The goal of our Labor and Delivery unit through the MPSC Perinatal Collaborative is to reduce harm through the implementation and integration of systems improvements and team behaviors into maternal fetal care. The primary root cause of perinatal deaths and injuries as reported by JCAHO is communication failure among caregivers. This area for improvement was also identified by unit AHRQ patient culture of safety survey results. Therefore, the decision was made by the Labor and Delivery leadership team to focus on improving teamwork and communication among the health care team. Additionally all efforts to improve teamwork in the past were identified as not being a collaborative effort between nurses and physicians. A dedicated focus was to be on nurses and physicians attending these training sessions together.

**PROCESS:**

1. Team of two Labor and Delivery Nurses and one OB physician champion trained as TeamSTEPPS instructors through the MPSC.
2. Presentation to senior leadership team ensured budget approval and administrative support.
   a. Clinical Director of Nursing: Labor & Delivery
   b. VP Patient Care Services, Chief Nurse Executive
   c. Women’s and Children’s Division Chair
3. Two hour presentation to generate awareness of the TeamSTEPPS program was introduced at Nursing Grand Rounds, with a special invitation to OB/GYN physicians and CNM’s.
4. Program was customized to meet needs of the unit in regards to scenarios and role play.
5. Additionally in Summer 2009 Labor and Delivery unit educator and OB Hospitalist were trained as TeamSTEPPS instructors.
6. Presentation to Medical Executive Committee in December 2009 highlighting successes of TeamSTEPPS training on Labor & Delivery. The program has been well received and will be a focus for house wide implementation beginning in 2010.
SOLUTION:

Solutions:
- Four hour training session offered every other month.
- Training offered in the evening to accommodate practitioner office hours.
- CME’s and CEU’s provided after completion of training.
- Training mandatory for RN’s, PCT’s and ST’s on Labor and Delivery.
- Training was initially encouraged for OB MD’s and CNM’s. The program dates/times and goals were highlighted monthly at the OB Service meetings. Winter 2009, program voted mandatory for all OB/GYN’s and CNM’s by the department as part of the credentialing process. Prior to this vote 65% of the OB MD’s and CNM’s had already completed TeamSTEPPS training.

Sustainability:
- Unit Champions selected after each training session to support and encourage TeamSTEPPS behaviors and events on the unit daily.
- Unit Champions 2 hour additional training and quarterly meetings to begin Spring 2010.
- Every other month OB Clinical Simulations with participation by all team members to reinforce and role play TeamSTEPPS behaviors, skills and events.

OUTCOMES:
- Improved perception of unit teamwork and patient safety as evidenced by follow-up AHRQ Culture of Safety Survey results.
- Decrease in Weighted Adverse Outcome Score (unit specific data: Adverse events times severity weight divided by total number of deliveries)
- Decrease in Severity Index (SI) (unit specific data: Total weights divided by number of patients with an adverse event)
- Decrease in Labor and Delivery RN resignation, internal transfers & terminations.
**AHRQ Culture of Safety Survey**

A: Overall perception of patient safety  
B: We have safety problems on this unit  
C: We are actively doing things on this unit to improve patient safety  
D: Hospital management support for patient safety

**Based on positive response to statement**

MPSC 2010 Annual Conference Solution Submission
This Analysis was created by the National Perinatal Information Center/Quality Analytic Services (NPIC/QAS) under a contract with the Delmarva Foundation for Medical Care for The Maryland Patient Safety Center Perinatal Collaborative.

Each type of event has a severity weight associated with it and there are three indices that are calculated from the count and weight of the events occurring at your facility. The types of events – and the weights associated with each type of event - were developed by the panel of experts through a rigorous consensus process to determine appropriate “weights”. For example, it was agreed that “maternal death” should have the highest severity weight (750); the sum of the weights of all other events is equal to the severity weight for maternal death. The measures and their associated weights are listed below.

**Weights for Adverse Outcomes**

<table>
<thead>
<tr>
<th>Event</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal death</td>
<td>750</td>
</tr>
<tr>
<td>Intrapartum and Neonatal Death</td>
<td>400</td>
</tr>
<tr>
<td>Uterine Rupture</td>
<td>100</td>
</tr>
<tr>
<td>Maternal Admission to ICU</td>
<td>65</td>
</tr>
<tr>
<td>Birth Trauma</td>
<td>60</td>
</tr>
<tr>
<td>Return to OR/L&amp;D</td>
<td>40</td>
</tr>
<tr>
<td>Admission to NICU</td>
<td>35</td>
</tr>
<tr>
<td>APGAR 5 &lt;7</td>
<td>25</td>
</tr>
<tr>
<td>Blood Transfusions</td>
<td>20</td>
</tr>
<tr>
<td>3rd &amp; 4th degree perineal laceration</td>
<td>5</td>
</tr>
</tbody>
</table>

The Adverse Outcome Index (AOI) (listed below) is the number of deliveries with one or more of the identified adverse events as a proportion of total deliveries.

The Weighted Adverse Outcome Score (WAOS) is the total weights of all the adverse events divided by the total number of deliveries. It describes the adverse event score per delivery.

The Severity Index (SI) is the total weights of all the adverse events divided by the number of deliveries with an adverse event (each delivery is counted only once but each event is counted.) The SI score describes the severity of the outcomes.
Anne Arundel Medical Center
Severity Index (SI)
(Total weights divided by number of patients with an adverse event.)
AOI Version 2.1

Error Bars represent Margin of Error (90% Confidence Interval).
Significant Decrease from Baseline to Follow-up; p = 0.024

Target Benchmark (15.74)
Adverse Outcomes Index:
Severity Index (SI)
(Total weights divided by number of patients with an adverse event.)

| Level 3 Hospitals (n = 10) | AAMC | 4.0%  4.6%  0.6% | 0.79  0.73  -0.06 | 20.53  15.86  -4.67 |
|----------------------------|------|------------------|------------------|------------------|------------------|
| D14                        | 6.3% | 5.1%  -1.2%      | 1.52  1.03  -0.49 | 24.45  20.10  -4.35 |
| D24                        | 7.4% | 5.6%  -1.8%      | 2.46  1.53  -0.93 | 31.50  28.26  -3.24 |
| D16                        | 2.8% | 4.5%  1.7%       | 0.68  0.95  0.27  | 24.11  21.30  -2.81 |
| D12                        | 4.0% | 4.9%  0.9%       | 1.37  1.52  0.15  | 33.94  31.81  -2.13 |
| D06                        | 6.0% | 5.8%  -0.2%      | 1.23  1.15  -0.08 | 20.44  19.44  -1.00 |
| D07                        | 6.6% | 6.4%  -0.2%      | 1.28  1.20  -0.08 | 19.05  18.95  -0.10 |
| D08                        | 5.3% | 4.4%  -0.9%      | 1.23  1.02  -0.21 | 23.27  23.51  0.24 |
| D10                        | 4.3% | 4.8%  0.5%       | 0.52  0.70  0.18  | 12.20  14.27  2.07 |
| D22                        | 4.5% | 5.5%  1.0%       | 1.09  1.65  0.56  | 24.24  29.92  5.68 |

Level 3 average 5.1% 5.2% 0.0% 1.22 1.15 -0.09 23.37 22.34 -1.03

Ave. All 4.6% 4.4% -0.2% 1.08 1.05 -0.02 23.38 24.96 1.59

Data provided by:
National Perinatal Information Center/
Quality Analytic Services

The SI is a reflection of the severity of the events relative to all cases with an adverse event.

Anne Arundel Medical Center’s follow-up average rate is lower than the baseline average rate.
There was a statistically significant change (decrease) from “baseline” to “follow-up”
(rep resenting improvement).
Anne Arundel Medical Center
Labor and Delivery RN resignation, internal transfers & terminations

**Totals including all job codes:**
**Summer 2007: Nursing Staff functioning @ 122% productivity**
(based on # of births vs. RNs staffed)