selected via RFP through the Maine Quality Forum, will develop a system for the collection, analysis, and reporting of the data. The contractor will develop an active data collection system for the core metrics and a passive data receipt system for the QI metrics.

Providers have asked that data describing patients that they have helped treat be returned to them as often as possible. Monthly, the IHB contractor will submit to providers whatever aggregate data is available describing the care of their own patients all through the chain of care. Other participants in the chain of care will not be identified.

Process improvement requires complete, thoughtful data feedback at regular intervals. The Metrics and Data Workgroup (D&M), with the assistance of the contractor, will design and submit to the Executive Committee of IHB (EC) a template for quarterly data reports, based upon the analysis of the core metrics, to be submitted to D&M and EC by the contractor with provider identifications. D&M is responsible for analyzing the data and making statements of validity, accuracy and usability. When the D&M committee concludes that the data system is stable and accurate it will recommend to the EC that provider identified information be released to IHB participants. At least 12 months of data collection must occur before the first release of provider identified data is released. E&M will release semiannual reports with provider identification when E&M and EC have determined that the information is appropriate for release.

QI metrics will be populated in the database idiosyncratic to the provider. These data may be used by the provider that owns them in whatever manner is useful to the provider.

The public has a right to transparency and accountability
Maine Quality Forum may publicly display information, derived from the core metrics, either upon approval by the IHB EC or 3 months after the release of the first information with provider identification (which ever occurs first). The IHB Executive Committee understands that the Maine Quality Forum Advisory Council advises MQF on presentation and content of publicly reported information. All IHB participants have an opportunity to review proposed information presentation through the public Advisory Council process. In addition, MQF will alert IHB EC when IHB information is being presented to the MQF-AC for public review to elicit relevant comments.

**Recommended approaches**
To improve the efficiency of data collection, IHB recommends that each hospital use the outlined data elements to guide locally constructed order sets and charting instruments that both guide delivery of care and concurrently collect necessary data elements for process control and improvement.

**Creating a Common Language: Provider and Practitioner**
The IHB uses the term *Provider* to mean an organization or institution that provides care for patients (this will include but is not limited to hospitals, practices, and ambulance services). The IHB uses the term *Practitioner* to mean an individual who provides care for patients (this includes but is not limited to physicians, nurses, and EMS personnel).
**STEMI CLINICAL PATHWAY**

**STE/ LBBB Symptoms < 12hours**

- **Presentation to Cath Lab Door <1hr**
  - Or Contraindication to Lytic
  - (See table)

- **Primary PCI**
  - Transfer to PCI Center
  - Goal: Door to Balloon 90°

- **Lytic**
  - Goal: Door to Drug < 30°

Administer MEDS as indicated:
- ASA
- Beta blocker
- Plavix 300mg
- Heparin **

Contraindications to Lytic
- Any prior intracranial hemorrhage
- Known structural cerebral vascular lesion (e.g. AVM)
- Known malignant intracranial neoplasm
- Ischemic stroke within 3 mos (EXC within 3hours
- Suspect aortic dissection
- Active bleeding or bleeding diathesis (EXC) menses
- Significant closed head trauma
- Uncontrolled HTN (SB/P>175;DB/P>110)
- Current use of anticoagulants

** TIMI Risk Criteria:**
- Previous MI
- Anterior Infarct
- SB/P< 100
- HR >100
- A-Flutter or Fib
- Age>75
- Killip Class>II
- Post CPR

* For patients in whom the onset of symptoms to presentation is > 3hours, timely reperfusion remains the primary treatment goal. The relative benefits of lytic vs primary PCI are dependent on relative treatment delays and institutional specific policies should be developed for this patient subset.

** Heparin bolus only for patients within 1 hour transport to PCI Facility – 60un/kg max 4,000units
Patient transport over 1 hour to PCI Facility continuous Heparin with 12un/kg drip or hourly re-bolus with maximum 1000 units.
DATA ELEMENTS

Patient Eligibility Criteria

STE/ LBBB
Documentation of ST-segment elevation or left bundle branch block (LBBB) on the electrocardiogram (ECG) performed closest to hospital arrival. Use the 12-lead ECG performed closest to the time of hospital arrival. Do not use ECGs done more than one hour prior to hospital arrival. ST segment elevation with >1mm/.10mV in two or more leads.

CMS definition (does not specify “new” LBBB?)

Definitions

Symptom Onset

Onset time for patients reporting symptoms initially intermittent and subsequently constant, the onset time is defined as the time of change from intermittent to constant symptoms. Patients reporting symptoms that were initially mild and subsequently changed to severe, the onset time is defined as the time of change in symptom severity. For patients with both, the change in symptom severity is given preeminence in determining symptom onset time. The REACT Trial definition. Am Heart J 138(6):1046-1057

Patients with symptom onset >12 hours are included in the general study but excluded from time measures.

Purpose

The following data dictionary defines variables associated with three primary evaluation areas: timeliness of care, treatment provided, and outcomes of care. The mandatory fields identified are critical to analyses for the following reasons: they allow linking across multiple databases, they allow for “real time” collection of data focused upon process improvement, and they allow for retrospective systemic analyses. The ultimate goal of collecting these data is to provide actionable information, to Maine’s hospitals and MeEMS, relative to the care processes and outcomes associated with their treatment of STEMI’s. Please refer to the “Data Circulation and Review Plan” earlier in this manual for a review of the guiding principles associated with data collection and analyses.

Critical Analysis Questions

The In a Heartbeat data analyses will seek to answer the following critical questions:

- How well is the medical system doing in reducing the time from onset of symptoms to treatment
- How well is the medical system doing in reducing the time from call to 911 to treatment
- How well are EMS services and hospitals doing at maximizing the efficiency of the process of care for STEMI
- How well are the outcomes of STEMI care improving within hospitals and across the state
- What do the data tell us regarding the use of thrombolytics and percutaneous coronary intervention relative to care outcomes
- What barriers to improved care can be addressed within hospitals and across the state
<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Demographics</th>
<th>Data Source</th>
<th>Variable Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>Patient Last Name</td>
<td>Y</td>
<td>includes month, day, and four digit year</td>
</tr>
<tr>
<td>D2</td>
<td>Patient First Name</td>
<td>Y</td>
<td>physical address of patient</td>
</tr>
<tr>
<td>D3</td>
<td>Patient Middle Name</td>
<td>Y</td>
<td>physical address of patient</td>
</tr>
<tr>
<td>D4</td>
<td>Patient Date of Birth</td>
<td>Y</td>
<td>includes month, day, and four digit year</td>
</tr>
<tr>
<td>D5</td>
<td>Patient Street</td>
<td>Y</td>
<td>must include 5 digit zip minimum</td>
</tr>
<tr>
<td>D6</td>
<td>Patient Town</td>
<td>Y</td>
<td>physical address of patient</td>
</tr>
<tr>
<td>D7</td>
<td>Patient County</td>
<td>Y</td>
<td>physical address of patient</td>
</tr>
<tr>
<td>D8</td>
<td>Patient Zip</td>
<td>Y</td>
<td>physical address of patient</td>
</tr>
<tr>
<td>D9</td>
<td>Patient Gender</td>
<td>Y</td>
<td>must include 5 digit zip minimum</td>
</tr>
<tr>
<td>D10</td>
<td>Patient Medical Record Number</td>
<td>Y</td>
<td>number assigned to patient by hospital</td>
</tr>
<tr>
<td>D11</td>
<td>Patient Social Security Number</td>
<td>Y</td>
<td>nine digit SSN xxx-xx-xxxx</td>
</tr>
<tr>
<td>D12</td>
<td>Date of Service</td>
<td>Y</td>
<td>date patient was treated mm/dd/yyyy</td>
</tr>
<tr>
<td>D13</td>
<td>Date of Admission</td>
<td>Y</td>
<td>date patient admitted to hospital mm/dd/yyyy</td>
</tr>
<tr>
<td>D14</td>
<td>Date of Discharge</td>
<td>Y</td>
<td>date patient discharged from hospital mm/dd/yyyy</td>
</tr>
<tr>
<td>D15</td>
<td>Initial Transport Service EMS Run Sheet Number</td>
<td>Y</td>
<td>run sheet number assigned to the call by the responding service</td>
</tr>
<tr>
<td>D16</td>
<td>Responding Service EMS Run Sheet Number</td>
<td>Y</td>
<td>run sheet number assigned to the call by the transporting service</td>
</tr>
<tr>
<td>D17</td>
<td>RESP Time (time of call to 911)</td>
<td>Y</td>
<td>time 911 call received</td>
</tr>
<tr>
<td>E1</td>
<td>ASA Instructions Dispatch Place</td>
<td>Y</td>
<td>Y/N Dispatch instructed patient to chew aspirin</td>
</tr>
<tr>
<td>E2</td>
<td>RESP Holder Metric</td>
<td>Y</td>
<td>run sheet number assigned to the call by the initial responding service</td>
</tr>
<tr>
<td>E3</td>
<td>RESP Number</td>
<td>Y</td>
<td>run sheet number assigned to the call by the initial responding service</td>
</tr>
<tr>
<td>E4</td>
<td>RESP Name</td>
<td>Y</td>
<td>name of the initial service responding to 911</td>
</tr>
<tr>
<td>E5</td>
<td>Transport Service Run Sheet Number</td>
<td>Y</td>
<td>run sheet number assigned to the call by the transporting service</td>
</tr>
<tr>
<td>E6</td>
<td>Transport Service Name</td>
<td>Y</td>
<td>name of the service transporting the patient</td>
</tr>
<tr>
<td>E7</td>
<td>Transport Service Number</td>
<td>Y</td>
<td>name of the service transporting the patient</td>
</tr>
<tr>
<td>E8</td>
<td>RESP Level</td>
<td>Y</td>
<td>highest level of training of the EMS personnel providing direct care during the run</td>
</tr>
<tr>
<td>E9</td>
<td>RESP Level</td>
<td>Y</td>
<td>EMT-Intermediate</td>
</tr>
<tr>
<td>E10</td>
<td>RESP Level</td>
<td>Y</td>
<td>EMT-Critical Care</td>
</tr>
<tr>
<td>E11</td>
<td>RESP Level</td>
<td>Y</td>
<td>EMT-Paramedic</td>
</tr>
<tr>
<td>E12</td>
<td>RESP Level</td>
<td>Y</td>
<td>- Ambulance Attendant</td>
</tr>
<tr>
<td>Variable Name</td>
<td>Variable Description</td>
<td>Variable Definition</td>
<td>Data Source</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------</td>
<td>---------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>EMS11</td>
<td>Time Arrival on Scene</td>
<td>time when the responding crew arrives on the scene</td>
<td></td>
</tr>
<tr>
<td>EMS12</td>
<td>Time Left Scene</td>
<td>time the ambulance leaves the scene with the patient</td>
<td></td>
</tr>
<tr>
<td>EMS13</td>
<td>Symptom Onset Time</td>
<td>See “symptom onset” definition above table</td>
<td>Y</td>
</tr>
<tr>
<td>EMS14</td>
<td>12-Lead</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>EMS15</td>
<td>ST Elevation</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>EMS16</td>
<td>LBBB</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>EMS17</td>
<td>Defibrillation</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>EMS18</td>
<td>CPR</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>EMS19</td>
<td>Advanced Airway</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>EMS20</td>
<td>Hypotension</td>
<td>Y/N SBP &lt; 100</td>
<td></td>
</tr>
<tr>
<td>EMS21</td>
<td>Symptom Complex Chest Pain/Pressure</td>
<td>Y/N by patient complaint</td>
<td></td>
</tr>
<tr>
<td>EMS22</td>
<td>Symptom Complex Jaw Pain</td>
<td>Y/N by patient complaint</td>
<td></td>
</tr>
<tr>
<td>EMS23</td>
<td>Symptom Complex Back/Shoulder Pain</td>
<td>Y/N by patient complaint</td>
<td></td>
</tr>
<tr>
<td>EMS24</td>
<td>Symptom Complex Left Arm Pain</td>
<td>Y/N by patient complaint</td>
<td></td>
</tr>
<tr>
<td>EMS25</td>
<td>Symptom Complex Shortness of Breath</td>
<td>Y/N by patient complaint</td>
<td></td>
</tr>
<tr>
<td>EMS26</td>
<td>Symptom Complex Feeling of Dread</td>
<td>Y/N by patient complaint</td>
<td></td>
</tr>
<tr>
<td>EMS27</td>
<td>ASA</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>EMS28</td>
<td>Pre-Hospital Lytic (Place Holder Metric)</td>
<td>Y/N (place holder metric)</td>
<td>Y</td>
</tr>
<tr>
<td>EMS29</td>
<td>Nitrates</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>EMS30</td>
<td>Catheter Lab Activation</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>EMS31</td>
<td>Receiving Institution</td>
<td>name of the hospital to which the patient was transported</td>
<td></td>
</tr>
<tr>
<td>EMS32</td>
<td>Hospital Arrival Time</td>
<td>time the ambulance arrives at the receiving hospital</td>
<td></td>
</tr>
<tr>
<td><strong>ED Centric</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ED1</td>
<td>Emergency Department Arrival Time</td>
<td>Time of patient triage. Earliest documented date patient arrived at the hospital. Triage Time in the ED. Registration times on the hospital “facesheets” have not been accurate due to early or late registration time entered and not actual patient arrival time. Note: (encourage documented times to be taken from the computer clocks to maintain synchronicity) Do not include times from external sources, e.g. ambulance</td>
<td></td>
</tr>
<tr>
<td>Variable Name</td>
<td>Variable Description</td>
<td>Variable Definition</td>
<td>Data Source</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------</td>
<td>---------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>ED2</td>
<td>Transport Method</td>
<td>Ambulance, Life-Flight, Self</td>
<td>records, physician office, lab reports or ECGs.</td>
</tr>
<tr>
<td>ED3</td>
<td>Symptom Onset Time</td>
<td>See “symptom onset” definition above table</td>
<td></td>
</tr>
<tr>
<td></td>
<td>First ECG Time</td>
<td>The machine generated time documented on the diagnostic ECG. Note: QA machine times to synchronize with ED computers clocks. Time of ECG done within 1 hour before hospital arrival.</td>
<td></td>
</tr>
<tr>
<td>ED4</td>
<td>Diagnostic ECG Time (DxEKG)</td>
<td>The machine generated time documented on the diagnostic ECG. Note: QA machine times to synchronize with ED computers clocks. Time of ECG done within 1 hour before hospital arrival. (note this can be the same as first ECG time)</td>
<td></td>
</tr>
<tr>
<td>ED5</td>
<td>ST AMI or LBBB Dx</td>
<td>Y/N confirmed diagnosis of ST elevation AMI or Left Bundle Branch Block</td>
<td></td>
</tr>
<tr>
<td>ED6</td>
<td>Treatment Decision Time</td>
<td>The time that the physician ordered the Lytic administration or called to activate Primary PCI, or chose not to treat. (encourage documented times to be taken from the computer clocks to maintain synchronicity)</td>
<td></td>
</tr>
<tr>
<td>ED7</td>
<td>Treatment Option</td>
<td>Lytic, Primary PCI, not treated</td>
<td></td>
</tr>
<tr>
<td>ED8</td>
<td>Comfort Measures Only</td>
<td>Documentation by a physician / PA/ Nurse practitioner the patient was receiving CMO. CMO are not equivalent to the following; DNR, living will, no code, no heroics. Comfort measures only must be documented. V66.7 encounter for palliative care. Defined from AMI abstract guidelines for CMS These patients will be excluded from time measures</td>
<td></td>
</tr>
<tr>
<td>ED9</td>
<td>Patient Refusal</td>
<td>Y/N Documented patient refusal of treatment</td>
<td>Need acceptable list</td>
</tr>
<tr>
<td>ED10</td>
<td>Lytic Ordered Time</td>
<td>The time the physician ordered the lytic. (encourage documented times to be taken from the computer clocks to maintain synchronicity)</td>
<td></td>
</tr>
<tr>
<td>ED11</td>
<td>Lytic Administration Time</td>
<td>The time the lytic was administered. (encourage documented times to be taken from the computer clocks to maintain synchronicity)</td>
<td></td>
</tr>
<tr>
<td>ED12</td>
<td>Lytic Delay Reason</td>
<td>acceptable documentation of reasons for delay (to be inserted)</td>
<td></td>
</tr>
<tr>
<td>ED13</td>
<td>Lytic Contraindicated</td>
<td>Yes/No see chart for contraindications</td>
<td></td>
</tr>
<tr>
<td>ED14</td>
<td>TIMI At Risk</td>
<td>“AT RISK/NOT AT RISK” see TIMI criteria</td>
<td></td>
</tr>
<tr>
<td>ED15</td>
<td>Cardiogenic Shock</td>
<td>Y/N SBP&lt;90 w/o dopamine or SBP&lt;100 w/</td>
<td></td>
</tr>
<tr>
<td>Variable Name</td>
<td>Variable Description</td>
<td>Variable Definition</td>
<td>Data Source</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------</td>
<td>---------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>ED16</td>
<td>Advanced Airway</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>ED17</td>
<td>Transfer Decision Time</td>
<td>Time the decision to transfer was made. (encourage documented times to be taken from the computer clocks to maintain synchronicity)</td>
<td></td>
</tr>
<tr>
<td>ED18</td>
<td>ASA</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>ED19</td>
<td>Beta Blocker</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>ED20</td>
<td>Heparin</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>ED21</td>
<td>Plavix</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>ED23</td>
<td>Transfer Notification</td>
<td>Time the transporting EMS was called</td>
<td></td>
</tr>
<tr>
<td>ED24</td>
<td>Transfer Arrival Time</td>
<td>Time ambulance arrived at initial ED</td>
<td></td>
</tr>
<tr>
<td>ED25</td>
<td>Sending Hospital Name</td>
<td>Name of the referring hospital</td>
<td></td>
</tr>
<tr>
<td>ED26</td>
<td>Sending Hospital Number</td>
<td>Referring hospital MHDO ID number</td>
<td></td>
</tr>
<tr>
<td>ED27</td>
<td>PCI Center Contact Time</td>
<td>Time of the call to the PCI Center (encourage documented times to be taken from the computer clocks to maintain synchronicity)</td>
<td></td>
</tr>
</tbody>
</table>

<p>| Transfer     | Transport Service Run Sheet Number | Run sheet number assigned to the call by the transporting service |             |                 |
| T1           | Transport Service Name            | Name of the service transporting the patient |             |                 |
| T2           | Transport Service Number          | Name of the service transporting the patient |             |                 |
| T3           | EMS Training Level                | Highest level of training of the EMS personnel providing direct care during the run - EMT-Paramedic - EMT-Critical Care - EMT-Intermediate - EMT - Ambulance Attendant - First Responder |             |                 |
| T4           | Transfer Departure Time           | Time transport(EMS) leaves sending facility | Y           |                 |
| T5           | Hospital Personnel On-Board       | RN, Physician, Respiratory Therapist |             |                 |
| T6           | Heparin Drip                      | Y/N                 |             |                 |
| T7           | Heparin Re-Bolus                  | Y/N                 |             |                 |
| T8           | Increased Chest Pain              | Y/N                 |             |                 |
| T9           | Bleeding                          | Y/N                 |             |                 |
| T10          | Hypotension                       | Y/N SBP&lt;100         |             |                 |
| T11          | Cardiac Arrest                    | Y/N                 |             |                 |
| T12          | Stroke/CNS Event                  | Y/N                 |             |                 |
| T13          | Defibrillation                    | Y/N                 |             |                 |</p>
<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Variable Description</th>
<th>Variable Definition</th>
<th>Data Source</th>
<th>Mandatory Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>T15</td>
<td>CPR</td>
<td>Y/N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T16</td>
<td>Advanced Airway</td>
<td>Y/N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T17</td>
<td>PCI Center Arrival Time</td>
<td>Time of patient triage (up for discussion) Earliest documented date patient arrived at the hospital. Triage Time in the ED or Cath Lab arrival Time if patient admitted directly to the Cath Lab. Registration times on the hospital “facesheets” have not been accurate due to early or late registration time entered and not actual patient arrival time. Note: (encourage documented times to be taken from the computer clocks to maintain synchronicity) Do not include times from external sources, e.g. ambulance records, physician office, lab reports or ECGs.</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CL1</td>
<td>Catheter Lab Activation Time</td>
<td>Time the call went out to activate the cath lab (encourage documented times to be taken from the computer clocks to maintain synchronicity)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CL2</td>
<td>Catheter Lab Arrival Time</td>
<td>Time the patient entered the cath lab (encourage documented times to be taken from the computer clocks to maintain synchronicity)</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>CL3</td>
<td>Symptom Onset Time</td>
<td>See “symptom onset” definition above table</td>
<td>CM2</td>
<td>Y</td>
</tr>
<tr>
<td>CL4</td>
<td>ST AMI or LBBB Dx</td>
<td>Y/N confirmed diagnosis of ST elevation AMI or Left Bundle Branch Block</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CL5</td>
<td>Infarct Artery</td>
<td>LAD, LCx, RCA, LM, SVG</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>CL6</td>
<td>Balloon Time</td>
<td>First documented balloon time or first documented TIMI Flow ≥ 2 (encourage documented times to be taken from the computer clocks to maintain synchronicity)</td>
<td></td>
<td>Y</td>
</tr>
</tbody>
</table>
| CL7           | PCI Delay            | If PCI delayed reasons for delay must be documented. Examples of acceptable documentation:  
- Patient initially refused  
- TEE to rule out aortic dissection  
- Patient waiting for family to arrive to consult with re. PCI.  
- Patient in full cardiac arrest on arrival unable to take to cath lab until stable  
- Patient wants to speak to clergy first  
- No urgent need for PCI  
- Pt. taken to lab but determined to be too |             |                 |
<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Variable Description</th>
<th>Variable Definition</th>
<th>Data Source</th>
<th>Mandatory Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL8</td>
<td>Comfort Measures Only</td>
<td>Documentation by a physician / PA/ Nurse practitioner the patient was receiving CMO. CMO are not equivalent to the following; DNR, living will, no code, no heroics. Comfort measures only must be documented. V66.7 encounter for palliative care. <strong>Defined from AMI abstract guidelines for CMS</strong> These patients will be excluded from time measures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CL9</td>
<td>Patient Refusal</td>
<td>Y/N Documented patient refusal of treatment</td>
<td>List to be inserted</td>
<td>Y</td>
</tr>
<tr>
<td>CL10</td>
<td>New In-Lab Cardiogenic Shock</td>
<td>Y/N BP&lt;90 w/o dopamine or BP&lt;100 w/ dopamine &amp; presence of rales and pulmonary edema (Killup Class 4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CL11</td>
<td>PCI Success</td>
<td>Y/N operator assessment of success</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>CL12</td>
<td>Initial TIMI Flow Rate</td>
<td>TIMI flow rate (0, 1, 2, or 3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CL13</td>
<td>Final TIMI Flow Rate</td>
<td>TIMI flow rate (0, 1, 2, or 3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CL14</td>
<td>Percent Stenosis</td>
<td>Percent stenosis following procedure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CL15</td>
<td>CABG</td>
<td>Y/N did patient go to CABG surgery within 24 hours of cath lab arrival</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CL16</td>
<td>Advanced Airway</td>
<td>Y/N use of advanced airway in lab</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Discharge</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC1</td>
<td>STEMI Primary Diagnosis Code</td>
<td>ICD-9 Codes (410.01, 410.11, 410.21, 410.31, 410.41, 410.51, 410.61, 410.81, 410.91)</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>DC2</td>
<td>STEMI Secondary Diagnosis Code</td>
<td>ICD-9 Codes (410.01, 410.11, 410.21, 410.31, 410.41, 410.51, 410.61, 410.81, 410.91 secondary to cardiogenic shock (ICD-9 Codes 785.50 and/or 785.51))</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>DC3</td>
<td>Primary Procedure Code</td>
<td>ICD-9 procedure codes for PCI (36.01-.07 or 36.09 and/or 88.55-.56)</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>DC4</td>
<td>Length of Stay</td>
<td>number of days in hospital from admission date to discharge date</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC5</td>
<td>ASA</td>
<td>Y/N if not documentation on why</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable Name</td>
<td>Variable Description</td>
<td>Data Source</td>
<td>Mandatory Field</td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------</td>
<td>-------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>DC6</td>
<td>Beta Blocker</td>
<td>Y/N if not documentation on why</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC7</td>
<td>Statin</td>
<td>Y/N if not documentation on why</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC8</td>
<td>ACE</td>
<td>Y/N if not documentation on why</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC9</td>
<td>Cardiac Rehabilitation</td>
<td>Y/N if not documentation on why</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC10</td>
<td>Smoking Cessation</td>
<td>Y/N if not documentation on why</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC11</td>
<td>Discharge Status</td>
<td>Home, expired, or another facility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC12</td>
<td>In-hospital Stroke</td>
<td>ICD-9 Codes (430-435)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC13</td>
<td>Post-ICD CABG</td>
<td>ICD-9 Procedure Codes (36.10-19)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC14</td>
<td>Symptom Onset &lt; 12 hours</td>
<td>ICD-9 Procedure Codes (36.10-19)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC15</td>
<td>In-hospital Stroke</td>
<td>symptom onset (see definition) &lt; 12 hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC16</td>
<td>Post-ICD CABG</td>
<td>Patient died during this hospitalization, percent</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: **CMS extraction guideline**

Non-Primary PCI – A percutaneous coronary intervention (PCI) is considered Non-Primary when it is used for reasons that are not emergent in nature. Non-Primary PCIs include elective, rescue, and salvage PCIs. In contrast a Primary PCI is the use of percutaneous reperfusion procedure in the acute phase of ST-segment elevation MI (usually within 12 hours or less from the onset of ischemic symptoms) with the goal of restoring blood flow to the affected myocardium, thereby improving outcomes including reduced mortality rates.
DATA ELEMENT RELATIONAL MAP

To be constructed by the vendor
Request for Proposals

1006256

Collection and Analysis of Metrics Related to the Coordinated Care of ST Elevation Myocardial Infarctions in Maine

RFP #2

Dirigo Health Agency
The Maine Quality Forum

Date: October 16, 2006
Section 1: General Information and Conditions

A. Introduction and Background

Heart disease is a leading killer in Maine, claiming more than 3,000 lives per year and radically reducing quality of life for those who survive heart attacks. New ways of treating patients with suddenly blocked heart feeding arteries (ST elevation) in the acute phase of coronary heart disease (acute myocardial infarction) can reduce the death rate and reduce damage to the heart muscle in survivors. Evidence shows that opening the suddenly blocked artery within 12 hours can save 20 lives per 1,000 heart attack victims, and that quicker action can save up to 10 additional lives/1,000 heart attack victims for each hour saved. Quick, effective treatment can save lives and improve quality of life for survivors. Further, best practice guidelines regarding treatment to open blocked arteries have been established by the American Council of Cardiologists/American Heart Association.

To maximize the likelihood that Maine patients experiencing sudden ST elevation myocardial infarctions (STEMI) will receive the most timely, appropriate care the Maine Quality Forum launched the In a Heartbeat initiative. The initiative seeks to reduce mortality and morbidity that result from acute STEMI’s. To accomplish this participants have worked to establish a consensus treatment pathway for STEMI’s. The pathway includes a statewide clinical flow that allows for regionally appropriate treatment plans, standardized transfer protocols, meaningful metrics across the chain of care, and a community engagement strategy for communicating the pathway and improving patient activation of EMS in response to recognized symptomology.

Through a collaborative process that included MaineEMS, Maine’s Percutaneous Coronary Intervention Centers, Maine’s Community Hospitals, Maine Cardiologist and Emergency Department Physicians and Nurses, the Maine Cardiovascular Health Program, and varied advocacy groups, the “In a Heartbeat” initiative has established the clinical pathway and identified key metrics for assessing the impact of the care protocol and improving the processes of care. The MQF is committed to collecting data associated with a set of core metrics selected from the range of identified metrics. This requires data collection across multiple care systems (hospitals, EMS) and across time periods. The MQF is committed to
conducting meaningful analyses on these data to provide actionable information back the care providers across the chain of care. Data collection, analysis, and dissemination will be conducted in response to the In a Heartbeat Executive Committee and operate via the Maine Quality Forum.

The MQF intends to collect a set of core metrics that will provide a statewide snapshot of performance on key process points and clinical outcomes. This RFP seeks to identify vendors who will:

- participate in developing consensus micro-specifications for core metrics
- develop and implement data collection strategies for the core metrics
- develop and implement processes for passive receipt of metrics not identified within the core metric group
- design, build, and populate a functional database for analyzing the data
- provide ongoing data feeds as future data are collected
- provide database updates and revisions as necessary.

B. Contract

1. Contract Period

The contract period will initiate as early as December 8, 2006 and continue through December 31, 2007. At the Dirigo Health Agency’s sole discretion, the contract may be extended for two (2) additional twelve (12) month periods to include future data collection and analyses. Should the contract be extended, negotiations to contract for delivery of analyses would begin within thirty (30) calendar days of receipt of the deliverables described in this RFP.

2. Required Contractual Elements

The successful bidder is required to enter into a State of Maine Contract for Services. Specific elements of the contract (deliverables, timelines, publication rights, etc.) will be negotiated relative to the submitted proposal.

3. Disclaimer

Issuance of the RFP in no way constitutes a commitment by the Agency to:

- Award a contract, or
- Pay costs incurred in the preparation of a response to this request.

Section 2: Proposals- Scope of Work, Content, and Assessment

A. Minimum Qualifications:
The successful bidder must be an established research organization/institution with a history of health research projects or must be an established health care associated organization with an organizational infrastructure to supply Maine’s hospitals with data and quality improvement support and the ability to contract with an established healthcare research organization. The successful bidder will have a history of conducting data collection and analyses across Maine’s hospitals. The successful bidder will have a history of creating and maintaining functional health care databases.

The Dirigo Health Agency/Maine Quality Forum will not fund organizational capacity building via this contract.

B. Primary Objectives and Deliverables:

The successful proposal must address the following core deliverables (please see attached data element guide).

1. participation in the development of micro-specifications of core metrics
2. development and implementation of data collection strategies for the core metrics
3. participation in development of Institutional Review Board (IRB) application
4. development and implementation of processes for passive receipt of metrics not identified within the core metric group
5. design, build, and populate a functional database for analyzing the data (must include data dictionary and relational map)
6. process for matching data collection/submission, at service level, to actual workflow
7. provide ongoing data feeds as future data are collected
8. revise and update database as metrics develop over time

C. Proposal Contents:

Each complete proposal submitted to MQF #1 shall contain:

1. Plan for participation in the development of micro-specifications of the core metrics and IRB applications
2. Data collection and transmittal plan that includes but is not limited to:
   a. processes for matching collection/transmittal process to actual workflow
   b. addresses development of IRB application
   c. addresses patient privacy protections
d. will function across multiple settings (hospitals, EMS) with multiple databases

3. Database design plan that must include but is not limited to:
   a. development of data dictionary
   b. redundant data backup
   c. database security
   d. ability to incorporate new fields (future)
   e. technical specifications

4. Initial database population plan

5. Database maintenance and update plan that outlines anticipated time frames for update activities

6. Data extraction protocol (patient de-identified) that allows for data extract formats that work across applications (e.g. SAS, SPSS, Excel, etc.)
   a. monthly report to each hospital and MQF based upon core metrics
   b. annual review of the data
      i. core metrics report
      ii. summative review of additional QI data
   c. process for ad hoc data extracts for MQF
   d. process for ad hoc analyses for MQF

7. Projected work plan including a staffing plan outlining existing professional and support staff organization and time commitments for professional staff

8. An overview of the organizations capacity to provide the services outlined in the RFP (this must include a discussion of organization’s expected approach to project management – including the current CV of the anticipated project manager)

9. History of data collection work with Maine Hospitals, Maine EMS, and Maine provider advocacy groups (e.g. MHA).

10. A projected budget, with associated effort estimations (e.g. FTE’s by position) and with a binding, final bid amount clearly indicated

D. Written Questions and Answers

All questions, clarifications and/or requests for additional information regarding the content of the RFP must be submitted via email to Chris McCarthy by 4:00 p.m. local time on November 3, 2006. By November 10, 2006 a complete set of questions and the Department’s responses will be sent to those who have
requested an RFP and have provided a functioning email address with their request. Only written responses sent by Dirigo Health Agency’s Maine Quality Forum will be considered binding.

***Questions may be submitted to: mqf@maine.gov

Please include “RFP #2 AMI” in the subject line

E. Proposal Submission

Five (5) sealed copies of the proposal must be marked, clearly:

“Proposal: MQF #2 STEMI Metrics: 1006256”

and delivered to:

Division of Purchases
4th Floor Burton M. Cross Building
111 Sewall St.
9 State House Station
Augusta, ME 04333

no later than 2:00 PM, local time on November 28, 2006. Please note that only proposals actually received at the Division of Purchases prior to the stated time will be considered. Bidders submitting proposals by mail are responsible for allowing adequate time for delivery and may consider employing private courier services to assure arrival by the 2:00 PM, local time deadline. Without exception, proposals received after the 2:00 PM, local time, deadline will be rejected.

F. Rejection of Proposals

The Maine Quality Forum reserves the right to reject any and all proposals received in response to this RFP.

G. RFP Amendment/Withdrawal

The Department reserves the right to amend the RFP prior to the proposal submission deadline. All prospective applicants who have submitted a letter of intent by the required date shall be notified of any amendments to the RFP. In such an event, applicants will be afforded the opportunity to revise their proposals to accommodate the RFP amendment. In no case shall the Department alter or amend any requirement or specification of the RFP without notice of such alteration or amendment to each prospective applicant submitting a letter of intent at least 7 days prior to the deadline for submission of proposals.
The Department shall not be responsible for any additional costs incurred by the applicant as a result of changes to this RFP.

The Department reserves the right to withdraw the RFP in whole or in part at any time.

H. Notification of Award/Contract Negotiations

All applicants will receive written notice, by certified mail, of their selection or non-selection.

The Dirigo Health Agency, Maine Quality Forum may require the successful applicant to participate in contract negotiations to the extent allowable by law.

I. State Use of Proposed Ideas

The State reserves the right to use any and all ideas presented in any proposal in response to this RFP unless the applicant presents a positive statement or objection to the use of their proposal. In no event will such an objection be considered valid with respect to the use of such ideas that are not the proprietary information of the applicant and so designated in the proposal, or which:

- Were known to the State before submission of such proposal, or
- Properly became known to the State thereafter through other sources or through acceptance of any proposal.

J. Disclosure of Information

Maine’s Freedom of Access Law, found at 1 MRSA Section 401-412, provides that documents submitted by the bidder become public documents once they are in the possession of the State. Proposals will be sequestered until notification of award. The bidder bears the risk of disclosure when submitting material that the bidder believes may be protected by copyright, patent, or proprietary interest. The bidder may choose to submit information of this nature and mark it clearly as “Confidential”. However, the State makes no representation that such material can be protected once it is in the possession of the State.

If a contract is awarded to the applicant, the State shall have the right to use or disclose the information to the extent otherwise provided in the contract or by law. The State does not assume liability for use of the information, whether marked or not.

K. Evaluation Criteria

The proposals will be evaluated using the following criteria:

Cost: The total cost and cost structure of the proposal will account for 25% of the scoring.
**Data Collection Plan:** 15% of the scoring will be attributable to the assessment of the data collection plan.

**Database Design Plan:** 15% of the scoring will be attributable to the assessment of the database design plan.

**Database Maintenance, Update, and Revision Plan:** 15% of the scoring will be attributable to the assessment of the database maintenance, update, and revision plan.

**Data Extraction and Reporting Plan:** 5% of the scoring will be attributable to the assessment of the data extraction plan.

**Data Analyses Process:** 10% of the scoring will be attributable to the assessment of the data analyses process plan.

**History with Maine Hospitals and Maine EMS:** 5% of the scoring will be attributable to the organizations history conducting data collection and analyses with Maine’s hospitals and EMS system.

**Organizational Capacity/Staffing Plan:** 10% of the scoring will be attributable to the assessment of the proposing organization’s existing capacity to meet the terms of the proposal.
Maine EMS 12 Lead QI Form

Date of service: _______________  Patient age: __________

EMS Service: _______________  EMS Service Number: _______

MEMS Report #:________________  Provider License Number: ________

Case Type: (circle one) Medical / Trauma  Hosp Med Record #: ____________

Hospital Name: ___________________________________

Suspected Problem: ____________________________________________________________

Time since onset of symptoms: ______________ (minutes)

12 Lead EKG Interpretation

Sinus  Afib  SVT  RBBB  LBBB Other ________  Rate______

STEMI? (circle one)  Yes  No

Leads involved_________________________  Elevation in mm__________

Inferior  Anterior  Anterolateral  Lateral  Posterior  (circle one)

If ACS (Acute Coronary Syndrome) was suspected, was ASA given? (circle one)  Yes  No

Given by:  EMS  Patient  Family/Bystander

Did you communicate your findings to the receiving hospital?  (circle one)  Yes  No

Presented copy of 12 Lead EKG:  (circle one)  Yes  No

Hospital Follow-up

Was the interpretation recorded on the run sheet by a paramedic?  (circle one)  Yes  No

Was the EKG interpretation correct? (circle one)  Yes  No

What was your interpretation: ___________________  Your Name: ___________________

Who interpreted the EKG after the call? (circle one)

ED Physician  Cardiologist  Service Med Dir  Regional Med Dir

Please attach a copy of the 12 Lead to this form.
STEMI ED POCKET GUIDE

This will contain the contraindications to lytic and the TIMI criteria. Do folks feel that this will be used by ED personnel?
Maine EMS

Paramedic Interfacility Transport Program

Draft Revision

Background

The original PIFT program was developed in the early 90’s in response to requests from hospitals who wanted to reduce the amount of time they had to send nurses on interfacility transports with “stable” patients. Since that time, the program has gone through a number of revisions, usually in response to a request to add new, approved medications to the list. Recently, it was decided to do a thorough review of the program with the following objectives:

A. Evaluate the need for a better definition of what patients could be transported under this program and what the crew configuration should look like.
B. Investigate the possibility of approving drug categories rather than specific medications.
C. Strengthen the definition of stable patient.
D. Evaluate the Medical Control and Quality Assurance pieces of the program.

The MDPB established a PIFT sub-committee to review the program and make recommendations on potential revisions. Based on those meetings, the committee has determined the following:

A. The program should teach classification of medications instead of individual medications. They felt that it was more important to ensure that the patient being transported was hemodynamically stable.
B. Blood products will be added to the program (most likely in future update).
C. Some devices that are not considered to be part of the current scope of practice for paramedics will be added to the program.
D. There should be a patient stability statement.
E. There should be a formal, enforced Medical Director/Quality Assurance program.

Crew Configuration/Eligible Providers

This program is being developed based upon a crew configuration of 1 paramedic providing patient care.

In order to be eligible to certified to do PIFT transfers, the paramedic must:

A. Successful completion of the Maine EMS approved PIFT program or Maine EMS approved Critical Care Transport Program

Patient Stability

A patient is considered “stable” when there is no foreseeable likelihood of material deterioration in the condition of the patient as a result of or during the transport.

Assessment of stability will require:

1. Hemodynamic and neurologic signs which have demonstrated no deterioration from the acute presentation of the patient, or are within acceptable limits of variation on existing therapy and may be reasonably predicted to remain so during the transport without the need for further adjustments to such therapy; and
2. The pathophysiology of the patient's acute condition is known to favorably respond to the therapeutic interventions which have been undertaken at the sending hospital;
Actions required of sending hospital and transport personnel:

1. Proactive interventions to stabilize the patient’s condition and prevent deterioration; and
2. Aggressive enroute interventions to reverse or mitigate deterioration in the condition of the patient;

On Line Medical Control by the Sending Clinician or Designee

1. Shall prospectively approve the hospital to hospital inter-facility transport with due regard to the pathophysiology of the patient’s condition and the interventions undertaken to achieve stability; and
2. Shall provide enroute guidance to crew members consistent with protocols.

Medications

The committee is recommending that the program teach medication categories instead of individual medications. This will ensure a more uniform program that doesn’t have to be changed whenever medications come in and out of use.

Proposed Medication Classifications

a. Anti-Infectives
b. Anticoagulants
c. Anticonvulsants
d. Antidiabetics
e. Antidysrhythmics
f. Antihypertensives: including ACE Inhibitors, calcium channel blockers, diuretics, alpha blockers, beta blockers
g. Antipsychotics
h. Cardiac Glycosides
i. Corticosteroids
j. Gastrointestinal agents, including H₂-blockers, PPI’s, and somatostatin and its analogues (somatostatin)
k. IV fluids, Electrolytes: including dextran, albumin, hetastarch
l. Miscellaneous: drotrecogin
m. Narcotics: including all routes except epidural.

n. Nutritional Supplements: Parenteral nutrition and Vitamins

o. Platelet Aggregation Inhibitors: including IIb/IIIa inhibitors

Medications (continued)

p. Respiratory medications: beta agonists, anticholinergics, mucolytics, steroids
q. Sedatives: benzodiazepines, barbiturates
r. Vasoactive agents: antihypertensives, pressors/sympathomimetics

Over-The-Counter Medications

It may be necessary to use medications which are not routinely part of the PIFT program but are common medications, such as over the counter medications. In these circumstances, where the medication is a routine over the counter medication, continuation of such use may be approved as long as the following criteria have been met:

1. That it was a medication that the patient had used previously without any adverse or allergic reaction.
2. That the medication would be supplied by the sending facility for the
purpose of this transport.

3. That the sending physician would write an order for this as for any other medication to be used on the transport which includes medication name, dose, form of the medication, route of administration, and timing of initial and repeat dosing.

**Devices**

The group is recommending that the following devices be added to the program, with the service developing a plan to assure the competency and proficiency in the operation in any and all devices specified in this protocol:

a. Foley Catheters: including Continuous Bladder Irrigation
b. Central Lines: maintenance, not insertion
c. Transvenous pacer
d. IV pumps
e. Chest Tubes: to water seal and Heimlich valve
f. Maintenance of NG/OG tubes

**Notes**

*Patient controlled pumps, G-tubes, and J-tubes are OK for transport by any level of licensure and do not require this training module.*

*Vagal nerve stimulators should fall under the special device protocol*

**Quality Assurance/Medical Control**

All services participating in the PIFT program must have a service medical director who reviews 100% the PIFT runs, all the QI forms, and is available for questions on requested transfers. Also, the service must be in compliance with all regional and state QI. As well, this medical director should be an ambassador to local medical staffs who will need to change the way they practice to satisfy our requirements on the action of the sending hospital.

We have developed a standard QI form (attached) which will need to be completed on all hospital to hospital PIFT transfers. This form must be reviewed by the service Medical Director and made available to the regional and/or state QI committees upon request. They must be kept on file for a period of three years. In addition to a QI tool, these forms will provide invaluable information on PIFT runs, the medications and devices that make this a PIFT run, and variances.

**Training/Education**

This piece is dependant on the final approved product. Once the content has been approved by the MDPB, the program will be referred to the MEMS education committee for development of the education component.

**Frequently Asked Questions**

*Why not vents in this program?*

The intention of the PIFT update that we are doing is to standardize a stand alone program aimed at delineating an advanced practice for paramedics doing interfacility transfers. We expect patients in this program to be stable and the paramedics to be alone in the back of the ambulance. To that end, a patient on a ventilator may require one person to constantly maintain their ventilator, and if the ventilator fails or some other airway calamity occurs, the solo paramedic will be immediately and completely tied up with airway maintenance. Thus, solo provider transfer with patients on ventilators is probably not an appropriate practice.

*Why Transvenous pacers, then?*
Many transfers occur with stable patients who travel to certain hospitals for permanent pacer insertion. In the interim, they are maintained on a Transvenous pacer. If this device were to fail, the patient could be paced transthoracic and the paramedic would be free to attend to other patient needs once the external pads are placed.

Why do services need their own medical director?
We are not just blessing additional skills and hoping all goes well. We are concerned with using this program in the correct venue, verifying that the paramedics have been able to assimilate the educational and psychomotor skills that are required, and that we identify and look for solutions for patients who have poor outcomes while being transferred within the realm of the PIFT program. This requires 100% QI, and requires a medical oversight that is familiar with the service, the personnel with the service, and who can meet with service participants.

The medication list has lots of powerful drugs— doesn’t that mean that the patient is unstable?
We are trying to reframe how we think about stability, and using objective signs found by measuring hemodynamic and neurologic parameters. As well, we are looking at the patient’s underlying problem and based on best knowledge, do we expect the patient to deteriorate despite optimal therapy enroute to another hospital. If the patient is stable hemodynamically and neurologically, and we do not expect the underlying problem to be a threat to life or limb, then a PIFT transfer within the confines of the devices listed is OK. And stability attained with medications and appropriately supporting the patient’s physiology is OK. This is listed above but worth repeating.

Do I have to do a QI for a patient on an IV with KCl going from the nursing home to MRI and back?
No—we have indicated that the PIFT QI is framed to capture hospital to hospital transfers. The paramedic must be a PIFT trained paramedic, though.

What about if I took a previous program—is this just another option? No, this will become the updated and only program for those providing PIFT services. In other words, this replaces all the previous PIFT programs.

Why not blood products? We did look at blood products and this is a bigger issue that will take more time and resources both from Hospitals and EMS. We have researched the nuances and plan to go forward with blood products in a future comprehensive PIFT program.
Medical Director Review
_________________ (sign)

<table>
<thead>
<tr>
<th>Paramedic Interfacility Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
</tr>
<tr>
<td>Send Facility</td>
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<td>Receivin Facility</td>
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Do not complete the transfer unless attending physician, on line medical control physician and OLMC contact number provided. Must also complete whether or not communication problems anticipated enroute.  Attending Physician: __________ OLMC: __________ Phone: __________ Communication Problems Anticipated: __________

Stable ______ Moderate________Low________ Risk (Circle one)

Vitals signs as documented on EMTALA form:
- Pulse: _________   Respirations: _________
- Blood Pressure: _______   SaO₂%: _______

Vital Signs on arrival at facility:
- Pulse: _________   Respirations: _________
- Blood Pressure: _______   SaO₂%: _______

List all medications and their rates/doses being administered during transport:
- Heparin
- Nitroglycerine
- Potassium
- TPN
- Morphine
- Other

List any interventions performed or devices used enroute:
- IV Start
- Intubation
- CPR
- Defibrillation
- Cardioversion
- Other Airway Maintenance
- Transvenous Pacing
- Other

Were there any titrations to medications or unscheduled boluses administered during transport? If so, list medication and dose/change:
________________________________________
________________________________________
________________________________________

Was contact with OLMC necessary during transport? If so, list what was requested and if received:
________________________________________
________________________________________
________________________________________
Name of OLMC: __________________________

Order sheet for all medications/interventions is completed, signed by Physician/PA/NP or by RN with Verbal Order, and accompanies patient chart.

The transporting paramedic has the final decision whether or not they are comfortable in transporting the patient without additional hospital staff.
1) Stable “Moderate Risk” Patient: A Stable patient is one who has hemodynamic and neurologic stability from therapies initiated. Therapies initiated must be expected to maintain patient stability during the transport. This patient is typically going via emergent transfer to a tertiary facility for services not readily available at a local facility. Variation on existing therapy has demonstrated no deterioration and may be reasonably predicted to remain without change during the transport without the need for further adjustments to such therapy.

2) Stable “Low Risk” Patient: A patient who has hemodynamic and neurological stability with no foreseeable deterioration. This is the patient who is not suffering from an acute illness, but has medications or interventions being administered which are outside of the scope of the Paramedic without PIFT training.

3) Unstable “High Risk” patients and those receiving interventions outside the scope of the PIFT module will require the sending facility to provide other appropriate staff to assure appropriate clinical care during transport.