I I. Improvement in STEMI Care

A. **Timeframe** – January 2012-December 2012

B. **Project Description** – This project involved the improvement of a standardized protocol for the treatment of acute STEMI (ST Elevation Myocardial Infarction) patients at MAHHC, and the improved recognition and treatment of STEMI patients prehospital. This is accomplished with a protocol with DHMC to ensure that residents of Windsor, VT and surrounding areas receive appropriate treatment in a timely manner.

C. **Problem Statement** – STEMI care is a major cause of hospitalization and disability. MAHHC has been working with DHMC for the improvement of care since 2007. Our report shows improvement in some areas but also shows room for improvement. We are working on improving the ED door time to PCI (Percutaneous Coronary Intervention) within 120 minutes for Zone 1 hospital. Meeting these criteria is very challenging as these patients need critical care with them in transport. Additional Critical Care nurses are not always available, nor are land DHART or air transport.

**STEMI Report for Mt. Ascutney Hospital**

Calendar Years 2007 – 2012 (through March 2012)

<table>
<thead>
<tr>
<th>Mt. Ascutney Hospital</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of ECGs obtained within 10 minutes</td>
<td>50%</td>
<td>80%</td>
<td>80%</td>
<td>100%</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>ER Presentation to Thrombolytic administration within 30 min (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>% of patients receiving Primary PCI within 90 minutes (120 minutes from 2011 forward)</td>
<td>0%</td>
<td>20%</td>
<td>0%</td>
<td>50%</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 30 day mortality <em>(i.e., # death/# STEMIs)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10.5%</td>
<td></td>
</tr>
</tbody>
</table>

Chest pain complaint, we have improved with staff education in the ECGs within 10 minutes of arrival to 100% as shown above.

D. **Project Goal** – To improve the care of patients in the Windsor area, who may be having an STEMI, through the adoption of STEMI protocols by the area ambulance services (EMS) and the Emergency Dept. of MAHHC.

E. **Project Measures**

1. Patients who are transported by Windsor, Woodstock, or Golden Cross ambulance services will be assessed and managed appropriately, using the STEMI protocols.
2. Patients who meet criteria for hospital bypass will be transported directly to DHMC for acute STEMI care. EMS will activate the Cath lab.
3. Long Term – Improved outcomes of STEMI care for patients who were managed using the protocols.
F. Project Interventions

1. The Emergency Department Medical Director of MAHHC worked collaboratively with Dartmouth-Hitchcock Medical Center (DHMC) to identify best practices for a standardized approach to acute STEMI care in the area. Regions have been broken down into Zones. MAHHC is Zone 1
2. The Medical Director of MAHHC worked collaboratively with a Cardiologist at DHMC to identify the protocols that would best serve residents of the Windsor, VT area.
3. Screening criteria were adopted to determine if a patient should “bypass” MAHHC, and be transported by EMS directly to DHMC for treatment.
4. STEMI protocols were adopted by MAHHC for initial treatment of patients who present to the ED on their own, and who are subsequently transported emergently to DHMC.
5. Area EMS providers were included in the discussions, and support for the protocols was obtained.
6. Training was done with Local EMS on procuring an in field ECG and the automatic machine reading of a STEMI to be diverted to DHMC.

G. Evaluation

The number of patients who have met the criteria for the “Bypass” protocol are small. Fewer than 15 patients, with MI ECG readings have been diverted from MAHHC directly to DHMC since the implementation of the protocol. For these patients, the protocol was used appropriately and the patients received care promptly.

Meeting Standard

<table>
<thead>
<tr>
<th>Year</th>
<th>n=</th>
<th>False Activation n/STEMI</th>
<th>Median ED presentation to initial ECG</th>
<th>Median ED presentation to lytic</th>
<th>Median ED presentation to ED outside (no lytic)</th>
<th>Median ED presentation to Device (Primary only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>263</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>260</td>
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</tr>
<tr>
<td>2003</td>
<td>9</td>
<td>5</td>
<td>30</td>
<td>2</td>
<td>574.5</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>4</td>
<td>1</td>
<td>17</td>
<td>3</td>
<td>255</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>4</td>
<td>1</td>
<td>50</td>
<td>1</td>
<td>78</td>
<td>3</td>
</tr>
<tr>
<td>2006</td>
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<td>1</td>
<td>80</td>
<td>2</td>
<td>152.5</td>
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</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>2</td>
<td>7</td>
<td>2</td>
<td>98</td>
<td>4</td>
</tr>
<tr>
<td>2008</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2009</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>5</td>
<td>38</td>
<td>5</td>
</tr>
<tr>
<td>2010</td>
<td>8</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>2011</td>
<td>10</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>37</td>
<td>9</td>
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<tr>
<td>2012</td>
<td>0</td>
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<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Calendar Years 2007 – 2011 (through February 2011)

* Started tracking in late 2009 Information gathered by DHMC cardiology.

**Desired Times:**

| Door to Initial ECG | Within 10 minutes |
Mt. Ascutney Hospital is a “Zone 1 Option” Hospital. STEMI’s are a low frequency event. This means that the first decision that has to be made is to whether or not the patient can be transferred out of the ED within 30 minutes. If so, all actions are geared towards transferring the patient to DHMC as quickly as possible so the patient can have treatment (a device in the coronary artery to re-establish blood flow) within 120 minutes of presentation to MAH. If transportation isn’t immediately available (Ground EMS or DHART), the actions are geared toward providing a pharmaco-invasive treatment. The patient is evaluated for appropriateness of thrombolytic and administration within 30 minutes of presentation to MAH. Once the patient receives lytics, the patient is urgently transferred to DHMC for cardiac cath.

II. Medication Reconciliation Task Force

A. Timeframe – January, 2012-current

B. Project Description – A task force was created to look at our medication reconciliation process and find ways to improve it.

C. Problem Statement – Medication reconciliation is a process that can have major implications to the safety of our patients.

D. Project Goal – 1. There will be a post-admission confirmation of the accuracy of the medication reconciliation.
   2. There needs to be patient or family understanding of medications at discharge.
   3. Upon admission a method of identifying and resolving questions about medications on the list.
   4. There needs to be a process of ongoing education with patients and/or family of the patient’s medications during their hospitalization.
   5. Confirmation from the patient or family members that the patients are actually taking the medications that are on their list. (ex. PRN meds)

E. Project Measures

1. Use of evidence-based interventions will be monitored through patient record review.
2. 

F. Project Interventions

1. Convened project team with representation from all hospital units, both inpatient and outpatient.
2. Research of literature related to evidence based practices for medication reconciliation.
3. Evaluated current medication reconciliation practice on all units to find areas of improvement.
4. Creating a policy and procedure for consistent medication reconciliation.

G. Evaluation Process – Ongoing

III. Reducing Inpatient Admissions Due to Chronic Conditions
A. **Timeframe** – July, 2010 to present (ongoing).

B. **Project Description** – Implementation of best practices in both the inpatient and outpatient setting to reduce the 30 day readmission rate for all patients.

C. **Problem Statement**
   1. Chronic conditions have high costs associated with frequent Emergency Department visits and hospital admissions.
   2. The Centers for Medicare and Medicaid (CMS) has established that payments to hospitals will be reduced for readmissions beginning in 2013.
   3. Mt. Ascutney’s readmission rate is 4.9%

D. **Project Goal**
   1. To identify the causal factors related to hospital readmissions.
   2. To learn from other organizations and professional groups about best practices that has a positive influence on unplanned readmissions.
   3. To learn from patients what factors affect successful management of their chronic conditions at home.
   4. To coordinate the efforts of inpatient and outpatient physician practice teams at the time of patient discharge from the hospital.

E. **Project Measures**
   1. Long Term – Reduce 30 day readmission rate to 3%.
   2. Short Term – Patient follow up appointment with PCP will occur within 72 hours of discharge from inpatient unit.
   3. All Mt Ascuenty Hospital’s Physicians Practice patients will have a post discharge phone call by a community health team member prior to their follow up visit with their primary care provider.

F. **Project Interventions**
   1. Project team was formed, and decision was made to participate in the State-wide collaborative, led by Fletcher Allen Health Care and VAHHS. Project team members attended scheduled learning sessions and telephone conferences.
   2. Data analysis of readmissions was conducted by record review to identify causal factors and trends.
   3. Patient input was obtained by direct interview—to determine factors that contribute to, or hinder, successful care management at home.
   4. Search of relevant publications was conducted to determine best practices for chronic care management which could be adopted.
5. Tests of change are conducted, and process improvements are implemented, based on the findings of the tests.

6. The project team is currently interviewing all patients post discharge to find issues that patients have prior to their follow up appointments.

G. Evaluation Process

1. Short Term- All Mt Ascutney Hospital’s Physicians Practice patients receive a post discharge phone call by a community health team member prior to their follow up visit with their primary care provider.

2. Short Term – The initial follow-up appointment with the PCP does not consistently occur within 72 hours of discharge. Barriers include lack of available appointment slots for that PCP, and weekend discharges result in delay of scheduling appointment.

3. Long Term - We will look at 2012’s data to see if we have reduced readmissions.