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

DIRIGO HEALTH AGENCY
THE MAINE QUALITY FORUM

REQUEST FOR PROPOSALS FOR THE COLLECTION OF DATA AND CREATION OF A DATABASE ASSOCIATED WITH THE MAINE QUALITY FORUM's *IN A HEARTBEAT* INITIATIVE

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 work flow
    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.

APPENDIX A

ANTICIPATED 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?)

Symptom onset within 12 hours
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 >12hours are excluded from time measures.

Variable Name	Variable Description	Variable Definition	Data Source
Demographics			
D1	Patient Last Name		
D2	Patient First Name		
D3	Patient Middle Name		
D4	Patient Date of Birth	includes month, day, and four digit year	
D5	Patient Street	physical address of patient	
D6	Patient Town		
D7	Patient County		
D8	Patient State		
D9	Patient Zip	must include 5 digit zip minimum	
D10	Patient Gender	male/female	
D11	Patient Medical Record Number	number assigned to patient by hospital	

Variable Name	Variable Description	Variable Definition	Data Source
D12	Patient Social Security Number	nine digit SSN xxx-xx-xxxx	
D13	Date of Service	date patient was treated mm/dd/yyyy	
D14	Date of Admission	date patient admitted to hospital mm/dd/yyyy	
D15	ICD-9 Code	ICD-9 Code (410.** exclude 410.7*)	
D16	Date of Discharge	date patient discharged from hospital mm/dd/yyyy	
D17	EMS Run Sheet Number	number assigned to EMS run	
Core Metrics			
CM1	Call Time (time of call to 911)	time 911 call received	
CM2	Symptom Onset Time	see "symptom onset within 12 hours"	
CM3	Transport Method	Ambulance, Life-Flight, Self	
CM4	Pre-Hospital Lytic Time (*Placeholder Metric*)	time of fibrinolytic administered by EMS prior to hospital arrival (placeholder metric)	
CM5	Emergency Department Arrival Time	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.	
CM6	Lytic Administration Time	time the lytic is administered (not ordered)	
CM7	Lytic Delay Reason	acceptable documentation of reasons for delay (need to develop list of reasons)	
CM8	Post-Lytic Open Artery Time	time of 50% reduction of initial ST-segment elevation injury pattern, with relief of symptoms	
CM9	Transfer Time	time patient left from initial hospital	
CM10	Catheter Lab Arrival Time	time patient arrives in catheter lab	
CM11	Balloon Time	time the wire crossed the lesion and resulted in TIMI > _?_ flow, Or time of first balloon inflation, stent placement or other device e.g. angiojet. deployed, or	

Variable Name	Variable Description	Variable Definition	Data Source
		time of 50% reduction of initial ST-segment elevation injury pattern, with relief of symptoms	
CM12	PCI Delay Reason	acceptable documentation of reasons for delay (need to develop list of reasons)	
CM13	Comfort Measures Only	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	
CM14	PCI Success	Y/N % STEMI to PCI-(attempted but unsuccessful not included in time measures)	
CM15	CABG	percent of STEMI that go to surgery	
CM16	Inpatient Mortality	patient died during this hospitalization. percent STEMI mortality	
CM17	One Year Mortality	patient died within one year of this hospitalization	
EMS Centric			
EMS1	Service Run Number	run sheet number assigned to the call	
EMS2	Service Name	name of the service responding to 911 call	
EMS4	Service Number	number of the service responding to 911 call	
EMS5	Transport Service Name	name of the service transporting the patient	
EMS6	Transport Service Number	name of the service transporting the patient	
EMS7	Time Arrival on Scene	time when the responding crew arrives on the scene	
EMS8	Time Left Scene	time the ambulance leaves the scene with the patient	
EMS9	12-Lead	Y/N	
EMS10	CPR	Y/N	
EMS11	Airway	Y/N	
EMS12	Shock	Y/N	
EMS13	Symptom Complex Chest Pain/Pressure	Y/N by patient complaint	
EMS14	Symptom Complex Jaw Pain	Y/N by patient complaint	
EMS15	Symptom Complex Back/Shoulder Pain	Y/N by patient complaint	
EMS16	Symptom Complex Left Arm Pain	Y/N by patient complaint	

Variable Name	Variable Description	Variable Definition	Data Source
EMS17	Symptom Complex Shortness of Breath	Y/N by patient complaint	
EMS18	Symptom Complex Feeling of Dread	Y/N by patient complaint	
EMS19	ASA	Y/N	
EMS20	Pre-Hospital Lytic	Y/N (place holder metric)	
EMS21	Nitrates	Y/N	
EMS22	Catheter Lab Activation	Y/N	
EMS23	Receiving Institution	name of the hospital to which the patient was transported	
EMS24	Hospital Arrival Time	time the ambulance arrives at the receiving hospital	
ED Centric			
ED1	Emergency Department Arrival Time	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.	
ED2	Diagnostic ECG Time (DxECG)	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.	
ED3	Treatment Decision Time	the time that the physician ordered the Lytic administration or called to activate Primary PCI, or chose not to treat	
ED4	Lytic Ordered Time	the time the physician ordered the lytic	
ED5	Lytic Administration Time	the time the lytic was administered	
ED6	Lytic Contraindicated	Yes/No see chart for contraindications	
ED7	TIMI At Risk	"AT RISK/NOT AT RISK" see TIMI criteria	
ED8	Cardiogenic Shock (??covered in TIMI??)	Y/N (Covered in TIMI??)	
ED9	Transfer Decision Time	time the decision to transfer was made	

Variable Name	Variable Description	Variable Definition	Data Source
ED10	ASA Time	time when aspirin was given if not given indication of why	
ED11	Beta Blocker Time	time when beta blocker was given if not given indication of why	
ED12	Heparin Time	time when heparin was given if not given indication of why. Indicate whether by bolus or drip.	
ED13	Plavix Time	time when Plavix was given if not given indication of why	
ED14	Transfer Notification	time the transporting EMS was called	
ED15	Transfer Arrival Time	time ambulance arrived at initial ED	
ED16	Transfer Departure Time	time that the patient left the ED of transferring hospital or is this the time transport(EMS) left to go to requesting hospital?	
ED17	Sending Hospital Name	name of the referring hospital	
ED18	Sending Hospital Number	referring hospital MHDO ID number	
ED19	PCI Center Contact Time	time of the call to the PCI Center	
Transfer			
T1	Transfer Departure Time	time transport(EMS) left to go to requesting hospital	
T2	Hospital Personnel On-Board	Y/N	
T3	Heparin Drip	Y/N	
T4	Medications Enroute		
T5	Increased Chest Pain	Y/N	
T6	Bleeding	Y/N	
T7	Cardiogenic Shock	Y/N	
T8	Cardiac Arrest	Y/N	
T9	CPR	Y/N	
T10	Intubation	Y/N	
T11	ED Arrival Time	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	

Variable Name	Variable Description	Variable Definition	Data Source
		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.	
PCI Center			
PCI1	Catheter Lab Activation Time	time the call went out to activate the cath lab	
PCI2	Catheter Lab Arrival Time	time the patient entered the cath lab	
PCI3	Balloon Time	time the wire crossed the lesion and resulted in TIMI > _?_ flow, Or time of first balloon inflation, stent placement or other device e.g. angiojet. deployed, or time of 50% reduction of initial ST-segment elevation injury pattern, with relief of symptoms	
PCI4	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 high risk to complete procedure at this time. • Documentation of a plan to do a PCI after the arrival date constitutes a clearly implied reason for a delay e.g. PCI tomorrow, per ED MD notation, Will schedule pt for PCI in a.m. per H&P	
PCI5	Cardiogenic Shock	Y/N	
PCI6	CABG	Y/N did patient go to CABG surgery	
PCI7	Respiratory Failure	Y/N	

Variable Name	Variable Description	Variable Definition	Data Source
PCI8	In-Hospital Mortality	patient died during this hospitalization. percent STEMI mortality	
PCI19	1-Year Mortality	patient died during this hospitalization. percent STEMI mortality	
Discharge			
D1	Length of Stay	number of days in hospital from admission date to discharge date	
D2	ASA	Y/N if not documentation on why	
D3	Beta Blocker	Y/N if not documentation on why	
D4	Statin	Y/N if not documentation on why	
D5	ACE	Y/N if not documentation on why	
D6	Cardiac Rehabilitation	Y/N if not documentation on why	
D7	Smoking Cessation	Y/N if not documentation on why	
D8	Call 911 Instructions	Y/N if not documentation on why	
D9	Discharge Status	Home, expired, or another facility	
Retrospective			
R1	ICD-9 Code 410.** (410.7*excluded)	All ICD-9 codes within the 410 range excluding 410.7*	
R2	Symptom Onset < 12 hours	symptom onset (see definition) < 12 hours	

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.