

# STEMI Systems: Freeway to the Catheterization Lab

# Overall Plan

1. 1 Year Pilot 24/7
2. Outfitting of 12-lead electrocardiograms with transmission capabilities to a limited # of identified ambulance
3. ECG equipment will be provided by NMH Dept of Cardiology and will be compatible with existing CFD equipment
4. Training of EMS personnel involved in the pilot will be conducted by NMH Cardiology staff with EMS oversight
5. The NMH ED physician will be responsible to activate the Cardiac Cath Lab

# Oversight

1. Plan will be assessed by a Joint Steering Committee
  - CFD
  - NMH EMS Team
  - NMH Physicians and Administration
2. Committee will evaluate results of Pilot trial on a quarterly basis

# Process Flow

Patients with suspected acute chest pain without ST-segment elevation would be transported in the usual fashion by the EMS team

If algorithm identifies ST segment elevation ( $>2\text{mm}$  in 2 contiguous leads) on the ECG, the EMT-P will contact NMH

ECG will be electronically interpreted by computer algorithm

Patient with suspected Acute Chest pain will have 12-lead ECG performed by CFD EMS paramedics

# Data Elements

## EMS elements

Gender  
Race  
Date of Birth  
Pickup Paramedic Group  
Date/Time of 911 call  
Date/Time of paramedic arrival  
Hospital notification of patient arrival  
Date/Time of arrival at NMH  
Date/Time of first 12-Lead ECG done at the scene  
Medications provided at the scene (MONA)

## Hospital Based Elements

Arrival at NMH time  
Confirmation of STEMI time  
Cardiac Catheterization activation by ED time  
Date/Time Arrival in Cath Lab  
Procedure start time  
PCI balloon inflation time  
Outcome in hospital and 30 day including major adverse cardiac events

# Next Steps

## Proposed Timing for Pilot

CFD approval (Aug 08)

Equipment procured (SEP 08)

Training (SEP-OCT 08)

Begin Pilot (NOV 08)

Define training content and logistics

Establish data element structure

Establish membership of Joint Steering  
Committee

# City of Chicago STEMI Proposal

## Timeline

- 7/08 Pilot Proposal for Prehospital ECG made by NMH to CFD
- 10/08 First Steering Committee Meeting between CFD and Chicago Hospital
- Present Proposals pending

# City of Chicago STEMI Network

October 2008

Subcommittee report from 6 Chicago Hospital interested in Prehospital ECG and with 24 hour primary PCI capabilities

Process indicators discussed including: 911 call to EMS, EMS arrival to 1<sup>st</sup> ECG, 1<sup>st</sup> ECG and MD receipt of transmission

Base station to activate cath lab after transmission of ECG

## Impediment to Implementation

Transmission equipment requires additional funding

Review possible AHA funding of pilot including Capital Funding, Charitable trusts, IDPH, Telemedicine Federal Grant

# Update on Proposed Pilot

November 2008

The plans for the pilot were reviewed:

- 2 rigs in the city center will be involved in the pilot
- Equipment for the pilot will need to be provided by the participating hospitals and must include back-up equipment as well
- The equipment for the pilot will be consistent with upgrading the existing equipment.

# Update on Proposed Pilot

November 2008

- Transmission equipment if it is to be used during the pilot will also need to be provided
- No bypass will occur during the pilot
- Hospitals will accept all STEMI alerts and requests for diversion of the alert will not be requested
- CFD will arrange the training of the EMTs involved in the pilot

# November 2008

Volume recommendation of AHA may be too high for Chicago STEMI Recovery Centers

# December 2008

3 vendors present proposal for transmission  
of 12 lead ECG

# Vendor Wrap up and Next Steps

## Vendor 1

- The current equipment in CFD can be easily upgraded
- Hospitals can receive transmission on existing computers
- Upgrades to the software as technology changes are done automatically
- CFD has a current contract with vendor which will allow for faster processing of purchasing eliminating the long pathway that a new vendor and contract must follow
- The 12 lead upgrade to existing equipment is more cost effective than purchasing all new units
- The burden on the CFD IT system is minimal
- The vendor system requires the least amount of human intervention to set off alerts