Staff Final Recommendations on Extension of HSCRC Financial Support for the Maryland Patient Safety Center

May 2, 2007

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

Maryland Patient Safety Center Request to Extend HSCRC Funding

On February 7, 2007, the HSCRC received the attached request for continued financial support of the MPSC through HSCRC rates in FYs 2008 and 2009. The amount requested for FY 2008 is $1,321,000, 50% of expected FY 2008 MPSC expenditures. Delmarva, MHA and Maryland hospitals will continue to contribute $200,000 each to the project for a total infusion of $600,000. In addition, there is a carryover of $373,000 from FY 2007, and MPSC is expecting to receive $271,500 in grant revenue and $75,000 from other contributions and fees. In all, MPSC has sought and obtained commitments from CareFirst, DHMH, and several hospitals from Washington, DC.

Maryland Patient Safety Center Purpose, Accomplishments, and Outcomes

The purpose of the MPSC is to make Maryland the safest state in the country for hospital patients by focusing on the improvement of systems of care, reduction of the occurrence of adverse events, and improvement in the culture of patient safety at Maryland health care facilities. The MPSC is designed to accomplish the following goals:

- Develop a grassroots model for building consensus to improve patient safety in Maryland;
- Promote a "culture of safety" that encourages system improvements rather than faulting individuals;
- Collect, analyze, and share appropriate information about adverse events and near misses;
- Develop and provide education for health care professionals, hospitals, and nursing home staff and health care providers, including sharing "better practices" from Maryland and worldwide;
- Sponsor patient safety collaboratives that will bring together providers and national experts to focus on specific process improvements; and
- Lead applied research to find and implement safer processes and practices in Maryland.

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

MPSC is currently pilot testing a web-based uniform data collection system. The Center has developed software that it is providing free of charge to hospitals participating in the pilot project. However, hospitals may report adverse events and near misses by using their existing software. Currently, seven Maryland hospitals are using the MPSC software to report adverse events and a total of twenty-four hospitals have provided data to the Center. The pilot project will continue until the end of CY 2007 and formal implementation will begin in CY 2008. Data collected through the project may be used to benchmark events against other facilities as well as to explore trends and patterns

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

- ICUs at 5 hospitals met the challenge of zero ventilator-associated pneumonia episodes;
- Overall, ventilator-associated pneumonia has been 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 were saved, reducing hospital costs by about $35 million;
- Ten hospitals achieved zero catheter-associated BSI episodes;
- Catheter-associated BSI have been reduced by 36%;
- An estimated 358 BSI infections were avoided – based on statistical modeling, it is estimated that about 62 lives have been saved 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.

Emergency Department Collaborative

The Emergency Department Collaborative began in 2006 and will continue through the calendar year. This Collaborative is being 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 are working 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 are implementing 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. A handoff or patient transition in care from one provider to another, involves the transfer of information, primary responsibility, and authority between providers. In hospitals, handoffs take place on admission, during shift and unit changes, before and after procedures, and at discharge. According to a Joint Commission evaluation of root cause analyses, communication problems caused 70% of sentinel events in accredited healthcare organizations. The Handoff and Transfer Network will commence in April of 2007 and focus on efforts to improve medication reconciliation and hospital flow as patients move into and through hospital departments and back to the community.

Outcomes: Based on a sample of 748,237 patients seen during a one-year period at 15 participating hospitals, median length of stay has been 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 have been reduced at many participating hospitals - 24% hospitals reduced yellow alert times and 48% reduced red

- Maternal death;
- Intrapartum and neonatal death;
- Uterine rupture;
- Maternal admission to the ICU;
- Birth trauma;
- Return to operating or delivery room;
- Admission to the NICU; and
- Blood transfusions.

Recognition and Grants

In September of 2005, the Maryland Patient Safety Center was honored with the 2005 John M. Eisenberg Patient Safety and Quality Award for national/regional innovation in patient safety. The John M. Eisenberg Awards were established in 2002 by the National Quality Forum (NQF), and The Joint Commission in memory of John M. Eisenberg MD, Director of the Agency for Healthcare Research and Quality, a member of the founding Board of Directors of the NQF and an impassioned advocate for healthcare quality improvement. These annual awards perpetuate the contributions of this health care and community leader by recognizing the achievements of individuals who have made significant and lasting contributions to improving patient safety and health care quality, and individuals and organizations who, through a specific initiative or project, have made an important contribution to patient safety and health care quality in the areas of research or system innovation.

In addition, MPSC has sought and received funding from several sources:

- CareFirst has provided $195,000 for a two-year restricted commitment (which ends in 2007) to fund a MRSA initiative.
- Carefirst has also supplied $100,000 towards general support in each of the MPSC's first three years.
- The DHMH Center for Maternal and Child Health will be contributing $271,500 in FY 2008, the remainder of their $543,000 award to support a Perinatal Collaborative.
- Sibley Memorial Hospital and Washington Hospital Center, located in Washington, DC, have paid a combined $75,000 for their calendar year 2007 participation in MPSC activities.

Change in Board and Structure

Pursuant to the RFP that created it, the Maryland Patient Safety Center is a single, not-for-profit entity to serve as a data repository for a voluntary, de-identified adverse event and near miss reporting system for all health care facilities statewide; and as the primary coordinator for educational activities focused around patient safety issues. To operate the Center, MHCC selected a partnership of LogicQual Research Institute, a subsidiary of MHA, and the Delmarva Foundation. The contractors, in compliance with the RFP, established an Advisory Board to facilitate the dissemination of the recommended practices as well as relevant peer-reviewed literature on patient safety and

If there is a continued need for the MPSC in the future, staff believes it is prudent for MPSC to begin to prepare for an existence after the MHCC RFP expires. This should also include pursuing other sources of revenue to support the Center into the future. The current activity to re-invent the leadership structure of the MPSC is promising and should include a strategy that maximizes the Centers ability to encourage changes that reduce medical errors and improve patient safety.

Therefore, staff recommends that the Commission continue to be a partner in the funding of the MPSC for the remainder of the terms granted by MHCC under the existing RFP by making the following recommendations:

- **That the MPSC update the Commission periodically on health care outcomes and expected savings resulting from the programs that the Center sponsors. As collaborative networks and educational programs expire, the MPSC should endeavor to track the sustainability of any positive outcomes achieved as a result of their work and to determine whether other outcomes emerge over time.**

- **That the MPSC work with the DHMH and other stakeholders to develop a new leadership structure designed to allow the MPSC to function in the future. The MPSC should also pursue other sources of revenue to support the Center into the future.**

- **That "seed" funding be provided through hospital rates to cover 50% of the budgeted costs of the Maryland Patient Safety Center in FY 2008, less half of any carryover from the previous year ($1,321,000 - $186,890 = $1,134,110), and, subject to further review, in FY 2009.**

MARYLAND
Patient Safety
CENTER

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February 7, 2007

Robert Murray
Executive Director
Health Services Cost Review Commission
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Dear Bob:

The legislative mandate that created the Maryland Patient Safety Center (MPSC) states that it would be a three year pilot program. The Maryland Healthcare Commission (MHCC) has the authority to extend the Center's activities for another two years, one year at a time. Attached please find a copy of our letter requesting the extension, the commission's response, and a copy of our 2004 – 2006 report.

The HSCRC's financial (and moral) support has allowed us to flourish. By this letter I formally request that the HSCRC continue the supplemental funding for FY 2008 (July 1, 2007 – June 30, 2008) and FY 2009.

The MPSC leadership will be glad to meet with you at your convenience to discuss this request in depth.

With warmest personal regards and "be safe,"

William F. Minogue, MD, FACP

cc: Steve Ports ✔
Vahé Kazandjian
Christian Jensen

Maryland Patient Safety Center
Overview of FY 2008 Budget

The MPSC is asking the HSCRC to continue its support of coordinated patient safety efforts in Maryland by contributing $1,321,000 to support 50% of the overall MPSC FY 2008 budget. This funding, in conjunction with revenue obtained from an increasingly diverse group of other funding sources, will allow the MPSC to enrich its offerings to Maryland hospitals and nursing homes.

Revenue:
In FY 2008, Delmarva and MHA will each be contributing $200,000 to support the activities of the MPSC. In addition, the MPSC will ask Maryland hospitals to contribute an aggregate $200,000.

The MPSC expects to carry forward $373,780 from FY 2007. This carry forward resulted from a longer lead time to implement some programs than originally anticipated, so some expenses did not occur as fast as originally scheduled. However, these funds are crucial for the MPSC to carry out its programs in FY 2008.

The MPSC has sought and obtained additional funding to expand the scope of the MPSC as follows:

- CareFirst has provided $195,000 for a two-year restricted commitment (which ends in 2007) to fund a MRSA initiative.
- The Maryland Department of Health and Mental Hygiene, Center for Maternal and Child Health (DHMH) will be contributing $271,500, the remainder of their $543,000 award to support a Perinatal collaborative.
- Carefirst has also supplied $100,000 towards general support in each of the MPSC's first three years.
- Sibley Memorial Hospital and Washington Hospital Center, located in Washington, DC, have paid a combined $75,000 for their calendar year 2007 participation in MPSC activities.

Expense:
In FY 2008, the MPSC is anticipating total expenses of $2,642,000 to carry out the MPSC's agenda. Following is a detailed description for each budget line item.

Administration ($296,500)
The majority of the budgeted expense would cover the salaries and benefits for the MPSC Director and his Executive Assistant. Other administrative expenses include communications, rent of space, purchase of equipment and supplies, telephone, printing, professional fees, and Director travel to participating hospitals and patient safety-related conferences.

We have kept the administrative staff small by engaging expertise already in place at DFMC and MHA.

projects is expanding substantially as the focus of healthcare systems moves rapidly from knowledge seeking to action. (To view their impact, see Attachment D)

Handoffs & Transitions: work in this environment places Maryland on the cutting edge to improve care by enhancing teamwork and communication *across* hospital departments. A handoff or patient transition in care from one provider to another, involves the transfer of information, primary responsibility, and authority between providers. In hospitals, handoffs take place on admission, during shift and unit changes, before and after procedures, and at discharge. According to a Joint Commission evaluation of root cause analyses, communication problems caused 70% of sentinel events in accredited healthcare organizations. The genesis for Handoffs & Transitions began in the Emergency Department (ED) Collaborative that will end in June 2007. Handoffs & Transitions builds on the efforts of the ED Collaborative by focusing on the efforts to improve medication reconciliation and hospital flow as patients move into and through hospital departments and back to the community. Unlike the ED Collaborative, Handoffs & Transitions facilitates learning via a Learning Network model. Handoffs & Transitions will continue through calendar year 2007. (Budgeted Cost: $150,000)

Perinatal Safety (Year 2): this project began in September 2006 and runs through the June 2008. Partial funding for this project was received from a Maryland DHMH grant. The focus of this collaborative is preventing infant harm and death by creating perinatal units that deliver care safely and reliably with zero preventable adverse outcomes to the mother or infant. As of the first Learning Session on March 15, 2007, 25 hospitals are enrolled, representing 15 Maryland counties and nearly 70% of Maryland births. One hundred and eighty participants attended the first learning session. (Budgeted Cost: $400,000)

Eliminating MRSA Transmissions in Maryland – It Takes a Community (Year 2): this project will build upon the highly innovative Prevention of Hospital-Associated MRSA Infection project that began in July 2006. The MPSC has started its attack on MRSA using an "asset-based" behavior change approach called "Positive Deviance" – which is an elegant way of tapping into the wisdom of people on the front lines to solve seemingly intractable problems. Maryland now has the largest cluster of hospitals in the world using this innovative strategy to combat the spread of MRSA. Maryland also has, by a wide margin, the highest known rates of healthcare and community acquired MRSA in the country. Year 2 of our MRSA focused efforts will leverage the work and relationships between hospitals and the healthcare and community-based facilities that are the source of their MRSA infected patients. These sites may include home health agencies, long term care facilities, specialty-care physician practices, HIV clinics, homeless shelters, etc. This project will use the concept of Positive Deviance and Social Networking as the learning modality. (Budgeted Cost: $520,000)

Public Website and Communication ($85,000)

This funding will contribute to the maintenance of the existing public MPSC web infrastructure, which includes the use of portal technology, enables users to join focused discussion groups, search the MPSC library, share documents and access a dynamic integrated calendar.

In addition, this funding will be used to support the MPSC communications efforts. Our strategy includes scheduling key initiatives at opportune times; monitoring media reports to capitalize on

Maryland Patient Safety Center
FY 09 Proforma Budget

EXPENSES	
Administration	311,000
Board & Advisory Group Meetings	12,000
Adverse Event Information System	565,000
Patient Safety Education Programming	535,000
MEDSAFE Medication Safety Initiative	42,000
Patient Safety Collaborative	1,170,000
Public Website/Communications	90,000
Contingency Reserve	50,000
Total Expenses	**2,775,000**

MPSC MRSA PILOT PROJECT (2007-2008)

Teams from 26% (7 out of 46) of acute care hospitals in Maryland representing 36% (4,137 out of 11,529) of the state's acute care hospitals have participated in this pilot. This group represents the largest cluster of hospitals in the world currently testing an innovative asset-based behavior change approach aimed at solving the seemingly intractable problem of healthcare associated MRSA infection.

- **Threefold increase in the number of hospitals conducting active MRSA surveillance** (baseline (7/46) to current (26/46).

Future Data

- Improvement in MRSA rates, from CDC data.
- Estimate cost avoidance hospital days avoided.
- Estimate lives saved from published MRSA mortality estimates.

MPSC PERINATAL COLLABORATIVE (2006-2008)

Teams from 76% (25 out of 33) of the labor and delivery units in Maryland representing 84% of the state's births are participating in this pilot. The total enrollment is 27 hospitals (out of 40) representing 77% of births in Maryland and Washington DC. The aim of this collaborative is to reduce perinatal injury and death.

Future Data

Claims based Adverse Outcomes Index (measured by the Adverse Outcomes Index (AOI)) using hospital discharge claims. This index measures adverse outcomes including:

- maternal death
- intrapartum and neonatal death
- uterine rupture
- maternal admission to the ICU
- birth trauma
- return to OR or delivery room
- admission to the NICU
- APGAR < 7
- blood transfusion
- 3 or 4° perineal tear

MPSC EMERGENCY DEPARTMENT COLLABORATIVE (2006 – 2007)

- **Participation** information was obtained from Delmarva MPSC registration records. Information regarding number of beds was obtains from the MHCC website[2], accessed 3/22/2007.
- **Flow and Efficiency Measures** were computed for the 15 hospitals in the collaborative for which MPSC has complete data. These data were submitted directly to the MPSC ED project for quality improvement tracking purposes, except for red and yellow alert information. These data were obtained directly from MIEMMS.
- **Timely Care: Pneumonia** data was obtained[3] from the QIO Clinical Warehouse. These data are submitted and validated quarterly by all acute care hospital in Maryland. Rates of the percent of patients receiving the pneumonia antibiotic on-time (within 4 hours) were computed for ED patients only (filtered for the source of admission). Using an estimate from published scientific literature for increase length of stay[4] (0.4 days per patient), estimated the number of hospital days avoided, and estimated the cost avoidance using HSCRC[5] rates for 2005 (APR-DRG 139 statewide average).

MPSC MRSA PILOT PROJECT (2007-2008)

- **Participation** information was obtained from Delmarva MPSC registration records. Information regarding number of beds was obtains from the www.ahd.com website, accessed March 22, 2007.
- **MRSA surveillance information** was obtained from MPSC hospital patient safety officer surveys.

MPSC PERINATAL COLLABORATIVE (2006-2008)

- **Participation** information was obtained from Delmarva MPSC registration records. Information regarding number of births was obtains from HSCRC claims data request.
- **Adverse Outcomes** Index Claims based using hospital discharge claims.

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[2] http://mhcc.maryland.gov/hospital_services/acute/emergencyroom/ed_crowding_122006_report.pdf

[3] Data Use Agreement was created between MPSC and Delmarva (Maryland's QIO) and use of CMS data for this purpose was approved by CMS.

[4] Houck PM, Bratzler DW, Nsa W, Ma A, Bartlett JG. (2004) Timing of antibiotic administration and outcomes for Medicare patients hospitalized with community-acquired pneumonia. Arch Intern Med 164(6):637-44.

[5] Accessed from http://mhcc.maryland.gov/consumerinfo/hospitalguide/hospital_guide/docs/HospitalPricingGuide2006_Inpt.pdf on March 22, 2007.

and the actions needed to reduce mistakes. Day two covers the micro-level aspects of patient safety, including how to manage untoward events, enlist patients as partners, and create effective early-warning systems.

Managers Guide to Training Front Line Staff in Patient Safety

One-day program Introduced in May, 2006 restricted to people who attended the Department Leaders program. Attendance limited to 45. Has been offered 3 times with 111 participants.

Patient Safety Tools Training: Root Cause Analysis

Two-day program offered twelve times with total participation to date of 507 managers.

Root Cause Analysis: A Follow-Up Workshop

A half-day workshop for experienced facilitators featuring strategies based on feedback from the Maryland Office of Healthcare Quality. Offered 3 times with 96 participants.

Patient Safety Tools Training: Failure Mode & Effects Analysis

One-day program offered nine times with total participation to date of 334 managers.

Lean Healthcare Series

Three-day program first offered in February, 2007 covers the fundamentals of Lean and its implementation in the healthcare setting. Offered a second time in June, 2007 for 40 participants each offering.

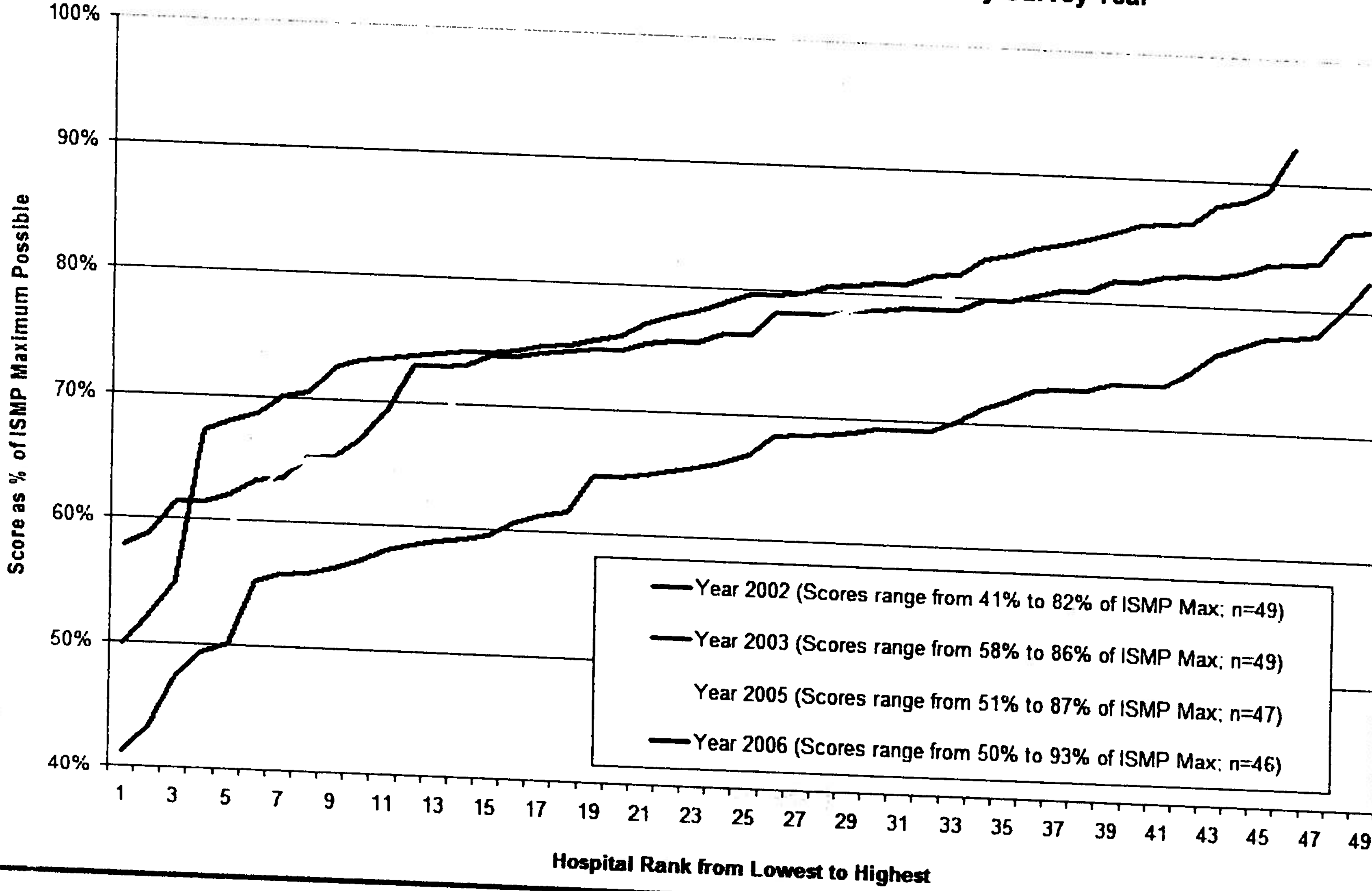
Six Sigma Green Belt Certification Training

Five-day program first offered in March, 2007 covers an established curriculum for facilitating Six Sigma in a healthcare setting. Course is limited to 25 participants and forms the basis for Black Belt training and certification which may be offered in 2008. Course was offered a second time in April, 2007.

Demographics

Participation in the above programs breaks down as follows by type of organization:

Acute Care Hospitals	64.8%
Healthcare Systems	10.4%
Specialty Hospitals	7.8%
Long Term Care	7.1%
All Others (Including Other Providers)	9.9%



Hospital Scores as % of ISMP Maximum Possible Score by Survey Year
Score as % of ISMP Maximum Possible
100%
90%
80%
70%
60%
50%
40%
1
3
5
7
9
11
13
15
17
19
21
23
25
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31
33
35
37
39
41
43
45
47
49
Hospital Rank from Lowest to Highest
Year 2002 (Scores range from 41% to 82% of ISMP Max; n=49)
Year 2003 (Scores range from 58% to 86% of ISMP Max; n=49)
Year 2005 (Scores range from 51% to 87% of ISMP Max; n=47)
Year 2006 (Scores range from 50% to 93% of ISMP Max; n=46)