NewYork-Presbyterian Hospital

Full Asset Merger of The New York Hospital, 2nd Oldest Hospital in the US, Founded in 1771, and the Presbyterian Hospital of New York, Founded in 1868, into One Article 28 Corporation with:

- 2,224 Certified Beds
- 102,000 Discharges
- 11,000 Births
- 1,036,000 Ambulatory Visits
- 14,500 Employees (plus 1,400 Housestaff)
- $2.3 Billion Operating Budget
- NYP Health Care System: 58 Facilities, US and Abroad
To Be Among the Very Top
Academic Medical Centers
in Clinical and Service Excellence,
Patient Safety,
Research and Education
NYPH Strategic Goals

People Development
Energized, challenged and committed

Performance Excellence
Quality, efficiency and service

Information Technology
Dynamic and data-driven

Innovation
New ideas

Strategic Growth
Volume and access
A New Organization

Initially The Sum Of Two Academic Health Care Systems

\[ A + B = \text{"AB"} \]

Evolving Toward A Wholly New Entity With A New Culture

\[ A + B = \text{"C"} \]
Challenges

- Clean and Safe Hospital
- Patient, Physician, and Employee Satisfaction
- LOS Reduction to Build Capacity
- Advancing Standards Based Clinical Practices
- Financial Performance
What We Heard From Our Employees

- Improve Communication
  - Accountability
  - Decision Making
- Enhance Cross Department Teamwork/Cooperation
- Reduce Bureaucracy
- Increase Management Skills
Importance of Culture Change

We Must Be Responsive to Our:

• Patients and
• Employees

Achieving Objectives Requires Changing Skills
Without Change We Cannot Reach Our Goals
Required investments include more than “bricks and mortar”.

We must invest in our people.
SIX SIGMA AS A PERFORMANCE EXCELLENCE TOOL
Performance Excellence

**Quality**
- Embraces All Aspects of Performance
- Continuous Improvement
- Patient Safety
- Innovation Practice

**Efficiency**
- Best Practices
- Streamlined Clinical & Operational Workflows
- Revenue Enhancement
- Resource Management

**Service**
- Patient/Family Is Focus
- Enhanced Care Experience
- Commitment to Patient, Physician & Employee
- Satisfaction
Adoption of Six Sigma

• Why Is This Different?
• Is This the “Flavor of the Day”?
• How Do We Know the Change Will Last?
• How Much Does it Cost and What is our ROI?
# The Difference Six Sigma Brings

<table>
<thead>
<tr>
<th>Traditional Quality Program</th>
<th>Six Sigma</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Driven Internally</td>
<td>• Driven By the Customer</td>
</tr>
<tr>
<td>• Focuses on Outcomes</td>
<td>• Focuses on Processes</td>
</tr>
<tr>
<td>• Fixes Defects</td>
<td>• Prevents Defects</td>
</tr>
<tr>
<td>• Improves Quality</td>
<td>• Improves Entire System</td>
</tr>
<tr>
<td>• Looks Backward</td>
<td>• Looks Forward</td>
</tr>
<tr>
<td>• Concentrates on Product</td>
<td>• Concentrates on CTQs</td>
</tr>
<tr>
<td>• High on Theory and People</td>
<td>• High on Methodology and Data</td>
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</tbody>
</table>
Hospital Wide Adoption

Implementation Objectives:

• Knowledge Transfer
• Transformative Cultural Change
• Accountability
• Management Discipline
• No One Left Behind
• All Levels, All Disciplines
Training Design

- Curriculum: DMAIC, CAP/WO, LEAN & DFSS
- Duration: 17 Days over 6 Months
- Training Team Composition: Black Belt with 3 – 4 Green Belts; *Extended Team Created Later*
- Actual Projects Used as Training Projects
- Abbreviated Training Delivered to Senior Administration, Medical Staff, Management Staff, and to Line Employees
Organizational Commitment

Self Sustaining Six Sigma Culture
Results

Program

• 10 Six Sigma Classes
• 50 Full Time Black Belts; 26 Active, 20 Returned to Operations
• 4 Full Time Master Black Belts
• 200+ Green Belts
• 140+ Projects

Outcomes

• Length of Stay: 3500 Additional Inpatient Admissions (2005);
  1000 Additional Admissions (ytd 2006)
KEY SUCCESS FACTORS
Black Belt Role

Role:

• Lead Projects Using Six Sigma Methodology
• Mentor Others Doing Projects
• Introduce Methodology and Tools to Team Members and Broader Audiences
• Act as Both Technical and Cultural Change Agent
• Reduce Defects and/or Process Variation With Successful Project Management
• Help Deploy Six Sigma Thinking Into the Organization
• Three Year Commitment
Black Belt Selection Criteria

Selection Criteria:

• Demonstrated Leadership and Project Management Skills
• Strong Business and Technical Foundation With Proven Analytical and Statistical Problem Solving Skills
• Excellent Communication Skills
• Strong Track Record of High Performance With Strong Upward Potential
• Performance and Promotibility to Top First or Second Level
• Strong Sense Of Organization’s Values
• High Degree Of Customer Sensitivity
• Long Term Commitment To Organization
Black Belt Recruitment 2006

- Resumes Received: 103
- Initial Interviews: 49
- MBB/VP Panel: 17
- Offers Extended: 10
Quality Table Of Organization

Executive Vice President
Chief Operating Officer

Vice President, Clinical Practice Evaluation
Chief Quality Officer

Quality Informatics
Quality and Performance Improvement
Performance Excellence
Innovation Strategies
Quality Research
## Project Selection Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical Excellence</strong></td>
<td>Improved patient outcomes, reduced infection rates &amp; appropriate utilization of ancillary services</td>
</tr>
<tr>
<td><strong>Regulatory and Safety</strong></td>
<td>NYS Department of Health; JCAHO; CMS</td>
</tr>
<tr>
<td><strong>Physician Satisfaction</strong></td>
<td>Competence of nursing staff, availability of facility-based specialist, access to the OR, ease of scheduling, state of the art equipment</td>
</tr>
<tr>
<td><strong>Staff Satisfaction</strong></td>
<td>Home/work life balance, collegial respect, rewarding career</td>
</tr>
<tr>
<td><strong>Patient Satisfaction</strong></td>
<td>Outstanding clinical care, caring environment &amp; facility aesthetics</td>
</tr>
<tr>
<td><strong>Financial Performance</strong></td>
<td>Increased revenue, decreased cost, cost avoidance, implementation support</td>
</tr>
<tr>
<td><strong>Ease of Implementation</strong></td>
<td>Technological change needed, organizational acceptance, project span/scope (across multiple campuses)</td>
</tr>
<tr>
<td><strong>Time to Complete</strong></td>
<td>Time the project will take to complete</td>
</tr>
<tr>
<td><strong>Sustainability</strong></td>
<td>Systems and structures to support the change; control measures in place</td>
</tr>
</tbody>
</table>
Successful Project Characteristics

• Directly Aligned With Strategic Initiatives
• Active Senior Leadership Sponsors
• Significant, Tangible Benefit – Financial or Otherwise
• Cross-Campus Design
• Engagement Of CEO And Senior Leadership
• Ongoing Management Metrics
Completed Projects

- Cath/EP Room Turnaround Time
- Patient Wait Times in Radiology
- CT OR Room Turnaround Time
- Hip Fracture LOS
- Housekeeping Turnaround Time
- Non-Invasive Cancellation Reduction
- PACU Criteria Met to PACU Exit
- Billing Compliance for Screening Mammograms
- ED Throughput
- Craniotomy LOS
- Radiology Report Turnaround Time
- Transport Response Time for Patient Care Units
- Outpatient Lab Charge Capture
- Hem/Onc Infusion Center Cycle Time
- Outpatient Transplant Room Utilization
- Medical Records to Ambulatory Care
- Attending of Record Accuracy
- Antibiotic Utilization
- Discharge Instruction Process
- Psych ED LOS
- C-Section LOS Reduction
- Accuracy & Timeliness of Pharmacy Charge Posting
- Medication Delivery Turnaround Time
- Radiology Turnaround Time in ED
- Timeliness of Cancer Registry TNM Staging
- Ambulatory Surgery Turnaround Time
- Antibiotic Delivery in Cardiothoracic ORs
- Scheduled Induction Wait Time in L&D
- Blood Delivery Turnaround Time
- Pyxis Overrides
- Smoking Cessation Counseling
- Nursing Communication Patient Satisfaction
- Ambulatory Surgery Wait Time
- ICU Throughput
- Intradisciplinary Plan of Communication
- Isolation Room Throughput
- Use of Abbreviations in Medical Records
- Information Transfer for Antenatal to L & D
- Improve AOB Process in Radiology
- Inpatient Tray Accuracy
- Call Bell Response Time
- Pediatrics LOS Reduction
Active Projects

- Care Coordination Model
- PT/OT Turn-Around Time
- SNF Placement Improvement
- Patient Geographic Localization
- PICC Line Delays
- Ventilator Patient Throughput
- MRI Delays
- ICU Transfer Cycle Time
- Attending of Record Documentation
- Patient Acuity Documentation
- Chemotherapy Admission Cycle Time
- OR First Case Starts
- Inpatient Insurance Accuracy
- Charge Posting Accuracy
- Laboratory Outreach Specimen Handling
- Biomedical Equipment Repair Cycle Time Reduction
- Restraint Documentation
- Patient Vaccination Rate Improvement
- Medication Reconciliation
- Blood Stream Infection Reduction
- Improvement - Staff Back-Fill Process
- Emergency Department Revenue Enhancement
- Cardiac Cath Lab Revenue Enhancement
- Ambulatory Surgery Revenue Enhancement
- Clinical Denial Avoidance
- ED Door to Treatment Time Reduction
- Laundry Process Improvement
- OR Add-On Delay Reduction
- Pressure Ulcer Reduction
- Ventilator Associated Pneumonia Reduction
- Outpatient Oncology Billing Accuracy
• Projects Must Continue to Advance Strategic Initiatives and Exhibit Visible Senior Management Sponsorship

• Outcomes
  ➢ Must Continue to Be Systematically Measured
  ➢ Must Leverage Best Practice
  ➢ Must Continue to Be Systematically Communicated
Communication Plan

Media

• Official Hospital Memoranda
• *NYPress* Articles

Intranet

• Executive Portal
• Performance Improvement Team Web Meetings

Meetings

• Monthly Clinical Dept. Heads & Physician Groups
• Annual Management Kick-Offs & New Employee Orientation
• Monthly Department Head and Key Personnel Meetings
# PROJECT DASHBOARD

<table>
<thead>
<tr>
<th>Project</th>
<th>Metric</th>
<th>Target</th>
<th>Baseline</th>
<th>Campus</th>
<th>01/06</th>
<th>02/06</th>
<th>03/06</th>
<th>04/06</th>
<th>05/06</th>
<th>06/06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport Response Time - Patient Care Units</td>
<td>Minutes</td>
<td>49</td>
<td>NYP/CU</td>
<td>38.0</td>
<td>31.2</td>
<td>29.5</td>
<td>28.0</td>
<td>25.9</td>
<td>26.3</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>36</td>
<td>NYP/WC</td>
<td>15.9</td>
<td>13.2</td>
<td>17.7</td>
<td>25.6</td>
<td>17.2</td>
<td>17.7</td>
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<tr>
<td>Cath/EP Room Turn-Around Time</td>
<td>Minutes</td>
<td>22</td>
<td>MSCH</td>
<td>26.0</td>
<td>28.0</td>
<td>26.6</td>
<td>25.6</td>
<td>23.2</td>
<td>20.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>30</td>
<td>MSCH</td>
<td>28.0</td>
<td>27.0</td>
<td>31.0</td>
<td>30.0</td>
<td>26.0</td>
<td>27.0</td>
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<tr>
<td>Radiology Report Turn-Around Time</td>
<td>Hours</td>
<td>24</td>
<td>NYP/WC</td>
<td>19.0</td>
<td>19.0</td>
<td>19.0</td>
<td>19.7</td>
<td>19.6</td>
<td>21.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>NYP/CU</td>
<td>7.4</td>
<td>6.9</td>
<td>6.8</td>
<td>7.1</td>
<td>5.5</td>
<td>6.2</td>
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<tr>
<td>CT Scan Throughput</td>
<td>Time Between Patients</td>
<td>15</td>
<td>NYP/AP</td>
<td>11.0</td>
<td>11.4</td>
<td>10.7</td>
<td>10.8</td>
<td>10.5</td>
<td>10.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>12</td>
<td>MSCH</td>
<td>10.2</td>
<td>8.4</td>
<td>8.6</td>
<td>9.6</td>
<td>12.4</td>
<td>10.2</td>
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# Patient Satisfaction Dashboard

## March 2006 Patient Satisfaction Mean Scores

<table>
<thead>
<tr>
<th>Service</th>
<th>Mar-06</th>
<th>Feb-06</th>
<th>2006 YTD</th>
<th>2006 Target</th>
<th>Peer Mean</th>
<th>Response Rate</th>
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</thead>
<tbody>
<tr>
<td><strong>NYP/A</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>79.0</td>
<td>81.9</td>
<td>78.9</td>
<td>78.5</td>
<td>82.8</td>
<td>12.6%</td>
</tr>
<tr>
<td>Amb Surg</td>
<td>84.0</td>
<td>86.8</td>
<td>86.3</td>
<td>87.1</td>
<td>89.9</td>
<td>13.6%</td>
</tr>
<tr>
<td>ER</td>
<td>75.3</td>
<td>74.8</td>
<td>73.8</td>
<td>69.2</td>
<td>80.2</td>
<td>7.3%</td>
</tr>
<tr>
<td>Inpatient Behavioral Health</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>66.6</td>
<td>82.9</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>MSCH</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sloane Inpatient</td>
<td>69.3</td>
<td>77.2</td>
<td>74.8</td>
<td>75.1</td>
<td>82.0</td>
<td>17.9%</td>
</tr>
<tr>
<td>Pediatric Inpatient</td>
<td>84.9</td>
<td>86.2</td>
<td>86.0</td>
<td>85.6</td>
<td>84.2</td>
<td>17.1%</td>
</tr>
<tr>
<td>Pediatric Amb Surg</td>
<td>89.8</td>
<td>88.2</td>
<td>89.1</td>
<td>89.5</td>
<td>90.2</td>
<td>17.0%</td>
</tr>
<tr>
<td>Pediatric ER</td>
<td>71.9</td>
<td>72.3</td>
<td>71.9</td>
<td>73.9</td>
<td>79.9</td>
<td>6.6%</td>
</tr>
<tr>
<td>Outpatient Behavioral Health</td>
<td>87.1</td>
<td>N/A</td>
<td>87.1</td>
<td>87.1</td>
<td>88.4</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>NYP/C</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Inpatient</td>
<td>78.7</td>
<td>78.2</td>
<td>78.6</td>
<td>79.5</td>
<td>82.8</td>
<td>20.1%</td>
</tr>
<tr>
<td>Amb Surg</td>
<td>88.0</td>
<td>85.5</td>
<td>86.2</td>
<td>88.0</td>
<td>89.9</td>
<td>21.9%</td>
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<tr>
<td>ER</td>
<td>64.2</td>
<td>68.3</td>
<td>66.1</td>
<td>65.6</td>
<td>80.2</td>
<td>7.8%</td>
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<td>Inpatient Behavioral Health</td>
<td>73.9</td>
<td>83.9</td>
<td>79.8</td>
<td>81.2</td>
<td>82.9</td>
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<tr>
<td>Outpatient Behavioral Health</td>
<td>83.8</td>
<td>N/A</td>
<td>83.8</td>
<td>84.5</td>
<td>88.4</td>
<td>N/A</td>
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<tr>
<td><strong>NYP/WC</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Inpatient</td>
<td>80.7</td>
<td>80.6</td>
<td>80.8</td>
<td>81.9</td>
<td>82.8</td>
<td>25.1%</td>
</tr>
<tr>
<td>Amb Surg</td>
<td>86.3</td>
<td>88.4</td>
<td>86.5</td>
<td>87.5</td>
<td>89.9</td>
<td>28.2%</td>
</tr>
<tr>
<td>ER</td>
<td>72.0</td>
<td>74.6</td>
<td>74.0</td>
<td>70.6</td>
<td>80.2</td>
<td>13.9%</td>
</tr>
<tr>
<td>Pediatric Inpatient</td>
<td>82.3</td>
<td>87.4</td>
<td>82.7</td>
<td>84.6</td>
<td>84.2</td>
<td>21.8%</td>
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<tr>
<td>Pediatric ER</td>
<td>80.0</td>
<td>80.3</td>
<td>79.3</td>
<td>79.1</td>
<td>79.9</td>
<td>11.4%</td>
</tr>
<tr>
<td>Inpatient Behavioral Health</td>
<td>81.5</td>
<td>N/A</td>
<td>81.2</td>
<td>78.6</td>
<td>82.9</td>
<td>N/A</td>
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<tr>
<td>Outpatient Behavioral Health</td>
<td>90.0</td>
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<td>90.0</td>
<td>86.5</td>
<td>88.4</td>
<td>N/A</td>
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<tr>
<td><strong>NYP/W</strong></td>
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<tr>
<td>Inpatient Behavioral Health</td>
<td>78.8</td>
<td>79.2</td>
<td>79.0</td>
<td>79.5</td>
<td>82.9</td>
<td>N/A</td>
</tr>
<tr>
<td>Outpatient Behavioral Health</td>
<td>85.4</td>
<td>N/A</td>
<td>85.6</td>
<td>85.8</td>
<td>88.4</td>
<td>N/A</td>
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<td><strong>ACN</strong></td>
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<tr>
<td>NYP/Columbia</td>
<td>74.7</td>
<td>75.9</td>
<td>75.7</td>
<td>76.0</td>
<td>83.4</td>
<td>12.4%</td>
</tr>
<tr>
<td>NYP/Weill Cornell</td>
<td>80.3</td>
<td>81.2</td>
<td>80.8</td>
<td>82.3</td>
<td>83.4</td>
<td>15.0%</td>
</tr>
</tbody>
</table>

1 Response Rate is calculated as: # of Surveys Received / (# of Surveys Sent - # of Undeliverable Surveys)

Scale: 0=Very Poor, 25=Poor, 50=Fair, 75=Good, 100=Very Good
Length of Stay Dashboard

NewYork-Presbyterian Hospital Overall
Total Med/Surg & Children's Svcs. LOS Thru Bi-weekly Per. 13 (ending 7/106)
Exclusions: Obstetrics, Normal Newborns, Psychiatry, Rehab, Burn, Uncoded & LOS >300
LOS Target is 0.2 Day Reduction in 2005 Average LOS
Length of Stay Detail – Actual and Variance

NewYork-Presbyterian / Columbia
Total Medical/Surgical LOS Through Bi-weekly Per. 14 (ending 7/15/06)
Exclusions: Obstetrics, Normal Newborns, Psychiatry, Rehab, Burn, Uncoded & LOS >300
LOS Target is 0.2 Day Reduction in 2005 Average LOS

NewYork-Presbyterian / Columbia
Total Medical/Surgical Variance Through Bi-weekly Per. 14 (ending 7/15/06)
Exclusions: Obstetrics, Normal Newborns, Psychiatry, Rehab, Burn, Uncoded & LOS >300
Target is 0.2 Day Reduction in 2005 Average
LESSONS LEARNED
Course Corrections

• Fully Integrate PE Tools; e.g. CAP/WO, LEAN, DFSS
• Ensure Ongoing Green Belt Involvement
• Leverage Best Practices Across Campuses
• Assure All Black Belts are Fully Qualified
• Enhance Awareness of Performance Excellence Programs
So, in Order to Succeed……

• Senior Leadership Support and Involvement
• Project Selection Aligned With Strategic Initiatives
• Ongoing Measurement
• Resource Commitment; During and Post Projects
• Communication, Communication, Communication!
“Great things are done by a series of small things brought together.”

-Vincent Van Gogh
The Platinum Award for Most Outstanding Organizational Achievement Through Six Sigma: New York–Presbyterian Hospital

Background
The Platinum Award, signifying the organization that has most embraced the Six Sigma culture, is given to New York–Presbyterian Hospital, the flagship of the New York–Presbyterian Healthcare System. In recognition of New York-Presbyterian Hospital’s impressive performance, it has also been awarded the Best Achievement of Six Sigma in Healthcare Award. For more on the hospital and their background, please turn to page 14.

New York–Presbyterian Hospital provides state-of-the-art inpatient, ambulatory and preventive care at five major centers in the metropolitan New York area: Columbia University Medical Center, Weill Cornell Medical Center, the Morgan Stanley Children’s Hospital, and the NewYork-Presbyterian Queens Hospital.

Case Study—Implementing Six Sigma to Control MRSA, VREF and CDEF

Clinical excellence, regulatory and safety, physician satisfaction, staff satisfaction, patient satisfaction, ease of implementation, financial benefits, time to complete and sustainability.

New York–Presbyterian Hospital’s initial investment in the Six Sigma program was $8 million. In 2004, the program’s first full year, the hospital realized a savings of $47 million on its bottom-line expenses as a direct result of the program.

Each of the 130 projects initiated in the first year was linked to the hospital’s strategic objectives.

Analyze: The data were analyzed to find the defect rate in first isolation bed assignment. Identifying and analyzing critical factors pointed to a common thread of information technology challenges that were present at each of the study sites.

Improve: Strategies to improve the situation focused on the integration of existing information technology systems. An interface was developed, tested and successfully employed to transmit the patient infection risk rating to the patient admission registration system. Risk orders were added to
Awards & Recognition

#1 in New York
#6 in Nation