

**Final Recommendations on Continued  
Financial Support for the Maryland Patient  
Safety Center**

**May 25, 2011**

**Health Services Cost Review Commission  
4160 Patterson Avenue  
Baltimore, MD 21215**

**This Final Recommendation was approved by the Commission on June 1, 2011.**

# **Final Recommendations on Request for HSCRC Financial Support of Maryland Patient Safety Center in FY 2012**

## **Background**

The 2001 General Assembly passed the “Patients’ Safety Act of 2001,” charging the Maryland Health Care Commission (MHCC), in consultation with the Department of Health and Mental Hygiene (DHMH), with studying the feasibility of developing a system for reducing the number of preventable adverse medical events in Maryland including, a system of reporting such incidences. The MHCC subsequently recommended the establishment of a Maryland Patient Safety Center (MPSC or Center) as one approach to improving patient safety in Maryland.

In 2003, the General Assembly endorsed this concept by including a provision in legislation to allow the MPSC to have medical review committee status, thereby making the proceedings, records, and files of the MPSC confidential and not discoverable or admissible as evidence in any civil action.

The operators of the MPSC were chosen through the State of Maryland’s Request for Proposals (RFP) procurement process. At the request of MHCC, the two respondents to the RFP to operate the MPSC, the Maryland Hospital Association (MHA) and the Delmarva Foundation for Medical Care (Delmarva), agreed to collaborate in their efforts. The RFP was subsequently awarded jointly to the two organizations for a three-year period (January 2004 through December 2006). The RFP authorizes two one-year extensions beyond the first three years of the pilot project. MHCC extended the contract for two years ending December 31, 2009. The Center was subsequently re-designated by MHCC as the state’s patient safety center for an additional five years – through 2014.

In 2004, the HSCRC adopted recommendations that made it a partner in the initiation of the MPSC by providing seed funding through hospital rates for the first three years of the project (FY 2005-2007). The recommendations provided funding to cover 50% of the reasonable budgeted costs of the Center for each of those fiscal years. The Commission annually receives a briefing and documentation on the progress of the MPSC in meeting its goals as well as an estimate of expected expenditures and revenues for the upcoming fiscal year. Based on these presentations, staff evaluated the reasonableness of the budget items presented and made recommendations to the Commission.

Over the past 7 years, the rates of eight Maryland hospitals were increased by the following amounts, and funds have been transferred on a biannual basis (by October 31 and March 31 of each year):

- FY 2005 - \$ 762,500
- FY 2006 - \$ 963,100
- FY 2007 - \$1,134,980
- FY 2008 - \$1,134,110
- FY 2009 - \$1,927,927
- FY 2010 - \$1,636,325

- FY 2011 - \$1,544,594

In each of the last two years, as part of its approval for continued financial support of the MPSC, the Commission adopted a recommendation requiring for future years that the percentage of budgeted costs covered through hospital rates should be reduced by at least 5% per year, but in no year shall the funding (on a dollar basis) exceed the amount provided in the previous year. The approved recommendation stated that the percentage decline shall be determined annually based on a continued review of MPSC activities which shall take into account the existence of demonstrable evidence of improved outcomes, efficiency, and cost savings resulting from MPSC's programs, as well as the viability and success of MPSCs strategic fundraising plan. The Commission expressed its belief in the value of the MPSC by continuing to be a minority partner with the Center, and intending to continue to provide a base level of support (potentially 25% of budgeted costs).

For FY 11, the Commission held in abeyance \$171,622 of the total approved funding (\$1,544,594) until the MPSC demonstrated that a viable fundraising plan was in place. On March 17, 2011, the MPSC submitted a letter to the Commission on its efforts to develop and launch the first phase of its fundraising plan/campaign. The Center will also be extending its campaign to the region's business community. Finally the MPSC re-evaluated its functions which resulted in the consolidation of programs and improved efficiency. As a result, the overall expenses of the Center are being reduced in FY 12.

### **Maryland Patient Safety Center Request to Extend HSCRC Funding**

On March 23, 2011, the HSCRC received the attached request for continued financial support of the MPSC through rates in FY 2012 (Attachment 1). The MPSC is requesting to continue the 45% HSCRC match into FY 2012. The result would be a reduction in total support from \$1,544,594 in FY 2011 to \$1,314,433 in FY 12 – a 14.9% decrease.

### **Maryland Patient Safety Center Purpose, Accomplishments, and Outcomes**

The purpose of the MPSC is to make Maryland's healthcare the safest state in the nation focusing on the improvement of systems of care, reduction of the occurrences of adverse events, and improvement in the culture of patient safety at Maryland health care facilities. The MPSC's new strategic plan directs concentration on the following 6 areas:

- Measurement of vision success and program impact;
- Patient and family voices at all levels;
- Institutions create and spread excellence;
- Institutions safety culture hardwired;
- Continuity of care initiatives; and
- Demonstrate the value of safety.

Below is a general description of the various initiatives put in place by the MPSC to accomplish the aforementioned goals as well as estimated outcomes and expected savings of each initiative.

## 1. Adverse Event Information System and Data Analysis

The Center has developed software that it has provided to hospitals free of charge to be used as a fully operational adverse event data collection tool. However, hospitals may report adverse events and near misses by using their existing software. Data collected through the project may be used to benchmark events against other facilities as well as to explore trends and patterns relating to the types of events occurring at hospitals. This knowledge will assist MPSC and Maryland hospitals to develop standardized best practices in an effort to prevent or reduce the number of adverse events occurring in the future.

## 2. Patient Safety Education Programming

The MPSC has conducted a series of educational programs designed to train leaders and practitioners in the health care industry and share strategies to improve patient safety and quality. These programs have focused on the following areas:

- Reduction of blood stream infections through a Stop BSI initiative;
- Patient safety tools training including root cause analysis;
- Professional development programs;
- Process improvement including LEAN workshops and Six Sigma certification;
- TeamSTEPPS Train the trainer programs;
- Sharing information on MedSAFE, hospital information technology, and patient falls; and
- Patient safety officers forum.

These programs, particularly the LEAN and Six Sigma programs are designed to improve efficiency and reduce costs at hospitals and nursing homes. One facility has reported savings of up to \$20,000 related to pharmacy inventory reductions and annualized saving of up to \$2.2 million due to reduced cases of missing or reordered medications.

## 3. MEDSAFE Medication Safety Initiative

The MEDSAFE program was initiated by the Maryland Hospital Association has been in existence since 1999. After being moved to the MPSC, the Initiative continues to promote the implementation of safe medication practice at Maryland hospitals. The Safe Medication Practices' Medication Safety Self-Assessment tool is used to survey hospitals and develop customized reports. The survey solicits responses from individuals at hospitals across various hospital departments on more than 200 questions relating to the level of compliance with evidence-based practices aimed at reducing medication errors.

**Outcomes:** Between 2005 and 2010, Maryland hospitals showed an increase of 16% in overall median score for medication safety on the annual MEDSAFE survey, most notably in patient identification and in automated prescription verification.

#### 4. Patient Safety Collaborative Program

The MPSC has initiated a series of Collaboratives focused on the implementation and development of safe practices and culture change in high hazard settings. The Center's collaborative workshops bring together Maryland providers and national experts to focus on safety culture and specific process improvements, with the goal of implementing measurable and sustained improvement. The following Collaborative programs have been implemented by the Center:

##### *ICU Safety and Culture Collaborative*

The ICU Collaborative, which ran from 2005 to 2007, included teams from thirty-eight of Maryland hospitals' intensive care units. The program was aimed at eliminating preventable death and illness associated with healthcare-associated blood stream infections (BSI) and pneumonia in patients on ventilators.

**Outcomes:** Since this was the first Collaborative implemented by the MPSC, data is available to estimate the benefits of the project:

- ICUs at 5 hospitals met the challenge of zero ventilator-associated pneumonia episodes during its data collection period;
- Overall, ventilator-associated pneumonia was reduced by 20% in participating ICUs;
- An estimated 755 ventilator-associated pneumonia infections were prevented – based on statistical modeling; it is estimated that about 75 lives have been saved, reducing hospital costs by about \$35 million;
- Ten hospitals achieved zero catheter-associated BSI episodes during the data collection period;
- Catheter-associated BSI have been reduced by 36%;
- An estimated 358 BSI infections have been avoided – based on statistical modeling, it is estimated that about 62 lives have been saved thereby reducing hospital costs by about \$5 million;
- In total, an estimated 1,113 ventilator associated pneumonia or catheter-related blood stream infections have been prevented, saving approximately 140 lives, and resulting in about \$40 million in cost savings at hospitals each year.

##### *Emergency Department Collaborative*

The Emergency Department Collaborative began in 2006 and continued through 2007. This Collaborative was conducted with the intent of improving emergency room flow and getting time-sensitive treatments to patients quickly. Twenty-nine multi-disciplinary teams representing over half of the hospitals in the State worked towards achieving a broad spectrum of ambitious goals geared towards ensuring that the sickest ED patients get the care they need quickly, and that all patients are cared for in a timely manner with the smallest possible exposure to preventable healthcare associated harm. As a starting point, the collaborative teams implemented a series of change strategies that

have been recommended in the scientific literature or reported as successful by other hospitals.

A Handoff and Transition Network has grown out of the discussions of the ED Collaborative.

**Outcomes:** Based on a sample of 748,237 patients seen during a one-year period at 15 participating hospitals, median length of stay was reduced by 30 minutes saving about 374,000 hours. The median number of visits per treatment space has increased by 90 visits. In addition, ambulance diversions were reduced at many participating hospitals - 24% hospitals reduced yellow alert times, and 48% reduced red alert time. It is estimated that 189 additional pneumonia patients were given an antibiotic during the appropriate time frame. This was estimated to save \$130,000 in hospital costs, or, on average, \$688 per patient.

### *Perinatal Collaborative*

The Perinatal Collaborative began in March 2007 and now includes participation from 32 labor and delivery units at Maryland hospitals. It impacts more than 90% of all Maryland deliveries. The mission of the Collaborative is to create perinatal units that deliver care safely and reliably with zero preventable adverse outcomes. The goal is to reduce infant harm through the implementation and integration of systems improvements and team behaviors into maternal-fetal care using various proven methods. A more recent goal is to reduce health disparities in perinatal and neonatal care through standardization of the discharge process for post partum women and neonates, including the late pre-term infant.

#### **Outcomes:**

- Inductions without indication have reduced from 3% in the first quarter of 2009 to 0.9% in the third quarter of 2010, while cesarean sections without indication have dropped from 10% to 2.8% during the same period;
- Admissions to the NICU (for >2500 grams, >37 weeks gestational age for more than 24 hours) have declined by 10% over the course of the perinatal collaborative. These reductions and reduced length of stay has resulted in an estimated \$185,000 in cost savings each year;
- Fewer overall adverse events and reported birth trauma since 2010;
- Improved compliance with central line insertion processes in the NICU. Compliance went from 70% in the first month of the project to monthly rates between 87% and 93%.

### *Patient Falls*

Data collected by MPSC over the past two years indicate that patient falls are the second most frequently occurring, event after medication errors; however, patient falls rank first in terms of severity. The MPSC intends to reduce the number of patient injuries resulting from falls by developing standardized protocols using best practices and testing them over time.

The MPSC launched its Keeping Patients SAFE from FALLS initiative in 2009. As part of the initiative, MPSC has shared tools and methods and continues to collect data regarding outcomes.

**Outcomes:** Compared with falls predicted by past performance, acute care hospitals in the initiative show a total decrease of 216 falls and long-term care facilities show a decrease of 623 falls. Cost avoided from treating these injuries in acute care hospital alone is estimated to be \$2,106,000.

### *Maryland Hand Hygiene Collaborative*

Hand Hygiene is a critical factor in preventing the costly spread of potentially devastating infections. The Maryland Hospital Hand Hygiene Collaborative started in November 2009 and currently 33 facilities are participating in the project. The goal is to reduce infections, improve care, and reduce waste which can lead to savings throughout the healthcare system. The program is partially funded through DHMH and provides access to:

- Standardized measures, tools and data analyses;
- A data management system;
- Web-based training;
- Organizational and unit level audits;
- Campaign branding materials; and
- A network of expert and best practices.

**Expected Outcomes:** Early results show a 5% improvement in hand hygiene compliance among participants.

### **Other Sources of Funding**

In FY 2010, MPSC implemented a strategic funding initiative to attempt to diversify its sources of support over time. For FY 12, MPSC and its partners secured program-specific funding in the following amounts:

- \$250,000 from Maryland Hospitals;
- \$200,000 from Delmarva Foundation;
- \$200,000 from Maryland Hospital Association;
- \$250,000 from DHMH for continued support of the Maryland Perinatal Collaborative;
- \$293,000 from fees on participants;
- \$75,000 from CareFirst in continued support of the Neonatal Collaborative;
- \$200,000 from fundraising efforts; and
- Applied for a \$388,419 (the FY 12 amount) grant from CareFirst to blend concepts within TeamSTEPPS and CUSP (Comprehensive Unit-based Safety Program) to provide a more streamlined tool to improve patient safety.

## Findings

The All-Payer System has provided funding support for the Maryland Patient Safety Center during its initial six years with the expectation that there would be both short-term and long-term reductions in hospital costs – particularly as a result of reduced mortality rates, lengths of stays, patient acuity, and malpractice insurance costs. However, the Center has provided limited evidence that the programs have resulted in cost savings, and only to the extent that these savings relate to individual programs and for limited periods of time. The Commission desires more information that would:

1. Show program outcomes on a longer term basis along with concomitant savings; and
2. Demonstrate the magnitude of the public's return on investment of funding support.

Staff believes that although the programs of the MPSC seem to be well conceived, there tends to be a lack of coordination with other patient-safety related initiatives across the State – particularly those sponsored by the Department of Health and Mental Hygiene. Staff believes there should be a broader plan for patient safety in Maryland, and that MPSC should coordinate with State and other entities, such as the Department of Health and Mental Hygiene and the Maryland Health Quality and Cost Council, on State priorities. In addition, the plan should be considered in the context of overall delivery system reform. The roles of the various state entities involved with patient safety should be clearly defined.<sup>1</sup>

Staff is encouraged that MPSC has begun implementing a strategic fundraising plan to ensure financial sustainability into the future; however, given the economic situation, the plan has yielded little support to date. The FY 11 Commission recommendations held \$171,622 in abeyance until the MPSC submitted a summary of the plan and to the Commission for review. Commission staff received a report and released the funds on March 31, 2011. The MPSC expects to receive approximately \$200,000 in fundraising revenue in FY 12.

Commission recommendations before FY 2010 provided financial support to the MPSC equal to 50% of the reasonable budgeted expenses of the Center (less half of any carryover from the previous year). Beginning in FY 2010, the Commission's recommendations stated that this percentage should decline each year by at least 5%, but in no year should the dollar amount be greater than the previous year. The intent was to reduce support gradually and to encourage the MPSC to aggressively pursue other sources of revenue (including from other provider groups that benefit from Center programs) to help support the Center into the future.

In FY 10, the percentage support was reduced to 45%; however, recognizing the difficulty of raising funds during tough economic times, the Commission retained the

---

<sup>1</sup> HSCRC staff has met with MPSC on several occasions to consider how the Center can assist with HSCRC payment initiatives – such as readmissions.

45% contribution in FY 11. Nonetheless, the Commission's amount of support has declined on a dollar basis in each of the past 3 years:

- FY 2009 - \$1,927,927
- FY 2010 - \$1,636,325 -15.1%
- FY 2011 - \$1,544,594 - 5.6%
- FY 2012 - \$1,314,433 (proposed) -14.9%

The policy to provide funding on a percentage of budgeted costs has also created unintended consequences. As more funding is acquired through the Center's fundraising plan and expended on projects, the total budgeted amount increases. Thus, the policy to limit the dollar amount of support so as not to exceed what was granted the previous year may not actually reduce the amount of support, as intended. The intent was to have fundraising dollars offset funding support provided through the Commission. In addition, since it is the Commission's policy to reduce the support by half of the carryover, it has made it difficult for the Center to build up a reasonable budgetary reserve.

In light of these issues, staff recommends the following changes to the MPSC funding support policy.

**Staff Recommendations:**

- 1. Provide funding support for the MPSC in FY 2012 through an increase in hospital rates in the amount of \$1,314,433 (a 15% reduction from FY 2011).**
- 2. For funding support in future years, staff recommends that as part of the FY 13 MPSC funding recommendation, staff reconsider the policy of reducing the percentage of the Center's budget by 5% each year, and either propose a new plan or consider the funding request on an annual basis. Funding support in the future should consider (1) how well the MPSC initiatives fit into a broader statewide plan for patient safety, (2) whether new MPSC revenues should offset HSCRC funding support; (3) information on patient safety outcomes and the public's return on investment (from HSCRC funding); and (4) how MPSC initiatives dovetail with the HSCRC's payment-related initiatives and priorities.**
- 3. The MPSC should continue to aggressively pursue other sources of revenue, including from other provider groups that benefit from the programs of the Center, to help support the Center into the future.**
- 4. In order for the MPSC to budget for FY 2012, staff recommends that the 60-day comment rule be waived so that these recommendations may be considered for final approval.**

Keeping Patients Safe

**MPSC**

*Maryland Patient Safety Center*



# FY2012 MPSC Program Plan & Budget

Presented to



April 2011

6820 Deerpath Road  
Elkridge, MD 21075-6234  
410-540-9210  
[www.marylandpatientsafety.org](http://www.marylandpatientsafety.org)

## Executive Summary

Numbers often tell the story. In this case, they tell the story about the impact of medical errors on people. For example, a number you have heard before, over 100,000 patients die in hospitals each year due to medical errors. But did you know that one in four adults over the age of 50 years experiences a medical error during their medical care or at least 1.7 million patients experience healthcare acquired infections (HAIs) annually?

Numbers also tell us that errors are costly. HAIs alone generate health care costs of over \$28 billion. Medical errors also burden the business community, increasing employee absenteeism, reducing workforce productivity, and generating disability, and Family and Medical Leave Act expenses. Overall, according to the Kaiser Family Foundation the average premium paid by businesses for family coverage between 2000 and 2010 increased 114%; for workers it increased 147%. Thus the costs of patient errors ultimately are paid by us all – through higher taxes, increased health insurance premiums, and related health care expenses.

Behind these numbers is the human burden. Medical errors keep patients in hospitals longer, sometimes leaving them with lifelong disabilities. They can leave children without a parent, or parents with a child whose long-term fate will be a constant concern. It also includes the healthcare providers who carry the burden of these errors through their professional lives, or leave the field despite years of preparation. These facts all underscore the continued need for comprehensive, effective efforts to improve patient safety.

Against this backdrop, MPSC is entering its seventh year well positioned to address and improve these patient safety needs. Hospitals, long term care providers, and home health agencies in the Mid-Atlantic region continue to join MPSC's programs and initiatives. Among the accomplishments of our collaboratives over the past two years include:

- Improved compliance with national recommendations to avoid elective inductions (a 3.6-fold reduction) and elective C-sections (a 4.9-fold reduction) during pregnancy without medical indications for infants less than 39 weeks gestation. This is associated with significant avoidance of medical complications in the newborn and health care utilization from such early deliveries;
- Improved newborn management reflected in decreased NICU admissions, NICU length of stay and better "golden hour" infant management (less sepsis, more stable body temperature and glucose regulation);
- Reduced incidence in the number of falls in acute care hospitals (216 ) and long-term care facilities (623 ) preventing not only the frequency but the severity of these preventable events with estimated concomitant costs of care avoided in the range of \$1.3M and \$2.4M respectively for collaborative participants during 2010.

Furthermore, MPSC is realigning its work to accelerate the momentum it has established in patient safety improvement and cost control. We are doing this in three ways: through improved leadership, programming and organizational development.

## Leadership

During the past year, MPSC also sought to assess its leadership role as a patient safety center through two activities. We conducted a phone survey of leading patient safety centers around the country as well as an electronic survey of Maryland hospitals. Findings from the phone survey of patient safety suggest that MPSC is a leader among patient safety centers and is viewed as a model organization in the field of patient safety. Respondents pointed to the MPSC model based on a strong working partnership with stakeholders such as the Maryland Hospital Association, the Delmarva Foundation for Medical Care, the Maryland Healthcare Education Institute and with policy leaders such as the Maryland Department of Health and Mental Hygiene, the Maryland Health Care Commission, the Office of Health Care Quality, and the Health Services Cost Review Commission. In addition, respondents pointed to the breadth of our programming – from multi-provider collaboratives, to culture change training and education, and a comprehensive annual conference – as particularly unique in this field.

A March 2011 MPSC customer survey (with a final analysis pending) finds MPSC strong with its participants, receiving particularly high marks for our culture change strategies (e.g., TeamSTEPPS), our topical, intensive collaboratives, and the MPSC Annual Conference.

## Programs

MPSC will focus on four service areas over the coming years.

### 1. Demonstration projects:

- MPSC is concentrating on its most successful demonstrations such as our perinatal/neonatal learning networks where we will more strategically link them to obtain efficiencies and economies of scale, and our falls collaborative where we want to continue recruiting additional institutions to reach the broader patient population. We will look for opportunities to increase enrollment in our Hand Hygiene Collaborative and use this as the foundation for new work in the field of HAIs.
- MPSC is looking for opportunities to undertake new collaboratives that are consistent with state and national safety priorities, such as HAIs.
- MPSC will continue to serve as an incubator for smaller projects. For example, the issue of “difficult airways” and “outpatient identification protocols”, topics discussed at a recent Patient Safety Officers Forum and through our Wrist Band Initiative. Such topics can have quick impact because they are easily developed, quickly evaluated, and can be taken to scale by MPSC or others.

### 2. Education:

- MPSC will continue to capitalize on its role as a neutral convener/collaborator to bring together key stakeholders to facilitate patient safety programs, policy development, and peer learning such as through the successful Patient Safety Officers Forum.
  - MPSC is using its momentum in culture change training (e.g., TeamSTEPPS) to respond to requests from hospitals to hardwire safety throughout their institutions that will set the stage for subsequent patient safety collaboratives and projects.
  - MPSC's Annual Conference will increasingly be used to identify the most promising patient safety practices in the region. This in turn can serve as a resource for new projects and collaboratives.
3. Outreach:
- MPSC will ensure that our work serves people in all communities, including in particular, the most vulnerable populations, so that all families receive the safest care possible.
  - MPSC is about to convene family and patient advocates to help us develop a meaningful family/patient advisory council for MPSC.
  - MPSC is reaching out to the business community as part of our fund development work to recruit them as partners in advancing patient safety throughout the region.
4. Measurement:
- MPSC will improve the integration of measurement and documentation in our interventions
  - MPSC is strengthening its capacity to track and analyze adverse events for participating area hospitals and will seek participation from additional hospitals as we move towards annual reporting on performance related to these events

### **Organizational Development:**

To increase its organizational capacity, MPSC is identifying opportunities to reallocate resources to increase efficiency and savings in current and future operations. This includes merging the Perinatal and Neonatal Learning Networks to increase their impact while combining resources. We have created efficiencies in our Safe From Falls Campaign and negotiated a new contract with a vendor for our Adverse Event Reporting System, both of which will produce savings. These efficiencies alone enable MPSC to reduce its request to HSCRC by 14% for FY 2012. So both the total request and percent contribution by HSCRC toward our FY 2012 budget is lower than for FY 2011, consistent with HSCRC's objective to reduce its contribution as a proportion of the MPSC overall budget.

To further achieve this objective, MPSC has undertaken a fund development strategy led by co-chairs patient safety expert Peter Pronovost MD, PhD, of Johns Hopkins Hospital, and attorney Eugene Freidman, JD, Corporate Counsel for First Mariner Bank. To date MPSC has obtained financial commitments from 100% of the MPSC Board of Trustees, and has received verbal commitments from three of the larger health care systems. The amount and timing of these health care system commitments is yet to be determined but we are in ongoing conversations

with them. We also are expanding the campaign to reach out to other independent hospitals and are launching a new strategy to extend the campaign to the region's business community since we believe there is a significant business case for safety to be made. This partnership with the business community will help cultivate the political and economic support of this sector that bears a major financial burden from medical errors occurring among their employees.

MPSC is diversifying its Board of Directors (Attachment E) to reflect the broader health care system and community. New Board members represent the disciplines of public health, neonatology, information technology, long term care, law, insurers, and public regulatory policy. To provide our Board a broader perspective of the national health reform agenda, MPSC held a Board retreat in the fall of 2010 that included a presentation by National Quality Forum President and CEO Janet Corrigan. This generated a rich discussion of national health reform and the Forum's National Priority Framework, a document with recommendations to guide HHS Secretary Sebelius in setting national health policy. MPSC's programming, with our emphasis on HAIs, falls, patient and family engagement, care transitions (continuum of care), medication safety, and over utilization, is highly consistent with this framework.

The enclosed material includes key MPSC results (Attachment A), a detailed report on the reduced falls incidence and subsequent economic costs avoided related to our Safe From Falls Initiative (Attachment B), a comprehensive 2012 budget (Attachment C), detailed program activities (Attachment D), and a list of our current Board of Directors (Attachment E). Thank you for your continued critical support of MPSC. It is largely through HSCRC's support that MPSC has been able to achieve such great success in patient safety. We look forward to continuing this partnership in the future.

Patrick Chaulk, MD, MPH, FACPM

Executive Director and President

## Attachment A: Key Results

The following provides an overview of MPSC's key results across multiple project areas.

---

### MPSC - Key Recent Results

#### Participation

Participation continues to be high and climbing. Annually, 100% of Maryland hospitals participate in MPSC events and programs, and an increasing number of long term care, home health, and other participants join MPSC's initiatives. Over 1,200 providers and patient safety leaders attended MPSC's 7<sup>th</sup> Annual Conference on April 8, 2011.

#### Saving Lives & Improving Quality in Labor & Delivery

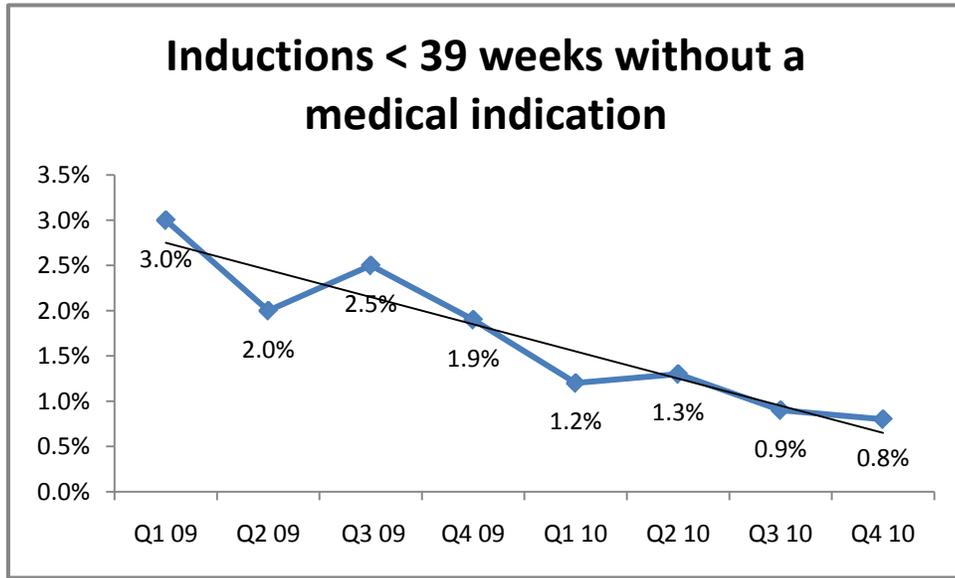
Program data from the Perinatal and Neonatal Learning Networks continue to show improved quality outcomes for mothers and babies. In particular, these Learning Networks have substantially reduced elective inductions and cesarean section deliveries before 39 weeks gestation. This is critical since an extensive literature has documented a number of medical complications for newborns delivered before 39 weeks gestation by either method without a medical indication. These complications include:

1. Increased probability of admission to NICU for care. For example the proportion of newborns transferred to the NICU following elective delivery for both methods combined is 17.8% for infants delivered between 37 and 38 weeks gestation and 8.0% for infants at 38-39 weeks gestation compared to 4.6% for infants over 39 weeks.
2. Increased probability of transient tachypnea of the newborn.
3. Increased probability of respiratory distress syndrome.
4. Increased need for ventilator support.
5. Increased probability of sepsis.
6. Increased newborn feeding problems

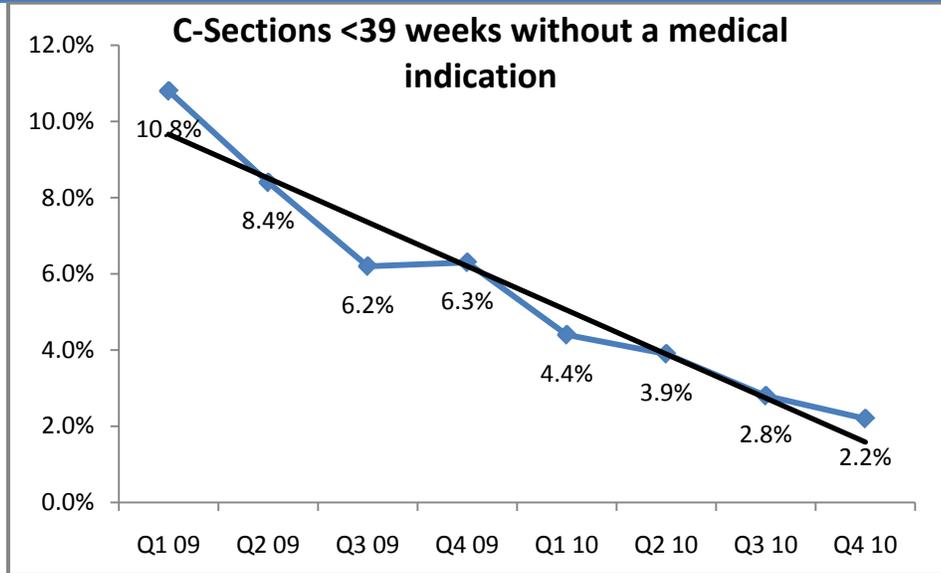
Because of these complications, this recommendation to reduce these elective procedures has been the official position of the American Congress of Obstetricians and Gynecologists for two decades. Nonetheless, elective inductions and elective cesarean section deliveries have risen over the past two decades.

With these national trends and documented complications as a backdrop, the Learning networks have set as a goal a reduction in the incidence of these procedures. The following charts quantify this progress.

---



Inductions			
Audit of Inductions to Determine Medical Necessity	Total Inductions	Number of Inductions < 39 weeks without a medical indication	Rate < 39 weeks without a medical indication
Q1 09	3420	101	3.0%
Q2 09	3605	71	2.0%
Q3 09	3577	89	2.5%
Q4 09	3790	72	1.9%
Q1 10	3585	43	1.2%
Q2 10	3840	51	1.3%
Q3 10	3934	35	0.9%
Q4 10	3678	28	0.8%



Audit of Scheduled C-Sections to Determine Medical Necessity	Total Scheduled C-Sections	Number of scheduled C-Sections < 39 weeks without a medical indication	Rate < 39 weeks without a medical indication
Q1 09	2140	232	10.8%
Q2 09	1979	167	8.4%
Q3 09	2050	127	6.2%
Q4 09	2159	135	6.3%
Q1 10	2044	90	4.4%
Q2 10	2283	93	3.9%
Q3 10	2285	63	2.8%
Q4 10	2129	47	2.2%

Additional new born outcomes produced through these Learning Networks include:

- Declining average neonatal intensive care unit (NICU) length of stay during a 16-month period.
- A 10% decrease in NICU admissions over the course of the Perinatal initiative.

- Fewer overall adverse events and reported birth trauma in labor and delivery from baseline to 2010, as collected via the Adverse Outcomes Index.
- Improved compliance with central line insertion processes in the NICU, a key infection prevention measure. Compliance rose from 70% in the first month of reporting to current monthly rates at 87 to 93%. Most importantly, proper maintenance has risen from 50% at baseline to 97% at the end of the last reporting quarter. While there was an increase in the CLABSI rate during May to July 2010, this upward movement appears to have reversed itself between August and October 2010 with the rate dropping nearly 50%.

### Costs Avoided

- With the research assistance of Vahe Kazandjian of ARALEZ Health, data from the SAFE From FALLS Initiative estimates that falls in acute care settings declined by 216 for calendar year 2010. In addition to avoiding injury and suffering, falls result in costly complications for patients. Participating facilities have reported reductions in both the frequency and severity of falls. In hospitals, *these reductions are estimated to have generated avoidable treatment costs of \$1,390,391*. An additional 623 falls were estimated to have been prevented. *This is associated with avoided treatment costs of \$2,492,000. (The authors describe their analysis: See Attachment B)*
- Reductions in NICU admissions and reduced length of stay among MPSC's Perinatal Learning Network participants resulted in an estimated \$185,000 in cost savings in Year 1 (2008-2009). Continued reductions in NICU admissions suggest additional cost savings in each subsequent year of the project. Cost savings for infection prevention is also an area of study.

### Maryland is Advancing

Additional MPSC programs show that Maryland healthcare providers are implementing remarkable efforts to improve patient safety. For example:

- Participants in the Maryland Hospital Hand Hygiene Collaborative have reported early results of an aggregate 5% improvement in hand hygiene compliance – making Maryland the first state in the nation to employ a standard methodology.
- Medication safety continues to improve. In the last five years of MPSC's MEDSAFE program, participating facilities have accelerated their medication efforts and seen an overall improvement of 16% in their medication safety survey scores. The greatest gains were in patient identification (that ensures the right patient gets the right drug at the right time) and in automated prescription verification.

### Enhanced Communication

Knowing that communication breakdowns are at the root of medical errors, MPSC is rolling out a targeted TeamSTEPPS program to train healthcare professionals on these important behaviors. MPSC's program is recognized as among the most effective statewide effort to focus on the behaviors and tools that can improve communication for patient safety.

## Publications, Presentations and Awards

- An article on MPSC's Condition H program in the July/August edition of Patient Safety Quality Healthcare.
  - An article about the MPSC SAFE from FALLS initiative appeared in the May 21, 2010 edition of HealthLeaders Quality newsletter.
  - Maryland hospitals' involvement in the international hand hygiene campaign, sponsored by the World Health Organization, was included in the Regional News section of the national publication Advance for Nurses and featured on the Centers for Disease Control and Prevention website.
  - The MPSC Perinatal Collaborative, Adventist Rehabilitation Hospital's participation in the MPSC SAFE from FALLS program, MedStar's safety culture assessment program, a Johns Hopkins Teamwork and Handoffs initiative, and two Johns Hopkins Emergency Department initiatives were all highlighted in posters at the NPSF Annual Congress in Orlando, Florida.
  - *Improving Culture and Teamwork; Maryland Perinatal Collaborative*, Poster Presentation at the Institute for Healthcare Improvement Forum, Orlando, Florida, December 2009
  - *Improving Culture and Teamwork; Maryland Perinatal Collaborative*, Poster Presentation at the National Patient Safety Foundation Annual Conference, Orlando, Florida, May 2010
  - "The Role of Quality Improvement in Reducing Disparity in Neonatal Care" by James Rost, MD to March of Dimes Summit on Health Disparities, 11/18/10.
  - Handout: *Overview of the Neonatal Collaborative* – provided to and briefly discussed with Carolyn Clancy, MD (AHRQ) at the March of Dimes Summit on Health Disparities (session 1 of 3) 11/18/10.
    - "Overview of the Neonatal Collaborative by James Rost, MD to The Maryland Premature Infant Health Network 12/9/10
    - Handout: *Overview of the Neonatal Collaborative* – provided to participants (on sharing table) at the March of Dimes Summit on Health Disparities (session 2 of 3) 3/31/11
  - *Maryland Perinatal Learning Network Improves Patient Safety*, Plenary presentation at the 2011 Annual Conference of the New York State Perinatal Association, June 2011
-

## Attachment B

### *Keeping Patients SAFE from FALLS Initiative*

Methods of Projecting Cost of Falls based on data from four quarters of data, 2010

By

Vahe A. Kazandjian PhD, MPH

Principal

ARALEZ Health LLC

602 Ponte Villas North

Baltimore, MD 21230

and

Wendy Gary

VP Healthcare Quality and Patient Safety,

Delmarva Foundation for Medical Care

6940 Columbia Gateway Drive, Suite 42

Columbia, Maryland 21046

February 9, 201

Patient falls continue to rank among the most frequent safety events in hospitals, Long term Care organizations, and other settings where care is provided. Falls are also preventable events, since about 50% of all falls happen next to the patient's bed or on the way/in the bathroom.

In addition to the injuries associated with falls, there are implications for unplanned new services (diagnostic, therapeutic, rehabilitative) which often are necessary to provide following a fall, especially for the elderly patients among whom falls are most frequent. These additional care services extend length of stay, increase the cost of care, and expose patients to further iatrogenic risks.

The Maryland Patient Safety Center (MPSC), with the leadership of the Delmarva Foundation for Medical Care (DFMC) as demonstrated the urgency to consider decreasing patient falls in Maryland a priority. The purpose of this document is to serve as the second analysis of *the Safe from Falls Initiative* which completed its full year of data collection on patient falls from acute care hospitals, Home Health Agencies, and Long Term Organizations voluntarily participating in data collection, education, and adoption of better practices proposed by the MPSC. The specific goal of this report is to associate cost of care estimates with the changing patterns of patient falls across the *Safe from Falls Initiative* participants.

## **Background**

A previous report (attached) discussed the trends in changing patient falls rates across the Initiative participants. The overall summary of findings was that the rates have decreased among and across participants in the Initiative and that this decrease was seen by participants attributable to the Initiative. In particular, participants experiencing continuous and noteworthy decreases in overall rates and proportion of stage 2 and stage 3 injuries, reported adoption of better practices triggered by the findings from the Process Measures, also collected by the Initiative.

The previous report identified the following challenges for any additional analysis, such as the estimation of cost savings associated with the decrease in rates. These challenges are also valid for the present report as they shape the assumptions to be made. The challenges are:

1. Attribution bias: While participants have reported that the Initiative assists them in their internal search for better practices to prevent patient falls, MPSC has not conducted a correlation analysis between the changes introduced in the environment of care as suggested by the Initiative, and the decrease in falls rates or severity levels.
2. As a consequence of the above, it is not known if the non-participants in the initiative have also experienced similar trends and magnitudes of change in rates.
3. The "reliable" data from the Initiative is for the 4 quarters of 2010. The data from the previous two quarters of pilot testing the data collection tool and training the participants were not analyzed in the previous report. Thus, it is too early to conduct

any statistical analysis for the significance of the rate changes i.e., were the rates expected to change and in the observed magnitude? Or the observed decrease in rates is significant and could be analyzed toward attribution to enablers such as the Initiative?

4. There are no published figures about the cost associated with patient falls in Maryland. Any projections will use national estimates and can only be an approximate guideline.
5. Data on Process Measures have been collected only once, hence any correlation analysis with the changes in falls rates is unwarranted.

Recognizing these challenges is important for qualifying the estimates of cost in the present report.

### **Assumptions for cost of falls analysis**

- A. *Focus:* The analysis can be done to estimate the cost savings across the participants in the Initiative; and, to project these trends to all of Maryland.

*Recommendation:* Given that only a small proportion of Long Term Care organizations and even small proportion of Home Health Agencies are represented in the Initiative, a generalization to the State is not recommended. Therefore, the analysis shown in this report is for the observed patient falls rate changes in acute care hospitals and Long Term Care organizations from Quarter 1 to Quarter 4, 2010.

- B. *Scenarios:* the potential cost savings is estimated for all falls and a 1% error margin is added to the reported rate to account for possible under reporting. This percentage is arbitrary and small since it is estimated that most falls are identified and reported.
- C. *Method:* The cost estimates are adopted from the published literature. If the published figures are not for 2010, the Inflation Calculator will be used to adjust for inflation rate. Since in the literature cost estimates are for acute care hospitals, Long Term care, the cost of falls in Long Term Care organizations will be estimated at 40% of the cost in acute care settings.

### **Findings from the literature**

A number of studies have been published showing a range in the cost increase of hospital care following a patient fall (Hart 2009, Titler 2005). While these studies attempt to quantify the risk of falling and the associated cost, they remain studies of an institution's patients rather than based on regional or national statistics. The epidemiology of falls, hence the risk associated with patients' health status and implications for variability in cost, is increasingly well documented (Hendrich 2006, Hart 2009), suggesting that any forecasting of patient falls costs needs to adjust for patient demographics, co-morbidities, mental health, and medications used.

### Cost of falls estimates from the MPSC Initiative data

During the four quarters of calendar 2010, acute care hospitals and Long Term Care organizations reported a steady decrease in the number of patient falls. As the attached document shows, the decrease was of 216 falls in acute care hospitals and 623 falls in Long Term Care organizations.

#### Estimates:

##### A. Acute care setting

If the findings from the participating acute care hospitals is generalizable to all acute care hospitals, the decrease in patient falls for calendar 2010 is estimated to be 324 falls.

The literature reports the average cost of a fall in the acute care setting (calculated as hospital revenue lost) to be \$6,437 in 2007, or about \$6,769 in 2010, adjusting for a 5.2% inflation. Thus, a rough estimate of saving from preventing 324 falls is \$ 2085588.

##### B. Long Term Care Organizations setting

The literature provides little guidance for the estimated cost of a fall in a LTC setting. However, since it was reported that average professional liability for a fall in an acute care setting was about \$3,000/bed in inflation adjusted 2010 dollars, a few scenarios can be proposed:

- If one assumes that the cost of a fall, on average, is the same in an acute care setting and a LTC setting, then the cost can be estimated at \$4000/fall (\$ 6769 – \$ 3000).
- About 30 LTC organizations continuously reported data for calendar 2010. If one assumes that these represent 10% of LTC organizations in Maryland eligible to participate in the Initiative and report data, then the decrease in patient falls by 623 falls reported by the 30 participants can be projected to be 6230

Within these broad assumptions, the dollars saved by the LTC organizations alone is estimated to be

$$\$4000 \times 6230 = \$ 24920000$$

#### Caveat

While the cost of falls projections for the acute care settings use average dollar estimates found in the literature, the cost of a fall in the LTC setting is speculative. However, even if the above used estimate of \$4000/fall is decreased by 50%, the potential savings from the LTC settings alone are still more than 10 million dollars/year.

#### Limitations of the present analysis

There are three significant limitations:

1. Patient fall cost data are not reliably available in the literature. Even when costs are reported, these are averages and do not adjust for the severity of the fall and injuries associated with them. Further, there is no detailed cost of the various services (radiology, surgery, medication regimen change, rehabilitation, etc) associated with types of falls and their consequences.
2. Assuming that the 2010 data are representative of subsequent years falls prevention trends may be an over-estimate. With increased prevention strategies, fewer patients may be facing the risks of falls hence a decay-curve may be more appropriate than a straight line projection. However the characteristics of that decay-curve are not known yet.
3. Patient demographics are projected to change, especially in the LTC settings. Thus an analysis of patient falls without a specific focus on the types of falls would predispose the use of an "average cost of a fall" misleading.

### Strategic Considerations

This analysis is a first attempt to estimate the magnitude of cost savings associated with falls prevention programs in Maryland's acute care and LTC settings. While the magnitudes of the estimates are based on broad assumptions, cost savings from falls prevention are substantial, to which MPSC's *Safe from Falls Initiative* has already contributed significantly. Strategically, increased participation by LTC organizations in MPSC's initiative to enhance safety of care may result in significant cost savings to Maryland's healthcare system.

### References

- Hart, J., et al. "Epidemiology and Impact of Patient falls in Healthcare facilities". Patient Safety & Quality Healthcare, March-April 2009.
- Hendrich, A. "Inpatient Falls: Lessons from the Field". Patient Safety & Quality Healthcare, May-June 2006.
- "Tracking the High Growth of Hospital Professional Liability Costs". <http://www.dalcon.com/taq/patient-falls>, Jan 24, 2011.
- "Patient Falls: Can they be prevented?" <http://envisioninc.wordpress.com/2010/06/29/fall-prevention>, Jan 30, 2011.
- "Nurses' solutions to prevent inpatient falls in hospital patient rooms". BNET, The CBS interactive Business Network, <http://findarticles.com/articles/mi>, Feb 2, 2011.
- "Fall Factors: Duke's Efforts to Prevent Patient Falls". DukeHealth.org, June 17, 2010.
- Titler, M., et al. "Cost of Hospital Care for Elderly at risk of Falling". Nurs Econ. 23(6):290-306, 2005.

## **Attachment C: MPSC FY2012 Annual Budget**

MPSC appreciates the ongoing support from HSCRC. We recognize that this support represents an investment from the HSCRC to ensure safer care for patients and families. MPSC's program plan for FY2012 reflects our ongoing commitment to work across the Maryland healthcare community in pursuit of patient safety. To make this possible, MPSC requests HSCRC's support in FY2010.

The following summary provides an overview of the expected revenues and expenses in FY2012.

### **Revenue Streams**

The proposed budget of \$2,920,963 includes assumptions for the following revenue streams:

- MPSC is asking the HSCRC to continue its support of coordinated patient safety efforts in Maryland by contributing \$1,314,433 to support 45% of the overall MPSC FY 2012 budget. It should be noted that this request is \$230,161 (14.9%) less than for FY 2011 representing a second year of reduced support by HSCRC.
- MPSC will ask Maryland hospitals to contribute an aggregate \$250,000
- The Maryland Department of Health and Mental Hygiene (DHMH) will continue to partially fund the Perinatal Collaborative by providing revenue of \$250,000.
- CareFirst will provide continued support for the Neonatal collaborative in the amount of \$75,000.
- Delmarva and MHA will each be contributing \$200,000.
- Other revenue sources include member fees from out-of-state facilities and income from sponsors at the Annual Conference. Moreover, MPSC has a new policy to charge participants for high-intensity process improvement educational sessions as well as a small attendance fee for the MPSC Annual Conference. In total, this revenue is anticipated to be approximately \$293,000.

### **Expense Budget**

In FY 2012, the MPSC is anticipating total expenses of \$2,920,963 to implement MPSC's 2012 agenda. Following is a description for each budget line item. Additional information is available in Attachment C. Day-to-day support of the projects is provided by MHA, MHEI, and the Delmarva Foundation.

#### ***Administration (\$991,500)***

The core activities of MPSC Core Administration in FY2012 remain largely consistent with FY2011. In a few cases, funds were moved from other budget lines to the Core Administration budget because oversight of the budget is provided by Core Administration including:

- Supporting MPSC staff and infrastructure;
- Expanding MPSC fund development strategies;
- Strengthening the Patient Safety Organization strategy and adverse events reporting function;
- Ensuring quality programs and evaluation for sustainability;
- Producing cost benefit data on key programs;
- Disseminating MPSC program results through publication in major journals and through presentations and speaking engagements at national and regional meetings;
- Maintaining strategic relationships, planning for and promoting success and engaging in business development activities
- Strengthening relationships and partnerships in the local and national healthcare community;
- Working with the Board Nominating Committee to assess Board membership needs, then identify and reach out to potential new Board members;
- Convening the Patient Safety Officer's Forum, a bimonthly meeting of Patient Safety Officers;
- Growing the MPSC customer base. Examples include individual hospitals, and, home health, long-term care facilities, assisted living facilities, community pharmacy chains, physician offices and ambulatory surgical centers;
- Identifying new business opportunities (grants, solicitations, etc.)
- Participating on advisory boards such as the Maryland Healthcare Commission's Healthcare Associated Infections Advisory Committee and Hospital Performance Evaluation Guide Advisory Committee
- Engaging a select number of external consultants to enhance and strengthen these efforts such as communications to support the newsletter, press releases, website, and other communication initiatives (continuation of support from previous years)

### ***Public Website (\$25,000)***

MPSC's public website is a key communications tool for MPSC. In addition, it will play a critical role in the MPSC fundraising initiative and contributes to MPSC's strategic agenda to spread excellence. It also ensures an electronic avenue for distribution of MPSC information, tools, and resources.

### ***Patient Safety Education Programming (\$523,400)***

Education programs will continue to focus on five core areas. 1) Patient safety tools training: TeamSTEPPS Train the Trainer, Root Cause Analysis; 2) Management Development: Accountability Matters, 3) Process Improvement: LeanHealthcare Workshops, Six Sigma Green Belt certification, 4) Leadership issues; 5) The Annual MPSC Patient Safety Conference.

MPSC and MHEI staff are working together on potential pricing approaches for educational programs. However, since many are so core to MPSC's mission, MPSC may charge a very minimal fee that would not discourage participation.

***Adverse Event Information System and Data Analysis (\$150,800)***

This reflects a transition in the management, support and oversight of the Adverse Event Reporting System that will result in considerable customer benefits and cost savings to MPSC.

***MEDSAFE Survey and Conference (\$62,500)***

This is a continuation of the 12<sup>th</sup> year of the survey and the 11<sup>th</sup> year of the MEDSAFE conference. This supports MPSC's Measurement Strategy within the MPSC Strategic Plan. Primary support is being transition to the Institute for Safe Medication Practices, a nationally and internationally-recognized expert in this area.

***TeamSTEPPS Consulting (\$71,500)***

From conversations with national and local experts, it is clear that many facilities have struggled with implementing TeamSTEPPS, whereas some have been very successful, including many in the Maryland Area. We believe that Maryland's success is in part because of how well TeamSTEPPS harmonizes with other MPSC programs.

MPSC believe that there is a strong need to support TeamSTEPPS in the region, and will provide consulting support through the TeamSTEPPS faculty. This is in addition to the core TeamSTEPPS training currently provided.

***Hospital Culture Change Initiative (\$388,419)***

This initiative will use the tools and strategies of TeamSTEPPS and CUSP to create a more integrated and effective patient safety culture change intervention for Maryland hospitals.

***Perinatal/Neonatal Learning Network (\$420,709)***

This reflects support and consolidation of two keystone programs of the Maryland Patient Safety Center. It also supports the Maryland Department of Health and Mental Hygiene's plan for reducing infant mortality in the state of Maryland.

***Hand Hygiene Collaborative (\$120,000)***

This supports continuation of the Hand Hygiene initiative. Participating organizations benefit by having access to:

- Standardized measures, tools, and data analysis;

- A data management system supplying organizational, provider, and unit level specific reports;
- A Web-based training program for unknown hand hygiene observers;
- Organizational and unit level audits to evaluate current hand hygiene efforts;
- Campaign branding materials; and
- A network of experts and best practices.

Primary implementation is being led by the MPSC, in partnership with Maryland Hospital Association and the Delmarva Foundation for Medical Care. The Johns Hopkins Center for Innovation in Quality Patient Care is providing data collection methods and analysis. The Maryland Health Care Commission's Hand Hygiene and Infection Prevention Subcommittee serves as the expert panel for this initiative. A Steering Committee provides program oversight.

### ***Safe From Falls (\$167,135)***

Falls continue to be identified as among the most frequent and highest-harm errors to occur in healthcare settings. There is great interest among the healthcare community to address patient falls. This represents the continuation and expansion of the SAFE from FALLS program and build on the program launched in FY201 and the pilot initiated in FY 2009. This is MPSC's key program that involves long-term care and home health care providers in addition to hospitals.

**Maryland Patient Safety Center  
Proposed FY 12 Budget**

	<b>FY 11 Budget</b>	<b>FY 12 Budget</b>
<b>REVENUE</b>		
Cash Contributions from MHA/Delmarva	400,000	400,000
Cash Contributions from Hospitals	250,000	250,000
HSCRC Funding	1,544,594	1,314,433
Restricted Grants (Carefirst, DHMH, ARRA Stimulus)	514,674	713,419
Fundraising Campaign *	188,300	
Other Funding-Mixed Sources	535,000	243,111
Interest Income		
<b>Total Revenue</b>	<b>3,432,568</b>	<b>2,920,963</b>
<b>EXPENSES</b>		
Administration	986,820	991,500
Public Website	15,591	25,000
Patient Safety Education Programming	747,775	523,400
Adverse Event Reporting System	388,505	150,800
MEDSAFE Medication Safety Initiative	73,076	62,500
Team STEPPS Training/Learning Network	86,120	71,500
Measurement	59,915	
Perinatal/Neonatal Patient Safety Collaboratives	723,039	420,709
Hand Hygiene Collaborative **	50,000	120,000
Safe From Falls	292,589	167,135
Hospital Culture Change Initiative		388,419
<b>Total Expenses</b>	<b>3,432,430</b>	<b>2,920,963</b>
Net Income	138	

\* In FY 2012, MPSC is also projecting fund-raising revenue of \$200,000. When these funds have been secured, MPSC will add additional patient safety programs of approximately \$50,000 and will set-aside the remainder of these funds to increase MPSC's operating reserves to build the long-term financial stability for the organization.

\*\*FY2011 budget excludes additional HSCRC resources of \$144,445 for this collaborative.

## Attachment D: MPSC Program Overviews, Key Programs

### SAFE from FALLS

The Maryland Patient Safety Center (MPSC) launched its *Keeping Patients SAFE from FALLS* Initiative in 2009. The impetus for the initiative were findings from the field that falls in care provision settings (Acute Care, Long Term Care and Home Health) ranked among the most frequent healthcare safety events, and that many of the causes and predisposing factors for falls can be prevented. Further, the MPSC's own collection of adverse events data from a set of Maryland hospitals mirrored the national statistics both in rates of falls and whether the falls resulted in injuries. The *Keeping Patients SAFE from FALLS* Initiative, following a pilot testing phase of its tools and methods, launched a statewide program of ongoing data collection from Acute Care, Long Term Care and Home Health Agencies providing care to different groups of patients organizations.

**IMPACT: Compared to falls predicted by past performance, acute care hospitals in the initiative show a total decrease of 216 falls and LTC facilities show a decrease of 623 falls. Costs avoided from treating these injuries in acute care hospitals alone is estimated to be \$2,106,000**

The number of participants in the *Keeping Patients SAFE from FALLS* Initiative for the 4 quarters of 2010 is large enough from Acute Care and LTC organizations (only 4 or less Home Health Agencies consistently reported data) to propose the following observations:

1. There is a noteworthy and consistent decrease in number of falls among the Acute Care and LTC organizations.
2. The process measures showed that organizational changes to prevent falls were clearly associated with the better practice recommendations of the Initiative
3. The cost savings potential of this initiative suggests a quantifiable and positive impact on enhancing the safety of care in Maryland.

In FY2012, the program will continue with the following activities for FY'12:

- Process and Outcome measures continue to be collected, and analysis will be directed at identifying correlations between the adoption of better practices and changes in fall rates.
- In consideration of MPSC's strategic agenda and given the MPSC Board's interest in initiatives that work across the continuum of care; we will assemble a small group of 5 Acute Care Hospitals each matched with 1 Long Term Care facility that they share considerable transfers to work collaboratively to pilot test the cross-setting strategies included in each SAFE from FALLS toolkit.
- Given the ongoing nature of the Initiative, case studies from each setting will be compiled and a paper should be written for publication to share the success story of Maryland healthcare organizations and the MPSC in decreasing patient falls.
- Maintain the SAFE from FALLS website and publish a quarterly newsletter.
- There will be quarterly conference calls via Webinar plus an annual meeting.

## Perinatal-Neonatal Learning Network

In FY2012 MPSC will oversee the merger and ongoing work of two highly successful current projects: the Perinatal Learning Network and the Neonatal Learning Network. The identities of the two networks will be maintained with each continuing a focus on a single aim specific to its area of clinical focus (obstetrical or neonatal care). To maximize resource utilization and achieve economies of scale, the two networks will merge and address one aim relevant to both obstetrical and neonatal care and will be renamed the Perinatal-Neonatal Learning Network.

MPSC launched the Perinatal Collaborative in March 2007. Participants now represent 32 hospitals in Maryland and the District of Columbia. In 2008, The Maryland Patient Safety Center (MPSC) extended the work of the Perinatal Collaborative as the Perinatal Learning Network. The aim of the Perinatal Learning Network continued as in the Perinatal Collaborative: to reduce maternal and infant harm through the implementation and integration of systems improvements and team behaviors into maternal-fetal care. The Perinatal Learning Network continued to realize success in reducing maternal and infant harm (as measured through the Adverse Outcomes Index (AOI) and in reducing the number of elective cesarean sections and/or elective inductions of labor without documented medical indication. The Network touches more than 90% of all Maryland deliveries.

Following the continued success of the Perinatal Learning Network, the neonatal community approached the Delmarva Foundation and MPSC requesting development and implementation of a Neonatal Collaborative and in 2009 the Neonatal Collaborative, generously funded by CareFirst BlueCross Blue Shield, was established connecting 28 Level II and Level III nurseries in Maryland, the District of Columbia and Northern Virginia. The Collaborative participants represented 75% of area hospitals providing specialty and intensive care to neonates in our region. The work of the Neonatal Collaborative touches more than 32,000 infants born each year and afforded participants the opportunity to significantly impact health outcomes.

Following impressive progress towards meeting the aims, in July 2010, CareFirst BlueCross Blue Shield funded the extension of the Collaborative into the Neonatal Learning Network. Currently, 26 facilities (two facilities elected to leave the Network owing to administrative challenges and changes) continue participation in the Network.

In January 2011, members of the Perinatal and Neonatal planning committees convened to identify a common aim for the Perinatal-Neonatal Learning Network to guide the network into FY2012. The participants identified that the aim of the combined network would be to **reduce health disparities in perinatal and neonatal care through standardization of the discharge process for post partum women and neonates, including the late pre-term infant**. Streamlining the focus of the networks and eliminating duplication of effort will result in maximizing Perinatal-Neonatal Learning Network resources and allow for linkages to other state initiatives.

### **Maryland Hospital Hand Hygiene Collaborative**

The Maryland Hospital Hand Hygiene Collaborative was initiated in November 2009 and is coordinated by MPSC in collaboration with DHMH, MHCC, Delmarva, MHA, and the Johns Hopkins Center for Innovation. Hand hygiene is the simplest and most effective way to prevent HAIs; this program is the first statewide hand hygiene campaign to use direct observation by unknown observers to help hospitals understand and improve hand hygiene practices. Key activities include collecting monthly compliance rates, assessing process measures on a quarterly basis, and monthly team calls. Individualized executive updates will be sent in the coming weeks. The project extends through June 2011, and with this proposal MPSC aims to ensure ongoing technical support and meeting support for the 33 participating facilities. DHMH is developing funding to provide ongoing support for the data collection system.

### **Education, training and technical assistance**

#### ***TeamSTEPPS™ Learning Network & Consulting***

Improving teamwork, especially in clinical teams, may be the single most important culture change that is needed to make a significant improvement in patient safety. MPSC has adopted TeamSTEPPS™ training, made available by AHRQ, as its recommended methodology for improving clinical teamwork and communication. There is substantial evidence that poor cooperation and communication is a primary cause of error in healthcare. MPSC's program, launched in 2008, takes users step-by-step through implementation, detailing the roadmap for creating change and shifting the organization toward a sustained culture of safety. There is great local interest in these innovative tools.

In FY2011 MPSC received a \$15,000 grant to conduct case study evaluations on three successful Maryland TeamSTEPPS implementations. That study is underway. In addition, MPSC is developing a consulting support process for institutions that need more coaching and support beyond the two-day training. A local facility has agreed to be the initial site for this model.

#### **TeamSTEPPS/CUSP Training**

In addition to our focus on TeamSTEPPS training, we are collaborating with the Johns Hopkins Quality & Safety Research Group to develop an integrated culture change model that builds on the best components of TeamSTEPPS and CUSP, the culture change strategy for the national STOP BSI initiative. This project is seeking funding from CareFirst BlueCross BlueShield and will be piloted in Maryland hospitals. However, the tools developed from this project will be made to a wider regional audience.

## Educational Training Programs

Education is one of the primary strategies the MPSC uses to encourage the adoption of safer practices in Maryland hospitals and nursing homes. MPSC's educational activities have been designed to achieve the following goals:

- Create awareness of the need for improved patient safety and of the cultural changes required for significant improvements.
- Ensure that healthcare leaders have the competencies essential for safety improvement.
- Disseminate patient safety solutions and best practices.
- Create a safety-oriented culture in organizations by focusing leadership on key issues and concepts
- Serve as a catalyst and convener for best practices and solutions in patient safety.

FY2012 programs fall into several categories outlined as follows.

*Process Improvement Programs:* The aim of the Process Improvement Programming is to give participants in-depth competencies in how to improve specific systems and processes so that processes can be made both more efficient and safer. There is no question that hospitals and all healthcare organizations are under significant pressure to provide safer care, improve clinical quality, and cut costs through more efficient operations. MPSC will continue to offer a combination of Lean and Six Sigma methodologies, which provides a comprehensive set of strategies to address these issues. Lean's origin is in Japanese performance improvement techniques, especially the Toyota Production System. Six Sigma is an evolution of the Continuous Quality Improvement (CQI) tools and strategies, with a greater degree of statistical use. The key is to drive out waste and improve safety through Lean use, and continually refine performance through state of the art Six Sigma methods.

*Professional Development Programs:* There are many topics in patient safety that need to be addressed in more depth, targeting the skills, information, and tools that professionals can apply immediately to their work. The Professional Development courses are designed for patient safety officers, other patient safety professionals, and department heads. The programs provide tools to address important topics in patient safety, including specific tools to address developing accountability and just cultures. These high-intensity programs are among the most popular that MPSC offers.

*Patient Safety Tools Training:* In this series of one-day workshops, healthcare managers and professionals learn how to apply basic patient safety tools and behaviors. The programs offer specific tools and skills development that directly support other programs and initiatives of MPSC. The courses include Root Cause Analysis (RCA) and Failure Mode & Effects Analysis (FMEA), with the aim to help providers proactively build safe systems.

## **Annual Conference**

The Annual Maryland Patient Safety Conference is MPSC's signature event of the year. It provides awareness, specific education, and best practice solutions to a broad-based audience that goes well beyond MPSC's usual participants. The conference is designed to move the patient safety agenda forward in the region.

The 2011 MPSC Annual Conference will be held April 8, 2011 at the Baltimore Convention Center. Keynote speakers are patient experts and innovators Michael Leonard, MD and David Marx, JD. This year we received 120 Solutions submissions to be considered for presentations, posters, and awards at the conference. MPSC will award the first annual Minogue Award for Patient Safety Innovation at the April Conference. The Judging Panel met in January to select the top submissions. There are 10 finalists, two of which will present at the conference. The winners will be announced at the Conference and featured in a Solutions booklet.

## **Adverse Event Reporting Tool**

The Adverse Event Reporting System (AERS) is a core program of the Maryland Patient Safety Center. In fact, MPSC By-Laws state that we "...shall collect...data relating to patient safety adverse events and near misses...". Thus this service has been offered to member organizations since MPSC's establishment. The benefits of a standard adverse event reporting system are notable, and include:

- Standardization of information: it applies a uniform approach to data collection across the participating organization;
- Centralization: it allows access to real-time data that is centralized and secure to all incidents with a high degree of specificity;
- Efficiency: management tools are designed to save time in monitoring and researching adverse events in real-time;
- Awareness: the system increases awareness across the organization as to the types and frequency of events reported.

Due to evolving requirements and sophistication of adverse event reporting systems, MPSC is investigating Patient Safety Organization (PSO)-compliant systems and analytic support. MPSC is negotiating these services with a new provider that has enhanced analytic capabilities, robust data collection systems, and national standing in the adverse event reporting industry. Plans for FY2012 are to roll out the new system to existing users and begin outreach to new users.

## **MEDSAFE**

In Fall 2010 we celebrated the 10<sup>th</sup> Anniversary of the MEDSAFE survey and conference with a very successful and engaging event attended by nearly 300 pharmacy professionals. This year, MPSC is in the process of partnering with the Institute for Safe Medication Practices (ISMP) to provide Maryland facilities with access to the latest national survey and national comparisons.

ISMP is funded by the Commonwealth Fund to conduct an annual survey of patient safety practices in 2011. We aim to create a seamless process for Maryland facilities whereby you will be invited to complete one survey that addresses both the Maryland and national surveys. ISMP plans to develop a special survey process to provide Maryland hospitals with participation in the national survey. Plans are to provide hospitals with online access to the national survey in Spring 2011, instant online analysis of survey results, and individualized reports comparing each facility to Maryland and national comparators in Fall 2011.

### **Other Special Projects**

MPSC engages in a series of other activities, hosts meetings, and partners with organizations to make resources and information available to the Maryland healthcare community. Among these activities are the On the CUSP: Stop BSI initiative and the MPSC Patient Safety Officers Forum.

- ***On the CUSP: Stop BSI:***

On the Cusp: Stop BSI, a program coordinated locally by the Maryland Hospital Association with support from MPSC took off in Fall 2010 with participation from 44 facilities. A total of 76 units are represented, which includes 57 ICUs and 19 Med/Surg or other units. On the CUSP: Stop BSI is a national initiative to reduce central line-associated bloodstream infections. Maryland has one of the highest percentages of hospital participation in the country.

Because of Maryland's reported high rate of Central-Line Associated Blood Stream Infections (CLABSI) there has been both a tremendous interest in this project as well as a huge opportunity to see improvement. As with improving hand hygiene practice, reducing the incidence of CLABSIs has a direct impact on patient mortality and the cost of care. Some states participating in the national On the CUSP initiative have seen dramatic reductions in state-wide CLABSI rates in only six months, with commensurate cost savings. Michigan, for example, has seen a 10% reduction in mortality along with a near zero rate of CLABSI infections.

Teams report monthly data, submit monthly Team Check Up reports, and complete the Hospital Survey on Patient Safety Culture (HSOPS) for participating units. Teams are invited to attend monthly national Content Calls and monthly Maryland Coaching Calls. The program is coordinated locally by the Maryland Hospital Association with support from MPSC.

- ***Patient Safety Officers Forum***

This Patient Safety Officers Forum brings together hospital and nursing home patient safety officers (PSOs) and many others engaged in improving patient safety and the quality of healthcare in their institutions. The PSO Forum, hosted every other month, offers updates, education, and information about what is happening in patient safety in the region, across the country, and around the world.

**Attachment E: MPSC Board of Directors**

- **Kathleen White**, Chair, PhD, RN, CNAA, BC
- **Senator John Astle**, Maryland State Senate
- **Peter Beilenson**, MD, MPH, Health Officer, Howard County, Howard County Health Department
- **C. Patrick Chaulk**, MD, MPH, FACPM, Executive Director, Maryland Patient Safety Center
- **Beverly A. Collins**, MD, MBA, MS, Lead Medical Director, PCMH, CareFirst BlueCross BlueShield
- **Carmela Coyle**, President & CEO, Maryland Hospital Association
- **Raymond Cox**, MD, Chair, OB/GYN St. Agnes Healthcare
- **John DiBona**, PharmD, Corporate Director of Pharmacy, LifeBridge Health
- **Joseph DeMattos, Jr.**, MA, President, Health Facilities Association of Maryland
- **Eugene Friedman**, Corporate Counsel, 1<sup>st</sup> Mariner Bank
- **Susan Glover**, VP, Chief Quality Officer, Adventist HealthCare
- **Nancy Beth Grimm**, Director, DHMH Office of Health Care Quality
- **William Holman**, VP of Finance, from Charles County Nursing & Rehabilitation Center
- **David Horrocks**, President, CRISP
- **Sorrell King**, Patient Advocate
- **Steve Ports**, Principal Deputy Director, Health Services Cost Review Commission
- **Sam Ross**, MD, CEO, Bon Secours Baltimore Health
- **James R. Rost**, MD, Medical Director, NICU and Medical Director of Patient Safety, Shady Grove Adventist Hospital
- **Steve Schenkel**, MD, Chair, Department of Emergency Medicine, Mercy Medical Center and Associate Professor, University of Maryland
- **William L. Thomas**, MD, Executive Vice President of Medical Affairs, MedStar HealthCare
- **Fredia S. Wadley**, MD, President & CEO, Quality Health Strategies