

QUALITY

LEADING THE QUEST FOR QUALITY:

2008 PROFILES IN QUALITY
AND PATIENT SAFETY



TABLE OF CONTENTS

INTRODUCTION	1
SELECTION COMMITTEE MEMBERS	3
AWARD-WINNING INITIATIVES	5
SPECIAL RECOGNITION	9
<i>Submissions that Scored in the Top Tenth Percentile</i>	
CLINICAL CARE: GENERAL	
LEVERAGING PATIENTS AND FAMILIES AS SAFETY PARTNERS	11
<i>Bassett Healthcare</i>	
“CODE STROKE”	12
<i>Benedictine Hospital</i>	
THERAPEUTIC HYPOTHERMIA PROTOCOL	13
<i>Beth Israel Medical Center</i>	
ENHANCING GLYCEMIC CONTROL WITH SMALL TESTS OF CHANGE***	15
<i>Clifton Springs Hospital and Clinic</i>	
IMPROVEMENT IN THE STATUS OF SURGICAL WOUNDS	17
<i>Dominican Sisters Family Health Service</i>	
“TEMPERATURE CHECK” FOR SURGICAL SITE INFECTION PREVENTION	18
<i>Highland Hospital of Rochester</i>	
GERIATRIC FRACTURE CARE**	20
<i>Highland Hospital of Rochester</i>	
SBAR COMMUNICATION AND ENHANCING CRITICAL THINKING SKILLS: THE FOUNDATION FOR SUCCESSFUL RAPID RESPONSE SYSTEM IMPLEMENTATION	22
<i>Jamaica Hospital Medical Center</i>	
INCREASE THE USE OF THROMBOPROPHYLAXIS IN THE HOSPITALIZED PATIENT POPULATION. . . .	23
<i>Kenmore Mercy Hospital</i>	
PAIN RESPONSE INITIATIVE/IMPROVING PATIENT SATISFACTION RELATED TO PAIN CONTROL. . . .	24
<i>The Kingston Hospital</i>	
IMPROVING THE CARE OF STROKE PATIENTS.	25
<i>Lawrence Hospital Center</i>	
OUR JOURNEY TO 90 MINUTES IN 90 DAYS	26
<i>Mercy Hospital of Buffalo</i>	
BOWEL MONITORING AND PROTOCOL INITIATIVE	28
<i>Mountainside Residential Care Center</i>	

TABLE OF CONTENTS (CONTINUED)

CLINICAL CARE: GENERAL (continued)

RAISING THE BAR IN CRITICAL CARE: “T.E.A.C.H.” THE BASICS**	29
<i>Jacobi Medical Center/North Bronx Health Care Network/New York City Health and Hospitals Corporation</i>	
CREATING A NEW CULTURE OF PATIENT SAFETY—THROUGH EARLY RECOGNITION AND ASSESSMENT AND ELIMINATING INFECTIONS IN AN ICU SETTING**	31
<i>North Central Bronx Hospital/North Bronx Health Care Network/ New York City Health and Hospitals Corporation</i>	
VENOUS THROMBOEMBOLISM PROPHYLAXIS FOR THE INPATIENT ONCOLOGY POPULATION	32
<i>Roswell Park Cancer Institute</i>	
PROVIDING SAFE AND EFFECTIVE CARE OF PATIENTS REQUIRING INTENSIVE RESPIRATORY CARE, WEANING, AND VENTILATION MANAGEMENT WHILE LIMITING CRITICAL CARE UTILIZATION	34
<i>South Nassau Communities Hospital</i>	
EFFECTING CHANGE AT THE UNIT LEVEL: A MODEL FOR TRANSFORMATION OF CARE AT THE BEDSIDE AS A CATALYST FOR IMPROVING PATIENT OUTCOMES	36
<i>South Nassau Communities Hospital</i>	
IMPROVING PATIENT SAFETY AND QUALITY OF CARE IN THE PRACTICE OF BARIATRIC SURGERY.	38
<i>South Nassau Communities Hospital</i>	
CREATING A CULTURE OF PATIENT SAFETY	40
<i>St. James Mercy Hospital</i>	
IMPROVING PATIENT OUTCOMES IN THE CRITICAL CARE UNIT.	41
<i>St. Joseph Hospital</i>	
ACHIEVING INCREASED SURVIVAL	42
<i>Stony Brook University Medical Center</i>	

CLINICAL CARE: CMS MEASURES

QUALITY IS AT THE CORE**	43
<i>Champlain Valley Physicians Hospital Medical Center</i>	
CARE TRANSITION INTERVENTION FOR CONGESTIVE HEART FAILURE PATIENTS	45
<i>Crouse Hospital</i>	
MULTIDISCIPLINARY APPROACH TO REDUCING RATES OF VENOUS THROMBOEMBOLISM IN A TOTAL JOINT REPLACEMENT PROGRAM **	46
<i>Glen Cove Hospital</i>	

TABLE OF CONTENTS (CONTINUED)

CLINICAL CARE: CMS MEASURES (continued)

IMPROVE ADMINISTRATION TIME OF PRE-OPERATIVE PROPHYLACTIC ANTIBIOTICS	47
<i>Lawrence Hospital Center</i>	
THE BLUE STAR PROGRAM: A STANDARDIZED APPROACH TO IMPROVING HEART ATTACK, HEART FAILURE, SURGICAL, AND PNEUMONIA CARE	48
<i>Putnam Hospital Center</i>	
IMPROVING SELF-MANAGEMENT AND REDUCING RECIDIVISM IN HEART FAILURE PATIENTS	49
<i>South Nassau Communities Hospital</i>	
PERFORMANCE IMPROVEMENT—PNEUMONIA	51
<i>St. Charles Hospital</i>	
“SCIP TO SUCCESS”**	52
<i>St. Francis Hospital—The Heart Center</i>	
CARDIAC CORE MEASURE IMPROVEMENT PROJECT	54
<i>St. Peter’s Hospital</i>	

CLINICAL CARE: RAPID RESPONSE PROCESS

IMPROVING PATIENT SAFETY THROUGH RAPID RESPONSE TEAMS	55
<i>Aurelia Osborn Fox Memorial Hospital</i>	
RESPONDING TO CLINICAL DETERIORATION WITH SPEED AND EXPERTISE**	56
<i>New York University Langone Medical Center</i>	
ACTIVATING RAPID RESPONSE TEAMS ACROSS A MULTI-HOSPITAL HEALTH CARE SYSTEM.	57
<i>North Shore-Long Island Jewish Health System</i>	
FROM BEST PRACTICE TO COMMON PRACTICE: FAMILY-INITIATED RAPID RESPONSE TEAM	58
<i>Nyack Hospital</i>	
RAPID RESPONSE: A PROGRAM TO INTERVENE AND STABILIZE DETERIORATING PATIENTS OUTSIDE THE CRITICAL CARE SETTING	59
<i>Putnam Hospital Center</i>	
ESTABLISHING A RAPID RESPONSE TEAM	61
<i>Sisters of Charity Hospital</i>	
RAPID RESPONSE SYSTEM TEAM	62
<i>St. Luke’s Cornwall Hospital</i>	
RAPID RESPONSE TEAM FOR ADULT AND PEDIATRIC INPATIENTS	63
<i>SUNY Upstate Medical University</i>	
RAPID RESPONSE TEAM DEVELOPMENT, IMPLEMENTATION, AND INTEGRATION INTO DAILY OPERATIONS	65
<i>United Health Services Hospitals</i>	

TABLE OF CONTENTS (CONTINUED)

OPERATIONS: GENERAL

SMART PUMP IMPLEMENTATION	66
<i>Arnot Ogden Medical Center</i>	
A STATE-OF-THE-ART STROKE CENTER IN A COMMUNITY HOSPITAL SETTING	67
<i>Brookhaven Memorial Hospital Medical Center</i>	
FERRARI SAFE PATIENT HANDOFF	68
<i>Columbia Memorial Hospital</i>	
IMPLEMENTING A HOSPITALIST PROGRAM TO IMPROVE SAFETY, EFFICACY, AND EFFICIENCY	70
<i>Huntington Hospital</i>	
IMPROVING BED TRACKING COMPLIANCE TO REDUCE DISCHARGE DELAY	71
<i>Mercy Hospital of Buffalo</i>	
CREATING A PROGRESSIVE CARE UNIT	73
<i>Mercy Hospital of Buffalo</i>	
A SPECIALIZED PALLIATIVE CARE UNIT AND CONSULTATION SERVICE TO OPTIMIZE THE CARE OF HOSPITALIZED PATIENTS FACING LIFE-LIMITING ILLNESS**	75
<i>North Shore University Hospital</i>	
INCREASING QUALITY OF SERVICE PROVISION IN THE SLEEP CENTER	77
<i>Olean General Hospital</i>	
IMPROVING COMMUNICATION FROM CLINICAL AREAS TO THE LABORATORY BY STANDARDIZING PATHOLOGIC SPECIMEN DOCUMENTATION	78
<i>Putnam Hospital Center</i>	
GET ON YOUR HORSE! A GRASSROOTS APPROACH TO IMPROVING PATIENT SATISFACTION AND HCAHPS SCORES	80
<i>Putnam Hospital Center</i>	
IMPROVING THE PROCESS FOR REPORTING CRITICAL TEST AND PROCEDURE RESULTS	82
<i>Schuyler Hospital</i>	
IMPROVING PATIENT SAFETY BY ASSURING POSITIVE PATIENT IDENTIFICATION FOR LABORATORY STUDIES	83
<i>South Nassau Communities Hospital</i>	
USING FMEA TO IMPROVE PATIENT SAFETY	85
<i>St. James Mercy Hospital</i>	
THE PARTNER NURSING MODEL	86
<i>St. Luke's Cornwall Hospital</i>	
ELECTRONIC MEDICATION ADMINISTRATION RECORD	88
<i>St. Mary's Hospital, Amsterdam</i>	
IMPLEMENTING COMPUTERIZED PHYSICIAN ORDER ENTRY	90
<i>SUNY Upstate Medical University</i>	

TABLE OF CONTENTS (CONTINUED)

OPERATIONS: GENERAL (continued)

SCHOOL-CENTERED TELEMEDICINE STUDY FOR CHILDREN WITH DIABETES— DIABETES CENTER OF EXCELLENCE INPATIENT PROGRAM	91
<i>SUNY Upstate Medical University</i>	
CATERING TO YOU	93
<i>SUNY Upstate Medical University</i>	
THE REDEVELOPMENT OF THE BREAST CARE CENTER AND THE DEVELOPMENT OF THE MULTIDISCIPLINARY BREAST CANCER PROGRAM	94
<i>SUNY Upstate Medical University</i>	
EXCELLENCE IN CANCER CARE THROUGH ACCREDITATION: OUTSTANDING ACHIEVEMENT AWARD	95
<i>SUNY Upstate Medical University</i>	
END-OF-LIFE COMPANION VOLUNTEER PROGRAM	97
<i>SUNY Upstate Medical University</i>	
IMPLEMENTATION OF A FAMILY-FOCUSED DONATION AFTER CARDIAC DEATH POLICY	98
<i>SUNY Upstate Medical University</i>	
IMPROVE LANGUAGE ASSISTANCE SERVICES TO THOSE WITH LIMITED ENGLISH PROFICIENCY	99
<i>SUNY Upstate Medical University</i>	
HYPERBARIC MEDICINE ACCREDITATION	100
<i>SUNY Upstate Medical University</i>	
IMPLEMENTATION OF A STROKE PROGRAM	102
<i>SUNY Upstate Medical University</i>	
PROGRESS DATABASE (PERFORMANCE REPORTING OF GREAT RESULTS)	103
<i>SUNY Upstate Medical University</i>	
IMPROVING PATIENT SAFETY FOLLOWING BARIATRIC SURGERY THROUGH PRE-SURGICAL CASE REVIEW	104
<i>SUNY Upstate Medical University</i>	
IMPROVING PATIENT EDUCATION	105
<i>SUNY Upstate Medical University</i>	
HOSPITAL 24/7 VISITORS PASS PROCESS	106
<i>SUNY Upstate Medical University</i>	
USE OF SBAR COMMUNICATION IN NURSE-TO-NURSE REPORTS: IMPLEMENTATION OF THE SBAR STRUCTURED COMMUNICATION TOOL	107
<i>Vassar Brothers Medical Center</i>	

TABLE OF CONTENTS (CONTINUED)

OPERATIONS: QUALITY MANAGEMENT

CREATING A CULTURE OF SUSTAINABLE QUALITY IN A COMMUNITY HOSPITAL**	109
<i>Lakeside Health System</i>	
PATIENT SAFETY FRIDAYS: QPS MANAGEMENT, IMPROVEMENT, AND CULTURE CHANGE **	111
<i>NewYork-Presbyterian Healthcare System</i>	
INVENTING A ROADMAP: QUALITATIVE AND QUANTITATIVE ASPECTS OF PATIENT SAFETY; CULTURE CHANGE IN A LARGE, COMPLEX, MULTI-FACILITY HEALTH CARE SYSTEM**	113
<i>New York City Health and Hospitals Corporation</i>	
PREPARING FRONTLINE STAFF: AN INNOVATIVE APPROACH TO MANDATORY NURSING EDUCATION	115
<i>South Nassau Communities Hospital</i>	
HARD-WIRING PATIENT- AND FAMILY-CENTERED CARE AS A SERVICE INITIATIVE	116
<i>SUNY Upstate Medical University</i>	
BRINGING EVIDENCE TO THE POINT OF CARE	117
<i>SUNY Upstate Medical University</i>	
ELEVATING THE QUALITY AGENDA AT AN ACADEMIC MEDICAL CENTER	118
<i>University of Rochester Medical Center</i>	

PATIENT SAFETY: FALLS

GETTING RESULTS: A PATIENT-CENTERED FALL REDUCTION PROGRAM—UTILIZING “SAFE PATIENT PLACEMENT”	119
<i>John T. Mather Memorial Hospital</i>	
PROMOTING FRONT-LINE STAFF INVOLVEMENT IN PREVENTING PATIENT FALLS	120
<i>Lawrence Hospital Center</i>	
PREVENTING PATIENT FALLS IN THE HOME: A NEW DESIGN FOR HOME CARE PATIENT SAFETY	122
<i>South Nassau Communities Hospital Home Care Agency</i>	
CULTURAL TRANSFORMATION TO PREVENT FALLS AND ASSOCIATED INJURIES IN A TERTIARY CARE HOSPITAL ***	123
<i>Staten Island University Hospital</i>	

PATIENT SAFETY: INFECTION MANAGEMENT

SUSTAINED REDUCTION IN HOSPITAL-ACQUIRED MRSA AND PREVENTION OF MRSA TRANSMISSION USING A MRSA “ABC” BUNDLE ***	125
<i>Beth Israel Medical Center</i>	

TABLE OF CONTENTS (CONTINUED)

PATIENT SAFETY: INFECTION MANAGEMENT (continued)

REDUCING BLOOD CULTURE CONTAMINATION.	127
<i>Beth Israel Medical Center</i>	
DECREASE IN NOSOCOMIAL MRSA THROUGH AN INCREASE IN STAFF EDUCATION	128
<i>Columbia Memorial Hospital</i>	
INNOVATIONS FOR REDUCING URINARY TRACT INFECTIONS IN AN ACUTE CARE HOSPITAL.	129
<i>Good Samaritan Hospital Medical Center</i>	
MULTIFACETED APPROACH TO REDUCING HEALTH CARE-ASSOCIATED <i>CLOSTRIDIUM DIFFICILE</i> DISEASE	130
<i>Good Samaritan Hospital Medical Center</i>	
URINARY TRACT INFECTION (UTI) BUNDLE TO PREVENT CATHETER-ASSOCIATED UTIS	132
<i>Mount St. Mary's Hospital and Health Center</i>	
SEARCH, CONTAIN, AND DESTROY—REDUCING HOSPITAL ACQUISITION OF <i>CLOSTRIDIUM DIFFICILE</i> -ASSOCIATED DIARRHEA	134
<i>New York Hospital Queens</i>	
IHI 5 MILLION LIVES: PREVENTION OF VENTILATOR-ASSOCIATED PNEUMONIA.	135
<i>Saint Francis Hospital and Health Centers</i>	
DECREASING PATIENT VENTILATOR DAYS	136
<i>Seton Health</i>	
VENTILATOR-ASSOCIATED PNEUMONIA REDUCTION	138
<i>South Nassau Communities Hospital</i>	
BEYOND THE ICU: PREVENTION OF CENTRAL LINE INFECTIONS IN THE MEDICAL-SURGICAL SETTING	140
<i>St. Catherine of Siena Medical Center</i>	
A BUNDLE APPROACH TO THE REDUCTION OF CENTRAL LINE BACTEREMIA INCIDENCES BY THE UTILIZATION OF A VASCULAR ACCESS TEAM.	142
<i>St. Elizabeth Medical Center</i>	
CENTRAL LINE BUNDLE IN ICUS AND BEYOND.	143
<i>St. Luke's-Roosevelt Hospital Center</i>	
CENTRAL LINE BLOODSTREAM INFECTION PREVENTION	144
<i>St. Mary's Hospital, Amsterdam</i>	
A COMPREHENSIVE APPROACH TO ELIMINATE VAP IN AN EIGHT-BED INTENSIVE CARE UNIT . . .	145
<i>St. Mary's Hospital, Amsterdam</i>	
A MULTIDISCIPLINARY, STAFF-DRIVEN QUALITY IMPROVEMENT PROJECT UTILIZING EVIDENCE-BASED GUIDELINES FOR CARDIAC SURGICAL WOUND PROPHYLAXIS AND CARE	147
<i>St. Peter's Hospital</i>	

TABLE OF CONTENTS (CONTINUED)

PATIENT SAFETY: INFECTION MANAGEMENT (continued)

INCREASING DETECTION AND STANDARDIZING CARE FOR THE TREATMENT OF SEVERE SEPSIS**	149
<i>Stony Brook University Medical Center</i>	
RED RULES FOR PATIENT SAFETY: IMPROVING HAND WASHING AND PATIENT IDENTIFIER COMPLIANCE**	151
<i>SUNY Upstate Medical University</i>	
TARGET ZERO MRSA INFECTIONS, BLENDING EVIDENCE WITH INNOVATION**	153
<i>ViaHealth/Rochester General Hospital</i>	

PATIENT SAFETY: MEDICATION MANAGEMENT

REDUCTION OF MEDICATION DOSING ERRORS	154
<i>Kings County Hospital Center</i>	
MEDICATION RECONCILIATION	156
<i>Putnam Hospital Center</i>	
FAILURE MODE AND EFFECTS ANALYSIS: A PROACTIVE APPROACH TO PREVENTING CHEMOTHERAPY ERRORS	158
<i>White Plains Hospital Center</i>	

PATIENT SAFETY: PRESSURE ULCERS

THE PROCESS OF ASSESSMENT AND TREATMENT OF PRESSURE ULCERS TO REDUCE RISKS TO PATIENT SAFETY	160
<i>Coney Island Hospital</i>	
UTILIZING EXPERT CLINICIANS WITHIN A SHARED GOVERNANCE STRUCTURE TO SUCCESSFULLY REDUCE NOSOCOMIAL PRESSURE ULCER INCIDENCE IN HOSPITALIZED PATIENTS	161
<i>Highland Hospital of Rochester</i>	
PRESSURE ULCER REDUCTION	163
<i>Long Island Health Network</i>	
REDUCING THE INCIDENCE OF PRESSURE ULCERS	164
<i>Massena Memorial Hospital</i>	
PRESSURE ULCER PREVENTION ACROSS THE CONTINUUM	165
<i>New York Hospital Queens</i>	
PREVENTION OF FACILITY-ACQUIRED PRESSURE ULCERS USING A PDSA APPROACH	166
<i>Northeast Health/Albany Memorial Hospital/Samaritan Hospital</i>	
LET'S GO FOR ZERO: DON'T BE BEAT—CHECK THOSE FEET	167
<i>North Shore University Hospital—Stern Family Center for Extended Care and Rehabilitation</i>	

TABLE OF CONTENTS (CONTINUED)

PATIENT SAFETY: PRESSURE ULCERS (continued)

WHEN BUSINESS INTELLIGENCE FACILITATES CQI: A MULTIDISCIPLINARY PRESSURE ULCER INITIATIVE REDUCES HOSPITAL COSTS AND IMPROVES PATIENT CARE OUTCOMES	168
<i>South Nassau Communities Hospital</i>	
DATA DRIVING HOSPITAL-ACQUIRED PRESSURE ULCERS REDUCTION.	169
<i>St. Francis Hospital—The Heart Center</i>	
REDUCING FACILITY-ACQUIRED PRESSURE ULCERS	170
<i>St. Mary's Hospital, Amsterdam</i>	
A TEAM APPROACH TO GET TO THE SURFACE OF PRESSURE ULCER PREVENTION	172
<i>SUNY Upstate Medical University</i>	

PATIENT SAFETY: RESTRAINT

RESTRAINT REDUCTION: AN ORGANIZATION PRIORITY.	174
<i>Queens Hospital Center</i>	

SPECIALTY SERVICES: BEHAVIORAL HEALTH

VIOLENCE REDUCTION PROTOCOL: REDUCING PATIENT AND STAFF INJURIES AND SECLUSION AND RESTRAINT UTILIZATION IN BEHAVIORAL HEALTH CARE***	176
<i>Jacobi Medical Center/North Bronx Health Care Network/ New York City Health and Hospitals Corporation</i>	
REDUCE USE OF PSYCHIATRIC RESTRAINT DEVICES WITHOUT INCREASING UTILIZATION OF HIGHLY RESTRICTIVE MODALITIES IN MANAGEMENT OF THE HIGHLY AGITATED PATIENT.	178
<i>St. Catherine of Siena Medical Center</i>	
POSITIVE ANGER MANAGEMENT OUTCOMES THROUGH OCCUPATIONAL THERAPY INTERVENTION	179
<i>St. Elizabeth Ann's Health Care and Rehabilitation Center</i>	
REDUCTION IN THE USE OF THE QUIET ROOM ON A PSYCHIATRIC UNIT	180
<i>St. John's Episcopal Hospital</i>	
DECREASE ELOPEMENT INCIDENTS THROUGH THE DEVELOPMENT AND IMPLEMENTATION OF AN ELOPEMENT RISK PROCEDURE	181
<i>SUNY Upstate Medical University</i>	
VIRTUAL REALITY TREATMENT PROGRAM	182
<i>SUNY Upstate Medical University</i>	

TABLE OF CONTENTS (CONTINUED)

SPECIALTY SERVICES: EMERGENCY SERVICES

IMPROVING THE ED PATIENT EXPERIENCE BY STREAMLINING PROCESSES AND CREATING NECESSARY CHANGE	183
<i>Cayuga Medical Center</i>	
IMPROVING COMMUNICATION WITH EMERGENCY DEPARTMENT PATIENTS IN PARTNERSHIP WITH THE COMMUNITY	184
<i>Cayuga Medical Center</i>	
THE “NO WAIT” EMERGENCY DEPARTMENT	185
<i>Hudson Valley Hospital Center</i>	
REDUCING “LEFT WITHOUT BEING SEEN” FROM THE EMERGENCY DEPARTMENT	186
<i>Little Falls Hospital/Bassett Healthcare</i>	
MEDHOST COMPUTERIZED DOCUMENTATION IN THE EMERGENCY DEPARTMENT	187
<i>Mercy Hospital of Buffalo</i>	
THE ED TASK FORCE	188
<i>St. Luke’s Cornwall Hospital</i>	

SPECIALTY SERVICES: OBSTETRICS

THE IMPACT OF A TEAM APPROACH IN IMPROVING OBSTETRIC RAPID RESPONSE IN MATERNAL CHILD HEALTH AT A COMMUNITY ACADEMIC HOSPITAL	190
<i>New York Hospital Queens</i>	
TEAM PERFORMANCE PLUS	191
<i>St. Charles Hospital</i>	
BIRTHING CENTER PERINATAL BEREAVEMENT PROGRAM	193
<i>St. Luke’s Cornwall Hospital</i>	

SPECIALTY SERVICES: PEDIATRICS

REDUCING COMPLICATIONS IN THE NEONATAL INTENSIVE CARE UNIT BY OPTIMIZING NUTRITION AND GROWTH**	195
<i>Stony Brook University Medical Center</i>	
INPATIENT MANAGEMENT OF ACUTE ASTHMA EXACERBATION IN PEDIATRIC PATIENTS	197
<i>SUNY Upstate Medical University</i>	
PEDIATRIC PATIENT SAFETY ROUNDS	198
<i>SUNY Upstate Medical University</i>	

ACRONYMS USED OFTEN IN THIS BOOK	199
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INTRODUCTION

The Healthcare Association of New York State (HANYS) and its members are committed to implementing continuous improvement in quality, safety, and effectiveness of care.

2008 Profiles in Quality and Patient Safety is a compendium of 132 submissions for HANYS' Pinnacle Award for Quality and Patient Safety. Each initiative includes a program description, information about the team that led the initiative, lessons learned, and achievements.

HANYS' Pinnacle Award for Quality and Patient Safety recognizes organizations that are playing a leading role in developing innovative ways to improve the quality of care. This year, there were four winners: a tie in the large hospital or multi-entity category, and one winner each in the unit-based and small organization categories.

In addition, HANYS recognized the top 10th percentile submissions based on the scoring guidelines.

HANYS congratulates and thanks its members for their willingness to share their ideas, experiences, and successes.

All members are encouraged to take advantage of the information in this publication to inform and accelerate efforts for improving quality and patient safety.

For more information about the Pinnacle Award for Quality and Patient Safety, contact Nancy Landor, Senior Director of Strategic Quality Initiatives, at (518) 431-7685 or at nlandor@hanys.org.

COMMON THEMES

The 2008 profiles are categorized into four themes:

- **Clinical Care Management**—*Improving Patient Care*
- **Operations**—*Improving Systems and Processes*
- **Patient Safety**—*Falls, Infection Management, Medication Management, Pressure Ulcers, and Restraint*
- **Specialty Services**—*Behavioral Health, Emergency Services, Obstetrics, and Pediatrics*



SELECTION COMMITTEE MEMBERS

NANCY FOSTER

Nancy Foster is Vice President, Quality and Patient Safety Policy, American Hospital Association (AHA). In this role, she is AHA's point person for the Hospital Quality Alliance, a public-private effort to provide information to consumers on the quality of care in American hospitals. Ms. Foster is AHA's representative to the National Quality Forum, serves as a member of the National Heart Attack Coordinating Council, and co-chairs the Agency for Healthcare Research and Quality's (AHRQ) Patient Safety Coordination Center Advisory Committee. She provides advice to hospitals and public policymakers on opportunities to improve patient safety and quality. Before joining AHA, Ms. Foster was the Coordinator for Quality Activities at AHRQ, where she was the principal staff person for the Quality Interagency Coordination Task Force.

LYNN GURSKI LEIGHTON, R.N., M.H.A

Lynn Gurski Leighton, R.N., M.H.A., is Vice President, Professional and Clinical Services, Hospital and Healthsystem Association of Pennsylvania. In this position, Ms. Gurski Leighton is responsible for managing issues related to professional licensure and practice, workforce development, health care quality, patient safety, public use of quality data, and delivery system accountability. She works directly with clinical personnel in hospitals and health systems, various state agencies, the American Hospital Association, The Joint Commission, and other professional and trade associations to advocate for and represent Pennsylvania hospital and health system interests and positions on various regulatory and legislative matters.

ANDREA KABCENELL, R.N., M.P.H

Andrea Kabcenell, R.N., M.P.H., is Vice President, Institute for Healthcare Improvement (IHI), where she devotes the majority of her time to IHI's research and demonstration portfolio, leading innovation projects and fostering better performance in IHI programs. In addition, Ms. Kabcenell has helped to develop the knowledge base and teach in many topic areas including collaborative improvement methods, the Pursuing Perfection Program, and IHI's programs on improving office practice, improving chronic illness care and end-of-life care, and eliminating disparities in health care. Ms. Kabcenell has been a key faculty member of the Breakthrough Series College and has directed 13 IHI Breakthrough Series Collaboratives. Before joining IHI, Ms. Kabcenell was a senior research associate at Cornell University's Department of Policy, Analysis, and Management. Previously, she served for four years as Senior Program Officer at The Robert Wood Johnson Foundation.

DR. VAHE KAZANDJIAN

Dr. Vahe Kazandjian is President, Center for Performance Sciences, Senior Vice President, Maryland Hospital Association, and a member of the Board of the Maryland Patient Safety Center. He is the original architect and still responsible for the Maryland Quality Indicator Project (QIP), the largest indicator project of its kind in the world. He is Adjunct Professor of the Health Policy and Management Department of the Johns Hopkins Bloomberg School of Public Health. In addition, Dr. Kazandjian

SELECTION COMMITTEE MEMBERS (CONTINUED)

is the author of four textbooks on indicator development and quality of care. He is an epidemiologist by training and has served as Advisor to the World Bank for Latin America, USAID for Africa, and currently is Advisor to the World Health Organization's European office in Barcelona.

ARTHUR A. LEVIN

Arthur A. Levin is co-founder and the Director of the Center for Medical Consumers, a New York City-based non-profit organization committed to informed consumer and patient health care decision-making, patient safety, evidence-based, high quality medicine, and health care system transparency. Mr. Levin was a member of the Institute of Medicine's (IOM) Committee on the Quality of Health Care that published the *To Err is Human* and *Crossing the Quality Chasm* reports. He served on the IOM committee that evaluated the federal quality improvement effort and made recommendations to Congress in its report, *Leadership Through Example*. Mr. Levin also serves on the National Committee for Quality Assurance's Committee on Performance Measures, National Quality Forum Consensus Standards Approval Committee, completed a four-year term as the consumer representative member of the Food and Drug Administration's Drug Safety and Risk Management Advisory Committee, and continues to serve in a Special Government Employee consultant role for risk management and safety. At the state level, Mr. Levin has served on numerous state health department task forces and workgroups focused on safety, quality, informed consent, and bioethical concerns.

MAULIK S. JOSHI, DR.P.H.

Maulik S. Joshi, Dr.P.H., is President and Chief Executive Officer of the Network for Regional Healthcare Improvement. Dr. Joshi was most recently Senior Advisor for the Office of the Director for AHRQ and previously the President and Chief Executive Officer of the Delmarva Foundation. During his tenure at the Delmarva Foundation, the organization was the recipient of the 2005 U.S. Senate Productivity award, the highest-level award in the state of Maryland, based on the national Malcolm Baldrige criteria for performance excellence. Prior to the Delmarva Foundation, Dr. Joshi was Vice President for the Institute for Healthcare Improvement, Executive Vice President for Doctor Quality, Senior Director of Quality for the University of Pennsylvania Health System, and Executive Vice President for The HMO Group. Dr. Joshi is co-editor of *The Healthcare Quality Book: Vision, Strategy and Tools*, a graduate level textbook.

AWARD-WINNING INITIATIVES

2008 PINNACLE AWARD FOR QUALITY AND PATIENT SAFETY
(MULTI-ENTITY OR LARGE ORGANIZATION)

Sustained Reduction in Hospital-Acquired MRSA and Prevention of MRSA Transmission Using a MRSA “ABC” Bundle

Beth Israel Medical Center



At HANYS' Annual Membership Conference in June, Dr. Brian Koll, Associate Director of Infection Control at Beth Israel Medical Center, received the Pinnacle Award from Michael Dowling, HANYS' Chairman (left), and Richard Ketcham, President and Chief Executive Officer of Brooks Memorial Hospital (right), who serves on HANYS' Statewide Steering Committee on Quality Initiatives.

[See Patient Safety, Infections, Page 125](#)

AWARD-WINNING INITIATIVES (CONTINUED)

2008 PINNACLE AWARD FOR QUALITY AND PATIENT SAFETY
(MULTI-ENTITY OR LARGE ORGANIZATION)

Cultural Transformation to Prevent Falls and Associated Injuries in a Tertiary Care Hospital

Staten Island University Hospital



Jeffrey Weinberg (center), Vice President of Special Services at Staten Island University Hospital, received the Pinnacle Award on behalf of his organization.

See Patient Safety, Falls, Page 123

PINNACLE AWARD FOR QUALITY AND PATIENT SAFETY

AWARD-WINNING INITIATIVES (CONTINUED)

(UNIT/DIVISION-BASED)

Violence Reduction Protocol: Reducing Patient and Staff Injuries and Seclusions and Restraint Utilization in Behavioral Health Care

Jacobi Medical Center—Behavioral Health Division
North Bronx Health Care Network/
New York City Health and Hospitals Corporation



William Walsh, Executive Director, North Bronx Health Care Network's Jacobi Medical Center (center) accepted the Pinnacle Award on behalf of his facility.

See Specialty Services, Behavioral Health, Page 176

AWARD-WINNING INITIATIVES (CONTINUED)

PINNACLE AWARD FOR QUALITY AND PATIENT SAFETY
(SMALL ORGANIZATION)

Enhancing Glycemic Control with Small Tests of Change Clifton Springs Hospital and Clinic



Susan Ullrich, Diabetes Program Director, Clifton Springs Hospital and Clinic, accepted the Pinnacle Award for her facility.

See Clinical Care, General, Page 15

SPECIAL RECOGNITION

Submissions that Scored in the Top Tenth Percentile

QUALITY IS AT THE CORE

Champlain Valley Physicians Hospital Medical Center

MULTIDISCIPLINARY APPROACH TO REDUCING RATES OF VENOUS THROMBOEMBOLISM IN A TOTAL JOINT REPLACEMENT PROGRAM

Glen Cove Hospital

GERIATRIC FRACTURE CARE

Highland Hospital of Rochester

RAISING THE BAR IN CRITICAL CARE: "T.E.A.C.H." THE BASICS

*Jacobi Medical Center/North Bronx Health Care Network/
New York City Health and Hospitals Corporation*

CREATING A CULTURE OF SUSTAINABLE QUALITY IN A COMMUNITY HOSPITAL

Lakeside Health System

INVENTING THE ROADMAP: QUALITATIVE AND QUANTITATIVE ASPECTS OF PATIENT SAFETY CULTURE CHANGE IN A LARGE, COMPLEX, MULTI-FACILITY HEALTH CARE SYSTEM

New York City Health and Hospitals Corporation

RESPONDING TO CLINICAL DETERIORATION WITH SPEED AND EXPERTISE

New York University Langone Medical Center

PATIENT SAFETY FRIDAYS: QPS MANAGEMENT, IMPROVEMENT, AND CULTURE CHANGE

NewYork-Presbyterian Healthcare System

CREATING A NEW CULTURE OF PATIENT SAFETY THROUGH EARLY RECOGNITION AND ASSESSMENT AND ELIMINATING INFECTIONS IN AN ICU SETTING

*North Central Bronx Hospital/North Bronx Health Care Network/
New York City Health and Hospitals Corporation*

A SPECIALIZED PALLIATIVE CARE UNIT AND CONSULTATION SERVICE TO OPTIMIZE THE CARE OF HOSPITALIZED PATIENTS FACING LIFE-LIMITING ILLNESS

North Shore University Hospital



Submissions that Scored in the Top Tenth Percentile (CONTINUED)

“SCIP TO SUCCESS”

St. Francis Hospital—The Heart Center

REDUCING COMPLICATIONS IN THE NEONATAL INTENSIVE CARE UNIT BY OPTIMIZING NUTRITION AND GROWTH

Stony Brook University Medical Center

INCREASING DETECTION AND STANDARDIZING CARE FOR THE TREATMENT OF SEVERE SEPSIS

Stony Brook University Medical Center

RED RULES FOR PATIENT SAFETY: IMPROVING HAND WASHING AND PATIENT IDENTIFIER COMPLIANCE

SUNY Upstate Medical University

TARGET ZERO MRSA INFECTIONS, BLENDING EVIDENCE WITH INNOVATION

ViaHealth/Rochester General Hospital

CLINICAL CARE: GENERAL

Leveraging Patients and Families as Safety Partners

Bassett Healthcare

PARTNERS

Partners for this initiative include patients and families, medical staff leaders, medical staff, the chief operating officer, nursing division, safety action council, and quality resources management.

PROJECT DESCRIPTION

Bassett Healthcare found that too often, patients and families do not feel empowered to speak up regarding their care experience. To relieve stress at the time of admission, Bassett began a program to educate patients/families on the ways the organization supports patient safety and to encourage them to be active partners in their health care. The goals of the project were to:

- leverage patients/families as safety partners to instill satisfaction and confidence in the organization's processes;
- empower patients with a safety "voice";
- educate patients/families about staff safety activities; and
- promote increased levels of staff compliance in key safety processes, since staff are under the "watchful eye" of their patients and families.

A multidisciplinary workgroup developed the Partnership for Patient Safety, which outlines safety behaviors patients can expect to see, as well as what they are being asked to do as safety partners, e.g., "ask caregivers if they have washed their hands" and "show the staff your wristband prior to receiving medications or having your blood drawn."

As part of the patient's admission process, a nurse reviews the partnership process in detail and formally requests that the patient become a partner in safety regarding all aspects of the hospital experience. A Patient Safety Scorecard was developed for tracking, which includes baseline and ongoing measures.

OUTCOMES

- All patients reported an increased comfort level with approaching staff about safety issues related to their care.
- Hand hygiene compliance is near 90% organization-wide—a more than 25% improvement.
- Over the past three quarters, the ventilator-associated pneumonia rate has been zero.
- There has been a 50% reduction in "wrong patient" medication errors.

LESSONS LEARNED

- Providing staff with scripted responses to patient questions and feedback was valuable as part of pre-implementation training.
- When a patient's condition prevents him or her from participating, families are a valuable resource and are eager to act as safety advocates.
- Posting the Patient Safety Scorecard on the departmental performance improvement bulletin board is a great way to give staff feedback on the process and maintain enthusiasm.

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“Code Stroke”

Benedictine Hospital

PARTNERS

This initiative was driven by a partnership of the chief executive officer; medical director; stroke medical director; emergency department director; chief physician assistant; and nursing leaders from administration, quality improvement, the emergency department, stroke unit, intensive care unit, physical medicine and rehabilitation unit, and radiology.

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PROJECT DESCRIPTION

Benedictine Hospital developed the Code Stroke initiative to improve the quality of care and outcomes for patients with stroke. The initiative included becoming a designated New York State Department of Health Stroke Center. A multidisciplinary stroke team was created in 2005 to evaluate current processes, and a flowchart was used to evaluate all aspects of the continuum of care for stroke patients. The assessment revealed significant opportunity to improve stroke treatment times and a need for a standardized, reliable process.

A designated stroke unit was created with dedicated, trained staff. All emergency department, intensive care unit, and stroke unit personnel were certified in the National Institutes of Health assessment and are required to participate in ongoing cerebrovascular disease educational activities. Stroke protocols and order sets were developed. “Code Stroke” is activated upon emergency medical system notification. A stroke log was created to track response times, patient diagnoses, treatments, and outcomes. Diagnostic services, including computerized tomography (CT), were expanded to ensure “24/7” coverage.

The success of this initiative can be attributed to ongoing weekly stroke team meetings that review stroke cases concurrently. During these weekly meetings, the team continually reviews the stroke order sets, protocols, and processes to ensure appropriate and timely stroke care and treatment.

OUTCOMES

- Door-to-stroke team time improved from 6.33 minutes in 2006 to 4.09 in 2007.
- Mean door-to-CT scan performed time improved from 30 minutes in 2006 to 23.8 minutes in 2007.
- Door-to-CT scan read time improved from 73 minutes in 2006 to 34 minutes in 2007.
- The percent of ischemic stroke (TIA) patients who receive antithrombotic medication by the end of hospital day two improved to 100%.
- The percent of TIA patients discharged on antithrombotics improved to 100%.
- The percent of smokers who receive smoking cessation advice or medication improved to 100%.

LESSONS LEARNED

- Improvement changes must be system-focused and owned by front-line clinical staff.
- Champions from all disciplines drive the improvement and encourage a collaborative team effort.
- Ongoing feedback is instrumental in engaging key stakeholders.

Therapeutic Hypothermia Protocol

Beth Israel Medical Center

PARTNERS

This initiative was implemented by a team consisting of critical care, emergency department, cardiology, and pulmonary division physicians; medical housestaff; and medical intensive care unit nurses.

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PROJECT DESCRIPTION

Over the past 60 years, induced hypothermia has been applied in a variety of medical conditions, but most effectively in patients who are comatose after a cardiac arrest. Two large, randomized, multi-center trials published in 2002 showed clear survival and neurological improvement in comatose, post-arrest patients who underwent mild therapeutic hypothermia (MTH) for 24 hours. The American Heart Association/International Liaison Committee on Resuscitation guidelines were updated in 2003 with the recommendation that all patients with return of spontaneous circulation after a ventricular fibrillation or tachycardia arrest should be promptly cooled to 32-34 degrees Celsius.

The goal of Beth Israel Medical Center's project is to achieve full neurological recovery in these patients after rewarming. The cooling technique was developed by the director of Beth Israel's medical intensive care unit, and protocolized by a collaboration of critical care and pulmonary division physicians. After physician and nurse education, the initial data collection (17 patients) identified multiple barriers to rapid cooling and the protocol was updated and reinstated based on lessons learned. The revised protocol included early notification from the emergency department, starting the cooling protocol immediately at the patient's location rather than waiting for transfer to critical care, and the use of peripheral intravenous lines for infusion of iced saline instead of large introducer catheter.

OUTCOMES

Data were measured at two points—after the initial protocols were used and again after updates were made to the protocol and re-instituted.

	Pilot I	Pilot II
Time from return of spontaneous circulation (ROSC) to start of hypothermia	182 minutes	62 minutes
Time from ROSC to target temperature	243 minutes	132 minutes
Cooling rate	3.2 degrees C/hour	2 degrees C/hour

Other outcomes included:

- ventricular fibrillation or tachycardia with full neurological outcome (33%);
- pulseless electrical activity with full neurological outcome (25%);
- asystole with full neurological outcome (15%); and
- overall, six comatose post-cardiac arrest patients were eventually discharged with full neurological recovery.



Therapeutic Hypothermia Protocol

Beth Israel Medical Center (CONTINUED)

LESSONS LEARNED

- It is important to understand the evidence-based data and supporting literature on MTH.
- Develop a detailed map of the process, time, and hand-offs to provide information on what works, barriers, and other opportunities for improvement.
- Continuously improve, enabling the initiative to achieve faster results.

Enhancing Glycemic Control with Small Tests of Change

Clifton Springs Hospital and Clinic

2008 PINNACLE AWARD WINNER—SMALL HOSPITAL CATEGORY

PARTNERS

Partners for this initiative included administration; medical staff; board of trustees; clinical staff, including nursing, pharmacy and nutritional services; community members; and patients and families.

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PROJECT DESCRIPTION

Upon completion of a community needs assessment, the Clifton Springs Hospital and Clinic Board of Trustees supported the recommendations of administration and the medical staff to make improving diabetes care a strategic priority. The goal of this initiative was to develop and implement a comprehensive plan that results in at least a 10% decrease in the number of hyperglycemic experiences in 2007.

Using the “Plan-Do-Study-Act” model, the hospital analyzed its current situation using medical record audits, length of stay, and other patient-related data. The hospital's past successes in applying some of the “change concepts” endorsed by the Institute for Healthcare Improvement assisted it in formulating a plan, which included:

- forming a multidisciplinary advisory committee;
- developing comprehensive educational programs for clinical staff and physicians;
- developing and implementing standardized orders;
- education tools for patients and families;
- glycemic management protocols;
- several process changes; and
- introduction of glycemic management software tools in the intensive care unit (ICU).

OUTCOMES

- ICU glucose readings were less than 150mg/dl, 32% of the time in 2006, with an increase to 50% in 2007. In addition, the non-ICU settings saw a modest increase in glucoses less than 150mg/dl of 42% in 2006 to 46% in 2007.
- Mean of 13.5% of all ICU glucoses fell in to the very tight glucose range of 80 to 110mg/dl in 2006, with an increase to 21.2% in 2007.
- Average length of stay for diabetic inpatients dropped by 0.5 day from base year 2005 to 2007.
- Long-term care patients showed a 2.8% decrease in Hemoglobin A1C results from 2006 to 2007 because the education and protocols were done enterprise-wide.
- Medical record documentation pertinent to diabetes management increased from 74% in 2005 to 82% in 2007.
- Of the patients handled under the current protocols, 14% achieved a glucose target of less than 150mg/dl in an average of nine hours. In the patients managed with the new glucose control software, 100% reached

Enhancing Glycemic Control with Small Tests of Change

Clifton Springs Hospital and Clinic (CONTINUED)

their target ranges, which varied from 80 to 145mg/dl, in an average of 7.19 hours. There was a 4% hypoglycemic rate in the conventional protocol, as compared to a 2% rate in the patients managed with the software tool.

- There was an increase in the percentage of patients having a glucose level obtained within 24 hours of admission from 92% in 2005, to 100% at the end of 2007.

LESSONS LEARNED

- Continuing reinforcement of the importance of frequent glucose monitoring to evaluate potentially rapid-changing levels and insulin requirements is beneficial.
- Start small. Introduce new technology on a small scale. The hospital identified and worked to eliminate barriers to success before expanding to other areas.
- A computerized glycemic management software system was found to be an effective and efficient tool in normalizing glucose levels; however, automation cannot take the place of reliable processes and critical thinking.
- Variables related to glycemic management must be continually evaluated and monitored.

Improvement in the Status of Surgical Wounds

Dominican Sisters Family Health Service

PARTNERS

Internal partners included staff nurses, nursing supervisors, senior management, and the professional advisory committee. IPRO was the organization's external partner.

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PROJECT DESCRIPTION

The Dominican Sisters Family Health Service created the Improvement in the Status of Surgical Wound Team because the organization was seeing a high census of patients with surgical wounds, and data from the Centers for Medicare and Medicaid Services indicated a need to remediate care practices to improve the status of patient outcomes in wound healing. This team identified problem areas on which to focus and developed a plan of action that included the methods and timelines for implementing best practices, monitoring approaches, and evaluation of both the plan of action and the actual outcome(s).

As the first step toward achieving the goal of uncomplicated surgical incision healing, the team developed, prioritized, and implemented best practice guidelines related to comprehensive surgical wound assessments, communication with other disciplines, and patient/caregiver education on identifying and reporting signs and symptoms of infection. The team brainstormed additional recommendations and common sense approaches, such as making sure all office sites have wound care products available for patients.

OUTCOMES

- The Home Health Agency Outcome Based Quality Improvement Outcome Trend Report observed rates from January 2006 through November 2007 showed a continued increase in the percentage of patients with improved status of surgical wounds, with an increase from 74.9% to 70.1%; this exceeded the target goal of 77.5%.
- There has been a drop in the percentage of surgical wound infections during the last two years, from 7% to 4%.
- Care and documentation of care has become more consistent.

LESSONS LEARNED

- Good communication among health care partners is vital to improved patient status.
- Consistent practice ensures uniformity in care.
- Surgical wound improvement is enhanced by thorough patient and staff education.
- Staff buy-in is essential for compliance to the recommended best practices.
- Organizations can have an impact on other organizations in areas where continuing care transitions and best practices can be improved.

“Temperature Check” for Surgical Site Infection Prevention

Highland Hospital of Rochester

PARTNERS

The multidisciplinary task force for this initiative included the chiefs of surgery and anesthesiology; the head nurses for the OR, same-day surgery, and the PACU; the perioperative safety nurse; hospital epidemiologist; and infection control practitioners.

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PROJECT DESCRIPTION

To decrease surgical site infections (SSIs) at Highland Hospital, a multidisciplinary task force of stakeholders was formed. The team’s initial efforts centered on implementing well known, evidence-based interventions such as hair removal only if necessary (no razors) and appropriate prophylactic antibiotics (right drug, right time, discontinue within 24 hours).

Once satisfied that these interventions were in place, the team addressed normothermia. Research has demonstrated that hypothermia (core temperatures below 36 degrees Celsius) can triple the risk of SSI after colorectal surgery. This is also likely to be a risk factor in other types of surgery. The team’s goal was to improve the core temperatures of all patients undergoing surgery; the target set was a perioperative temperature of greater than 36 degrees Celsius.

Team members identified a variety of factors that could contribute to hypothermia, including cold gases used for laparoscopic procedures, the use of warming interventions in the operating room (OR), patient age, type of surgery and anesthesia, and anesthesiologist. For nine months, the staff of the post-anesthesia care unit (PACU) monitored temperatures in all patients upon arrival to, and discharge from, the PACU. These temperatures were forwarded to the infection prevention team for analysis.


More than 300 patients were monitored and almost half of them were cold. Factors influencing temperature were evaluated through multivariate analysis, and the following were found to have a significant effect: calendar quarter, anesthesiologist, type of anesthesia, and type of surgery. Interestingly, age was loosely correlated and there was really no correlation with the length of surgery, operating room temperature, or laparoscopic procedures. Warming interventions were used in all patients and in the targeted areas for improvement.

OUTCOMES

- A thorough analysis of all practice patterns, variables, correlations, and opportunities was completed in detail and provided an excellent foundation for buy-in and continuous improvement.
- Because of consistent auditing of PACU temperatures, frequent feedback to the care providers, and warming interventions, there was steady improvement in normothermia during the study period.

LESSONS LEARNED

- The target median for keeping patients warm should be 37 degrees Celsius since the standard deviation in the study was 0.6 to 0.7 degrees Celsius.



“Temperature Check” for Surgical Site Infection Prevention

Highland Hospital of Rochester (CONTINUED)

- Data collection and the subsequent multivariate analysis were extremely helpful in clearly seeing the correlations between those key process variables that would have the “biggest bang for the buck” in improving the outcome.
- Monthly medians are helpful in ensuring optimal surgical conditions.
- Anesthesiologist-specific temperature audits lead to improvement over time.
- Measures to ensure normothermia must become routine for all surgeries.
- By applying fundamental principles of continuous quality improvement, the team improved the likelihood of surgical patients experiencing operative normothermia and, with it, an infection-free outcome.

Geriatric Fracture Care

Highland Hospital of Rochester

TOP 10TH PERCENTILE SUBMISSION

PARTNERS

Partners for this initiative included the following departments: orthopaedics, geriatrics, emergency department, intensive care unit, and social work/case management.

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PROJECT DESCRIPTION

The Geriatric Fracture Center (GFC) at the University of Rochester Medical Center's Highland Hospital represents the state-of-the-art in management of frail older adults who are undergoing hip fracture repair. GFC's two co-founders, Dr. Stephen Kates (Orthopaedics) and Dr. Daniel Mendelson (Geriatrics) are highly skilled physicians who have been effective champions of the program from the start. Because of Highland Hospital's dedication to the care of older adults, there has been administrative support of the GFC program from its earliest stages. The hospital has a large number of geriatric hospitalists who share responsibilities for the geriatric co-management component of the model.

GFC improves patient care and outcomes, while reducing cost of care, by:

- efficiently evaluating patients on admission and thus reducing time to surgery;
- implementing close medical co-management by a geriatrician throughout hospitalization; and
- adhering to a total quality management approach to care that avoids medication errors and reduces other iatrogenic complications.

OUTCOMES

A retrospective study compared 193 patients in GFC with 121 patients who were admitted to usual care in a local hospital during the same period. In a comparison of outcomes during a one-year period, the GFC program achieved statistically significant improvements in all eight dimensions of care. Examples include:

- Time from evaluation to surgery: 13.2 less days (30% difference)
- Length of stay: 3.7 less days (45% difference)
- 30-day readmission rate: 3.4% less (25% difference)
- Mortality rate: 0.93% less (38% difference)
- Post-operative infection rate: 17% less (70% difference)
- Post-operative bleeding: 3.3% less (100% difference)
- Complication rate: 15.7% less (34% difference)

In addition, costs of care were 68% of costs predicted for New York and 66% of those predicted for the United States—this translates to a savings per case of about \$3,500.



Geriatric Fracture Care

Highland Hospital of Rochester (CONTINUED)

LESSONS LEARNED

- Collaboration and close communication among all the departments and caregivers involved in treating geriatric fractures is key to the program's success.
- The shorter length of stay appears to be primarily attributable to reducing the time to surgical repair, avoiding common adverse outcomes of acute hospitalization, and beginning discharge planning early in hospitalization.
- This is a relatively homogeneous patient population that responds well to protocol-driven care. By employing geriatric principles in a standardized fashion, the risk of adverse events is reduced.

SBAR Communication and Enhancing Critical Thinking Skills: The Foundation for Successful Rapid Response System Implementation

Jamaica Hospital Medical Center

PROJECT DESCRIPTION

Jamaica Hospital Medical Center (JHMC) is one of the many hospitals in the United States to pledge to save lives by using a rapid response system (RRS)—one of the initiatives implemented by the Institute for Healthcare Improvement, first as part of its 100,000 Lives Campaign and now as part of the IHI 5 Million Lives Campaign.

The goal of the JHMC initiative was to rescue patients early in their decline before a crisis occurs. A comprehensive strategy was developed that included creating teams of internal and external customers, implementing the “Situation-Background-Assessment-Recommendation” (SBAR) communication methodology, and holding assessment courses using a state-of-the-art simulation laboratory.

This initiative adhered to quality improvement methodologies including: brainstorming strategies for structuring RRS communication, identifying stakeholders, using a flow chart for existing handoff communication for urgent/emergent notification, using bar graphs and line graphs for data collection and analysis, and employing Failure Mode and Effects Analysis to identify opportunities for refining RRS.

Performance improvement principles that were integral to this initiative were staff involvement, buy-in by senior leadership and stakeholders, teamwork, and collaboration with internal and external customers.

OUTCOMES

- This initiative resulted in improved communication and patient and staff satisfaction.
- Mortality rates were reduced as the number of RRS calls increased.
- Mortality rates pre-RRS were 2.2%.
- Mortality rates during the pilot stage were 1.92%.
- Mortality rates after full RRS implementation were 1.47%.
- Mortality rates were reduced 0.73%.

LESSONS LEARNED

- Staff competency and critical thinking skills are essential.
- The RRS initiative resulted in improved clinical intervention and response time to urgent and emergent calls.
- There is improved staff communication using SBAR methodology.

PARTNERS

External partners included Greater New York Hospital Association, United Hospital Fund, and IHI. Internally, a multidisciplinary team composed of physician, nursing, communication, administration, and respiratory therapy staff guided the project.

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Increase the Use of Thromboprophylaxis in the Hospitalized Patient Population

Kenmore Mercy Hospital

PROJECT DESCRIPTION

Kenmore Mercy Hospital identified the reduction of venous thromboembolism (VTE) as a top priority. Most hospitalized patients are at moderate to high risk for developing VTE. Without prophylaxis, the literature shows the incidence of hospital-acquired deep venous thrombosis (DVTs) is approximately 10% to 40%.

In 2005, Kenmore Mercy Hospital created a form to support the increasing use of VTE prophylaxis. It incorporated a risk assessment as well as recommendations for prophylaxis based on the assessment. This form was also used as a physician order form. In 2007, an interdisciplinary team was established, which adopted the American College of Chest Physicians' recommendations for VTE prophylaxis, including low-dose unfractionated heparin, low molecular weight heparin, warfarin, intermittent pneumatic compression devices (ICDs), and graduated compression stockings (GCS).

On admission, a letter from the vice president of medical affairs is inserted into the medical record requesting that the attending physician address VTE prophylaxis. The hospital pharmacy runs a daily report of patients, by unit, who are not on VTE prophylaxis. The pharmacist assigned to each unit's interdisciplinary team meeting uses this report and ascertains if the patient has an ICD or GCS device. If so, the pharmacist will enter this as a "dummy" order so it does not have to be addressed again. If the patient is not on VTE prophylaxis, the registered nurse will call the physician to determine if he or she wishes to order VTE prophylaxis. The letter remains in the medical record until VTE prophylaxis is addressed.

OUTCOMES

- In 2006, the use of the DVT order form averaged 56%.
- In 2007, VTE prophylaxis compliance increased from a baseline of 61.8% in February. Improvement was sustained with an overall DVT prophylaxis compliance average increase from 85% in May 2007 to 93.5% in Jan 2008.

LESSONS LEARNED

- Measuring the use of the form did not accurately reflect the rate of VTE prophylaxis use.
- Use of the form was complicated by various process issues: location, format, duplicate areas for orders, and lack of a trigger for nurses to check the order form once it is out of sequence.
- The letter was used to highlight the initiatives beyond the other forms in the chart so it could not be overlooked.
- This metric does not allow patients to be ineligible for VTE prophylaxis. The physician specifically must state the patient is ineligible in the medical record.

PARTNERS

Partners for this initiative were the medical director/vice president of medical affairs, pharmacist, nurse manager, performance improvement manager, and staff physician.

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Pain Response Initiative/Improving Patient Satisfaction Related to Pain Control

The Kingston Hospital

PARTNERS

Partners for this initiative include the original pain committee, comprising staff members from all in-house clinical areas, pharmacy, outpatient pain management staff, complimentary therapies nurse, and surgical services, as well as a staff member from the anesthesia and surgical care areas.

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PROJECT DESCRIPTION

The Kingston Hospital identified a need to improve hospital-wide patient satisfaction scores related to pain control; in particular, for patients who have had rotator cuff repairs. The goals were to improve overall scores, improve documentation deficiencies related to response to pain medication effectiveness, and to establish realistic comfort goals.

To that end, the hospital expanded its pain committee to include surgical service and anesthesia staff; introduced a complimentary therapies concept to the medical staff, surgeons, and floor staff; developed an in-house patient satisfaction questionnaire for each unit; encouraged patients to contact staff with any concerns during their stay; and discussed pain/comfort goals with each new patient. A new, comprehensive pain documentation tool was developed, which included Wong-Baker faces, non-verbal indicators, numeric-rating scale, and daily comfort goals and interventions for unrelieved pain. A new audit tool to track compliance was also created, and patients' response to pain was reviewed during shift-to-shift reports. Staff training on the new initiatives was conducted and a patient-focused pain brochure was developed and is now distributed to and discussed with each patient upon admission.

A robust pain assessment was developed for surgical patients and discussed during their pre-operative visit. During this time, realistic comfort goals are set and pain thresholds are explored. Anesthesia staff review comfort goals and pain expectations while patients are in the holding area. The post-anesthesia care unit now gives the first dose of intravenous pain medication (if ordered) just prior to the patient being transported to the unit, to help with the transition. Pain questions are now part of the vital sign sheets, and all staff ask about patients' pain levels while making rounds.

OUTCOMES

- Pain management satisfaction scores were all in the 75th percentile.
- According to the scores, there was a 17.3% improvement in overall pain control, a 10.5% improvement in whether "staff did everything to control pain," and a 24.1% improvement in "pain was well controlled" during the stay.

LESSONS LEARNED

- Staff need to continue to make pain a focused priority.
- It is important for individual pain levels and successful interventions to be discussed during each shift report.
- Staff are encouraged to become advocates for pain control/complimentary therapy.
- Streamlining and decreasing duplication have increased documentation compliance.
- Surgery took a pre-planning approach.

Improving the Care of Stroke Patients

Lawrence Hospital Center

PARTNERS

Partners for this initiative included the emergency department (ED) nurses, ED physicians, neurologists, radiology department, nursing leadership, quality management nurses, and the physical medicine and laboratory departments.

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PROJECT DESCRIPTION

Lawrence Hospital Center embarked on its mission to improve the quality of stroke care in 2005 by preparing for designation as a New York State Stroke Center. The hospital formed a multidisciplinary committee in collaboration with NewYork-Presbyterian Hospital, which was led by a physician champion, to develop clinical guidelines, protocols, and order sets. Because of these efforts, Lawrence Hospital Center achieved Stroke Designation in 2006 and established a “Code Gray” team to ensure the timely initiation of treatment. Using the American Heart Association’s “Get With the Guidelines” assessment tool, the hospital analyzed its performance in each of the outcome measures.

OUTCOMES

- The number of “Code Grays” increased from 49 in 2006 to 73 in 2007.
- All eligible patients received Tissue Plasminogen Activator (t-PA) with 90% receiving t-PA within 180 minutes of symptom onset.
- Average door-to-needle time improved from 83 minutes in 2006 to 73 minutes in 2007.
- Average door-to-computerized tomography (CT) time improved from 46 minutes in December 2006 to 19 minutes in December 2007.
- Average door-to-CT read time improved from 80 minutes in December 2006 to 45 minutes in December 2007.

LESSONS LEARNED

- A physician champion is key to success.
- A multidisciplinary approach is essential to comprehensive program development.
- Ongoing nursing and physician education is necessary to ensure compliance with the protocols. Create a multidisciplinary team to focus on monitoring the stroke care provided.
- Continue public awareness about stroke prevention to enable people in the community to call 911 and present to the department of emergency medicine as soon as symptoms start.

Our Journey to 90 Minutes in 90 Days

Mercy Hospital of Buffalo

PARTNERS

The partners for this initiative included pre-hospital care providers and senior hospital leadership, ED and cardiac catheterization laboratory staff, the performance improvement team, rapid response team, and department of medicine directors.

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PROJECT DESCRIPTION

Mercy Hospital of Buffalo focused on improving door-to-balloon times as part of its plan to provide excellent cardiac care to the community. Door-to-balloon time refers to the interval between the earliest documented arrival time at the hospital and the opening of a blocked artery by an interventional device. The hospital's goal was to decrease door-to-balloon time to less than 90 minutes in 90 days for 75% of patients.

Guidelines developed by the American College of Cardiology and the American Heart Association recommend that hospitals treating ST segment elevation myocardial infarction (STEMI) patients with percutaneous coronary intervention (PCI) should achieve a door-to-balloon time of 90 minutes or less, 75% of the time. Despite the development and utilization of various worksheets and implementation of new processes, the hospital was unable to meet these goals.

A multidisciplinary taskforce was formed to analyze and focus on door-to-balloon times and processes. This team continues to meet monthly to review data, initiate action plans, and brainstorm new ideas.

Rapid cycle initiatives were developed and implemented to improve the process, such as the establishment of a PCI toolkit for the ED, a primary PCI checklist, and daily synchronization of electrocardiogram (EKG) carts to the hospital server. In addition, cardiac catheterization laboratory staff received special parking authorization near the laboratory and were granted permission to take scrubs home with them when they are assigned to be on call.

Initiatives implemented in the ED include:

- providing alphanumeric pagers to interventional cardiologists linked to one number;
- keeping an empty room available for obtaining EKG results;
- instituting a "Code Heart" page for immediate activation of the EKG technician
- all blood specimens drawn on STEMI patients are labeled "ACS" for Acute Coronary Syndrome and are directly handed off to a lab technician; and
- the rapid response team is paged when a STEMI patient presents in the ED.

OUTCOMES

- Door-to-balloon time decreased by 20 minutes from 2007 to 2008, year to date, and is currently at a mean time of 85 minutes.
- Seventy five percent of patients are treated within 90 minutes in 2008, compared to 34% in 2007, resulting in a 122% improvement.



Our Journey to 90 Minutes in 90 Days

Mercy Hospital of Buffalo (CONTINUED)

LESSONS LEARNED

- Immediate and concurrent review of the data on a case-by-case basis, along with the provision of ongoing feedback to the team, are essential to attain goals and sustain success.
- Involvement of other departments is essential for improving patient care.
- Creating a culture of excellence requires staff awareness and involvement in the process of change.

Bowel Monitoring and Protocol Initiative

Mountainside Residential Care Center

PARTNERS

Collaborating partners included nursing (nurse assistants, floor nurses, and supervisors), nursing administration, quality assurance, dietary, social work, physical and occupational therapy, activities, and medical staff. Every discipline plays a role in helping develop regular bowel habits and preventing fecal impaction for all residents.

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PROJECT DESCRIPTION

In May 2007, Mountainside Residential Care Center began an initiative to clarify and enhance policies and procedures to develop regular bowel habits and prevent fecal impaction for all residents. Baseline data reveal 35% compliance with the current protocol. The following areas for improvement were identified:

- documentation inconsistencies;
- lack of follow-up when bowel protocol medications were given;
- increased use of bowel medications not reported to a nurse or physician;
- dietary staff not referring to the bowel regimen consistently;
- medical staff members were unaware of bowel regimen use if the nurse did not inform them; and
- the counting of days for when to give the bowel protocol medications was inconsistent.

With this information, a bowel team was formed and the facility began by assessing the causative factors for the system failure.

To achieve Mountainside Residential Care Center's goal, a bowel protocol medex was developed. The medex, a documentation system analogous to the medication administration record, eliminates inconsistency in documentation. It includes the protocol, tracking area, medication orders, and examples of when to give medications. All bowel movement-related activities are charted on the medex; if the activity is abnormal, it is reported to the registered nurse and medical staff as necessary and is charted in the progress notes.

OUTCOMES

- The initial baseline audit of 52 residents revealed that the bowel protocol was followed 74 out of 212 times possible (35% compliance).
- Post-initiative, compliance increased to 94%, and consistency was eventually maintained at 100%. The medex was simple, easy to use, and left minimal room for error.

LESSONS LEARNED

- To implement a change that involves multiple individuals, thorough, complete, and ongoing education must be provided.
- Improvement efforts must be interdisciplinary.
- The process must be reviewed consistently to ensure ongoing compliance and reliability.
- New staff must receive detailed orientation by in-service education because education conducted by other staff may not be sufficient to reinforce the importance of the initiative.

Raising the Bar in Critical Care: “T.E.A.C.H.” the Basics

Jacobi Medical Center/North Bronx Health Care Network/
New York City Health and Hospitals Corporation

TOP 10TH PERCENTILE SUBMISSION

PARTNERS

Partners for this initiative included physician and nurse leadership, critical care and emergency department staff, respiratory therapists, care managers, social workers, infection control practitioners, pharmacists, and dietitians.

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PROJECT DESCRIPTION

Jacobi Medical Center recognized that many organizations struggle to achieve and to maintain a zero rate for central line-associated bloodstream (CLAB) infections and ventilator-associated pneumonia (VAP). Organizational transparency and public reporting has highlighted the concerns in critical care settings while simultaneously challenging health care professionals. The Institute for Healthcare Improvement has provided evidence-based practice guidelines or “bundles” to facilitate implementation and to achieve success in these areas. The bundle concept is not new; however, implementation in a clinical setting is unique for every organization.

Through the T.E.A.C.H. method—teamwork, education, awareness, collaboration, and hand hygiene education—a rate of zero is possible for CLAB infection and VAP. The organization’s first rule was: make no assumptions of what clinicians know. Utilizing the T.E.A.C.H. method, numerous processes were implemented and further improved to achieve success.

OUTCOMES

- Interdisciplinary rounds and the daily goal planning process were streamlined and improved.
- The baseline CLAB infection rate was 10.33 cases per 1,000 line days, and the VAP was 6.16 cases per 1,000 ventilator days.
- From September 2007 to February 2008 submissions, both CLAB infection and VAP rates were zero.

LESSONS LEARNED

- Daily interdisciplinary rounds cannot be combined with resident teaching rounds. It must be a unique process focused on setting priorities and re-evaluating the plan of care seven days/week to prevent a new admission from being missed. Rounds serve as a powerful forum for education, collaboration, and to assess compliance/standardization.
- Documentation tools and checklists can be very effective. Narrative writing should be kept to a minimum. Forms were standardized to reflect current policies/practices/guidelines that staff are expected to follow. Requiring dual accountability and signatures helped to ensure and to track compliance. Consistent monitoring of everyday practices, such as elevating the head of the bed and the necessity for a central line contributed to changes in behavior while implementing best practices.

Raising the Bar in Critical Care: “T.E.A.C.H.” the Basics

Jacobi Medical Center/North Bronx Health Care Network/
New York City Health and Hospitals Corporation (CONTINUED)

- Ensuring an adequate supply of products and equipment needed for the central line and VAP bundles enhances practice compliance.
- Strict monitoring and enforcement of hand hygiene is a must. “Ticketing” proved to be effective in this organization.
- Rotation of house staff can be a burden on the nursing staff but also a challenge for the organization. A routine monthly schedule and process for educating rotating physician staff helped to ensure consistency in practice and reduce nurse frustration.
- A monthly “data review breakfast” was an effective way to keep the staff focused on reducing infection rates and bundle compliance.

Creating a New Culture of Patient Safety—Through Early Recognition and Assessment and Eliminating Infections in an ICU Setting

North Central Bronx Hospital/North Bronx Health Care Network/New York City Health and Hospitals Corporation

TOP 10TH PERCENTILE SUBMISSION

PROJECT DESCRIPTION

North Central Bronx Hospital was one of the first hospitals in New York City to effectively implement a set of initiatives that created a unique and effective culture of patient safety and care. Over two years, these initiatives—which included a rapid response team (RRT) and central line and ventilator “bundles”—have contributed to significant gains in patient safety and quality improvement. The hospital’s cultural change has occurred through committed leadership, staff participation, continued education, and positive reinforcement.

The hospital employed a systematic approach to data management to ensure its integrity and reliability. Key data management program components include: meticulous collection and verification of the raw data, review of the data by appropriate professionals, and periodic assessment and application of results to improve early recognition of potential patient health problems as well as the reduction of infections in the intensive care unit (ICU).

In addition to the clinical enhancements, the hospital progress included operational and cost-efficiency strategies, data management approaches, and the advancement of quality management and innovation.

OUTCOMES

Since beginning this initiative, the hospital has experienced:

- a 32% drop in overall mortality;
- a 34% decline in ICU mortality;
- a 23% reduction in the length of stay in the ICU; and
- improvement in compliance with central line and ventilator bundles from less than 50% to 90% in the same two-year period.

LESSONS LEARNED

- A concerted effort is required by senior staff and workers to institute a cultural shift toward the priority of patient care and safety.
- Innovation and commitment to excellence must be the bedrock of any initiative for change.
- RRT policies and procedures can reduce mortality rates.
- Implementing central line and ventilator bundles reduces infections and saves lives.
- Patient safety is affordable and cost-effective through prudent cost management and resource utilization.
- Proper utilization of quantitative tools can enhance quality care.

PARTNERS

This successful partnership included all of the medical and surgical staff, nursing staff, and senior administrators, such as chief medical officer, as well as patients and their families.

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Venous Thromboembolism Prophylaxis for the Inpatient Oncology Population

Roswell Park Cancer Institute

PARTNERS

Partners for this initiative include the hospital's pharmacy and therapeutics committee, RPCI information technology department, nursing educators/staff, the patient education coordinator, medical director and medical and surgical oncology champions, and the department of organizational performance improvement.

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PROJECT DESCRIPTION

Roswell Park Cancer Institute (RPCI) began an aggressive, institute-wide quality improvement initiative in the third quarter of 2006 to improve the compliance rate of pharmacologic venous thromboembolism (VTE) prophylaxis for all adult inpatient admissions. The occurrence of VTE has been reported to increase the likelihood of death for cancer patients up to eight-fold. The National Comprehensive Cancer Network (NCCN) expert panel, which includes Roswell Park physicians, collaborated with physicians from other NCCN affiliates on recommendations. Guided by the leadership of the medical director and medical and surgical oncology champions, and facilitated by the Department of Organizational Performance Improvement, the initiative goals were to promote organizational commitment, increase patient and staff awareness of VTE-related issues, and to standardize preferred practice processes.

Performance is monitored on appropriate VTE prophylaxis compliance rates for adult admissions. The physician champions, who have been instrumental in driving and sustaining continuous improvement, present the findings quarterly to RPCI's quality improvement committee and disseminate information to their medical-surgical staff peers. In addition to the physician champions, other initiative partners have developed and implemented quality improvement and evidence-based practices including pharmacy assessment and order forms; computerized physician order entry; and continued nursing education, promotion, and review.

OUTCOMES

- Compliance with appropriate VTE prophylaxis upon admission consistently improved each quarter, with overall organization-wide compliance increasing from 80% to 96%.
- Medicine services improved from 61% to 96%, and surgical services improved from 86% to 97%.
- VTE event data revealed that the majority of events (about 75%) occur in the medicine/outpatient arenas, and 2007 comparisons show a decrease in Medicine VTE from 118 to 91, and a noted decline in outpatient events, from 104 to 89.
- Overall incidence of confirmed VTE generally fluctuated between 0.26% and 0.39% throughout the past seven quarters; however, the most recent quarter data did show a decline to 0.14%, giving cautious hope that with continued appropriate prophylaxis, a downward trend of overall VTE events will continue.

Venous Thromboembolism Prophylaxis for the Inpatient Oncology Population

Roswell Park Cancer Institute (CONTINUED)

LESSONS LEARNED

- Through this initiative, RPCI learned that, in a cancer care setting, inpatients generally become medical oncology outpatients and this population experiences the majority of venous thromboembolism events.
- Early data show that improving inpatient prophylaxis reduces incidence of VTE in this ambulatory population, but the extent to which that occurs is yet to be determined. Further evaluation and risk stratification will need to be addressed for this high-risk outpatient population, with likely development of further quality improvement initiatives.

Providing Safe and Effective Care of Patients Requiring Intensive Respiratory Care, Weaning, and Ventilation Management While Limiting Critical Care Utilization

South Nassau Communities Hospital

PARTNERS

Partners for this initiative included patients and families, the administrative team, patient care services, management and staff, medical physicians, the division of pulmonary medicine, and respiratory therapy staff.

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PROJECT DESCRIPTION

In this project, South Nassau Communities Hospital targeted quality initiatives in its critical care area. Many patients requiring intensive respiratory care have long lengths of stay in critical care units. These patients generally have multiple issues—evidence shows numerous problems associated with the risks for infection, decline of the psycho-social well-being, and stress placed on the patient and the family. In addition, as the emergency department experiences growing numbers of patients, bed availability and patient flow issues become major safety factors, leading to issues related to assuring the appropriate setting of care for patients.

South Nassau Communities Hospital's administrative team, patient care services department, pulmonary medicine group, and the respiratory therapy team utilized a "Plan-Design-Measure-Assess-Improve" methodology to determine the required process improvement. A dedicated respiratory care unit was established, which included nurses and therapists with specialized skills, certifications, and competencies, to provide safe and effective care for ventilated patients requiring weaning or further interventions, including tracheotomies. The goal was to maximize patient-centered care for these patients in a safe setting, allowing them an easy transition from critical care. In addition to decreasing the time that patients spent in the critical care units, the team believed that it could reduce the time taken to wean patients from ventilators and provide earlier surgical interventions, and tracheotomies, for patients who had previously remained intubated.

OUTCOMES

- The baseline ventilator weaning time from October 2006 to March 2007 was 4.6 days. Weaning time from April 2007 (respiratory care unit opening) to December 2007 was 2.5 days.
- Baseline tracheotomy time from October 2006 to March 2007 was eight days. Tracheotomy time data from April 2007 to December 2007 was two days.
- The average stay in the critical care unit for patients requiring mechanical ventilation in October to March 2007 was 10.2 days. The average stay in the critical care unit for patients requiring mechanical ventilation from April to December 2007 was 6.8 days.

LESSONS LEARNED

- Transferring patients effectively and safely to the respiratory care unit provides a safe outlet that increases critical care bed availability for higher acuity patients.
- Providing the multidisciplinary plan and implementation for staff education is an intensive process.

Providing Safe and Effective Care of Patients Requiring Intensive Respiratory Care, Weaning, and Ventilation Management While Limiting Critical Care Utilization

South Nassau Communities Hospital (CONTINUED)

- Medical-surgical nurses educated and trained for the additional skills and competencies experienced enhanced positive self-image and improved job satisfaction.
- Patients and families demonstrated a greater satisfaction with the area and staff as evidenced by Press Ganey score improvement and other communications (i.e., cards and letters).
- Administrative personnel must be intimately involved to assure appropriate resource utilization.
- Collaboration with pulmonologists must begin early to gain their comfort and trust in assuring that the level of care is equal to the care provided in the critical care units.

Effecting Change at the Unit Level: A Model for Transformation of Care at the Bedside as a Catalyst for Improving Patient Outcomes

South Nassau Communities Hospital

PARTNERS

Partners for this initiative include patient care services (nursing administration and unit based staff including the nurse manager, assistant nurse manager, staff nurses, nursing assistants, unit clerks), social work, dietary, education, and development and research.

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PROJECT DESCRIPTION

South Nassau Communities Hospital's nurse managers and staff have significant experience with responding to quality data, especially when the data show opportunities for improvement. However, today's health care challenges are calling for the team to become more proactive in creating changes to improve care quality. In this initiative, the hospital uses tenets from the Robert Wood Johnson Foundation/ Institute for Healthcare Improvement "Transforming Care at the Bedside" initiatives and the shared governance model for nursing.

The champion nurse manager, utilizing a "Plan-Design-Measure-Assess-Improve" approach, identified opportunities for improving patient care outcomes, including decreasing patient falls, preventing pressure ulcer development, and increasing patient satisfaction scores. She involved all the staff in this performance improvement initiative by identifying informal leaders and the individual skill sets of each employee. The team developed specific goals and objectives for each of the identified areas for improvement, and champions were selected. Brainstorming sessions were held with all staff and improvement activities were selected. Champions motivated staff members, leading to a phenomenal level of engagement.

The facility instituted evidence-based hourly rounding, hourly pain management assessments, positioning (turning and positioning and the use of turning clocks), and placement of all needed items and personal needs (toileting, etc.). Nurses and nurse aides were identified as "liaisons" to provide a "go-to" person for every day and every shift. The results were outstanding.

OUTCOMES

- Post-implementation, the fall rate declined by 78.95% and the acquired pressure ulcer rate declined by 88.24%.
- There were no acquired pressure ulcers for five months after the program was implemented.
- Patient satisfaction scores as reported by Press Ganey increased from a unit overall score of 74 in the third quarter of 2007 (similar to previous scores) to a score of 89.6 in the fourth quarter of 2007. Twenty questions showed statistically significant improvement at the 0.5 level.

LESSONS LEARNED

- This team engagement model is more successful than administrative directives or hospital-wide team recommendations.
- When a team is working well together, it is obvious to both patients and staff.



Effecting Change at the Unit Level: A Model for Transformation of Care at the Bedside as a Catalyst for Improving Patient Outcomes

South Nassau Communities Hospital (CONTINUED)

- The greater staff engagement, the greater patient satisfaction and better patient care outcomes.
- Taking the time to acknowledge individual professional and personal needs and share experiences and advice is paramount to the team's success.

Improving Patient Safety and Quality of Care in the Practice of Bariatric Surgery

South Nassau Communities Hospital

PARTNERS

Partners for this initiative included all hospital departments and the American Society for Bariatric Surgery.

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PROJECT DESCRIPTION

South Nassau Communities Hospital is dedicated to an advanced program for safe bariatric surgery that utilizes a comprehensive approach for the treatment of obesity, including individual nutritional counseling and group education, monthly support group meetings, and ongoing follow-up care. Utilizing a “Plan-Design-Measure-Assess-Improve” methodology, the performance improvement team incorporated multiple safety initiatives to promote optimal outcomes for patients. To date, the program has performed more than 1,500 weight loss surgeries following nationally approved practices for bariatric surgery established by the American Society of Bariatric Surgery and the National Institutes of Health.

A hospital-wide staff training initiative was developed and implemented, with specific training on bariatrics. The patient optimization protocol was expanded to include a requirement that bariatric surgical candidates participate in a preoperative weight loss program, with a goal of achieving 10% weight loss prior to surgery.

The bariatric surgery protocol was revised to require the participation of two anesthesiologists for all Roux-En-Y procedures—one who focuses on intubation, while the second monitors the equipment and patient condition. The protocol also calls for using minimally invasive laparoscopic techniques for all bariatric surgeries and requires the participation of two surgeons. Additional focus was placed on ensuring compliance with guidelines for post-surgical ambulation, as specified in the post-operative protocol. Policies and procedures were developed to require ambulation at two hours post-surgery, and every two hours thereafter around the clock. This has been influential in helping prevent venous thrombosis and pulmonary complications.

Multidisciplinary plans of care designed to support the implementation of clinical guidelines and protocols were developed and clinical pathways were used to reduce cost and improve quality of care for the bariatric patient.

OUTCOMES

- The inpatient complication rate was 2.6%, compared with 10% to 20% reported in the literature.
- The 30-day readmission rate was 8.2%, compared with the 11.3% national standard.
- The 180-day readmission rate was 8.7%, compared with a 17.8% national standard.
- Clinical co-morbidities for patients were improved or resolved; there was improvement in the following areas: asthma (39%), osteoarthritis (27%), hypertension (64%), sleep apnea (42%), and diabetes (71%).

Improving Patient Safety and Quality of Care in the Practice of Bariatric Surgery

South Nassau Communities Hospital (CONTINUED)

- Lap band patients had an excess weight loss of 27% within 12 months, and Roux-En-Y patients experienced excess weight loss of 70% within 12 months.

LESSONS LEARNED

- Multidisciplinary discussions and endorsed protocols for treatment are critical to success.
- It is important to develop and codify policies and procedures that enhance quality of care, ensure patient safety, and improve outcomes for patients having this surgery.
- Special safety measures, designed specifically for the bariatric population, are the most important considerations in preventing adverse outcomes.

Creating a Culture of Patient Safety

St. James Mercy Hospital

PARTNERS

Partners for this initiative include administration, the medical staff, and the nursing, quality management, safety, and risk management departments.

PROJECT DESCRIPTION

St. James Mercy Hospital believes in striving to assure the best possible care for patients. The hospital's journey to a culture of patient safety began approximately three years ago with a review of the environment and the hospital's processes. The hospital used the "Plan-Do-Study-Act" methodology as the foundation of its improvement efforts and identified measures of success. Other fundamental steps in this journey were determining the appropriate data for collection, prioritizing initiatives, implementing strategies, and monitoring results.

A multidisciplinary team of dedicated staff continuously participated in these initiatives, focusing on medication safety, infection control practices, patient safety management, and patient satisfaction. The evidence-based practices were used, including the "bundle" methods. As the process has evolved, the hospital has taken on new challenges and identified other opportunities for improvement that will enhance efforts in strengthening the culture of patient safety.

OUTCOMES

- Medication reconciliation scores started at 85% in the first quarter of 2007, and by the fourth quarter of 2007 were 94%.
- Ventilator-associated pneumonia decreased to 0% for the last three quarters of 2007.
- Patient satisfaction scores for rating the facility were 51% in the first quarter of 2007 and 63% by the fourth quarter of 2007.

LESSONS LEARNED

- Establishing a multidisciplinary, dedicated team is a key to the success of this project.
- Data collection and review is essential to measure progress and success.
- Sustainability is the most significant challenge; this requires the team to communicate, review, revise, monitor, and then communicate again.
- Safe patient care is the most important part of this culture change.

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Improving Patient Outcomes in the Critical Care Unit

St. Joseph Hospital, Cheektowaga

PROJECT DESCRIPTION

St. Joseph Hospital's leadership recognized a need to improve critical care outcomes and coordinate care in the critical care units, which treat the most medically complex patients. To accomplish these goals, it was determined that the model of care would need to be changed.

The first step was the appointment of a medical director of critical care. The goal of this position was to improve patient outcomes by decreasing the rate of ventilator-associated pneumonia, reducing the incidence of central line infections, decreasing critical care mortality rates, and, as a result, decreasing length of stay (LOS). A multidisciplinary team was established and met three times per week to review the clinical status of each patient and to promote continuity of care. Among the key initiatives implemented were a readiness to extubate protocol, preventing central line infections by ensuring that full barrier precautions are utilized for all, and redesigning the nurse workstations to improve the workflow and access to technology.

OUTCOMES

INDICATOR	2005	2006	2007	Notes
Ventilator-associated Pneumonia per 100 vent days	4.3	3.2	0.7	Last VAP occurred April 2007
Average LOS in the Critical Care Office	4.39	3.84	3.31	-
Critical Care Mortality Rate	-	12.63	10.10	The non-critical mortality rate has not increased

LESSONS LEARNED

- Encouraging each member of the care team to discuss the care of the patient in a controlled environment prompts this discussion in actual care situations.
- Physician leadership and support in any initiative is crucial to its success.
- Executive leadership commitment to improving outcomes was evident through the support of the new medical director position and the renovation of the unit workspace.
- Evaluating each change in a timely fashion allows for minor changes to be made quickly, and an intensive evaluation of the data assists in developing long-term policy and process change plans.
- Staff adapt to change differently. Just because an initiative does not "catch on" when it is first introduced, does not mean that it is a failure—the process and the education needs should be re-evaluated.

PARTNERS

Partners for this initiative included the chief executive officer; vice president of patient care services; vice president of medical affairs; performance improvement manager; medical director of critical care; chief of medicine; director of respiratory care and respiratory care staff; and staff from the pharmacy, dietary, spiritual care, nursing, and care management departments.

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Achieving Increased Survival

Stony Brook University Medical Center

PARTNERS

Partners for this initiative included the associate director of quality management, chief quality officer, data manager, director of cardiology outcomes research, assistant director of continuous quality improvement, rapid response team director, data analyst, director of pediatric intensive care, associate director of patient safety and regulatory affairs, and the vice chair of emergency medicine.

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PROJECT DESCRIPTION

In its quest to reduce mortality and enhance safety, Stony Brook University Medical Center prioritized performance improvement efforts, with a particular emphasis on implementing all six initiatives associated with the Institute for Healthcare Improvement's 100,000 Lives Campaign. Specifically, inpatient raw mortality rates in 2002 revealed an observed-to-expected ratio of 1.75, with a raw mortality rate of 2.13. The goal was to shift the observed-to-expected rate to less than 1.0 and continually decrease the raw mortality rate by implementing best practices and innovatively creating new processes.

Subsequently, performance improvement teams were formed for each component of the IHI Campaign. The organization adopted "Five Simple Rules":

- patients first;
- use world-class processes;
- teamwork;
- growth; and
- use resources wisely.

The performance improvement initiatives all focused on ensuring that the Five Simple Rules were applied when successfully implementing the bundle components of the six IHI Campaign quality improvement initiatives.

OUTCOMES

The hospital experienced a dramatic decrease in its inpatient raw mortality rate, from 2.13 (observed-to-expected ratio: 1.75) in 2002, consistently dropping to 1.64 (observed-to-expected ratio: 0.77). This is a 23% improvement in raw mortality rate from 2002 to 2007 as compared to a 13% improvement rate for the University Healthcare Consortium median and 14% for the top tenth percentile.

LESSONS LEARNED

- Communicate key priorities through senior leadership to demonstrate commitment.
- Collaborate with interdisciplinary teams to achieve improved outcomes.
- Focus on obtaining input from those closest to the processes under review and improvement to solicit buy-in.
- Use small tests of change and pilot new ideas before implementing initiatives on a broader level.
- Provide regularly generated data to demonstrate progress made and share this information in several forums, including leadership, team, and staff meetings.

CLINICAL CARE: CMS MEASURES

Quality is at the Core

Champlain Valley Physicians Hospital Medical Center

TOP 10TH PERCENTILE SUBMISSION

PROJECT DESCRIPTION

Champlain Valley Physicians Hospital Medical Center's strategic plan, developed in 2006, included quality as one of the pillars of patient-centered care. The goals of this project were to improve patient outcomes as measured by the core measure quality indicators, adapt a new format for providing clear communication and feedback to all stakeholders, improve physician and staff engagement, and sustain high levels of commitment.

Despite the best intentions, the early data on core measures showed that the hospital, its employees, and physicians were falling short of its goals. A change in leadership brought fresh eyes and a willingness to explore new options. The first phase involved the quality division examining the core measures process within the context of the Lean Six Sigma methodology to evaluate each step of the process and identify any waste. Immediately, opportunities for improvement were identified. As a second step, the responsibility and accountability for meeting goals was placed with the respective departments that provided the care, and weekly departmental, color-coded core measure dashboards were developed. An agile approach to quality was becoming part of the culture as these dashboards became a regular part of organizational meetings at all levels of the organization, from the quality committee of the medical staff to quality notes ("Q-tips") on patient charts, to weekly nursing huddles.

OUTCOMES

- Significant improvement occurred in all four (i.e., acute myocardial infarction, heart failure, pneumonia, and surgical care) core measure indicators.
- Front-line physicians and staff were empowered to manage the core measures with "real-time" documentation. In turn, this work reduced the number of iterations in the process, reduced abstraction work hours, and reduced errors.
- The facility hard-wired a more agile quality management system, with lean methods, rapid "Plan-Do-Study-Act" cycles, weekly huddles, and Q-tips.
- Clinically, the facility also identified a decrease in readmission and preventable complications.
- The facility realized a decrease in overall length of stay for medical-surgical units in 2007, with an estimated savings of \$375,000 annually.

LESSONS LEARNED

- Leadership is key—implementing this rapid cycle approach across the organization took commitment. Leaders are taking pride in improving scores and show a level of excitement that affects front-line staff.

PARTNERS

The team that guided this initiative included quality leadership and staff, nursing leadership, medical staff chiefs, and the directors for each ancillary department, such as laboratory and pharmacy.

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Quality is at the Core

Champlain Valley Physicians Hospital Medical Center (CONTINUED)

- Data must be meaningful and germane, rather than abstract and global, to initiate performance improvement in the front lines where care is provided. Keeping the departmental-specific data in front of people drives changes in practice.
- Providing department-specific reports encourages accountability and friendly competition. Encouraging diverse membership to be on the improvement team improves the likelihood of success. Immediate, focused feedback was a key to physician satisfaction, helping to engage physicians to drive results.
- Sustainability will be maintained by the systems that assure ongoing accountability and continued reporting. This work is now embedded in the organization as a way of doing business, with weekly reports and dashboards now expected and anticipated.

Care Transition Intervention for Congestive Heart Failure Patients

Crouse Hospital

PARTNERS

This collaborative approach was led by the director of senior services, hospital leadership, and members of the medical staff. The oversight for improvement was by the quality improvement committee of the board. In addition to the transition coach and cardiac nurses, key members of the team were support staff, pharmacy, care coordination, educational services, quality improvement, and information technology. Community-based partners included Kinney Drug, Patient Portal, Cardiology PC, and Community Health Foundation of Western and Central New York.

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PROJECT DESCRIPTION

The goal of this quality initiative is to enable senior patients to manage their own care after discharge by providing education and tools for organization and self-advocacy. After discharge from the hospital, elderly patients are often expected to manage their own care, sometimes with the assistance of a family member or home health agency. This program was developed to help smooth the transition for elderly patients as they move from the hospital setting to home. The transition coach uses four conceptual domains through interactions prior to discharge, at the patient's home, and via follow-up telephone calls. These include:

- assistance in completing a personal health record;
- assistance in completing a personal medication record;
- education regarding the chronic condition and how to respond if symptoms worsen; and
- instructions for follow up-care.

OUTCOMES

- The baseline score for the Care Transitions Measure-3 (CTM-3) was a mean 65.95%, and a median 66.67%, with current scores (through February 2008) reflecting a mean 82.41%, and median 83.34%.
- The baseline New York Heart Association Classification was 3.30 and the mean post-intervention was 2.10, with a mean improvement of 1.17. An improvement of greater than one is significant in that it demonstrates increased functional ability and, therefore, increased quality of life.
- The readmission rate dropped to 8%, with only two congestive heart patients readmitted within 30 days. Further analysis showed that the organization could care for those two patients more efficiently due to the coaching program.

LESSONS LEARNED

- Transition coaching for elderly congestive heart failure patients improves a number of outcomes, including functionality, and decreases re-hospitalization.
- A multidisciplinary team and input from caregivers at all levels was important.
- Education for all staff about new methodologies was necessary for successful implementation.
- There is an opportunity to adapt the coaching opportunities to additional populations.

Multidisciplinary Approach to Reducing Rates of Venous Thromboembolism in a Total Joint Replacement Program

Glen Cove Hospital

TOP 10TH PERCENTILE SUBMISSION

PROJECT DESCRIPTION

Glen Cove Hospital formed a multidisciplinary orthopedic surgical team that enabled the hospital to achieve success in reducing rates of venous thromboembolism (VTE) in its total joint replacement surgical program. Review of VTE data for 2005 led to the formation of an anticoagulation subcommittee and the creation of a thrombophlebitis prophylaxis risk factor assessment/prescriber order sheet, reflecting American College of Chest Physician guidelines.

Members of the anticoagulation subcommittee educated the orthopedic surgical team on the initiation of the new order sheet, which is intended to standardize thrombophlebitis prophylaxis. Team members meet three times weekly to review all patients post-operatively, and the anticoagulation subcommittee meets quarterly to discuss newly published literature and medical innovations in the area of anticoagulation, revising practice as necessary. The multidisciplinary team has also been successful in improving patient outcomes and reducing hospital costs via standardization of best practices.

OUTCOMES

- Changes in clinical practice led to a 48% reduction in overall VTE, from 4.6% in 2005 to 2.4% in 2006 and 2.6% in 2007.
- Incidence of pulmonary embolism (PE) overall fell from 0.9% in 2005 to 0.4% in 2006, a 57% reduction. In 2007, rate of PE fell to 0.18%, a 55% reduction over 2006.
- Incidence of VTE in warfarin monotherapy fell from 4.3% in 2005 to 1.7% in 2006 and 1.8% in 2007.
- Reduced incidence of VTE led to decreased length of stay and increased patient satisfaction.

LESSONS LEARNED

- A multidisciplinary approach melds the expertise of many different facets of the health care team and is essential to maximize patient outcomes. This includes forging strong relationships among team members.
- Raw data and published literature are essential to set tangible goals and provide best practices.
- An order sheet is an effective, necessary tool to standardize practice.
- Education is by far the most challenging, yet the most effective, tool to successful outcomes.
- Health care is always in flux, and it is imperative to meet as a group and discuss newly published data and medical innovation on a regular basis.

PARTNERS

Partners for this initiative included the director of anesthesiology, chief of general surgery, chief of medicine, department of hematology, orthopedic physician assistant department, nurse manager of the surgical unit, and associate executive directors of the departments of social work and quality management.

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Improve Administration Time of Pre-Operative Prophylactic Antibiotics

Lawrence Hospital Center

PROJECT DESCRIPTION

Lawrence Hospital Center re-designed its process for administration and documentation of antibiotics to comply with current recommendations that prophylactic antibiotics be administered within 60 minutes prior to incision for certain surgeries. Prior to initiation of the improvement process, antibiotics were ordered “on call to the operating room.” Because of the unpredictability of the timeframe between the intake area and the incision time, it was common for antibiotics to be started outside the 60-minute timeframe.

To further shorten the timeframe, the antibiotic was no longer started in the intake areas. Instead, it was sent to the OR holding area with the patient, and started by the OR nurse in the holding area. However, even this shortened timeframe did not eliminate fallouts from the 60-minute window because cases might be delayed or the anesthesiologist might require additional preparation time. Finally, it was determined that the tightest timeframe could be achieved by hanging the antibiotic in the OR holding area, but not starting it until the wheels of the stretcher were in motion on its way to the OR.

Although accurate documentation itself does not improve the process, it does meet the need to report the measures to the Centers for Medicare and Medicaid Services (CMS). Several outliers were found to be related to lack of adequate documentation of the antibiotic start time. To address this deficiency, each anesthesia record is now stamped to provide a place for the anesthesiologist to document the prophylactic antibiotic name, route, and time given.

OUTCOMES

Compliance with the Surgical Care Improvement Project (SCIP) core measure for the first quarter of 2007, prior to initiation of the improvement strategies, was 73.1%. The most recent results, for the fourth quarter of 2007, show a 97.6% compliance rate—a 24% improvement.

LESSONS LEARNED

- Collecting data on a daily basis allows for rapid cycle changes to the process.
- In addition to the core measure data obtained by record abstraction, the clinical service manager of the OR collected data daily for each OR case and provided instant feedback. This daily individual feedback engages staff as they attempt to meet the timeframes and improve their personal rate of compliance.
- Through trial and error, the time sequence has been maximized such that “room time” and “antibiotic time” are now synonymous.

PARTNERS

Partners for this initiative included circulating nurses, anesthesiologists, and the clinical service manager of the OR.

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The Blue Star Program: A Standardized Approach to Improving Heart Attack, Heart Failure, Surgical, and Pneumonia Care

Putnam Hospital Center

PROJECT DESCRIPTION

Putnam Hospital Center developed and implemented the Blue Star program to increase compliance with core measures related to congestive heart failure (CHF), acute myocardial infarction (AMI), pneumonia, and surgical care.

The hospital developed a “Blue Star” for placement on the spine of the medical record and a check-off sticker for the front of the medical record listing the critical components of each core measure. Specific discharge instructions were developed for AMI and CHF, daily open chart tracking measures were developed, the charge nurses were enlisted as “gatekeepers,” and multidisciplinary staff education occurred.

Techniques included standing order sets and patient education materials for each clinical measure group, and smoking cessation materials. The admitting department was enlisted to provide smoking cessation information to all hospital admissions. The hospital analyzed subsequent data reports and communicated the results. Successes are celebrated and the hospital continues to hard-wire results.

OUTCOMES

- Core measure results improved for all measures.
- Surgical care improved the most, with a 21.2% increase in compliance.
- Pneumonia care improved by 19%, and heart attack care by 11.7%.

LESSONS LEARNED

- A nurse-driven vaccine protocol is in place, but there is still a need to work with the physician to document why it was contraindicated or not given.
- Medications on the discharge instruction form need to match the medications on the dictated discharge summary, which may be completed 30 days after discharge.
- Pneumonia may not be diagnosed at time of admission; however, the clock starts at time of admission. A physician must document reasons for delay in diagnosis of pneumonia. Once diagnosis is made, the physician will implement the order set for pneumonia.
- Admission time is delayed for direct admissions who need to register at the registration area in the lobby, delaying the timing of blood culture and antibiotics.

PARTNERS

Partners for this initiative include the medical staff; a physician champion; nursing staff; department heads, particularly respiratory, cardiology, neurology, and social work; and the case management, outcomes management, and admitting staff.

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Improving Self-Management and Reducing Recidivism in Heart Failure Patients

South Nassau Communities Hospital

PARTNERS

Partners for this initiative included the patients, director of nursing, clinical nurse specialists, cardiac care nurses, assistant vice president of quality and resource management, department of medicine performance improvement coordinator, Midas+® database administrator, and the home care performance improvement supervisor.

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PROJECT DESCRIPTION

South Nassau Communities Hospital's heart failure patients account for a vast number of hospital admissions and recidivism, particularly among older adults. The complexity of this disease necessitates an evidence-based, patient-focused, interdisciplinary approach to care. This improvement initiative involved key nursing staff from the progressive cardiac care unit to develop, implement, and evaluate an evidence-based group discharge education program for heart failure patients and their families. Major emphasis throughout the project was placed on promoting patients' self-management of their condition and further integrating evidence-based practice within the organization.

OUTCOMES

- Eighteen percent of the patients in the education group were readmitted for heart failure within 90 days as compared with 32% of their counterparts who did not attend the session.
- A four-item, five-point Likert scale (1=strongly disagree to 5=strongly agree) was constructed to evaluate whether patients felt they had acquired information about heart failure and its management and if they liked learning in a group session. The pilot groups had a mean of 18.26, indicating high scores for these individuals.
- As an unexpected outcome from the group discharge education sessions, the unit's combined Press Ganey patient satisfaction scores increased the following quarter.

LESSONS LEARNED

- Use nursing research and evidence-based practices. The "PICO" format, addressing each of these components: patient population, intervention, comparison, and outcome, ensures a well-developed, focused clinical question that will drive the remaining stages of the evidence-based practice process.
- The complexity of heart failure necessitates a patient-focused, interdisciplinary approach to treatment and care. Ultimately, most care is given in the home by patients and their families or other caregivers; therefore, the working group promoted patient self-care as one of the most important factors in maintaining the health of heart failure patients.

Improving Self-Management and Reducing Recidivism in Heart Failure Patients

South Nassau Communities Hospital (CONTINUED)

- The project emphasized that heart failure patient education should include both knowledge (i.e., disease self-management) and skills (i.e., correctly assessing and tracking symptoms, weight, diet and medications). A primary intent of the proposed group discharge education was to promote patients' self-management of their heart failure in an efficient and cost-effective way.
- Long-term plans include incorporating the assistance of the home care department to track the behavior of patients with heart failure following discharge. This will help mitigate some of the deviation needs associated with heart failure and further develop patients' skills and the motivation for self-care. This can serve as a springboard for further quality outcomes related to this intervention.

Performance Improvement—Pneumonia

St. Charles Hospital

PARTNERS

Internal partners included patients and their families, the chief medical officer, medical staff, nurses, the pharmacy, emergency department, and care management staff.

External partners included Centers for Medicare and Medicaid Services, New York State Department of Health, and The Joint Commission.

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PROJECT DESCRIPTION

St. Charles Hospital's pneumonia core measures performance scores were lower than the hospital desired in 2005. Recognizing that higher scores would support the mission and promise of exceptional care to the community while positioning the hospital for pay-for-performance in the near future, the hospital began an initiative to improve its pneumonia core measures using the "Plan-Do-Study-Act" methodology.

The evaluation determined that the focus needed to be on pneumonia and influenza screening, timing and selection of antibiotics, and blood cultures before initial antibiotic. Core measure data were shared and discussed at the medical staff meetings, board of trustees performance improvement committee, and the medical board, with follow-up including review of accepted antibiotics. One physician recommended core measure quick reference pocket cards for the physician and nursing staff. It was determined that concurrent nursing review might assist the process and improve the overall core measure scores. Therefore, a nurse was hired and given the directive that the hospital needed a 75% or better overall score for 2006.

Other opportunities were addressed, such as using standing order sheets to empower nurses to screen and administer the pneumonia and influenza vaccine without a specific physician order. The current compliance rate is 100%.

OUTCOMES

Improvements in the hospital's pneumonia core measures, from 2005 to 2007, are highlighted below.

	2005	2006	2007
Antibiotic selection	81.4%	84.6%	96.6%
Antibiotic within four hours	67.3%	77.0%	91.1%
Pneumonia vaccine	52.6%	82.1%	100%
Influenza vaccine	57.5%	89.3%	100%
Blood cultures	86.3%	90.2%	97.5%

LESSONS LEARNED

- Partnership with physicians and administration is essential for success.
- Nursing empowerment supports the processes for improvement.
- Success breeds success.

“SCIP to Success”

St. Francis Hospital—The Heart Center

TOP 10TH PERCENTILE SUBMISSION

PARTNERS

Partners for this initiative included physicians, pharmacists, nurses, physician assistants, dieticians, medical records professionals, informational technology staff, data analysts, and the SCIP blog site.

PROJECT DESCRIPTION

St. Francis Hospital in Roslyn, a Magnet-recognized facility, is known for its excellence in patient care, and the hospital’s Surgical Care Improvement Project (SCIP) initiative is an example of how caregivers come together from all specialties to face challenges and achieve success. With increased knowledge of best practices, the caregivers have a mechanism to continuously improve processes toward positive patient outcomes.

The hospital, utilizing an anesthesiology champion, began by collecting baseline core measure data, identifying opportunities for improvement, and using the “Plan-Do-Study-Act” model for improvement. This approach enabled the team to do a very organized evaluation process. Members of the interdisciplinary team analyzed each measure and determined opportunities for improvement at the root cause level. Once those opportunities were identified, the team was empowered to pilot and implement the changes. In fact, the team received a certificate of appreciation from IPRO for its drill-down and improvement of the glycemic control in the cardiac surgery population piece of the process.

OUTCOMES

From the beginning of 2006 through the end of 2007, the data demonstrate that the hospital achieved significant improvement in all measures:

SCIP Indicators (CMS Nomenclature)	First Quarter 2006	Second Quarter 2007
All Measures All-or-none Bundle	29.47%	91.67%
SCIP Inf-1a Antibiotic Prior to Incision	59.34%	96.81%
SCIP Inf-2a Antibiotic Selection	63.44%	100.00%
SCIP Inf-3a Antibiotic D/C Post-op	80.23%	95.60%
SCIP Inf-4 Cardiac Patients Serum Glucose	96.08%	96.43%
SCIP Inf-6 Appropriate Hair Removal	100.00%	100.00%
SCIP Inf-7 Colorectal Normothermia	77.78%	100.00%
SCIP CARD-2 Beta Blocker Peri-op	84.31%	92.96%
SCIP VTE-1 VTE Prophylaxis Ordered	100.00%	96.43%
SCIP VTE-2 VTE Prophylaxis Timing	91.11%	92.86%

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“SCIP to Success”

St. Francis Hospital—The Heart Center (CONTINUED)

LESSONS LEARNED

- Everyone, both direct and non-direct caregivers, must be involved in achieving success.
- Communication and form updates need to be timely and online whenever possible.
- It is important to actively seek available professional resources for information.
- A key to success is being creative and thinking “out of the box” for new ideas.
- Good, better, best—never let it rest until good is better and better is best!

Cardiac Core Measure Improvement Project

St. Peter's Hospital

PARTNERS

The team included staff from emergency medical services, the emergency department, patient safety, quality improvement, and palliative care; physicians; the home care nursing supervisor; staff nurses; clinical nurse specialists; nurse practitioners; nursing directors; medical record coding specialists; a case manager; and clinical documentation specialists.

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PROJECT DESCRIPTION

St. Peter's Hospital's goal for this project was to deliver high-quality, evidence-based care to cardiac patients by improving the hospital's core measure performance in the acute myocardial infarction (AMI) and heart failure (HF) indicators. The team developed a plan that included allocating nursing resources, restructuring quality improvement (QI) teams, educating physicians and nurses, and developing standardized documents and tools such as disease-specific clinical queries. Active surveillance through early and accurate identification of AMI and HF cases with the use of clinical queries enabled the clinical leads to monitor and improve care at the point of service. The success of the program has also led to the effective stewardship of financial resources through the sharing of best practices with other nursing units and core measure teams.

OUTCOMES

- This initiative led to permanent changes including concurrent review/active surveillance, interdisciplinary care improvement teams, QI team restructuring, color-coded chart alerts, monthly outlier reviews, and prompt feedback.
- The fourth quarter 2007 preliminary data show sustained improvement in systems and processes related to care of AMI and HF patients.
- AMI median door-to-vessel open times have been dramatically reduced from 92 minutes in the first quarter of 2006 to 58.5 minutes in the fourth quarter of 2007.
- The HF "appropriate care measure" has steadily improved from 77.5% at the end of 2006 to 88.3% at the end of 2007.
- There has been significant improvement with HF discharge instructions, increasing from 78.4% at the end of 2006 to 91.8% at the end of 2007.

LESSONS LEARNED

- Do not assume the physician and staff know the core measure indicators.
- To be successful, an initiative needs administrative support at the executive level.
- Staff input will yield staff buy-in.
- There must be constant vigilance to keep the initiative on the radar.
- Tap all resources.
- Communication is key.
- Do not assume everyone thinks as you think.

CLINICAL CARE: RAPID RESPONSE PROCESS

Improving Patient Safety Through Rapid Response Teams

Aurelia Osborn Fox Memorial Hospital

PARTNERS

External partners include the IHI 100,000 Lives Campaign. Internal partners include the quality management, nursing, pulmonary services, and patient safety departments, medical staff, and administration.

PROJECT DESCRIPTION

After attending an Institute for Healthcare Improvement conference that introduced the use of rapid response teams as one of the 100,000 Lives Campaign initiatives, Aurelia Osborn Fox Memorial Hospital's vice president for nursing determined that implementation of RRTs could benefit patient care and safety at the facility. A team was formed to plan and implement the initiative. The team was led by the nursing department and included physicians, nurses, patient safety personnel, nurse educators, respiratory therapists, and others.

The goals for the RRT were to reduce the number of respiratory and cardiac arrests (code blues) that occurred outside the intensive care unit and to streamline the communication process utilizing the SBAR (Situation-Background-Assessment-Recommendation) tool. The RRT consists of the primary nurse, charge nurse, nursing supervisor, an ICU nurse, and respiratory therapist. The nursing supervisor assigns the RRT at the beginning of each shift. Throughout the last year, RRT calls have been celebrated and encouraged. The number of calls has increased dramatically as the number of code blue (cardiac or respiratory arrest) situations outside of the ICU have decreased. Sharing enthusiasm, increasing awareness of options, and promoting a teamwork approach have been instrumental to facilitating this change.

OUTCOMES

- The hospital mortality rate decreased from 3.43% to 1.23% from January to December 2007.
- In 2006, 67% of code blue calls were from outside the ICU; in 2007, 42% of code blue calls were from outside the ICU.
- RRT response time decreased from five minutes to a mean response time of 1.5 minutes from January to December 2007.

LESSONS LEARNED

- Nurses are comfortable summoning the RRT if they know that they will be supported and validated in their decision.
- When qualified, competent RRT members respond to the patient and take an orderly approach to manage the patient's immediate needs, everyone benefits, especially the patient.
- Educating ICU nurses for RRT assignment should come early in the process. This will help to avoid some of the uncertainty and empower the nurses to be part of the team process.
- Nurse-driven RRTs work well in a community-based hospital.
- It is important to celebrate the stories of lives saved using the RRT and to share the numbers with staff. As momentum builds, so do RRT calls.

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Responding to Clinical Deterioration with Speed and Expertise

New York University Langone Medical Center

TOP 10TH PERCENTILE SUBMISSION

PARTNERS

Partners for this initiative included the patient safety director; intensivists and intensive care nursing staff; respiratory therapy and staff education departments; hospital telephone operators; and departments with special expertise such as neurology, interventional cardiology, cardiac surgery, interventional radiology, obstetrics, otolaryngology, plastic surgery, and general surgery.

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PROJECT DESCRIPTION

New York University Medical Center developed a medical response team (MRT) in late 2005 to provide rapid assessment and treatment for patients whose clinical status deteriorates while in the hospital. To realize the full impact of this initiative, three additional improvements were adopted during 2006 and 2007:

- Robust and recurrent staff education was developed to assure that all physicians and nurses understand how the MRT works and when to call it. This also fostered the understanding that the MRT is a valuable resource for all clinicians and patients as well as a teaching resource for trainees.
- A single call number for all emergencies, including codes, fires, etc., was implemented. The telephone operators accepted the responsibility to triage the calls to the correct teams.
- Specialized multidisciplinary teams developed procedures for specific unusual clinical circumstances including acute stroke, acute myocardial infarction, acute hemodynamically-significant pulmonary embolus, obstetrical hemorrhage, herapeutic hypothermia, and surgical airway procedures.

OUTCOMES

- Codes outside of the intensive care unit fell from ten per 1,000 patient days to 3.3 per 1,000 patient days.
- The hospital observed-to-expected mortality ratio fell from 1.2 to 0.93.
- A review of all specialized team deployments confirmed smooth function and optimal outcomes.

LESSONS LEARNED

- New organization-wide initiatives require robust and frequent communication to assure buy-in from all staff.
- Simplifying the emergency call process to require clinicians to call only one number for any emergency helped enable success.
- Preparing for emergencies before the fact by proactively choreographing the response of specialized multidisciplinary teams ensures optimal care for acutely deteriorating patients.

Activating Rapid Response Teams Across a Multi-Hospital Health Care System

North Shore-Long Island Jewish Health System

PARTNERS

All the system hospitals work with partners from the Institute for Healthcare Improvement, Greater New York Hospital Association, IPRO, North Shore-Long Island Jewish Patient Safety Institute, and Krasnoff Quality Management Institute.

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PROJECT DESCRIPTION

In 2006, with commitment from senior medical and administrative leadership, North Shore-Long Island Jewish Health System (NS-LIJ) made implementing rapid response teams a priority. Through the creation of a Rapid Response Task Force, with participation from all system hospitals, consensus was achieved and methodology, data, and best practices were shared. The development of a site-specific, Web-based database enabled data to be centrally aggregated and assured standardized data definitions and analysis. Greater New York Hospital Association recognized the value of this tool and adopted it for its RRT Collaborative. Using only existing personnel and no additional cost, NS-LIJ was able to achieve full implementation of RRTs, develop and implement a Web-based database to assess RRT effectiveness, and improve staff satisfaction through staff empowerment and immediate access to support from an experienced team.

OUTCOMES

- RRT activations per 1,000 discharges increased 47% from baseline to fourth quarter 2007.
- Cardiac arrest codes appear to have decreased from baseline to fourth quarter 2007. However, the system believes the data were under-reported during baseline, and is not comfortable with the inconsistent data definitions and inclusion/exclusion criteria used.
- A positive mentoring experience has been created.
- Staff members are empowered to trust their instincts and assessments.

LESSONS LEARNED

- There is no single best approach for RRT implementation.
- Hospitals must analyze their existing resources and data to decide the appropriate team composition.
- Time is well spent in terms of monitoring new or inexperienced staff.
- RRTs empower nurses at the bedside and increase their job satisfaction.
- Residents likewise approve of the benefit and experience in activating the process.
- Data definitions and exclusion criteria must be carefully defined before data collection.

From Best Practice to Common Practice: Family-Initiated Rapid Response Team

Nyack Hospital

PARTNERS

Partners for this initiative, which was championed by the chief nursing officer, included the nursing, medicine, respiratory, pharmacy, and facilities staff. External partners included the Institute for Healthcare Improvement, Voluntary Hospital Association, and NewYork-Presbyterian Healthcare System, in memory of Josie King.

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PROJECT DESCRIPTION

Nyack Hospital established a partnership with patients and families to take the rapid response team, a proven evidence-based practice, to the next level. While many hospitals across the nation have put RRTs in place, few have allowed families/patients to participate. Families know their loved ones better than any health care provider and are able to notice subtle changes in their conditions that may warrant further attention.

The initiative focused on quality improvement approaches and new processes to create positive outcomes and patient/family satisfaction. A designated telephone number for the patients/families was created so they can access a team (Code “H”) when needed. The “H” stands for “help.” Upon admission, patients/families are educated on how to activate the line to summon additional help. It has proven to be very effective in enhancing patient satisfaction and outcomes. The four key reasons for the calls thus far have been for:

- medical management—33%
- pain management—9%
- delay in care—14%
- communication breakdown—23%

OUTCOMES

- Patient satisfaction on related Press Ganey questions has increased.
- Potential medical errors have been avoided.
- Families feel they are a part of a process of enhancing care quality.
- This initiative has contributed to a decreased length of stay.

LESSONS LEARNED

- Patients/families are concerned about quality and patient safety.
- The RRT offers patients and families the feeling that they have some control in the health care experience.
- Listening skills are critical for all health care providers.
- Involving patients/families allows for opportunities for improvement.
- A team approach involving patients/families can affect positive outcomes.

Rapid Response: A Program to Intervene and Stabilize Deteriorating Patients Outside the Critical Care Setting

Putnam Hospital Center

PARTNERS

Partners for this initiative include the medical, respiratory therapy, and nursing staff.

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PROJECT DESCRIPTION

A current challenge facing Putnam Hospital Center administrators is managing health care workers and available resources to achieve the best possible patient care and outcomes. Increasing acuity levels of patients, rapid admission and discharge cycles, and the national shortage of nurses make it difficult to provide high-quality care at the bedside. The hospital initiated Rapid Response Teams because early warning sign recognition for clinical deterioration and subsequent RRT interventions may provide better outcomes for general medical-surgical patients.

Based on the guidelines of the Institute for Healthcare Improvement 5 Million Lives Campaign, a comprehensive policy and an evaluation tool were implemented. The policy outlined the members of the team and the criteria and procedure for calling a rapid response. The RRT, which includes critical care nurses, respiratory therapists, and hospitalists, provides the framework for the clinical care delivery system. All of the RRT nurses are required to have significant critical care experience and training. The results translate to critical care for all patients in need, despite their location and mentoring of nurses who work outside the critical care units.

The documentation for each rapid response and code review forms are returned to the clinical nurse specialist of critical care for analysis. A crosswalk is done monthly to review all code events outside of critical care and the rapid response events to determine if there have been potential missed opportunities. This analysis is presented to the quality improvement and special care committees for review and discussion.

OUTCOMES

- Since the program began in November 2005, 56 RRT calls were documented.
- 40.1% of the RRT patients were stabilized and not transferred to a higher level of care.
- 58.9% of RRT patients were transferred to a higher level of care.
- 21.4% of the codes were located out of the critical care setting in 2007, compared to 60.3% in 2005.
- There has been a 38.9% reduction of codes outside of critical care since the RRT was initiated.

LESSONS LEARNED

- The prompt intervention of an experienced multidisciplinary team is an effective means to stabilize deteriorating patients.
- The data collection strategy provided by IHI is an efficient way to measure success.

Rapid Response: A Program to Intervene and Stabilize Deteriorating Patients Outside the Critical Care Setting

Putnam Hospital Center (CONTINUED)

- Developing a structured RRT for patient safety empowers all staff to operate at a higher competence level.
- The hospital-wide operational and financial benefits of implementation of an RRT greatly outweigh the challenges of starting up an RRT. Benefits include:
 - fewer code events;
 - fewer transfers to the intensive care unit;
 - increased awareness and identification by nurses of signs and symptoms leading to deterioration in a patient's condition;
 - decreased mortality and morbidity;
 - increased physician, nurse, and patient satisfaction; and
 - codes on medical-surgical units can be reduced through early recognition of deteriorating patient condition.

Establish a Rapid Response Team

Sisters of Charity Hospital

PARTNERS

Partners for this initiative included the senior leadership, registered nurses and nurse practitioners with patient care contact, respiratory therapists, performance improvement professionals, staff development, and medical staff.

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PROJECT DESCRIPTION

In collaboration with the Institute for Healthcare Improvement 100,000 Lives Campaign, Sisters of Charity Hospital developed a hospital-wide rapid response team. The RRT's goal is to deliver critical care expertise to the patient's bedside when the patient is exhibiting a change in clinical status. The overall goal of the initiative is to provide rapid patient assessment and stabilization to "at risk" patients, decrease the number of cardiac and/or respiratory arrests on the medical-surgical units, and decrease inpatient mortality. Using the "Plan-Do-Study-Act" methodology enabled the team to map out goals, tasks, innovative ideas, and measures needed for improvement.

OUTCOMES

- The number of RRT activations increased from the baseline period of April-December 2006 from 223 to 461 in 2007, a 52% increase.
- The average response time decreased from 2.68 minutes to 2.28 minutes.
- The percent of patients transferred to the intensive care unit decreased from 3% to 28%, a 16% reduction.
- The percent of patients who stayed in their original location increased from 54% to 61%, a 12% improvement.
- The number of medical-surgical codes per 1,000 discharges decreased by 11%.
- The hospital saw a 16% reduction in inpatient mortality.

LESSONS LEARNED

- The RRT requires that supplies necessary for intervention be available at the bedside.
- Written tools for documentation are important to track outcomes and identify opportunities for improvement.
- Communicating what works and what does not is critical for all key stakeholders.
- Early intervention decreases negative outcomes due to failure to rescue.
- Early intervention assures the patient is in the "right" bed and decreases unnecessary transfers.
- The benefit for staff includes critical care expertise at the bedside, improved working conditions, and enhanced mentoring relationships.

Rapid Response System Team

St. Luke's Cornwall Hospital

PARTNERS

Partners for this initiative included Greater New York Hospital Association, United Hospital Fund, the hospital's board of trustees, the medical staff, nursing team, respiratory team, all managers and staff at the hospital, and patients and families.

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PROJECT DESCRIPTION

St. Luke's Cornwall Hospital administrators, educators, and managers analyzed the Institute for Healthcare Improvement 100,000 Lives Campaign for its potential positive impact on care at the facility and decided to establish a rapid response team as part of the Campaign. The hospital developed a policy and associated paperwork for this evidence-based practice. The hospital's RRT consists of a critical care nurse and a respiratory therapist. The team helps the hospital staff identify and assess patients in distress and ultimately prevent a respiratory or cardiac arrest.

The hospital began a pilot program in December 2006 on three very busy medical-surgical units at the St. Luke's campus. The RRT was so well received that the process was quickly expanded to include the entire hospital. Anyone who is an employee can activate the team. RRS was then expanded to the hospital's Cornwall campus, where it was also well received. The process now includes patient and family activation of the RRS if they feel there is a need; a brochure is included in each patient admission packet. The positive effect of the RRT at St. Luke's Cornwall Hospital is exhibited by the decrease in codes in the medical-surgical areas.

OUTCOMES

- Calls to the RRT have resulted in fewer codes in the medical-surgical areas.
- Nurses feel supported because they can call the RRT.
- In the first year, there were 64 calls to the RRT; 50% on days and 25% each on the evening and night shift.
- The average RRT response time was two minutes and the average RRT encounter lasted 23 minutes.
- RRT outcomes included 44 transfers to the intensive care unit/telemetry and eight assessments with no new orders; in ten instances, the RRT initiated palliative/end-of-life care treatment decisions; and in 23 instances additional orders were received and the patient was treated and stabilized.

LESSONS LEARNED

- Overhead paging is more effective than using beepers because there are "dead" zones for beepers in the organization.
- Case review results in more calls being made to the team.

Rapid Response Team for Adult and Pediatric Inpatients

SUNY Upstate Medical University

PARTNERS

Partners for this initiative included an internal multidisciplinary team and partnership with the Institute for Healthcare Improvement 100,000 Lives Campaign, Missouri Baptist Medical Center, and UBA Health Institute.

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PROJECT DESCRIPTION

SUNY Upstate Medical University's rapid response team pilot was initiated in November 2005 to provide, within minutes, a multidisciplinary medical team to assess and treat patients identified as acutely deteriorating. The goal of the RRT is to rescue patients during an acute episode by providing early and rapid intervention and to stabilize and promote positive patient outcomes. Guidelines were devised containing specific clinical criteria for assessment of the patient to determine qualification for activating the RRT. Data on codes and RRT activity were collected, along with specific criteria observed to determine the primary reason for the call, the intervention provided, and the outcome. All of the RRT calls and patient data were reviewed for appropriateness of the call and to determine areas for process improvement. Issues identified were sent to the appropriate group for process improvement.

In April 2006, house-wide implementation for all adult inpatient units was complete. The pediatrics department implemented an inpatient pediatric RRT in April 2007. The RRT collaborated in July 2007 with the stroke program to streamline processes.

OUTCOMES

- A committee audited and reviewed all RRTs with specified data criteria and process improvement follow-up.
- There is a correlation between the RRT calls and a decrease in cardiac arrest codes—dramatically in pediatrics.
- There is a noted decrease trend of codes with the consistent use of the RRT and less than 1% of all RRTs were noted to be inappropriately called.
- There is a noted decrease in patient admissions to the intensive care unit.
- The majority of RRT calls are noted to be respiratory-related.
- The overall program has been successful in decreasing negative patient outcomes; minimizing inappropriate ICU admissions; and improving the critical assessment skills of nurses, residents, and interns at the bedside. The RRT also provides cost savings through early intervention of patients with an acute deteriorating condition.

LESSONS LEARNED

- Continued revisions and monitoring of processes, and training and education of all team members and levels of the multidisciplinary team are needed.
- Gaining “buy-in” by the physician group and nurses is imperative to the success of implementation of an RRT. This is especially evident with the physician group, residents, and interns who must see this as a positive for their patients. The physician group needed to trust that the RRT is there to provide support to their practice and is not punitive or questioning the ability of the practitioner to care for patients.



Rapid Response Team for Adult and Pediatric Inpatients

SUNY Upstate Medical University (CONTINUED)

- It was important for nurses to learn how to differentiate between an acute code situation and the need for an urgent or RRT activation.
- Staff need education to improve their early recognition for signs of patient deterioration and initiating the call for additional medical assessment.
- The hospital needs to discourage inappropriate use of the RRT by the physician team as a way to get a “quick ICU consult” or to delay their response to urgent patient needs.
- Early intervention decreases the number of codes and ICU admissions from the floors.

Rapid Response Team Development, Implementation, and Integration into Daily Operations

United Health Services Hospitals

PARTNERS

Partners for this initiative include the care team (physicians, nurses, residents, respiratory therapists, patients, and families), senior leadership, physician and nursing champions, the community relations department, and hospital operators. External partners include Institute for Healthcare Improvement, Voluntary Hospital Association, and University of Pittsburgh Medical Center.

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PROJECT DESCRIPTION

In response to the Institute for Healthcare Improvement 100,000 Lives Campaign, United Health Services Hospitals developed and implemented rapid response teams to respond to changes in patient conditions and to improve patient outcomes. It was clear from the literature that it is important to respond in a timely manner to significant changes in a patient's condition. A hospital steering committee felt strongly that the organization needed to jump-start the initiative and take immediate action to improve patient outcomes.

With senior leadership support, this initiative was up and running within weeks. An initial pilot program was conducted in which critical care nurses offered clinical assessment and support to nursing colleagues on medical-surgical units. Within months, this effort further developed and included designated RRTs at two acute care hospitals, education, policy development, defined criteria, and feedback mechanisms.

OUTCOMES

- RRTs were used 346 times in 2006, 511 times in 2007, and 123 times, year to date in 2008.
- Outside of critical care, cardiopulmonary resuscitation codes per 1,000 discharges were 4.31 in 2006, 3.65 in 2007, and 2.4 year to date in 2007.

LESSONS LEARNED

- Senior leadership support is essential for rapid implementation.
- Strong nursing and medical staff champions are necessary to drive the process.
- It is important to have a structured documentation tool to capture and organize data.
- Conducting an interdisciplinary review of data each month helps to identify opportunities for improvement.
- Debriefing continues to improve the process.
- Feedback at the unit level is critical, as is celebrating "great saves."
- It is important to recognize RRT members.

OPERATIONS: GENERAL

Smart Pump Implementation

Arnot Ogden Medical Center

PARTNERS

An interdisciplinary team, which included the intravenous nurse coordinator, the executive director of product line services, senior director of nursing services, purchasing director, director of clinical engineering, pharmacist, controller, chief information officer, and nursing information services coordinator planned and implemented this initiative.

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PROJECT DESCRIPTION

Arnot Ogden Medical Center's team planned and implemented the installation of smart intravenous (IV) pump technology to provide safe and effective intravenous medications. A Failure Mode and Effects Analysis (FMEA) was used to evaluate a smart IV pump as it was implemented into a redesigned medication use process.

During the earliest phases of the process, six smart IV pumps were evaluated using predetermined criteria and a decision-making matrix. After one round of evaluation, the field of six pumps was narrowed to three. The team then re-evaluated each pump and witnessed a hands-on demonstration. At the end of the second round of evaluation, one pump was chosen as the clear winner.

The team, led by the intravenous nurse coordinator, worked with the vendor, Sigma, to train all users and managers throughout the medical center. Approximately 20 of all users were trained as "super-users," which means that they will be able to assist other users who need remedial help. In addition, Sigma worked closely with pharmacy to create a drug library.

The process of exchanging the old pumps for the new pumps took one full day. Clinical engineering and IV therapy staff, along with Sigma representatives, worked together to systematically move from floor to floor, exchanging pumps. Any running IV pumps were exchanged with the patient's primary nurse present to lessen the chance of errors.

OUTCOMES

- After six months of implementation, the Medical Center had no medical errors involving intravenous pumps.

LESSONS LEARNED

- It is imperative that a representative from each critical department be present for the evaluation phase.
- Each department, including end users, should review the drug library before it is loaded.
- FMEA was useful in identifying potential problems in the medication use process with the selection of new smart IV pumps. Monitoring for system failures and errors will continue.

A State-of-the-Art Stroke Center in a Community Hospital Setting

Brookhaven Memorial Hospital Medical Center

PARTNERS

External partners include the medical stroke director, local neurologists, emergency medical services, and the American Stroke Association. Internal partners are the clinical stroke coordinator; administration; and nursing staff including emergency department, intensive care, radiology, laboratory, and the cardiology laboratory.

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PROJECT DESCRIPTION

In 2005, Brookhaven Memorial Hospital Medical Center made a commitment to become a dedicated stroke center. A community hospital setting presents a unique set of challenges without the benefit of a university hospital's "24/7" staff. Questions like, "Who would become the medical director?" or "Who would drive the process daily and collect the data to maintain certification?" became fundamental. As there are no specialists or primary care providers employed by the hospital, a dedicated neurologist from the area agreed to become the stroke medical director. The hospital hired a nurse practitioner to collect the data and oversee the program. The rest of the team was assembled from within the infrastructure of the hospital. Collegial agreement was obtained from the other neurologists and neurosurgeons with privileges at the hospital. Education was provided to the emergency medical system (EMS) volunteer organizations in the area.

The stroke performance improvement (PI) committee was formed including department heads from laboratory, radiology, quality, nursing, administration, and physician volunteers. *Get With The Guidelines* protocols, as defined by the American Stroke Association and the Brain Attack Coalition, were implemented and measured. Using a "DEAR" (Data acquisition, Evaluation, Action, and Re-evaluation) methodology, the stroke PI committee, implemented real-time changes. Stroke care at the hospital has improved, and the change has been sustained.

OUTCOMES

- In fourth quarter 2006, time from emergency department admission to the time that the doctor assessed the code gray patient was a mean time of 12 minutes with a median time of nine minutes. In the fourth quarter 2007, the time from the door to ED physician assessment was a mean of eight minutes with a median time of 2.5 minutes.
- Since the program started, not one tissue plasminogen activator (tPA)-eligible patient became a non-candidate because of time used up in diagnostics or medical assessment.
- Deep vein thrombosis prophylaxis, use of statins to control dyslipidemia, and risk management are consistently above the national goal of 85%.

LESSONS LEARNED

- A community hospital can develop a state-of-the-art stroke center.
- Stroke team members do not all have to be hospital employees. Dedication and care drive all members whether they are employed by the hospital or not.
- Because EMS personnel play an integral role in the stroke tPA candidate's success, they must be included in the process.
- Computer learning is an essential tool in continuing education.

Ferrari Safe Patient Handoff

Columbia Memorial Hospital

PARTNERS

The team included representatives from pre-admission testing, the post-anesthesia care unit, ambulatory surgical unit, central supply, operating room, and anesthesia surgeons.

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PROJECT DESCRIPTION

The surgical services staff at Columbia Memorial Hospital developed an initiative to ensure safe patient hand-offs throughout the perioperative experience and to improve efficiency in surgical services. A safe patient hand-off includes efficiently transferring patient records, laboratory values, and orders when patients are transferred from one provider or one location to another.

The surgical team had seen an article about a surgeon who, after a difficult day, was watching a Grand Prix race. As he watched the Ferrari pit team, he saw similarities between the safe, efficient hand-offs that occurred in the seven seconds when the car was in the pit stop and the hand-offs in the surgical arena. This story sparked the surgical staff to action. The team adopted the innovative initiative of using the pit stop focus to improve safety and efficiency. It has been said, “We can create something new and better through an unexpected juxtaposition of seemingly unrelated ideas.” Using the “Plan-Do-Study-Act” methodology, the team identified what was currently working and the areas that needed to be improved during hand-offs.

The team’s initial focus was a review of patient information and the manner in which it is transferred from the physician’s office to the operating room, ending with the patient’s discharge. The team found that there were nine major hand-offs and several other smaller hand-offs within the processes—understanding this, the team is implementing changes to address the inefficiencies found within these processes.

OUTCOMES

- Appropriate information on patient forms increased to 91% from 79%.
- Scripted pre-operative patient calls, including frequently asked questions and answers, improved patient education.
- Combining the pre-operative checklist and Situation-Background-Assessment-Recommendation report into one form reduced redundancy and improved communication.
- Medication reconciliation ensured that the physician has knowledge of all pre-operative medications to prevent interactions and to determine if any changes are required before a patient returns home.
- The long setup for big orthopedic cases delayed the start of the day. Staff agreed to come in to set up to ensure that surgeries were completed on time.
- Additional orthopedic instruments were purchased to reduce time to re-sterilize instruments, resulting in a 40% reduction in turnover.
- Because orthopedics is requesting a longer day, the hospital is piloting reassignment of staff to provide ten-hour days.

Ferrari Safe Patient Handoff

Columbia Memorial Hospital (CONTINUED)

- A patient brochure developed improved patient education and led to better pre-operative satisfaction.
- Patients and families come with fewer questions and have a better understanding of what to expect.

LESSONS LEARNED

- Instrumentation hand-off from central supply can create delays. Education and reinforcement reduced the need for re-sterilization, and errors were decreased when new staff became better trained.
- It is understood that some gains may vary in performance, but the team is committed to work together to maintain and continue to improve through the next year.

Implementing a Hospitalist Program to Improve Safety, Efficacy, and Efficiency

Huntington Hospital

PARTNERS

Partners in this initiative included the chief executive officer, chief medical officer, chief nursing officer, chief of medicine, and director of quality management.

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PROJECT DESCRIPTION

Huntington Hospital identified that physicians have embraced the “hospitalist” model to address the escalating demands of inpatient care and the need for increased efficiency in the office. Hospitals, meanwhile, have looked to hospitalists to help reduce length of stay (LOS) and other efficiencies. More recently, studies have concluded that over-use of health care resources creates significant quality and safety problems, suggesting that improving efficiency and optimizing clinical outcomes are aligned goals.

In 2006, Huntington Hospital launched an internal medicine hospitalist program for the specific purpose of meeting quality objectives. The program includes 9.5 attending physicians and two physician assistants. Patients access the service by referral. Data-driven improvement efforts are vigorously supported by a director selected for his superior clinical and leadership skills. Associated initiatives aimed at improving communication and standardization include: electronic order sets; electronic medication reconciliation; structured inter-shift hand-offs; communication with community physician; safe prescribing protocols; elimination of telephone orders; and the systematic use of data to track and trend LOS; core measures performance; readmissions, mortality, and other quality outcomes.

OUTCOMES

- LOS was significantly reduced (4.11 vs. 6.22 days on the private Medicine service with similar case mix).
- Mortality was significantly reduced (2.1% of 2,621 patients, versus 3.8% of 4,019 patients on the private Medicine service).
- Thirty-day readmissions were significantly reduced (10.95 versus 13.36 on the private service).
- Heart failure core measures performance was modestly improved (seven versus nine outlier events over a one-year period on the hospitalist versus private service, respectively).

LESSONS LEARNED

- Effective leadership by the director and support by senior management and the board are critical to success.
- A hospitalist program designed to address patient safety, efficiency, and quality can serve as a laboratory for change leading to dramatic improvements in the way that care is provided at the bedside.

Improving Bed Tracking Compliance to Reduce Discharge Delay

Mercy Hospital of Buffalo

PROJECT DESCRIPTION

Mercy Hospital of Buffalo's initiative goal was to improve the turnaround times associated with cleaning patient beds after patient discharge or transfer. By reducing the turnaround time for bed cleaning, the hospital was able to impact patient care and safety by providing vacant beds to patients coming from the emergency department and from the post-surgical recovery unit with minimum delay.

The success of this initiative relies on the timely notification of patient discharges and transfers to the bed tracking system. The first major challenge was to ensure that the requesters (nurses and nurse's aides) were compliant in the use of the system to notify the bed tracking system when a room was vacated and ready to be cleaned. To meet the goals, the hospital needed to increase the number of compliant requests being entered by the clinical staff on the nursing units. Using reported data from the bed tracking system, the hospital identified the weekly compliance rate for the entire facility, as well as the compliance rate of individual nursing units. In 2005, the hospital-wide compliance rate was 40%.

During Phase I of this Six Sigma project, the hospital used transactional data from the bed tracking system to provide the nurse managers with customized reports that detailed where and when the failures in compliance occurred. These reports enabled the nurse manager to follow up with staff and work on performance improvement. Additional training was provided to the clinical staff regarding the effective use of the bed tracking system at the patient bedside. Because of these initiatives, the hospital began to see improvement from these units almost immediately. The compliance rate for the entire hospital increased to 54% after the first week of implementation.

During Phase II of this project, the hospital focused on the "bottom five," lowest performing nursing units. By the end of Phase II (December 2006), the compliance rate for the hospital reached 66%.

The hospital has seen continuous improvement of the compliance rate moving forward. By December 2007, it reached 77%, an improvement of 92.5% from 2005. Mercy Hospital of Buffalo continues to monitor progress with this initiative and promote the importance of its goals to all staff.

OUTCOMES

- Bed tracking compliance improved by 92.5% (from 40% to 77%).
- This initiative has resulted in improved communication between nursing floor, environmental services, and admissions staff.
- There is now real-time bed status information.
- There is faster bed turnaround time.

PARTNERS

Partners included Tele-Tracking Technologies, environmental services, nursing (patient care services), admissions, and information technology staff.

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Improving Bed Tracking Compliance to Reduce Discharge Delay

Mercy Hospital of Buffalo (CONTINUED)

LESSONS LEARNED

- Additional education on bed tracking procedures with requesting staff members was crucial to the success of this initiative.
- Ongoing education of clinical staff members is necessary to sustain compliance.

Creating a Progressive Care Unit

Mercy Hospital of Buffalo

PARTNERS

Partners for this initiative included the RN staff, pulmonologists, neurologists, respiratory therapists, physical therapists, occupational therapists, speech therapists, dietitians, clinical nurse specialists, nurse directors, and nurse managers.

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PROJECT DESCRIPTION

Mercy Hospital of Buffalo used the “Plan-Do-Study-Act” methodology to transform a general medical unit into a progressive care unit to increase the availability of critical care beds and have patients cared for in an appropriate level of care. Soliciting input from staff, physicians, administration, and other interdisciplinary care partners, the scope of service was developed to include hemodynamically stable patients on a ventilator, complicated respiratory patients on non-invasive oxygen delivery systems, patients requiring dysrhythmia monitoring and/or continuous medication infusions, and stroke patients.

Extensive education was provided to the staff to prepare them for the change in the unit. Initially, some staff were not interested in the higher level of care and they bid out of the unit. The staff that committed to making the change experienced high job satisfaction, and vacancies were filled throughout the year. When vacancies existed, competent agency registered nurses were contracted prior to making the change, indicating an administrative commitment to ensure safe, appropriate staffing. Through attrition, nursing assistants were replaced with immediate treatment assistants—multi-skilled workers who could better meet the needs of the more complex patients.

A budget was approved for ten nursing hours per patient day. Ventilator alarms were installed and new beds were purchased to facilitate daily weighing of these more acute patients.

Ventilator days were not tracked initially, but a conservative estimate is that 1,131 days were removed from critical care areas; this created, on average, three additional critical care beds available daily for patients requiring a higher level of care.

OUTCOMES

- Because of this initiative, 1,131 critical care bed days were made available.
- The hospital saved \$274,833 by having patients in the appropriate level of care.
- There was an 83% reduction in the use of agency registered nurses (RNs).
- All of the unit’s RNs participated in a formal national RN survey. The RNs rated collegial nurse-physician relationships as 3.15 out of 4, and 95% indicated that they planned to remain on the unit for the next year.

LESSONS LEARNED

- Extensive staff education was a key to success.
- Physician support and weekly education of the staff during interdisciplinary rounds increased morale on the unit.



Creating a Progressive Care Unit

Mercy Hospital of Buffalo (CONTINUED)

- Do not make the change until you have adequate nursing staff competent to care for the patients.
- Determining what data need to be tracked and developing a process early in the transition is important.
- Make sure that physical capacity matches the demand created by the scope of services.

A Specialized Palliative Care Unit and Consultation Service to Optimize the Care of Hospitalized Patients Facing Life-Limiting Illness

North Shore University Hospital

TOP 10TH PERCENTILE SUBMISSION

PROJECT DESCRIPTION

The North Shore University Hospital leadership planned an integrated approach to improve and standardize palliative care practices by dedicating resources to a palliative medicine consultation service. The goal was to better deliver palliative care for patients with life-limiting illness. This was achieved by establishing a team with expertise in the management and treatment of pain and suffering and using the “Plan-Do-Study-Act” performance improvement methodology.

During a three-year period, a multidisciplinary group worked to:

- expand the palliative medicine consultation service from the intensive care unit to all hospital units;
- standardize and disseminate palliative care order sets and plans of care to be used in any environment;
- develop explicit policies and procedures to support better end-of-life care;
- provide education to all staff; and
- create a ten-bed palliative care unit (PCU) with a therapeutic environment for patients at the end of life.

The PCU, which opened in July 2007, cared for 192 patients, with high patient experience scores. The PCU allowed for better care in a family-centered environment with many unique features not found elsewhere in the hospital, including open visitation and sleeper couches in every room for families, a peaceful environment with a central waterfall, a newly renovated family conference room, an interdisciplinary PCU team with “24/7” availability, and doula volunteers specially trained to provide support to patients and families.

Throughout the process, the entire organization has been engaged in dialogue about how appropriate end-of-life care leads to patient safety and comfort. Through reporting and monitoring of this program, the chief executive officer, along with the medical, nursing, and administrative leadership, prioritized the growth of the unit and shared its value with other organizations as a best practice.

OUTCOMES

From January 2005 to December 2007, the hospital:

- reduced the mean hospital length of stay for ICU patients who die from 24 days to 15 days;
- increased the number of patients who die with a do-not-resuscitate order from 62% to 98%;
- expanded palliative medicine consultation service volume by 22%;
- through the palliative medicine consultation service, treated 40% of all patients who died in 2007; and

PARTNERS

External partners for this initiative include North Shore-Long Island Jewish Health System senior leadership, trustees, medical executive committee, hospice care network; and the North Shore-Long Island Jewish Health System foundation. Internal collaborators include the North Shore University Hospital leadership and its medical board, department of patient care services, department of medicine, and the divisions of pulmonary and critical care, hematology and oncology, and geriatric and palliative medicine.

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A Specialized Palliative Care Unit and Consultation Service to Optimize the Care of Hospitalized Patients Facing Life-Limiting Illness

North Shore University Hospital (CONTINUED)

- had standardized order sets present in the medical record for 100% of patients seen.

LESSONS LEARNED

- Commitment from senior leadership to palliative care made this initiative possible.
- Cohorting terminally ill patients in the PCU “normalized” state-of-the art palliative care.
- A palliative medicine consultation service and a PCU reduce hospital length of stay without affecting mortality.
- The palliative medicine consultation service reduced the use of non-beneficial cardiopulmonary resuscitation in terminally ill patients through improved communication and goals of care discussions.
- In addition to creating consistency, the standardized palliative care orders educated clinicians on pain and symptom management.

Increasing Quality of Service Provision in the Sleep Center

Olean General Hospital

PARTNERS

The multidisciplinary group involved in this initiative included the Hampton Inn, vice president of patient care services, chief nursing officer, chief financial officer and accountant, manager of cardiopulmonary and sleep center services, manager of an affiliated home care company/durable medical equipment provider, director of facilities, process improvement engineer, director of materials management/purchasing, director of information systems, registered polysomnographic technologist, director of marketing/community relations, and supervisor of centralized scheduling.

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PROJECT DESCRIPTION

In 1998, Olean General Hospital opened its sleep center, utilizing space on the third floor of the hospital in an area that was occupied by ambulatory surgery during the day. It was a three-bed laboratory that eventually proved insufficient for the demand of the local market—bookings would sometimes extend out for three months. Physicians complained and requested that accommodations be made for a solution. In addition to this, complaints about the sleep center were common on the hospital's Press Ganey patient satisfaction surveys—responses ranged from “too much noise” to “beds are uncomfortable.”

To address these issues, the hospital began an initiative to increase the ability to see patients in a reasonable timeframe and to decrease patient complaints. Major barriers to solving the problem included limited space in the hospital for moving the service and customer preferences that seemed to indicate that the hospital was not an acceptable environment for this type of outpatient procedure. The solution, implemented in January 2007, was the hospital innovatively moving its sleep laboratory to the nearby Hampton Inn.

OUTCOMES

- Sleep study volumes increased 44%.
- Patient satisfaction increased to the 94th percentile ranking compared to other sleep centers.
- Scheduling wait time went from three months to same week availability.

LESSONS LEARNED

- Poor survey results and inefficient scheduling can benefit from an “outside the box,” innovative solution, such as partnering with a high-end hotel and increasing the number of beds offered.
- Changes in the health care environment now require new ways of providing care and services.
- The involvement of senior leadership was crucial, particularly since the move was their vision.

Improving Communication from Clinical Areas to the Laboratory by Standardizing Pathologic Specimen Documentation

Putnam Hospital Center

PROJECT DESCRIPTION

The surgical services, laboratory, and pathology departments at Putnam Hospital Center collaborated to establish processes that maintain sample identification throughout the entire sampling process from the operating room to the laboratory. This collaboration resulted in a new process and “pink slip” that contains detailed information to be communicated from the surgeon to the pathologist.

Although surgical pathology is not the largest contributor to medical errors (contributing 0.7%), any error is significant in that pathology errors can alter treatment or the lack thereof for patients.

The pre-analytical phase (from the OR to the laboratory) has the greatest potential to be fraught with errors because it is clinically-driven. To streamline the process, enhance workflow, and reduce errors, the following actions were taken:

- Specimen procurement and submission manuals were made available to all health care providers via the Intranet to ensure standardized collection and submission of specimens.
- Requisitions were standardized to include important clinical information; the new pink slip was created with staff completion areas highlighted in grey.
- Education on specimen procurement and submission was provided to all members of the team including the patient care technician who transports the specimen to the laboratory.
- Surgical services provides statistical feedback regarding the adequacy of specimen labeling, and completion of an accurate clinical history including pre-operative and post-operative diagnoses. The form also now includes an area for documenting feedback to the surgeon, since surgeons cannot sign a form when they are scrubbed.
- The medical staff and hospital administration adopted a policy of specimen rejection to prevent further processing and interpretation of specimens with potential errors.
- Speakerphones were installed in each OR for direct communication between the surgeon and the pathologist.

OUTCOMES

- The team focused on the problems and solutions, not on people.
- Staff were encouraged to document errors so pathology specimen safety could be improved.
- The data revealed that the complete labeling of specimens with clinical information improved from 38% when the project started in 2006 to 94% in 2007.

PARTNERS

The partners for this initiative include the surgeons, laboratory staff, pathologists, and surgical services staff.

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Improving Communication from Clinical Areas to the Laboratory by Standardizing Pathologic Specimen Documentation

Putnam Hospital Center (CONTINUED)

- No pathologic misdiagnoses were made during this period. The pathologist often calls the surgeon for details of the specimen when information is missing.

LESSONS LEARNED

- Most errors are preventable if the source can be identified. The key is to create systems that make it difficult, if not impossible, to fail.
- The use of standardized reporting systems, cancer protocols, checklists, and reporting templates that are endorsed by professional or accreditation organizations (i.e., synoptic reporting) will reduce errors.
- Participation on interdisciplinary teams, focusing on a collaborative approach, improves patient care.
- Feedback to providers regarding the adequacy of specimens and clinical history is critical.
- Collection of data showing adverse patient outcomes or “near misses” for review will improve the process.
- Barcoded labels on specimen blocks, slides, and protocols, which include patient name, specimen type, and surgical pathology number, is the next logical safety measure.

Get on Your Horse! A Grassroots Approach to Improving Patient Satisfaction and HCAHPS Scores

Putnam Hospital Center

PARTNERS

Partners for this initiative include senior management, the board of directors, department heads, medical staff, clinical staff, and support staff.

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PROJECT DESCRIPTION

Over the past ten years, consumer satisfaction has gained widespread recognition as a measure of quality in many public sector services. Long overshadowed by measures of clinical processes and outcomes in the quality of care equation, patient satisfaction measurement has traditionally been relegated to service improvement efforts by hospitals. Compounding the problem was that data on patient satisfaction was collected by various entities, for different purposes, and at different levels in the health care system. In 2008, for the first time, federal reporting of patient satisfaction is required through the “Hospital Consumer Assessments of Healthcare Providers and Systems” survey.

The senior management team at Putnam Hospital Center has long recognized the importance of patient satisfaction and engaged Press Ganey to collect data on its behalf beginning in 2000. In December 2007, seven unit-based multidisciplinary patient satisfaction teams were formed. Each team was headed by members of senior management and included medical staff, department heads, clinical staff, and support staff. The teams met weekly to share ideas and engage the staff. In turn, teams report their success and new initiatives to improve patient satisfaction at bi-weekly “Voice of the Patient” meetings. Some of these successes include:

- leadership rounding by senior management, who physically conduct rounds of staff to improve employee satisfaction and increase employees’ awareness of patient satisfaction programs;
- hourly patient rounding focusing on the “three Ps”: pain, position, and personal needs;
- discharge telephone calls to give the staff an opportunity to hear patient perspectives first hand;
- scripting by teaching the staff to use “key words at key times”—for example, “Is there anything else I can do for you? I have the time.”;
- new signage indicating the hospital “Always Strives for 5,” including signs placed on televisions in the lobby and patient care areas; and
- sharing the “priority index” question for each unit, which allows the teams to focus on areas where the improvement in scores will most help the hospital (the priority index questions are those that patients routinely respond to and are the most important to them).

OUTCOMES

The overall mean patient satisfaction scores have improved 1.6 points since the program started. All areas demonstrated improvement; most significantly, the outpatient departments have improved by 4.8 points.

Get on Your Horse! A Grassroots Approach to Improving Patient Satisfaction and HCAHPS Scores

Putnam Hospital Center (CONTINUED)

LESSONS LEARNED

- It is critical that senior leadership demonstrate an ongoing commitment to improving service to the patients and to employee satisfaction. This is reflected in ongoing monitoring of performance at the executive and board levels and explicitly incorporating patient service goals in the strategic plans and vision for the future.
- Improvements, in part, come through skill building. A series of education programs, some mandatory, were developed and presented throughout the hospital.
- Discharge instructions play an incredibly vital role in the successful recovery of patients.
- Measuring performance from the patient's perspective must be done on a continuous basis using patient satisfaction surveys. Summary results should be reported at least weekly and be used to guide performance improvement activities.
- Results must be benchmarked, individualized, and specialty-specific to be actionable.
- Success comes from a changing culture that embraces and supports patient and employee satisfaction.
- Productivity and patient satisfaction are not mutually exclusive.

Improving the Process for Reporting Critical Test and Procedure Results

Schuyler Hospital

PARTNERS

Partners for this initiative include the acute care nursing staff, laboratory manager, radiology director, cardiopulmonary services manager, skilled nursing facility nursing staff, director of education, physicians, vice president of patient care services, and medical director.

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PROJECT DESCRIPTION

In June 2007, Schuyler Hospital completed an evaluation of anecdotal evidence and adverse events that indicated that the policy for reporting critical test and procedure results needed revision. The policy lacked a standardized approach to document the reporting of the critical value to the physician and demonstrate effectiveness and compliance. The goal of this quality initiative was to improve the timeline for the reporting of critical test and procedure results. Nursing leadership and physicians worked to develop standards for the critical values to be included in the revised policy. A performance improvement team, consisting of department managers in the nursing, radiology, laboratory, and cardiopulmonary units, was initiated to develop a system of documentation and tracking. The team agreed that the documentation criteria should be simple and intuitive. When this initiative began, the goal was to be 100% compliant with the new policy in every unit.

The team developed a stamp to be used in the physician order for every critical value. This stamp:

- prompted reporters to follow the required actions;
- provided documented proof of compliance with the policy; and
- was an easy tool for reporters to utilize for performance improvement tracking and trending.

Mandatory education followed as soon as the stamps were developed and distributed.

OUTCOMES

This initiative resulted in:

- improved compliance with the critical value policy;
- improved documentation on the notification of critical test and procedure results;
- improved tracking for performance indicator reporting; and
- an aggregate organizational compliance rate of 97.67%.

LESSONS LEARNED

- Initiating an interdisciplinary team of stakeholders was the solution to developing an organizational, standardized approach.
- Keeping the process simple, while giving a visual reminder via the stamper, was key.
- Physician involvement in the planning and development of the policy helped to improve physician and nursing staff communication.
- Mandatory education—both prior to implementation and on an ongoing basis—have been key.

Improving Patient Safety by Assuring Positive Patient Identification for Laboratory Studies

South Nassau Communities Hospital

PARTNERS

Partners for this initiative included the collection manager vendor; laboratory staff and phlebotomists; and the hospital information technology, admitting, nursing, and performance improvement departments.

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PROJECT DESCRIPTION

The goal of this initiative was to determine processes to eliminate patient identification and specimen labeling errors at South Nassau Communities Hospitals.

Beginning in early 2006, the hospital began to examine its processes using the “Plan-Design-Measure-Assess-Improve” methodology. During the assessment, the hospital decided to use a Failure Mode and Effects Analysis tool. The hospital determined that it needed a “fail-safe measure” to identify patients safely and accurately for every blood draw, in every location—including the times that phlebotomists have multiple specimens to collect—as well as a process to assure that labels were generated and affixed at the patient’s bedside at the time that the blood was drawn.

The leadership team worked with the clinical laboratory department to identify the resources and resource allocations required to institute an electronic patient identification process. The laboratory worked very closely with many departments to assure that all components of the process would be integrated. Infrastructure and product selection was the first challenge. A wireless network was installed and new bar-coded patient identification wristbands were purchased. Intense training was provided to the staff and implementation was staged for areas and shifts. Implementation was a slow process to assure functionality of systems and staff competencies. The implementation began with the outpatient settings from July to October 2006 and progressed to inpatient day shift patients, then to night shift inpatients, and finally to the emergency department. The system for all inpatients was fully implemented in October 2007.

OUTCOMES

- Prior to the implementation, the laboratory reviewed the issues with wristbands (missing, obscured, incorrect) and collected the data on a weekly basis for three months for all inpatients. The error rate was 17%.
- The new process does not allow the technician to draw blood with missing or obscured bands.
- Specimen error rates were collected monthly prior to, during, and after implementation of the collection manager. The rates were expressed as the total number of mislabeled blood draw specimens by patient over the total number of patients with blood drawn, times 1,000. The denominators were quite large; however, numerators were found to be 134 in 2005 (0.89%), 176 in 2006 (1.07%), and 61 in 2007 (.34%).
- Specimen error from October (full inpatient implementation completed) to February 2007 has been consistently at zero.



Improving Patient Safety by Assuring Positive Patient Identification for Laboratory Studies

South Nassau Communities Hospital (CONTINUED)

LESSONS LEARNED

- Training and implementation need to be phased in carefully to assure safety and competencies.
- The collection manager system for phlebotomy is more time-intensive than traditional blood drawing, and specimen labeling and additional human resources are required to assure established turnaround times.
- The capital and salary budgets increased but the improvement in patient safety provides more than expected return on this investment.

Using FMEA to Improve Patient Safety

St. James Mercy Hospital

PARTNERS

Partners for this initiative included nursing from all units; the senior vice president of medical staff affairs; vice president of quality; vice president of nursing; and the EKG, respiratory therapy, and information technology departments.

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PROJECT DESCRIPTION

St. James Mercy Hospital discovered that the number of incident reports for missed electrocardiograms (EKGs) (ordered but not done) was gradually increasing. The EKGs were missed in all areas of the hospital, all shifts, and both weekdays and weekends. Upon further review, it was discovered that the EKG staff were only available Monday through Friday during the day shift, and that there were a variety of staff responsible for doing EKGs at night and on weekends—this was causing confusion. Using a Failure Mode and Effects Analysis (FMEA) approach, the hospital looked at where its process failed or could fail, determined opportunities for improvement, and developed risk reduction strategies. The goal was to decrease the number of ordered EKGs.

Some of the changes for improvement included:

- developing a log for staff to consult for EKGs due to be done;
- changing elements of orientation for select staff and developing new competencies;
- placing signage throughout the facility indicating who was responsible to do EKGs when the EKG staff are not available; and
- assigning greater accountability to nursing and physicians to ensure the ordered EKGs were done.

OUTCOMES

- In 2006, 5,645 EKGs were ordered and 84 missed.
- In 2007, of 6,036 ordered, 32 were missed.
- The hospital exceeded its goal of 50% improvement.

LESSONS LEARNED

- The FMEA process allowed the hospital to reveal the true root cause of why the EKGs were not being completed, enabling the development of changes needed for improvement.
- Using a multidisciplinary team allowed the hospital to better evaluate the process from all areas involved.
- Initially, the team met on a weekly basis, which allowed for rapid change and evaluation.
- The hospital needs to continue to monitor this process with a new goal of zero percent EKGs missed.

The Partner Nursing Model

St. Luke's Cornwall Hospital

PARTNERS

Partners for this initiative included the board of trustees, the executive team, the nursing team, the human resources department, The Nash Group, The Joint Commission, patients, families, and the community.

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PROJECT DESCRIPTION

A team of St. Luke's Cornwall Hospital nurses, administrators, educators, and managers analyzed long-term registered nurse (RN) night shift vacancies, patient fall rates, patient satisfaction scores, census, and staffing patterns on a busy 40-bed medical-telemetry unit. The team used data garnered from the National Database for Nursing Quality Indicators, the Hospital Consumer Assessments of Healthcare Providers and Systems patient satisfaction survey, and The Nash Group census, staffing, and acuity measures. The goal of the initiative was to use quality data and best practices to measure and optimize patient safety and satisfaction.

Under the guidance of the board of trustees and the executive team and using the "Plan-Do-Study-Act" methodology, the nursing team conducted a literature search for best practices using a Magnet transformational leadership model that supports patient-centered care and differentiated, collaborative, and mentored nursing practices. Experienced licensed practical nurses (LPNs) were interviewed, hired, and trained to fill long-term RN vacancies and a Partner Model, which allows the RN and LPN to share patient assignments and work within their scopes of practice, was implemented.

OUTCOMES

- The night shift vacancy rate was 22% in January 2007 prior to model implementation, and 4% after the model was implemented in August 2007. In December 2007, the vacancy rate was still 4%.
- Patient satisfaction scores were 54.2 in January 2007 before model implementation and 66.2 after model implementation in August 2007.
- Patient fall rates per 1,000 patient days were 4.84 in January 2007 before model implementation and 2.7 after model implementation in August 2007. In December 2007, the fall rate was 3.6.
- The staff nurses feel safety has improved with the new Partner Model. Feedback from LPNs includes, "I always know who to go to with my concerns. I feel supported and I am learning a lot. It is great being supported." An RN said, "I like knowing I can count on the LPN to perform tasks within his or her scope; it allows me to focus on patient assessments, care planning, patient and family education, and interdisciplinary teamwork."



The Partner Nursing Model

St. Luke's Cornwall Hospital (CONTINUED)

LESSONS LEARNED

- There is a direct correlation between nursing vacancy rates, patient safety, and satisfaction.
- It is important to involve staff at all levels to engage in patient-centered care, patient safety, and satisfaction.
- A partnership model supports staff in learning, communicating, and working together efficiently.

Electronic Medication Administration Record

St. Mary's Hospital, Amsterdam

PARTNERS

Partners for this initiative included the information technology department, physicians, pharmacy staff, and the nursing staff.

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PROJECT DESCRIPTION

The medication error rate at St. Mary's Hospital, Amsterdam remained statistically unchanged, despite adherence to patient safety standards for safe medication administration. To decrease the overall medication error rate, the hospital made some fundamental changes including the implementation of an electronic medication administration record (eMAR).

The eMAR team first created a flow chart of the current process. The critical points of the process were identified and objectives were designed. The project objectives included creating an electronic format that would provide a complete overview of patients' medications, increasing communication between all users, establishing a system of forced checks and balances, and implementing electronic documentation that would eliminate transcription. A pilot unit, with closed staffing and limited users, was chosen to test eMAR. Nursing and pharmacy policies and processes necessary for the pilot were developed and implemented.

The complexity of the medication system and interdepartmental overlap was taken into consideration for house-wide implementation. Implementation of eMAR occurred in August 2006. Initial findings showed an expected learning curve, evident by an increase in medication errors for one quarter; this was followed by a consistent decrease in the overall rate.

OUTCOMES

- The eMAR project was initiated in the third quarter of 2006; the medication error rate at this time was 5.23 errors per 1,000 patient days.
- The fourth quarter 2006 rate, as expected due to the new program learning curve, increased to 6.58 errors.
- Error rates for the four consecutive quarters post-implementation are below the statistical mean of 5.41.
- A shift in the types of errors was identified. For the eight-quarter period before eMAR implementation, transcription errors accounted for 26.7% of the total medication errors; profiling errors were not tracked as an error during this period. Following eMAR implementation, transcription errors accounted for 8.9% of total medication errors, and profiling errors represented 13.6% of the total medication errors.

Electronic Medication Administration Record

St. Mary's Hospital, Amsterdam (CONTINUED)

LESSONS LEARNED

- It is essential to use small tests of change, such as a pilot unit, to develop and trial process changes prior to facility-wide implementation.
- For implementation of a facility-wide process change, consider universal rather than incremental change to ensure patient safety.
- It is important to identify a significant process change; for St. Mary's Hospital, the process change was the elimination of transcription, which was seen as a root cause of medication errors.

Implementing Computerized Physician Order Entry

SUNY Upstate Medical University

PARTNERS

Partners for this initiative include nursing, pharmacy, medicine, information management technology, clinical practice analysis, the CPOE vendor, hospital administration/executive leadership, and ancillary departments.

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PROJECT DESCRIPTION

Upstate Medical University Hospital transformed its manual, paper-based physician ordering process to computerized physician order entry (CPOE), leveraging computer technology and clinical decision support. The overall goal was to achieve better patient outcomes by reducing errors, improving order fulfillment cycle time, and decreasing the variability of care across patients. The methodology consisted of a process for testing the system on pilot units and not moving forward until barriers had been surmounted. The timeframe for full implementation was 20 months. Participation of an interdisciplinary team was crucial to the project's success.

OUTCOMES

- CPOE has yielded a 75% decrease in prescribing errors.
- CPOE led to a 16-minute reduction from the time of order entry to the time of completion for stat chest x-ray.
- There has been a nearly 24% increase in the use of order sets, reducing variability in care.

LESSONS LEARNED

- Executive level support from hospital administration and the leadership of all clinical disciplines is necessary for project success.
- It is important to collect as much pre-implementation data as possible to accurately measure the effects of change.
- Never underestimate the impact of such a culture change on employees.
- Cautiously implement “pop-up” warnings in a CPOE system to avoid users from being “saturated” with too many warnings.
- Expect the new change will uncover previously hidden process issues in the system that will need to be addressed.

School-Centered Telemedicine Study for Children with Diabetes—Diabetes Center of Excellence Inpatient Program

SUNY Upstate Medical University

PARTNERS

The diabetes team guiding these initiatives includes physicians, nurse practitioners, certified diabetes educators, the Department of Health, an inpatient advisory group, information technology, the nursing documentation group, laboratory, nurses, other providers, and the hospital's quality council.

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PROJECT DESCRIPTION

SUNY Upstate Medical University focused on two diabetic quality improvement initiatives designed to improve care for adults and children with diabetes: a telemedicine program with schools and a quality improvement program for inpatient care. The initiative tested the feasibility of using telemedicine between the school nurse and the health care team to improve care of children with diabetes. Thirteen nurses were trained in the use of the telemedicine equipment. Children in this study were between the ages of five and 14, in Kindergarten through eighth grade, in 12 local public schools.


The goal of the inpatient program is to continuously improve the quality of care for patients with diabetes, with a focus on reducing insulin errors, improving glycemic control, and decreasing morbidity and mortality. An inpatient advisory group, which included representatives of all disciplines involved in the care of patients with diabetes, was established and performed a needs assessment. Two reports are now being generated to better identify inpatients with diabetes, thus facilitating earlier intervention. Further improvements are underway including developing a diabetes order set that will become a part of the physician order entry system; purchasing a software program to link bedside glucose results with the computerized laboratory data; enabling nurses to use an Intranet-based Web site for self-management education with patients; and educating nurses and physicians throughout the campus.

OUTCOMES

- The glycated hemoglobin (A1c) level of students in the schools with the telemedicine units remained stable when compared to those students in the schools without the units. There was a significant increase in A1c values in the children in schools without the unit.
- Satisfaction was high in the schools using the telemedicine units.
- There was a difference in urgent calls between the schools with the unit and the schools without the unit in the six-month period.
- In the inpatient initiative, reports generated are assisting in the earlier identification of patients with diabetes, and staff awareness of the impact of diabetes on overall hospitalization is markedly increased.

LESSONS LEARNED

- The use of telemedicine in the target schools by the school nurses over the six-month period has shown improvements in the A1c levels in the students.
- The use of telemedicine decreases the number of telephone calls taken at the diabetes center.



School-Centered Telemedicine Study for Children with Diabetes—Diabetes Center of Excellence Inpatient Program

SUNY Upstate Medical University (CONTINUED)

- Telemedicine could be used to reach schools in remote locations to improve communication between the school nurse and improve diabetes care for the students.
- Persistent focus on the subject of diabetes in the inpatient setting brings a noticeable awareness among practitioners.
- The current method of identifying hospital patients with diabetes/hyperglycemia is a good first step.

Catering to You

SUNY Upstate Medical University

PARTNERS

Partners for this initiative included Morrison Healthcare Foodservices, the nursing staff, plant operations, and information management technology.

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PROJECT DESCRIPTION

After SUNY Upstate Medical University began a partnership with Morrison Healthcare Foodservices in January 2006, it was clear that to reach the joint goal of increased patient satisfaction, major changes needed to occur in meal delivery. Like many hospitals, Upstate Medical University was using an antiquated tray line combined with a high-tech, computerized diet office system. Once a patient was prescribed a diet order, a menu technician would take his/her meal selections. The meal selections were processed in the diet office by a clerk and given to the tray line for assembly. More than seven workers combined to assemble the tray, and it was delivered by a food service worker to the nursing unit where it was then passed to the patient by the nursing staff. On the surface, this seemed like an efficient system, but the challenges were limitless. To start, there were more than ten people involved to get a meal to the patient, yet none of them had absolute accountability. Nursing unit staff were often uninformed of what the patients had ordered and felt powerless to provide service recovery.

The University's Catering-to-You program revolutionized how patients are fed. "Catering Associates" (CAs) are assigned to specific nursing units. When a diet is ordered, the CA receives the order and contacts the patient to take the meal selections. The CA returns to the kitchen to prepare the tray at a workstation. The CA then delivers the tray to the patient. The last part is for the CA to check in and see if patients have everything they need to enjoy their meals. With this new program, patient satisfaction scores have nearly tripled.

OUTCOMES

- The Press Ganey satisfaction scores for overall meals increased from 14 to 41.
- The number of complaints was reduced and there was improved communication with nursing.

LESSONS LEARNED

- It is important that communication with nursing be at all levels—from staff to directors.
- Nursing and rehabilitation staff need to be informed of any time changes for delivery of meals to the units.
- Consistency of delivery times is more important than being early.

The Redevelopment of the Breast Care Center and the Development of the Multidisciplinary Breast Cancer Program

SUNY Upstate Medical University

PARTNERS

The team for this initiative was composed of the ambulatory administrator, administrative assistant, nurse patient service director, team leader, and business manager.

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PROJECT DESCRIPTION

The Upstate Medical University's Comprehensive Breast Care Program was created 21 years ago as the first center of its kind in the Central New York area. The Center was established to diagnose and treat both benign and malignant breast disease, using advanced technology. Three hospitals in Syracuse entered the breast cancer treatment market and over the last ten years invested in more advanced facilities with leading-edge technology. SUNY Upstate Medical Center learned that to compete with the newer centers, it must upgrade its program and technology.

The hospital was aware that its breast cancer patients were offered the most comprehensive services of all the existing programs in the region. However, the program was fragmented and its technology and facilities were not state-of-the art. With a business plan prepared by hospital administration, a major program upgrade was approved. A budget was determined and other departments involved in the care of breast cancer patients were included in the plans. The goal was to offer the most advanced breast cancer care available in Central New York.

OUTCOMES

- A multidisciplinary breast cancer program was created and opened its doors in November 2006. The space for the center almost doubled and allowed scheduling for multiple providers at the same time, increasing the number of patient visits during clinic time, and enabling easier access to providers since their offices are now located in the center.
- A digital mammography machine was purchased and installed in November 2007.
- The radiology center is now located next to the new breast care center.
- In August 2007, a breast surgeon and a radiologist skilled in mammography and breast procedures were hired.

LESSONS LEARNED

- Renovating a clinic area created other benefits. It caused a "domino effect"; for example, the radiology departments upgraded their equipment and hired more staff.
- For the center to be competitive, another surgeon needed to be hired.
- As this plan unfolded, the facility found that it was absolutely necessary to have the total support of the hospital's administration regarding total patient care and the finances to support it.

Excellence in Cancer Care through Accreditation: Outstanding Achievement Award

SUNY Upstate Medical University

PARTNERS

Partners for this organization-wide initiative included hospital administration and the multidisciplinary cancer committee.

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PROJECT DESCRIPTION

Upstate Medical University began this initiative in 2000 with preparation for accreditation by the American College of Surgeons: Commission on Cancer (ACoS-CoC). This accreditation requires cancer program leadership in several key areas, including institutional leadership, cancer data management, clinical management, research, community outreach, professional education, and quality improvement. To achieve accreditation, a cancer program must adhere to the stringent standards for cancer program accreditation for a minimum of two years before the first site visit, receive an on-site cancer consultation by a certified consultant, and be cleared by the consultant for a site visit.

Preparation for the site visit involves all areas of the hospital. Consolidation and coordination were key to bringing together diverse departments, all dealing with various aspects of cancer care for the patient. Assessments were made, dozens of quality improvement activities identified, and multidisciplinary workgroups formed. The workgroups identified areas for joint quality monitors; activities that followed the patient across the continuum of care. One joint quality monitor resulted in a new lotion being added to the formulary. This lotion is suitable for use on the skin of inpatients receiving radiation treatments. Another pilot program placed spiritual care providers in high-volume oncology areas. The pilot was expanded due to the overwhelmingly positive response from patients and families. The hospital is now an accredited training program for clinical pastoral education, the only facility in the area to achieve that status.

The SUNY Upstate Medical University program was first accredited in 2003 and received full three-year accreditation with commendation in clinical trials enrollment, the only area eligible for commendation at that time. In 2004, the ACoS-CoC created an “Outstanding Achievement Award” rating for the 1,459 participating cancer programs nationwide. This award was established to recognize cancer programs for excellence in providing quality care to patients. SUNY Upstate received notification in April 2007 that it had achieved this rating during its 2006 site visit—only seven percent of cancer program site visits in 2006 achieved this level of quality.

OUTCOMES

- SUNY Upstate data submissions have been 100% accurate for each year since accreditation.
- The facility has participated in all ACoS-CoC quality studies in accordance with the guidelines and benchmarks provided.



Excellence in Cancer Care through Accreditation: Outstanding Achievement Award

SUNY Upstate Medical University (CONTINUED)

LESSONS LEARNED

- Multidisciplinary care is the hallmark of premier cancer programs—care is streamlined, continuity is provided, efficiencies are improved, redundancy is eliminated, and outcomes are improved.
- Access to clinical trials provides optimal care and the latest advances in research to patients.
- A key to success is strong institutional leadership that supports a formalized improvement program.
- It is important that oversight for clinical management be the responsibility of certified oncology professionals.
- Community outreach, education, and cancer screening increase access to care and early diagnosis.

End-of-Life Companion Volunteer Program

SUNY Upstate Medical University

PARTNERS

Partners for this initiative included Health Connections for volunteer recruitment, information management services, the volunteer office, palliative care, nursing supervisors, and palliative care volunteers.

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PROJECT DESCRIPTION

The goal of Upstate Medical University's End-of-Life Companion Volunteer Program was to provide a reassuring presence to dying patients who would otherwise be alone. The volunteers may provide music or readings for a patient or speak softly. Initially, this program was designed for patients who had no family able to spend time at the bedside, but the hospital found that there are often cases where family members are elderly, have childcare needs, and jobs to maintain, or travel great distances and cannot keep a vigil. They are comforted to know that their loved one is not alone. The trained volunteers stay at bedside with patients and can identify if the patient needs some pain or symptom management and notify the nursing staff.

This program is based on palliative care principles as identified by the National Consensus Project. The ability to address needs of patients who are dying meets both patient quality and safety standards. The program utilized existing staff and systems already in place; medical students and others in local colleges were recruited as volunteers, since this is an opportunity to spend time with patients and families and gain clinical experience. The program provided increased staff satisfaction because patient needs were identified in a timely manner. The program has also had external marketing in the local papers and on television, which has helped label the hospital as innovatively patient- and family-centered.

OUTCOMES

- There are currently 50 active volunteers who spent 1,000 hours with 26 patients and families.
- Staff who work on the patient units complete evaluation tools.
- Volunteer feedback has been very positive, with volunteers noting that this has been a great experience and an honor and that nurses were grateful for their services.

LESSONS LEARNED

- Many committed people go the extra mile to make a project like this work on their own time.
- Even with no initial startup funding, the team was able to develop and implement an intricate program.
- Continuing and expanding this program will take some designated funds and personnel.
- The hospital should have spent more time marketing the program as it was beginning.
- Volunteers need more infection control information—most of the volunteers are not clinical staff.
- Ongoing recruitment is necessary to have a large enough pool of volunteers.

Implementation of a Family-Focused Donation After Cardiac Death Policy

SUNY Upstate Medical University

PARTNERS

Partners for this initiative include the surgical intensive care unit medical director; surgical ICU, neurosurgical ICU, and operating room nursing management and staff; respiratory therapy, palliative care, social work, pastoral care, and Finger Lakes Donor Recovery Network.

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PROJECT DESCRIPTION

University Hospital at Upstate Medical University successfully implemented a family-focused Donation After Cardiac Death (DCD) policy. Unique to the policy is that the family is allowed to accompany their loved one to the operating room to be with them at the time of death. By carefully choosing a small number of team members that had a true interest in this initiative, leadership became the role of not just one, but a responsibility for all. This, in combination with weekly meetings to keep the process moving steadily forward and using the “Plan-Do-Study-Act” methodology of incremental small changes, enabled the hospital to break through longstanding barriers and opposition.

The hospital succeeded in its goal of being able to extend the excellence in care provided to patients to the family. This small group of committed individuals has evolved into a recognized hospital council and has achieved the buy-in and support of the many disciplines involved. The aspiration of transforming the culture of the institution into a donation-friendly environment that respects, embraces, and supports a family’s wish for donation has been achieved.

OUTCOMES

- DCD is now an available option that can be offered to families.
- All families are offered the option to accompany their loved one to the operating room and be by their side at the moment of their death.
- DCD donors account for 27% of overall donors.
- An average of 2.6 organs are transplanted from each DCD donor.

LESSONS LEARNED

- Multidisciplinary involvement is key.
- The PDSA process helps drive change.
- Education needs to address all the involved disciplines and levels of staff.
- You can proceed with the family’s wishes without a policy.

Improve Language Assistance Services to Those with Limited English Proficiency

SUNY Upstate Medical University

PARTNERS

Partners for this initiative included nursing administration leaders, the information management technology department, physician office practices, interpreter agencies, and the multidisciplinary interpreter and translation committee.

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PROJECT DESCRIPTION

Upstate Medical University's goal was to improve the quality of care for patients who have limited English proficiency (LEP). Two performance measures were identified: determining language needs at registration and improving access for those with LEP to receive interpreter services. The multidisciplinary interpreter and translation services committee identified key actions that needed to be accomplished including improving the screening system for identifying languages on admission, educating admission clerks on when and what to ask patients about their language needs, and increasing awareness of physician office practices about the importance of arranging for interpreter services for planned patient admissions. To increase staff awareness of interpreters, the clinical staff and the interpreter agencies identified critical information that needed to be shared with staff. From this assessment, a flow chart was created to assist staff in making decisions about using the appropriate method of interpreter services; the annual mandatory education for all staff was refined to include reasons to use telephone interpretation and in-person interpreters; a video was developed on how to use interpreters; and various reminders were periodically published in the hospital newsletter.

OUTCOMES

- Comparing time before and after language identification, the odds ratio of 0.807 (confidence interval from 0.7531 to 0.8662) demonstrated a positive effect for the study area.
- There was a 100% increase in the use of telephone interpreter services.
- The number of requests for interpreters increased as did the appropriateness of the service.
- Although not quantified, qualitative feedback from the interpreter agencies indicated that people seem happier with the service.

LESSONS LEARNED

- Persistent focus on patient needs brings a noticeable awareness among staff.
- Making staff education available in various formats enhances buy-in from staff.
- Involving all stakeholders in the process is crucial for success.

Hyperbaric Medicine Accreditation

SUNY Upstate Medical University

PARTNERS

Partners for this initiative include hospital administration; the fire marshal; quality council and patient safety committee; and staff from the following departments: emergency medicine; heating, ventilation, and air conditioning; respiratory therapy; physical plant; clinical engineering; environmental services; clinical data services; infection control; and clinical practice analysis.

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PROJECT DESCRIPTION

With the growth in its hyperbaric medicine facility and the availability of an accreditation program by the professional organization representing clinical hyperbaric medicine, The Undersea and Hyperbaric Medical Society (UHMS), SUNY Upstate Medical University decided to seek accreditation for its program. Accreditation programs evaluate the adequacy of a facility and equipment, the appropriateness of the staff and their training, and quality of care and patient safety.

To be considered for the accreditation process, the hospital was required to submit an application that met UHMS eligibility criteria. Upon receipt of approval and with support from the hospital administration and under the guidance of the clinical manager, a multidisciplinary team was convened. The UHMS assessment guide was broken down into concentrated rating areas and assignments designated accordingly. Follow-up meetings revealed areas for improvement and corrections were made. The site visit was held over a two-day period and covered the areas documented in data measurement.

OUTCOMES

The hospital's clinical hyperbaric medicine facility was the first in New York State to receive accreditation (September 2003) and is, to date, the only clinical hyperbaric facility in New York State to receive re-accreditation (September 2006) with distinction.

- The successful accreditation journey resulted in multiple three ratings of "Exemplary Conformance," which is defined as, "The hyperbaric facility significantly exceeds all provisions of the standard and its intent."
- UHMS' criteria ensure that clinical hyperbaric facilities are staffed with the proper specialists who are well trained; are using quality equipment that has been properly installed, maintained, and operated with the highest level of safety possible; are providing high-quality patient care; and maintain the appropriate documentation of informed consent, patient treatment procedures, and physician involvement.

Compliance was assessed through an arduous process of a combination of documented evidence, answers to detailed questions concerning the implementation of processes and procedures in designated areas of concentration, and on-site surveyor observations and personal interviews.

LESSONS LEARNED

- Extensive preparation with a solid, committed multidisciplinary team is the key to a successful site visit.
- UHMS' accreditation provides an invaluable service to patients and contributes to this specialized field as a whole.

Hyperbaric Medicine Accreditation

SUNY Upstate Medical University (CONTINUED)

- Surveyors came to the facility not only to ensure standards are met, but to teach as well—they offered valuable recommendations to enhance the program.
- Recommendations for additional staff training and expansion of the program, as recommended by the surveyor team, are supported by hospital administration. Construction is underway to expand the current space from 600 square feet to 1,900 square feet. In addition, 50% of staff are certified and the remaining staff will be certified by the end of the year.

Implementation of a Stroke Program

SUNY Upstate Medical University

PARTNERS

Internal partners for this initiative include the medical and nursing staff in neuroscience, emergency, interventional radiology, and rehabilitation departments; radiology, laboratory services, and therapy services; and hospital and nursing administration. External partners included emergency medical services, DOH, Central New York Stroke Task Force, American Heart Association, American Stroke Association, Community Education Outreach, and regional rural hospitals.

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PROJECT DESCRIPTION

Upstate Medical University Hospital initiated a stroke task force in August 2005 with the vision of leading the community in organized stroke care. The task force developed a system of care for stroke patients that met 31 prescribed Department of Health (DOH) standards, and SUNY Upstate Medical University became the first hospital in Syracuse to be designated as a primary Stroke Center by DOH in April 2006. Since designation, the program has elevated care for stroke patients to a level of clinical urgency equivalent to trauma, and the program has continued to elevate the care and organization of stroke patients, including being designated the telemedicine hub hospital for the Central New York region.

OUTCOMES

- Since 2005, there has been more than an 11-fold increase in the number of patients receiving tissue plasminogen activator.
- There has been a 58% increase in stroke admissions since 2005 (prior to stroke center designation).
- The hospital has experienced a 5% decrease in the ischemic and hemorrhagic stroke length of stay, despite a higher acuity.
- There has been increased collaboration and education with many outside partners, especially rural hospitals involved with telemedicine.

LESSONS LEARNED

- Consistent stakeholder participation is essential to the success of an interdisciplinary team.
- Top leadership support is essential to successful project outcomes.
- Initial training requirements were challenging but displayed staff's ongoing dedication.
- Ongoing education to the community and emergency medical systems is necessary to elevate the level of stroke care.
- This initiative required a great deal of time for data collection and was personnel-intensive, but this was necessary to improve program outcomes and quality.
- The hospital did not anticipate the growth of volume that would occur once it was designated a Stroke Center.
- It is important to educate the community about the differences between a primary and comprehensive stroke center designation.

PROGRESS Database (Performance Reporting of Great Results)

SUNY Upstate Medical University

PROJECT DESCRIPTION

Operational improvements are central to SUNY Upstate Medical University operations throughout all departments and services, but improvements are often in different stages of development and implementation. Part of the challenge the hospital has faced is tracking and monitoring improvements in patient safety, quality, and efficiency and determining the methods for sharing this learning throughout the organization. The mechanism chosen to address this issue is a unique database called Performance Reporting of Great Results (“PROGRESS”).

PROGRESS is built on a Cold Fusion platform and is accessible through a Web browser. Users are trained in a 30-minute session and are encouraged to enter their departmental information as they implement initiatives. The database is available online as “read-only” to outside departments, which can search by any topic or cross-reference. Operational improvements under way throughout the organization are readily accessible, along with contact information for the department or committee that is orchestrating the initiative.

OUTCOMES

- Since its inception in November 2006, 439 operational improvements have been entered into the system.
- To date, 79 operational improvements have been tracked and reported as completed.

LESSONS LEARNED

- The greatest challenge is keeping users engaged in keeping the database current.
- It is important to have continued visibility and program promotion.

PARTNERS

Partners for this initiative included a representative sample from departments throughout the institution and the information management and technology division.

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Improving Patient Safety Following Bariatric Surgery Through Pre-Surgical Case Review

SUNY Upstate Medical University

PARTNERS

Partners for this initiative included representatives and members from the Central New York Bariatric Surgery Center, department of nursing, department of surgery, risk management, quality assurance, respiratory therapy, one-day surgery center, patient access services, medical records, continuum of care department, and administrative supervisors.

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PROJECT DESCRIPTION

SUNY Upstate Medical University's goal for this initiative was to achieve the highest quality of seamless care for patients who elect to have bariatric surgery for treatment of morbid obesity. In reviewing a case with poor outcomes, the nursing and medical leadership identified system-wide opportunities for improved patient care. Using the "Plan-Do-Study-Act-Teach" (PDSAT) methodology, a system was installed to ensure better communication to all parties involved in caring for post-operative bariatric surgery patients across the continuum of care.

A multidisciplinary team of key stakeholders devised a process for patient placement and monitoring during the acute post-operative stay. A master's level care coordinator follows the patient from the pre-admission to discharge process. Protocols were established and executed. One of the biggest opportunities was to ensure that the hospital leveraged the planned approach to this surgery through pre-operative planning, education, and care. Pre-operative information was then shared with the bedside caregivers to enhance the quality post-operative care through a planned weekly interdisciplinary meeting.

OUTCOMES

- All cases receive systematic and timely pre-operative review.
- There is 99% compliance with the hospital's new evidence-based protocol for monitoring and placing high-risk patients.
- Length of stay is now 2.4 days.

LESSONS LEARNED

- Staff education must be planned and integrated into any change project.
- Pre-operative case review allows for better individualized post-operative care planning.
- A multidisciplinary team approach is required for enhancement of quality outcomes.
- Not all post-operative complications can be anticipated pre-operatively.

Improving Patient Education

SUNY Upstate Medical University

PARTNERS

Partners for this initiative included the hospital administration, a multidisciplinary patient education committee, patient and family volunteers, the health information center, duplicating services, and marketing department.

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PROJECT DESCRIPTION

The purpose of this initiative was to improve the quality and consistency of patient education across SUNY Upstate University Medical Center. This project was implemented under the direction of the patient education coordinator, patient education specialist, and a multidisciplinary committee, which includes patient and family representation. An “A-Z Patient Education Web Page” was developed, which uses both lay and professional search terms. This page contains all hospital-developed patient handouts, many of which are also accessed by the community. The multidisciplinary committee reviews all patient educational materials for content and readability. A process and policy were put in place to review and approve all handouts before they are placed on the Web site. Protocols are being developed to guide what patients need to learn and to facilitate documentation of the education.

In addition, health information is available 24 hours a day via an on-demand education television system. A commercial database was purchased to provide medication education for adults and children. The information is available in 17 languages.

Staff are educated about the availability and importance of patient education via Intranet, in-service, and hospital-wide campaigns.

OUTCOMES

- Statistical information from the Web site shows an overall increase in the use of patient education resources.
- Committee members attended 80% of the meeting, which reflects their commitment to patient education.

LESSONS LEARNED

- Constant messages about patient education have increased awareness and performance.
- Regardless of the policies and procedures, the hospital continues to have a few staff distribute materials that do not meet the hospital criteria.

Hospital 24/7 Visitor Pass Process

SUNY Upstate Medical University

PARTNERS

Partners for this initiative include patient access services; campus police; hospital administration; and the nursing, human resources, and marketing and communications departments.

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PROJECT DESCRIPTION

SUNY Upstate Medical University implemented a formal process to provide visitor passes to all individuals entering the facility on a 24-hour/day basis to minimize access to unauthorized locations at the hospital. The primary goal was to increase safety and security for hospital inpatients. By properly screening visitors upon entrance to the facility, “Ambassador” staff can also help visitors get to the right location, confirm they are in the correct place, and escort patients and visitors as needed.

OUTCOMES

The “Visitor Pass” implementation has resulted in the following outcomes:

- All people within the hospital now have either a hospital-issued identification badge or daily visitor pass at all times.
- Vendors and pharmaceutical representatives must have an appointment to be granted access to the facility. This process was in place prior to visitor pass implementation but enforcement was problematic.
- There is now one primary public entrance to the hospital, staffed by Ambassadors and campus police.
- “Way finding” has improved for patients and their visitors. Visitor destinations are printed on their passes, which enables hospital staff to easily assist them.
- There is now minimal “pass-through” traffic between the facilities.

LESSONS LEARNED

- Develop a simple process and policy for the public and staff for a variety of situations.
- Include flexibility to accommodate patients and visitors without compromising the goal of patient safety.
- Ambassador and public safety staff must be well versed in the process prior to the start and have necessary customer service training.
- Involve local media in advance to announce the program.
- Use every patient contact point to inform patients of the new program.

Use of SBAR Communication in Nurse-to-Nurse Reports: Implementation of the SBAR Structured Communication Tool

Vassar Brothers Medical Center

PARTNERS

Partners for this initiative included the nursing staff, nursing leadership (managers/directors) clinical coordinators, staff development, information technology department, and senior leadership.

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PROJECT DESCRIPTION

Vassar Brothers Medical Center's team of nursing staff and nursing leaders used the "Plan-Do-Study-Act" method to select and successfully implement the "Situation-Background-Assessment-Recommendation" structured communication tool. This tool was selected because it is:

- evidence-based;
- a structured framework for communication used in crew resource management (aviation safety);
- a tool that sets the expectation that specific information will be communicated every time a patient is discussed;
- an effective and efficient tool that ensures communication of important and relevant information;
- a method that fosters critical thinking associated with defining the problem and formulating a solution;
- easy to remember; and
- adaptable to different situations.

The goal was to improve communication of patient information in nurse-to-nurse reports during transfers of patient care. This project was selected for its impact on patient care and safety. Staff comments regarding SBAR have been, "it's great," "provides consistency," "user-friendly," "prevents rambling," and "helps keep everyone on the same page."

OUTCOMES

Nursing directors and managers measured the implementation of the SBAR nurse-to-nurse structured report through direct observation. It is currently used hospital-wide as the standard for nursing reports and has become part of the patient safety culture. The hospital-wide mock Joint Commission survey using the "tracer" methodology found 100% compliance with the process.

LESSONS LEARNED

- The key to the success of this project was the continuous involvement of the nursing staff and response to their feedback for improving the SBAR format, content, and process to make it a useful tool for them.
- Staff development and information technology provided additional resources to support this initiative.
- Continuous use of the SBAR with feedback and mentoring for the nursing staff on the unit, especially for critical thinking skills, "built the change" and ensured compliance.



Use of SBAR Communication in Nurse-to-Nurse Reports: Implementation of the SBAR Structured Communication Tool

Vassar Brothers Medical Center (CONTINUED)

- Nursing leaders provided reinforcement, were available for questions, and provided the “big picture” connection to patient safety.
- Senior leaders ensured the availability of necessary resources and monitored the progress of the project.

OPERATIONS: QUALITY MANAGEMENT

Creating a Culture of Sustainable Quality in a Community Hospital

Lakeside Memorial Hospital

TOP 10TH PERCENTILE SUBMISSION

PROJECT DESCRIPTION

After sending its entire administrative and clinical management team to a course in Lean manufacturing training, Lakeside Memorial Hospital began a “PRIDE” initiative that applies the Lean education to improving patient safety and quality of care. The hospital’s PRIDE education and philosophy led directly to examining processes related to Institute for Healthcare Improvement and Centers for Medicare and Medicaid Services quality initiatives.

The effort, spearheaded by the hospital chief executive officer and chief nursing officer, centered on educating and involving all employees on the importance of patient safety and the “standardization of work,” using Lean principles, to ensure consistent outcomes. Processes, such as the creation of new forms, the way charts are completed, etc., were designed to significantly improve care delivery and to ensure that important patient safety information was reported.

In addition, the hospital adopted the “visual control” aspect of the Lean approach so that as staff can easily and regularly observe how they are performing against set goals, they are more likely to notice any issues/variation and take immediate corrective action. These actions were communicated back through the team in the form of a “morning market” check-in at the beginning of each shift. The hospital also created process improvement action plans for initiatives incorporated into the IHI 100,000 and 5 Million Lives campaigns.

OUTCOMES

- At the end of 2006, six of 17 indicators were at or exceeding their target, with eight indicators missing the target by more than 20%. By the end of the third quarter of 2007, 12 of 16 indicators were at or exceeding their targets, with zero indicators missing their target by more than 20%.
- Compliance with quality benchmarks for acute myocardial infarction, heart failure, pneumonia, and surgical infection improved from a low of zero to 82%.

LESSONS LEARNED

- Using standard work processes and visual controls, bedside staff can significantly improve both patient safety and reporting.
- Training is important, but shared vision and outstanding leadership (including “raising the bar” on expectations of employees) ensure success in this type of endeavor—employees will rise to the new expectation level.

PARTNERS

Partners for this initiative included Eastman Kodak Company, IHI, and all departments in the hospital.

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Creating a Culture of Sustainable Quality in a Community Hospital

Lakeside Memorial Hospital (CONTINUED)

- Charting the status of compliance and displaying it where it can easily be seen by staff leads to outstanding improvement.
- Involving the entire management team and educating the full staff about standard work processes can lead to significant improvement in patient safety.
- The team effort, including the creation of shared dashboards and accountability, gave the initiative the “single vision for improvement” and appropriate visibility to sustain progress.

Patient Safety Fridays: QPS Management, Improvement, and Culture Change

NewYork-Presbyterian Healthcare System

TOP 10TH PERCENTILE SUBMISSION

PARTNERS

This hospital-wide initiative involves all staff at five inpatient hospitals and numerous ambulatory sites of an academic medical center.

PROJECT DESCRIPTION

NewYork-Presbyterian Healthcare System's senior management developed an initiative to dedicate each Friday to quality and patient safety (QPS) issues, with all management staff involved in education, monitoring, and improvement to express core values of excellence and innovation and to foster culture change. The organization developed the "Patient Safety Fridays" initiative to achieve the goal of becoming a "high reliability organization." The objective of Patient Safety Fridays was to build an innovative process through which a culture of safety is promulgated, best practices are standardized and communicated across a large health care organization, and staff share a common high level of knowledge on quality and patient safety issues.

Every Friday, the entire management team (clinical and non-clinical), comprised of more than 1,200 individuals, convened at 8 a.m. for a one-hour didactic session on clinical and environment topics followed by a two-hour block of tracers (a management tool developed by The Joint Commission) on every patient care unit with subsequent report-outs on improvement activity. This was followed by unit-based education to target areas for improvement. Focusing dedicated time each week on QPS activity related to a specific curriculum decreased the transactional costs of improvement activities and created economies of scale. In this way, best practices and improvement strategies can be spread simultaneously across five inpatient hospitals and numerous ambulatory sites of a large and complex organization. Participation of all staff in simultaneous education and improvement activity fosters a culture of safety.

OUTCOMES

Using tracers, data are currently being collected weekly across all units on 44 effectiveness of care (EOC) indicators and 36 clinical measures, with additional measures added each week. Staff members collect data through observation, staff interviews, medical record reviews, and patient/family interviews. All clinical and non-clinical staff conduct tracers simultaneously on all patient care units. Representative results over the initial eight weeks include:

- Patient verification improved from 82% to 95%.
- Staff competence regarding the restraint policy improved 14%, and reporting of adverse events improved by 12%.
- Code cart checking was improved by 15%.

LESSONS LEARNED

- Leadership involvement has been critical in development, implementation, maintenance, and refinement of the initiative. Course corrections should occur rapidly in response to feedback from staff involved in tracer activity.

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Patient Safety Fridays: QPS Management, Improvement, and Culture Change

NewYork-Presbyterian Healthcare System (CONTINUED)

- Involvement of all staff in QPS has a multiplier effect—senior leadership and staff from finance, legal, patient services, and other support departments can use tracers and be a valuable asset for QPS activity in patient care areas. Clinical leaders tracing outside of their own units encourages teachable moments and spread of best practices. Simultaneous involvement of all staff on a weekly basis fosters a culture of safety.
- During the initial weeks of the initiative, internal faculty experts were attempting to respond immediately to questions (e.g., clarification of policy) at each site. To improve consistency and provide more thoughtful responses, questions were aggregated at each site and answered for all sites at the following Friday session.
- An initial attempt to centralize data input from EOC tracers was inefficient. Improved data entry was achieved by enabling each tracer team to input their data via a Web-based tool that automatically generated work orders post-tracer.

Inventing a Roadmap: Qualitative and Quantitative Aspects of Patient Safety Culture Change in a Large, Complex, Multi-Facility Health Care System

New York City Health and Hospitals Corporation

TOP 10TH PERCENTILE SUBMISSION

PROJECT DESCRIPTION

New York City Health and Hospitals Corporation (HHC) has effectively embedded core elements of patient safety into its culture and its pursuit of becoming one of the safest health care systems in the nation by the end of the decade. Building on robust performance improvement processes, HHC successfully devised its own processes, while integrating nationally recognized clinical best-practice models such as ventilator-associated pneumonia and central line infection (CLI) bundles, rapid response teams, and innovative technologies. Through its focus on patient safety, HHC has emphasized and supported intensive leadership and frontline staff development, awareness building and empowerment, collaboration and implementation of clinical best practices, transparency, and technology implementation. Through extensive and clear communication, HHC has strategically built on existing resources to engage patient and non-patient care staff, patients, community members, and organized labor to deepen awareness of patient safety issues, and to involve these groups as partners in HHC's collective work while providing them with tools and techniques to recognize and prevent harm.

OUTCOMES

- There were approximately 17,000 responses on the Agency for Healthcare Research and Quality patient safety culture survey.
- There has been an increase in staff receiving influenza vaccine, from 31 in 2006 to 49 in 2007.
- NYCHHC held “just culture” training for more than 800 leaders and frontline managers.
- There has been an increase in near-miss reports from zero in 2006 to more than 100 in 2007.
- There has been a reduction in the CLI rate from 7.6 in 2005 to 2.18 in 2007, and in VAP from 10.82 in 2005 to 2.18 in 2007.
- From 2003 to 2007, there have been 880 fewer deaths.
- The patient safety awareness campaign, *Help Us Help You: Partnering for Safer Care*, engages and educates staff and patients. Patient-specific literature is translated in 13 languages.
- HHC required participation of 48 designated patient safety officers/chief executive officers in the Institute for Healthcare Improvement's eight-day intensive patient safety officer executive development program.
- The corporate patient safety gateway Intranet site, which is used for widespread information dissemination, has experienced 8,000 discrete visits and more than 600,000 “hits” in 2007.

PARTNERS

External partners for this initiative include the committee on interns and residents and Service Employees International Union. Internal partners include HHC's 11 acute care hospitals, four long-term care facilities, six diagnostic and treatment centers, certified home health agency, and community advisory boards.

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Inventing a Roadmap: Qualitative and Quantitative Aspects of Patient Safety Culture Change in a Large, Complex, Multi-Facility Health Care System

New York City Health and Hospitals Corporation (CONTINUED)

LESSONS LEARNED

- Leadership commitment/support is non-negotiable and must be transparent and believable to all key stakeholders.
- Celebrate all successes; recognize, reward, support, and empower staff for their patient safety efforts and wins.
- Identify, deploy, and support patient safety champions.
- Be vigilant; “push-out” the patient safety message constantly and winningly to key constituents including the community, labor, and government, and engage key stakeholders early in the journey.

Preparing Frontline Staff: An Innovative Approach to Mandatory Nursing Education

South Nassau Communities Hospital

PARTNERS

The multidisciplinary/interdepartmental planning committee consisted of individuals representing the following areas:

- education, development, and research;
- performance improvement (including risk management/patient safety officer);
- corporate compliance, pharmacy, and infection control;
- community education; and
- nurse manager/patient care services.

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PROJECT DESCRIPTION

In today's rapidly evolving health care arena, timely and effective staff education is paramount to ensuring safe, high quality patient care, while concurrently fulfilling the growing number of regulatory requirements, all within the context of a culturally evolving workforce. When such education is mandatory, the challenge becomes finding an adaptable and dynamic strategy to reach staff in a way that will both engage and inform them. In established mandatory nursing education day events, South Nassau Communities Hospital broke away from traditional classroom education and set up a total of 15 interactive "stations" that covered medication safety, handoffs of care, skin care/pressure ulcer prevention, restraints/seclusion/fall prevention, intravenous therapy, pain management, infection control, corporate compliance, stroke/what to do when a patient's condition changes, core measures, cultural diversity, and a crash cart/mock code review. A final evaluation station, "There's something fishy going on here," was set up for participants to "catch fish" with questions/incorrect statements (reflective of content from all other stations) and to answer or correct what was "fishy."

OUTCOMES

During the first year of implementation, quarterly educational fairs were held and attended by 806 staff members: 589 nurses, 156 support staff, and 61 guests/other non-required staff. Based on participant evaluations:

- Ninety-nine percent of nursing staff and 99% of support staff felt that the "topics were helpful to review."
- Ninety-seven percent of nursing staff and 99% of support staff felt they "learned new information."
- Ninety-eight percent of nursing staff and 99% of support staff felt the "event was well organized and an effective way to learn."
- In response to the question, "What did you like most?" participants said: "Pleasant way of learning and better way of reaching out to many employees"; "Information is helping the nurses to become more effective nurses"; "The format made it so easy and fun to learn and review"; and "It was good to see everyone interacting."

LESSONS LEARNED

- The hospital needs to allow sufficient time for staff to attend these events, particularly if conducted during their workday.
- The event encouraged open, thoughtful dialogue in a relaxed setting.
- Mandatory educational fairs can have a positive impact on staff performance, staff satisfaction, and, most importantly, the provision of quality patient care.

Hard-Wiring Patient- and Family-Centered Care as a Service Initiative

SUNY Upstate Medical University

PARTNERS

External partners for this initiative are family members of patients. Internal partners include staff, managers, and directors from inpatient, ambulatory, ancillary, and support services.

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PROJECT DESCRIPTION

SUNY Upstate Medical University designed this initiative to improve the organizational culture and subsequently customer service to the patient by implementing patient- and family-centered care. A multidisciplinary committee was established, which included family members and staff from ambulatory, inpatient, emergency department, ancillary, and support service areas. The facility conducted an extensive education and awareness program, which included accessing information from the Institute for Family Centered Care (IFCC), a literature search, and attendance at a national IFCC conference. This culminated in establishing a plan based on the guiding principles of patient- and family-centered care. Key elements of this initiative included a train-the-trainer program and completion of a hospital-wide, departmental, and patient care unit assessment to determine the hospital's readiness and establish a baseline for completion of action plans.

Based on the findings of the hospital assessment, standards were established in three specific areas; policies and procedures were changed to reflect a more patient-friendly outlook; input and advice was requested of patient and family members; and patient- and family-centered care became one of the institution's strategic planning priority areas.

OUTCOMES

- The hospital reviewed all policies and procedures for applicability to IFCC standards. For example, the hospital's visitation policy was revised to expand visiting hours to "24/7" for family members in all patient care areas.
- The hospital created a formalized process for review of all patient education materials or brochures by non-clinical volunteers (patients and families).
- The hospital improved in ten out of 12 patient satisfaction indicators.

LESSONS LEARNED

- Staff training must be fun; it has a greater chance of success and applicability if personal storytelling is used.
- Critical to success is debunking the urban legends regarding families being extra work for staff.
- Make no assumptions about making improvements for patients and families without their input.
- Providing current evidence-based literature on any initiative is critical for success.

Bringing Evidence to the Point of Care

SUNY Upstate Medical University

PARTNERS

Partners for this initiative include members of the Nursing Research Special Interest Group, the chief nursing officer, managers and staff in the nursing department, the library director, and managers and staff in reference services in the medical library.

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PROJECT DESCRIPTION

SUNY Upstate Medical University believes that care based upon credible, tested evidence, often called the “best evidence,” can significantly improve patient outcomes. A goal of the Nursing Research Special Interest Group (NuRSInG)—composed of staff registered nurses (RNs), advanced practice RNs, librarians, and a nurse researcher—is to support nurses in their efforts to create a culture of evidence-based practice (EBP). To increase awareness of EBP, NuRSInG RN-librarian teams attended specialty area and unit-level groups, and now provide ongoing support by identifying and referencing evidence as clinical policies are updated. To increase efficient, convenient access to evidence for direct care staff, NuRSInG partnered with the Upstate Medical Library’s Nursing Reference Center. Desktop icons have been placed on unit computers, enabling nurses with just one click to access the site and find/print evidence-based care sheets. Over the past 15 months, nurses have become more confident and competent in their EBP knowledge, demonstrating a significantly greater awareness and use of library resources, revising policies based upon best evidence, and using evidence-based care sheets for patient care decision-making.

OUTCOMES

- Staff RNs’ perceptions of their unit as “ready to go” with EBP improved from 12.4% to 31%.
- RNs’ awareness of librarians as a skilled resource for EBP improved significantly.
- There were 884 searches in 477 sessions using the Nursing Reference Center desktop icon between February 4 and March 4, 2008.
- Anecdotal feedback from nursing staff has been very positive.

LESSONS LEARNED

- Eliminating as many extra steps as possible increases the likelihood that nurses will access and use Web-based materials.
- Librarian-direct involvement in direct care areas has had a marked positive impact on nurses’ use of this important resource.
- Peer support and access to experts are critical.
- It is important to celebrate incremental successes.

Elevating the Quality Agenda at an Academic Medical Center

University of Rochester Medical Center

PARTNERS

Partners for this initiative included the Web page redesign team, Strong Memorial Hospital Senior Management, and a Web page design consultant.

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PROJECT DESCRIPTION

In the rapidly growing field of quality measurement, the University of Rochester Medical Center established a goal to redesign and expand the development, reporting, and access to all hospital quality and safety information using the Institute of Medicine's (IOM) aims for health care improvement (effective, efficient, patient-centered, safe, timely, and equitable care) as the framework. Two critical elements to achieve this goal are improving Web site functionality and consolidating reporting.

The facility placed the quality measurement Web site link on its Intranet homepage next to the strategic plan, which sent an important message to the workforce. The intent was to demonstrate that quality is the hospital's number one priority; the leadership is committed to transparency and communicating organizational performance to the entire workforce; and access to quality measures would be widespread, easy, and visibly aligned with IOM's aims. An icon representing each IOM aim identifies and differentiates metrics and quality initiatives on the Web site. The icons help educate the user about the IOM aims and provide an easy visual cue about the information. When a cursor hovers over the icon anywhere on the Web site, the definition of the aims pops up. Through an innovative Web site redesign, the facility has been able to highlight the quality agenda and facilitate hospital leadership's management across the six aims for improvement.

OUTCOMES

- Baseline data of unique Web site users, on average, for two months was 255. For the post-launch two month time period, January 7, 2008 to March 7, 2008, there were 309 unique users—a 21% increase.
- The Web site is being recognized as an effective and efficient way for other internal groups to disseminate their data.

LESSONS LEARNED

- Reports and information defined by the IOM aims act as a visual reminder to keep focused on the core purpose of the Medical Center. Use of the icons on the Web sites reminds the leadership and staff of the organization's quality and safety goals.
- Design with future expansion capabilities in mind. You will not be able to implement everything on your wish list; however, design the site with the wish list in mind.

PATIENT SAFETY: FALLS

Getting Results: A Patient-Centered Fall Reduction Program—Utilizing “Safe Patient Placement”

John T. Mather Memorial Hospital

PROJECT DESCRIPTION

The John T. Mather Memorial Hospital nursing department’s Staff Against Falls Everywhere (SAFE) performance improvement team decided to redesign the hospital’s overall SAFE program approach for reducing falls and harm from falls and to move closer to becoming a restraint-free environment. A supportive management team, flexible workforce, and visionary nursing leadership were enlisted to create the necessary cultural environment at the hospital.

The program’s innovative approaches included the “safe patient placement” concept (placing “at-risk” patients close to the nurse’s station), brainstorming to identify areas requiring change (Ishikawa diagram/fishbone), increased use of evidence-based research, expanded participation of stakeholders; enhanced partnership with nursing quality management; and collaboration with the Institute for Healthcare Improvement “Reducing Harm From Falls” initiative.

Baccalaureate nursing students were engaged to conduct focused research and education. Transparency and availability of data increased staff’s ability to utilize monthly restraint and fall data at the unit level. Multiple disciplines and departments were enlisted for support.

Adherence to quality improvement principles was accomplished by establishing relevance to the hospital’s strategic plan. The “Plan-Do-Study-Act” methodology was utilized. No additional staff were hired or diverted to achieve results, and the costs for the IHI initiative were nominal—thus, the hospital experienced an effective and strategic use of resources.

OUTCOMES

- There was an 18% decrease in the fall rate during the first year, from 3.65 per 1,000 patient care days in 2006 to 3.00 in 2007.
- There was a 5% increase in patients who received “no injury” as a result of a fall (64% in 2006 to 69% in 2007).
- There was a 4% decrease in the restraint rate from 4.77 in 2006 to 4.58 in 2007.

LESSONS LEARNED

- The safe patient placement concept was very effective in reducing falls and harm from falls.
- Data transparency and ease of use were critical to success.
- Goals, methods, and findings must be engrained into the culture and shared inter- and intra-departmentally.
- The use of a valid and reliable tool will be integral to accurate assessment and stratification.

PARTNERS

Internal partners included the nursing staff/performance improvement team; nursing management/nurse executive council; the admissions, materials management, and emergency departments; hospital-wide quality management committees; the performance improvement council; and the medical board/board of directors. External partners included patients, families, IHI, Stryker Corporation, and baccalaureate nursing students.

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Promoting Front-Line Staff Involvement in Preventing Patient Falls

Lawrence Hospital Center

PARTNERS

Partners for this initiative include front-line registered nurses, nursing assistants, nurse managers; physical therapy, pharmacy, and radiology staff; the director of patient care services; and minimal lift and patient alarm vendors.

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PROJECT DESCRIPTION

The goal of this Lawrence Hospital Center program was to involve hands-on caregivers in a multi-tiered approach to reducing falls, especially falls with injury. A fall reduction program was already in place, but the expected significant decrease in falls had not been realized. Building on key elements of the existing fall reduction program (i.e., scoring of patient risk factors to identify patients at risk for falling and the use of “green” identifiers such as armbands, a green dot on medical record, and green dot on doorway to identify patients at high risk), the hospital implemented a new program with improvements suggested by front-line staff.

A drill-down analysis of patient falls showed that the majority of falls occurred from 11 p.m. to 7 a.m. In response to this finding, in 2007, hourly rounding focusing on the “Three Ps” (pain, potty, and positioning) was begun. In addition, further drill-down of patient fall data showed that many falls occurred while staff were assisting patients during transfer. Not only were patients at risk, staff were at risk for injury while supporting an unsteady patient. The “minimal lift program,” which allows patients to use assistive devices and eliminated the need for staff physical assistance, was initiated to make this process safer for both patients and staff.

A new bed alarm system was tested after it was determined that the existing bed alarm system had two major problems. First, by the time the alarm sounded, the patient was typically already on the floor. Second, since it was not always obvious where the alarm was sounding, staff had to search for the patient at risk. A clinical trial of a wireless fall alarm alert was conducted. This alarm sounds while the patient is in the process of getting out of bed. Thus, the fall can be prevented. The alarm is also monitored centrally at the nurses’ station, eliminating the search for the patient at risk. Patients appreciate the “invisibility” of the alarm and the convenience of not having to wear it.

OUTCOMES

- Patient incident reports and analysis are used to measure success.
- Falls with injury decreased from 27% in 2005 to 24% in 2007.
- Falls rate declined from 3.7 in 2005 to 3.0 in 2007.
- Staff injury significantly decreased.

LESSONS LEARNED

- Because front-line staff understand both patient and staff needs, they are an excellent resource for improvement innovation.
- Staff should see data on a monthly basis to monitor improvement. Hospitals should consider conducting a mini-root cause analysis on each individual fall to identify causes of falls.



Promoting Front-Line Staff Involvement in Preventing Patient Falls

Lawrence Hospital Center (CONTINUED)

- Administrative support is essential for new technology.
- Staff are highly satisfied with the minimal lift program since it greatly reduces the likelihood of injuries for both staff and patients.

Preventing Patient Falls in the Home: A New Design for Home Care Patient Safety

South Nassau Communities Hospital Home Care Agency

PROJECT DESCRIPTION

In 2006, the South Nassau Communities Hospital's home care agency initiated a falls prevention program to decrease the number of patient falls, to help patients remain safely in their homes, and to assist patients in receiving continued services from the agency.

With support from performance improvement staff, evidence-based risk factors for falls were researched, and relevance of the risk factors to the agency's patient population was assessed through retrospective analysis and chart review of past "fallers." A fall risk screening tool was developed and incorporated into the admission process, enabling the agency to assign a high, moderate, or low risk of falls for each patient. Admitting clinicians were educated to alert the rehabilitation scheduler, who would initiate the fall prevention program with a physical therapist within 48 hours of admission for patients determined to be at a high risk for falls.

The program consisted of a thorough home safety, Tinetti gait/balance, and footwear assessment, and documented recommendations to the patient and/or caregiver. An occupational therapy evaluation was completed if determined to be appropriate by a physical therapist. Lower extremity strengthening and standardized graded balance exercise programs were initiated by the second visit. These patients were tracked throughout the duration of the program to determine if a fall had occurred. In addition, all patient falls were tracked regardless of their risk designation.

OUTCOMES

In 2006 and 2007:

- Of the 356 patients admitted to the home care agency and identified to be at a high risk for falls, 31 fell.
- Twenty-eight of these patients who fell had no injury; three had fractures.
- Thirty patients fell who were not identified as high-risk fallers.
- The fall prevention program was effective in preventing falls in 91.3% of patients identified to be at a high risk for falls while in the home care program.
- The program prevented injury in 99% of patients identified to be at a high risk for falls while in the home care program.

LESSONS LEARNED

- The fall risk screening tool did not identify all patients who actually fell while in the home care program.
- Ongoing chart review and retrospective analysis must occur at designated intervals to update the fall risk screening tool and to identify patients who should be part of the fall prevention program.

PARTNERS

The internal partners for this initiative were the performance improvement supervisor, home care management staff, admission clinicians, and rehabilitation staff. External partners included patients, families, and caregivers.

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Cultural Transformation to Prevent Falls and Associated Injuries in a Tertiary Care Hospital

Staten Island University Hospital

2008 PINNACLE AWARD WINNER—LARGE OR MULTI-ENTITY ORGANIZATIONS CATEGORY

PROJECT DESCRIPTION

In 2005, inpatient falls were increasing at Staten Island University Hospital, a tertiary care facility, and reached 4.0 per 1,000 inpatient days. There was also an associated increase in significant fall-related injuries. To reduce inpatient falls and injury, a fall prevention initiative (FPI) was successfully implemented in early 2006. Under the leadership of the chairman of rehabilitation medicine and the chief nurse executive, the cornerstone of the FPI was fall and injury reduction through the transformation of the hospital's culture to one with more staff awareness, critical thinking, and accountability for patient safety. This was accomplished through:

- documenting and quantifying inpatient falls to highlight safety awareness, identifying fall patterns, evaluating the FPI's progress by monitoring data, and quantifying protocol breaches;
- evaluating the root cause of each fall to identify missed preventive opportunities, to enhance the fall prevention protocols, and to determine accountability; and
- reviewing the pre-existing fall prevention protocols to identify shortcomings and improvements.

OUTCOMES

- The hospital has successfully transformed its culture. Now, there is greater staff awareness of the importance of fall prevention, more critical thinking when developing treatment plans and other strategies to prevent falls, and effective accountability for breaches in protocols.
- Overall inpatient fall rates per 1,000 inpatient days decreased by 50%, achieving 1.9 falls per 1,000 patient days in the last measurement quarter.
- There were statistically significant reductions in minor and moderate injury rates by 65% and 35%, respectively. Very low major injury rates precluded comparisons.
- The costs associated with implementing the FPI were related to Sitter Select personal alarms, mattresses, and chair pads. Significant return on the investment resulted from fewer falls.

LESSONS LEARNED

- Cultural transformation was a powerful tool in improving patient safety and reducing inpatient falls/injuries.
- The hospital board's leadership role and the inclusion of a broad range of personnel including management, nursing, and non-nursing staff, were key to achieving cultural transformation.

PARTNERS

Partners for this initiative included the hospital board of directors, chairman of rehabilitation medicine, chief nurse executive, associate chairperson of the department of medicine, nursing department, quality management department, house staff physicians, and non-nursing personnel working on inpatient units.

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Cultural Transformation to Prevent Falls and Associated Injuries in a Tertiary Care Hospital

Staten Island University Hospital (CONTINUED)

- Achieving effective compliance with fall prevention policies and procedures, while only adding a limited few new ones, was important to the success of the FPI.
- Improved patient safety through the reduction of falls/injuries is cost-effective.
- Data collection, analysis, and a continuous performance improvement philosophy were important for the success of the FPI.

PATIENT SAFETY: INFECTION MANAGEMENT

Sustained Reduction in Hospital-Acquired MRSA and Prevention of MRSA Transmission Using a MRSA “ABC” Bundle

Beth Israel Medical Center

2008 PINNACLE AWARD WINNER—LARGE OR MULTI-ENTITY ORGANIZATIONS CATEGORY

PROJECT DESCRIPTION

Beth Israel Medical Center’s goals for this initiative were to reduce Methicillin-Resistant *Staphylococcus aureus* acquisition, prevent MRSA transmission among patients, and to determine if decreasing MRSA transmission has an impact on other antibiotic-resistant organisms. The “Plan-Do-Study-Act” methodology was used to rapidly eliminate the gap between best evidence and current practices regarding the prevention of MRSA acquisition and transmission. The ABCs of the MRSA initiative consisted of five components:

- Active surveillance cultures;
- Barrier precautions;
- Compulsive hand hygiene;
- Decontamination of equipment and the environment;
- Device “bundles”; and
- Executive and union leadership.

The hospital worked with the union leadership to ensure collaboration, remove obstacles to success, empower front-line staff, and publicize the efforts throughout the health care system. Senior leadership made monthly “Rounding for Outcomes” with staff and supported innovative approaches including “Caught Being Great” and “Red Rules Programs” to ensure reliable performance of patient safety and quality practices. The initiative included a “virtual” color-coded traffic light to identify patients with antimicrobial resistant bacteria, and participation in the health care worker’s union’s infection prevention coach training program.

Existing staff and financial resources were used, with limited additional financial resources. It was determined that to be cost-neutral, a reduction of six MRSA cases over one year was needed.

OUTCOMES

- Compliance with hand hygiene, device bundles, maintenance of precautions, and environmental and equipment decontamination has been 90% or greater since 2005.
- Hospital-acquired MRSA infection decreased from 4.1 per 1,000 discharges in 2004 to 1.4 per 1,000 discharges in 2007.
- Molecular typing has failed to show transmission of MRSA strains in the health care system.
- Active surveillance has shown a range in colonization on admission—from 2% in surgical patients, 5% in cardiac patients, and up to 20% in intensive care patients.

PARTNERS

Partners for this initiative included the chief executive, medical, and financial officers; the medical directors and nursing leadership of each patient care unit; unit-based interdisciplinary teams composed of clinicians, house staff, infection control professionals, and non-clinicians such as materials management, environmental services, patient and radiology transporters; and Service Employees International Union Local 1199 infection prevention coaches and union representatives.

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Sustained Reduction in Hospital-Acquired MRSA and Prevention of MRSA Transmission Using a MRSA “ABC” Bundle

Beth Israel Medical Center (CONTINUED)

- Introduction of the MRSA ABC bundle resulted in decreases of other antibiotic-resistant bacteria.
- This initiative was cost-effective, resulting in \$1.5 million avoided costs through reduction of these infections.

LESSONS LEARNED

- Consistent use and monitoring of evidence-based patient care practice “bundles” with the reporting of data to end users resulted in a rapid and sustained decrease in MRSA.
- This initiative was applicable across the hospital system among a variety of medical and surgical units.
- Support of hospital leadership and achievement of “buy-in” from ancillary staff was key to rapid and sustained success.
- Limited additional resources were necessary for the success of this initiative.
- Culture change regarding the goal of reducing MRSA and prevention of transmission was applicable for other hospital-acquired infections and patient safety issues.

Reducing Blood Culture Contamination

Beth Israel Medical Center

PARTNERS

Beth Israel Medical Center, Service Employees International Union Local 1199, and Columbia University School of Nursing were the partners for this initiative.

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PROJECT DESCRIPTION

Accurate diagnosis and effective treatment of bloodstream infections relies on the ability to obtain non-contaminated blood cultures. This may be an even greater problem when the blood culture is drawn from an indwelling device, such as a central venous catheter. Contaminated blood cultures can cause misdiagnosis and mismanagement of patients, which leads to extended hospital stays, unnecessary treatments with antibiotics, and additional costs.

In the spring of 2004, Beth Israel Medical Center conducted a baseline study on a 24-bed nursing unit to determine blood culture contamination rates in various departments of the hospital. Using the “Assess, Collect, Evaluate and Sustain” (ACES) process in collaboration with infection control staff, the nurse manager began a study of contamination rates, with a goal of decreasing these rates as much as possible. The nurse manager received results of all positive blood cultures. Through concurrent chart review, the nurse manager determined if the culture was a contaminant versus actual infection. For all contaminants, the nurse who drew the sample was re-educated based on existing procedures. Between the second and third surveillance periods, it became evident that while education had a significant impact on peripherally drawn blood cultures, it alone was not sufficient in decreasing contamination rate in cultures drawn from central venous access devices. Based on a review of the literature, the interdisciplinary team developed a new protocol, and staff were re-educated accordingly. This new protocol was accepted and written into policy for implementation in the entire hospital.

OUTCOMES

The result of the surveillance after education using the new protocol was a reduction of the overall contamination rate to 0.43%.

LESSONS LEARNED

Aseptically changing the cap prior to blood culture sampling from an indwelling central venous catheter was both an easy and effective change to implement on the medical hematology/oncology unit. Because of this study, the procedure was changed hospital-wide.

Decrease in Nosocomial MRSA Through an Increase in Staff Education

Columbia Memorial Hospital

PARTNERS

Partners for this initiative included the medical director, vice president of patient and clinical services, director of emergency department/surgical services, medical-surgical unit nursing coordinator, director of environment services, director of laboratory, supervisor of microbiology, and infection control coordinator.

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PROJECT DESCRIPTION

In May 2007, a multidisciplinary team was developed to address the functional and educational needs of Columbia Memorial Hospital's infection control practices specific to Methicillin-Resistant *Staphylococcus aureus*. Roving education by the "Infection Control Patrol" to each clinical department was the primary method used to increase awareness.

In-service training included the following information:

- the definition of MRSA;
- key MRSA facts and statistics;
- effective MRSA control measures;
- isolation issues;
- room placement;
- necessary signage;
- the hospital's MRSA policy;
- appropriate cleaning procedures;
- the difference between *Staphylococcus aureus* and MRSA; and
- photos of wounds infected with MRSA.

This information was provided via posters, informational packets, MRSA quizzes with prizes for answering all questions correctly, and "Mack the Methicillin-Resistant Staph Aureus Bug" distributed to all participants.

OUTCOMES

- The number of nosocomial MRSA cases decreased by 1% in 2007. For a three-month period during 2007 (June–August), there were no cases of nosocomial MRSA.
- Fifty-four percent of clinical staff received in-service/ongoing education.

LESSONS LEARNED

Continuing education programs, cues, and increased resources directly affect compliance.

Innovations for Reducing Urinary Tract Infections in an Acute Care Hospital

Good Samaritan Hospital Medical Center

PARTNERS

Partners for this initiative included the infection control department, nursing administration, nursing education, EBP coordinator, and central supplies.

PROJECT DESCRIPTION

The nursing department at Good Samaritan Hospital Medical Center formed an evidence-based practice (EBP) workgroup to identify and implement innovative practices to reduce the incidence of urinary tract infection (UTI) in the acute care patient population. Strategies developed included the creation of a “UTI bundle” based on Centers for Disease Control and Prevention (CDC) guidelines for prevention of catheter-associated urinary tract infections, bundling Foley catheter supplies to increase compliance with the UTI bundle, and postings on “Did You Know?” boards. An “EBP Challenge” recognized the medical-surgical unit with the lowest urinary catheter utilization ratio in the facility’s quarterly *Nursing Matters* publication and leadership meetings. Another initiative was the implementation of a “soft-stop policy” in which failure to meet medical necessity criteria initiates a soft-stop protocol within 72 hours, requiring communication with a physician of prompt removal of the urinary catheter.

OUTCOMES

- UTI rates decreased from 8.70 (per Foley catheter days) in the first quarter of 2007 to 5.75 in the fourth quarter of 2007.
- The UTI utilization rate decreased from 0.23 in the first quarter of 2007 to 0.19 in the fourth quarter of 2007.

LESSONS LEARNED

- The uses of innovative execution ideas are as effective as the clinical protocols themselves.
- Achieving engagement and enthusiasm is important to buy-in.
- Use evidence-based protocols, bundle methodology, and guidelines.

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Multifaceted Approach to Reducing Health Care-Associated *Clostridium Difficile* Disease

Good Samaritan Hospital Medical Center

PARTNERS

Partners for this initiative included nursing staff, infectious disease physicians, housekeeping staff, medical staff, ancillary staff, transporters, pharmacy, infection control liaisons, performance improvement group, infection control committee, and administration.

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PROJECT DESCRIPTION

Good Samaritan Hospital Medical Center shares in the international medical community's concerns about *Clostridium difficile*-associated disease (CDAD) acceleration. During 2006, the incidence of health care-associated *Clostridium difficile* rose 59% compared to the previous year. Recognizing that the two most highlighted risk factors for CDAD are recent exposure to antibiotic therapy and exposure to the toxin-producing strain of the organism, a multidisciplinary approach was taken to combat this critical situation. The organization's leadership proclaimed that reducing the incidence of CDAD was a "priority initiative."

Along with multiple processes for antibiotic control, environmental controls were enhanced by incorporating the use of a hypochlorite germicide for disinfecting patient care areas. Communication included an innovative alert system termed "purple sign" isolation, which alerted staff to address bed placement issues, performing a traditional hand wash rather than using alcohol hand sanitizer, and using a chlorine-based disinfectant for room and equipment cleaning. Success occurred when frontline nurses and the ancillary staff embraced this project and took personal ownership of the problem. The accomplishments of this initiative were two-fold: there was a reduction in pain and suffering for the patient population, and cost avoidance.

OUTCOMES

- The health care-associated CDAD for the years 2004 and 2005 were 1.05 and 0.86 per 1,000 patient days, respectively.
- The health care-associated CDAD rate for 2006 was 1.53 per 1,000 patient days (59% increase);
- For 2007, it was 0.89 per 1,000 patient days (42% decrease).
- The facility exceeded the 2007 goal of a 25% reduction.
- The facility achieved more than \$250,000 in cost avoidance.

LESSONS LEARNED

- "Purple sign" isolation worked. Previously, CDAD was included on the list of diseases warranting contact isolation. The new signage clearly alerts the staff to address hypochlorite disinfecting, bed placement issues, and hand hygiene practices.
- Waiting for test results before initiating "purple sign" isolation did not work.
- The concept that the infection control department is solely responsible for altering processes in reducing nosocomial infections was not effective.

Multifaceted Approach to Reducing Health Care-Associated *Clostridium Difficile* Disease

Good Samaritan Hospital Medical Center (CONTINUED)

- This initiative was successful because it was a collaborative effort. It was only with buy-in from all partners that outcomes improved. The consultative interaction between the medical staff and the infectious disease physicians was an opportunity for antibiotic prescribing education.
- The intensive daily review of high-risk antibiotic usage by the pharmacists, along with communication to the prescribing physicians, supported this educational effort.
- One effective initiative was encouraging staff to speak up when breaches in infection control practices were witnessed. Being a patient safety advocate became part of the culture.

Urinary Tract Infection (UTI) Bundle to Prevent Catheter-Associated UTIs

Mount St. Mary's Hospital and Health Center

PARTNERS

Internal partners for this initiative included patient care services staff, physicians, quality management, and information systems. External partners include Ascension Health, Institute for Healthcare Improvement, and CDC.

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PROJECT DESCRIPTION

At Mount St. Mary's Hospital and Health Center, all patients with Foley catheters are monitored for adherence to the UTI "bundle" on every shift to reduce catheter-related UTIs. The "Foley catheter bundle" is a consistent adherence to a set of practices designed to significantly reduce UTIs, improve outcomes, and reduce cost.

About 25% of all hospitalized patients are subjected to urinary catheterization. Urinary bladder catheters are useful for specific needs. However, when used inappropriately, or for too long, the catheters can lead to a UTI. Nosocomial UTIs develop in 5% of catheterized patients, with an associated bacteremia in 4% of the patients—they account for the majority of nosocomial infections. Current research suggests that UTIs contribute to 6,500 deaths per year in the United States and can extend the length of hospitalization by one to four days. Studies have also shown that at least 31% of catheter use is inappropriate.

In 2004, UTIs at Mount St. Mary's Hospital and Health Center accounted for 40% to 50% of all nosocomial infections. As part of Ascension Health's Clinical Excellence Initiative, in September 2004, the hospital implemented the UTI bundle as a means to decrease hospital-acquired infections. Guidelines published by the U.S. Centers for Disease Control and Prevention (CDC) and the Association for Practitioners in Infection Control were incorporated into the bundle used at the hospital.

OUTCOMES

- In 2004, the UTI bundle was started on one unit. The hospital implemented the use of silver-impregnated catheters. Catheter-related UTIs represented 43% of all hospital-acquired infections and six of all catheterized patients developed a UTI.
- In 2005, the UTI bundle was implemented hospital-wide, with 94% compliance. Catheter-related UTIs represented 39% of all hospital-acquired infections and 2.9% of all catheterized patients developed a UTI. There were 60 UTIs identified in 2005.
- In 2006, there was 95% compliance with the UTI bundle. Catheter-related UTIs represented 38% of all hospital-acquired infections; 1.9% of all catheterized patients developed a UTI. Forty-four UTIs were identified in 2006.
- In 2007, there was 95% compliance with the UTI bundle. Catheter-related UTIs represented 32% of all hospital-acquired infections; 1.7% of all catheterized patients developed a UTI. Thirty-two UTIs were identified in 2007.

Urinary Tract Infection (UTI) Bundle to Prevent Catheter-Associated UTIs

Mount St. Mary's Hospital and Health Center (CONTINUED)

LESSONS LEARNED

- A daily reminder for physicians placed on the chart was found to be ineffective—the nurses must ask the physician to discontinue the Foley catheter.
- Nursing care staff acceptance, and communication and collaboration among multiple disciplines are essential.
- Feedback is useful.
- Sharing successes and needs for improvement is a critical element for success.
- Continued education of staff and continued monitoring of compliance are important.

Search, Contain, and Destroy—Reducing Hospital Acquisition of *Clostridium Difficile*-Associated Diarrhea

New York Hospital Queens

PARTNERS

Partners for this initiative included the infection control department, department of nursing, infectious disease section/department of medicine, department of surgery, building services department, admitting department, and senior management.

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PROJECT DESCRIPTION

New York Hospital Queens' ongoing surveillance of hospital prevalence and acquisition of *Clostridium difficile*-associated diarrhea (CDAD) indicated that rates were increasing despite an existing infection control program. The goal of this initiative was to reduce the incidence of hospital-acquired CDAD by 50%.

An analysis of data regarding the epidemiology of CDAD at the hospital by the infection control committee identified several key factors in the distribution and incidence of CDAD. The committee concluded that due to the nature of *Clostridium difficile* and the clustering of cases, the additional strategies were needed to successfully address the problem of increasing rates of CDAD. Each department played a key role in this initiative. For example, building services assumed a more comprehensive room cleaning procedure. Nursing, in conjunction with the departments of medicine and surgery, initiated a strict policy of isolating and cohorting patients with CDAD. An infection control practitioner worked in conjunction with the admitting department to ensure that isolation and cohorting of patients with CDAD was achieved.

OUTCOMES

- Hospital acquisition of CDAD decreased from 1.99 per 1,000 patient days during the standard infection control program period to 1.43 per 1,000 patient days during the intervention period. This represents a 28% improvement in hospital acquisition rates.
- Hospital prevalence data paralleled hospital acquisition data during these periods.

LESSONS LEARNED

- An aggressive environmental disinfection program and isolation or cohorting of all infected patients has a significant impact in reducing hospital-acquired CDAD.
- The hospital's success in clearing rooms identified as having multiple occurrences was limited. As success was achieved in clearing identified rooms of CDAD clusters, clustering occurred in other rooms.

IHI 5 Million Lives: Prevention of Ventilator-Associated Pneumonia

Saint Francis Hospital and Health Centers

PARTNERS

The primary partner for this initiative was the IHI 5 Million Lives Campaign. Internally, members of the nursing, infection control, respiratory, and medical staff participated.

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PROJECT DESCRIPTION

In the summer of 2005, Saint Francis Hospital and Health Centers joined the Institute for Healthcare Improvement 100,000 Lives Campaign, which has become the 5 Million Lives Campaign. As part of this initiative, the facility focused on significantly decreasing the number of cases of ventilator-associated pneumonia. A team was formed consisting of an infection control coordinator, respiratory care practitioners, intensivists, critical care nursing staff, and trauma services. The team educated the staff on adhering to the recommended “ventilator bundle,” which comprises four interventions to prevent the development of VAP in mechanically ventilated patients. Oral care, later recognized as an evidence-based best practice, was added to the bundle to prevent colonization of bacteria in the oral cavity, which could eventually aspirate into the lungs. Results showed that when all measures are implemented, the occurrence of VAP is drastically decreased. By using existing resources and developing and following protocols, the cost of implementing and sustaining improved patient care and safety were determined to be nominal and yield extraordinary cost savings.

OUTCOMES

- The 2005 VAP rate, prior to implementation, was 15 per 1,000 ventilator days.
- In 2006, the VAP rate was 11 per 1,000 ventilator days.
- In 2007, the VAP rate was two per 1,000 ventilator days.
- In 2008, year to date, the VAP rate has been zero per 1,000 ventilator days.

LESSONS LEARNED

- The daily bundle data collection resulted in immediate intervention for non-compliance elements.
- The data collection tool revealed some medications fell off the medication administration record after 72 hours, which increases compliance with peptic ulcer disease prevention.
- This initiative has increased awareness of VAP.
- Constant re-education and reinforcement is necessary for sustained results.
- Communication and cooperation across the disciplines in an open intensive care unit are vital.
- Oral care is a necessary component of VAP prevention.
- The subglottic evacuation endotracheal tube remains unpopular with intubating physicians due to the increased outside diameter.
- Treating harboring pathogens and ruling out pre-existing infections is crucial.
- A standardized sedation/analgesia protocol must meet various regulatory standards.

Decreasing Patient Ventilator Days

Seton Health

PARTNERS

Internal partners for this initiative included the chief nurse executive, the chief medical officer, the director of the cardiopulmonary and sleep service, the manager of respiratory services, the manager of critical care, VAP quality management, and the manager of rehabilitation services. External partners included physicians from Pulmonary and Critical Care Services, P.C., and support and resources from Ascension Health's Reducing Harm in ICU Initiative.

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PROJECT DESCRIPTION

Seton Health formed a critical care committee to identify opportunities to improve patient care and reduce harm to patients in the intensive care unit. One of the goals was to decrease the number of days that patients were on a ventilator, to reduce the chance of the patient acquiring ventilator-associated pneumonia, as well as decrease length of stay in the ICU and the overall hospital length of stay.

The critical care committee evaluated current processes to determine areas needing improvement. The committee, composed of pulmonary physicians; cardiologists; the chief medical officer; and managers and clinical staff from respiratory care, critical care, physical therapy, infection control, case management, and quality care, identified that the ventilator weaning process could be further streamlined. Pulmonary physicians cited a number of peer review articles that supported a standardized and multidisciplinary approach to weaning. The first stage of developing weaning protocols consisted of the multidisciplinary team collecting and collating clinical parameters on a daily basis, which were immediately available to physicians on morning rounds. This stage allowed physicians to immediately begin weaning trials. Success of this stage progressed to automatically placing eligible patients on a spontaneous breathing trial. Successful weaning trials provided the physicians with the tools to expedite extubations during morning rounds, thereby reducing overall weaning time and ventilator days.

Today, the critical care committee continues to evaluate patient outcomes and care processes, supporting and maintaining quality care and patient safety. This initiative has been used as the format for a number of additional initiatives including implementing ventilator bundles to address VAP.

OUTCOMES

Quantitative:

- The average number of ventilator days in 2005 was 5.87 (year prior to initiatives).
- The average number of ventilator days in 2006 was 4.77.
- The average number of ventilator days in 2007 was 5.05.

Note: Average ventilator days do not include patients awaiting long-term facility placement.

Qualitative:

- This initiative has promoted teamwork and autonomy for critical care nursing and respiratory therapy staff.

Decreasing Patient Ventilator Days

Seton Health (CONTINUED)

- The success of this program has stimulated various other initiatives including VAP prevention, daily rounding, and improved interdisciplinary communication.

LESSONS LEARNED

- This initiative demonstrated the importance of participation from all interdisciplinary professionals.
- Positive results reinforced the use of evidence-based research to drive actual practices.
- This initiative identified valuable resources and highlighted the importance of education and monitoring outcomes.
- The success and teamwork stimulated professional growth.

Ventilator-Associated Pneumonia Reduction

South Nassau Communities Hospital

PARTNERS

Partners for this initiative included the pulmonary medicine, nursing, infection control, pharmacy, respiratory care, education, performance improvement departments, and the respiratory care committee.

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PROJECT DESCRIPTION

South Nassau Communities Hospital's senior leadership directed that ventilator-associated pneumonia reduction be made a performance improvement priority because the 2005 VAP rate was higher than National Nosocomial Infection Surveillance (NNIS) benchmarks. A multidisciplinary team was established and initial team goals included the development of a standardized approach to the care of the ventilator-dependent patient and reduction in the incidence of VAP hospital-wide to below the NNIS mean of 8.3 per 1,000 ventilator days for mixed intensive care unit and 4.0 per 1,000 ventilator days for the critical care unit (CCU).

A pilot project was initiated in the medical-surgical ICU and CCU in mid-2006. Using guidelines from the Institute for Healthcare Improvement and literature, the team developed a policy and procedure for the care of ventilator patients, created pre-printed physician orders for ventilator patients that incorporated the elements of the ventilator bundle, and revised the current weaning protocols. Extensive education was provided to nursing and respiratory staff in the ICU and CCU. Signs were posted on the wall above each ventilated patient reminding staff of the elements of the bundle (head of bed elevation, sedation vacation, assessment of weaning, peptic ulcer, and deep vein thrombosis prophylaxis). In 2007, a dedicated respiratory therapist was assigned to the critical care unit. Multidisciplinary rounds were implemented with pulmonary physicians, respiratory, and nursing staff to assess each patient's weaning capability. Monitoring for compliance with the ventilator bundle was implemented and surveillance of VAP was continued.

Due to the success of the pilot project, implementation of the IHI bundle was extended to all medical-surgical units in 2007. In addition, a step-down Respiratory Care Unit was opened to house ventilator-dependent patients, which served to improve "throughput" in the critical care units. Education of all nursing and respiratory care staff was extended to all units and has been incorporated into the annual mandatory nursing education. Monitoring for compliance with the ventilator "bundle" and VAP surveillance was also extended hospital-wide. The VAP rate decreased on medical-surgical units, with only one case identified in all of 2007 on the units.

OUTCOMES

- The VAP rate significantly decreased in ICU from 10.85 per 1,000 ventilator days in 2005 to 2.41 per 1,000 ventilator days in 2007, a 78% decrease.
- In the CCU, the VAP rate decreased from 8.90 per 1,000 ventilator days in 2005 to 1.08 per 1,000 ventilator days in 2007, an 88% reduction.
- The length of time until successful weaning decreased from an average of six days in 2006 to 3.2 days in 2007.



Ventilator-Associated Pneumonia Reduction

South Nassau Communities Hospital (CONTINUED)

LESSONS LEARNED

Education of the physician, nursing, and respiratory staff regarding sedative drips, “sedation vacation,” assessment for weaning, and procedures for performing these processes were essential.

Beyond the ICU: Prevention of Central Line Infections in the Medical-Surgical Setting

St. Catherine of Siena Medical Center

PARTNERS

An interdisciplinary approach was used including the medical, nursing, and infection control staff.

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PROJECT DESCRIPTION

After St. Catherine of Siena Medical Center successfully implemented the best practices “bundle” for central line-associated bloodstream infections in the intensive care unit/critical care unit, the hospital saw an 85% sustained reduction in these infections over a three-year period. From the start of this initiative in 2005, the facility’s goal was to uphold a safe environment for all who had a central line inserted, not just those in critical care. However, once improvements were achieved in the ICU/CCU, the Medical Center turned its attention to the medical-surgical areas.

A multidisciplinary team reviewed the success in the critical care areas, modified the bundle for adaptation to medical-surgical areas, and developed a plan for implementation. An intensive campaign for hand hygiene targeted health care workers, patients, and visitors. A dedicated peripherally-inserted central catheter (PICC) team was trained. The site dressing protocol was modified to include a Biopatch® and sutureless StatLock® stabilization device. The entire staff embraced these changes, and positive results were achieved—the number of CLAB infections decreased from 21 in 2005 to 11 in 2007, which translated to an estimated cost savings of \$290,000 annually. Not only has the Medical Center enhanced patient outcomes and achieved cost savings, it has demonstrated to the community that it is a safe environment that provides quality patient care.

OUTCOMES

- The medical-surgical unit CLAB infection rate decreased by 46% from 2.59 per 1,000 line days in 2005 to 1.42 per 1,000 line days in 2007. These five units consistently sustained success—eight, 10, 13, 17, and 19 months free of CLAB infections.
- The ICU reduced its rate by 70%. In 2005, the rate was 2.93 per 1,000 line days, which fell to a rate of 0.88 per 1,000 line days in 2007. In this period, the ICU was free of CLAB infections for 14 continuous months.
- The CCU successfully eliminated CLAB infections, going from a rate of 3.38 per 1,000 line days in 2005 to zero per 1,000 line days in 2007. It sustained a 15-month period without any CLAB infections.

LESSONS LEARNED

- Conducting a multi-pronged initiative that included an open forum of sharing successes and concerns, teamwork, encouragement, acknowledgement of success, routine rounds, and outside resources contributed to success.
- The institution of the dedicated PICC line team has led to a decrease in the total amount of central lines inserted outside of the critical area.

Beyond the ICU: Prevention of Central Line Infections in the Medical-Surgical Setting

St. Catherine of Siena Medical Center (CONTINUED)

- PICC line policy called for removal of the dressing in the first 24 hours to evaluate the site and the placement of a Biopatch; this was no longer necessary, the Biopatch and StatLock device were used at the time of insertion.
- The dedicated PICC line team has saved time for interventional radiology, enabling this department to perform procedures in a timelier manner.

A Bundle Approach to the Reduction of Central Line Bacteremia Incidences by the Utilization of a Vascular Access Team

St. Elizabeth Medical Center

PROJECT DESCRIPTION

By forming a vascular access team to implement evidence-based care approaches to the management and surveillance of central line catheters, St. Elizabeth Medical Center greatly decreased the incidence of central line bacteremia. Three certified registered nurses proficient in the skill of peripherally-inserted central line catheters (PICCs) comprise part of the vascular access team. The vascular access team's ability to effectively control the incidence of central line bacteremia is attributed to the adoption of the measures included in the central line infection "bundle."

The vascular access nurses proactively assess patients in the facility to determine the need for PICC insertion based on risk criteria. After physician approval and after assurance that all elements of the central line bundle are complete, central line catheters are inserted by incorporating the standard into the "time-out" verification procedure.

OUTCOMES

- St. Elizabeth Medical Center achieved 100% compliance with the central line bundle interventions throughout 2007.
- Incidence of central line bacteremias in the intensive care unit fell from 2.9 per 1,000 line days in 2006 to 1.4 per 1,000 line days in 2007, and remain below national benchmarks.
- An estimated \$30,000 was saved by avoidance of each incidence of infection.

LESSONS LEARNED

- Collaboration among disciplines was key to the uniform adoption of principles.
- Proactive assessments of appropriate patients by the vascular access team promote compliance with the bundle protocol in a controlled setting.
- Assigning "champions" to lead the program was instrumental in attaining compliance and sustainability.
- Incorporating the completion of the central line bundle documentation to the time-out procedure promoted total adherence to the protocol.

PARTNERS

This initiative was championed by the vascular access team and the infection control practitioners including the physician director of infectious disease, physician director of vascular access program, vice president of nursing, infection control coordinator, and vascular access credentialed registered nurses.

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Central Line Bundle in ICUs and Beyond

St. Luke's-Roosevelt Hospital Center

PARTNERS

Partners for this initiative included the medical and surgical critical care intensivists, nursing management, registered nurses and ancillary staff, infection control nurses, emergency department physicians, anesthesiologists, materials management staff, neonatologists, the chief medical officer, and the chief of medicine.

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PROJECT DESCRIPTION

In 2005, St. Luke's Roosevelt Hospital Center's critical care and infection control committees jointly selected a goal of reducing central line-associated bloodstream infections in three of the intensive care units. The team implemented the central line "bundle" and conducted extensive educational programs on line insertion and hand hygiene for physicians, nurses, ancillary staff, and senior management. Expanded training for the medical staff in the use of ultrasound-guided technology for central line insertion was included in the educational programming. Progress was regularly presented to patient care staff and the quality improvement performance committee. The project was further expanded to medical-surgical units, the emergency department, four additional ICUs, and the operating room—all of which showed similar reductions in CLAB infections.

OUTCOMES

- The initial three ICUs reduced their CLAB infection rate by 59% from 2005 to 2007.
- The hospital-wide intravenous-associated bacteremia rate declined by 64% from 2006 to 2007.
- The use of femoral access for central venous lines in non-emergency situations has been virtually eliminated.

LESSONS LEARNED

- Sustained results require regular reassessment and feedback to staff.
- Senior leadership involvement is crucial for supporting changes in behavior and resources.
- Ultrasound-guided technology has decreased the use of femoral site catheter insertion.

Central Line Bloodstream Infection Prevention

St. Mary's Hospital, Amsterdam

PARTNERS

The partnership for this initiative included the nursing staff, physicians, and infection control staff.

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PROJECT DESCRIPTION

In 2004, St. Mary's Hospital designed a project to prevent central line-associated bloodstream infections, using guidelines by the U.S. Centers for Disease Control and Prevention. Although the number of CLAB infections was minimal at St. Mary's Hospital, it was determined that the occurrence of any CLAB infection presents a high-risk priority requiring the cooperation of the medical, nursing, and ancillary staff. The hospital leadership set a project goal of zero CLAB infections. The hospital included central venous catheters, peripherally-inserted central line catheters, pulmonary artery catheters, and umbilical catheters in the definition of central lines.

To realize the goal of zero CLAB infections, evidence-based practices were implemented, including the establishment of the following standards and associated documentation:

- maximal sterile barrier precautions during catheter insertion;
- physician and assistant hand washing prior to procedure;
- chlorhexidine—2% tincture for skin antiseptics;
- use of aseptic techniques that include wearing a cap, mask, sterile gown, and sterile gloves;
- use of a large sterile sheet;
- maintenance of a sterile field (no breaks in sterile technique during a procedure); and
- application of sterile dressing to site.

A data-collection tool was developed for evaluating and monitoring adherence to these standards during the insertion of central line catheters. Results were compiled and reported to the quality executive committee and board of directors.

OUTCOMES

- As of January 31, 2008, the hospital has gone 594 calendar days since the last CLAB infection.
- Based upon national averages of 2.57 CLAB infections per 1,000 patient central line days, the hospital realized a cost avoidance of \$64,000 in 2007.

LESSONS LEARNED

- Initial resistance to this process was overcome with education.
- As part of its continuous improvement activities, the hospital plans to continue using evaluation sheets every time a central line is in place, evaluate new and improved central line kits to ensure the use of the highest quality products available, and provide positive and negative feedback to staff, with an emphasis on patient safety.

A Comprehensive Approach to Eliminate VAP in an Eight-Bed Intensive Care Unit

St. Mary's Hospital, Amsterdam

PARTNERS

External partners for this initiative included Ascension Health, HANYS' VAP Prevention Project, National Health and Safety Network, and IHI. Internal partners included the chair of the ICU committee, ICU registered nurses, the respirator therapist, infection control nurse, and registered dietician.

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PROJECT DESCRIPTION

St. Mary's Hospital's intensive care unit and infection control department's goal was to implement evidenced-based practice interventions to prevent ventilator-associated pneumonia and improve quality of outcomes. The hospital has celebrated more than two years without a VAP case. This success came because of the efforts of a multidisciplinary team that includes intensive care unit bedside registered nurses, the ICU chair (pulmonologist), ICU nursing director, infection control certified registered nurse, certified registered dietician, pharmacist, and ancillary departments working collaboratively toward the quality and safety of the ventilated patient.

The facility implemented several ideas from the nursing staff, which were supported by literature from the Institute for Healthcare Improvement:

- the creation of a nursing/physician "trigger card" to individualize each treatment care plan for patients on a ventilator;
- incorporation of the Sage Biotene Oral Suction and Swab Care at a minimum of every two hours or as needed;
- consultation and collaboration with the attending physician and pulmonologist to administer both peptic ulcer disease and venous thromboembolism (VTE) prophylactic;
- consultation with the registered dietician to begin supplemental feedings either via nasogastric tube or through total parental nutrition;
- assessment for discontinuing the continuous sedation medication to evaluate patient progress for possible extubation; and
- ensuring that the head of the bed is at a 30- to 45-degree angle as tolerated.

OUTCOMES

- As of January 2008, there were zero VAP cases in the ICU in 775 days.
- To date, the hospital has saved \$200,000 by preventing VAP.

LESSONS LEARNED

- On the original ventilator physician order forms, VTE prophylaxis was not an optional written order. In addition, there was a standing order for Lovenox to be administered, which had contraindication in some patients who were ventilated. To improve patient safety, this standing order was removed and replaced with a written choice for prophylactics.
- To standardize nursing electronic documentation for ventilator interventions, a ventilator documentation "bundle" was created.

A Comprehensive Approach to Eliminate VAP in an Eight-Bed Intensive Care Unit

St. Mary's Hospital, Amsterdam (CONTINUED)

- Physician standing ventilator orders were removed and replaced by a laminated trigger card. When a patient is admitted to the ICU on a ventilator, the trigger card is used as part of the admission process for the physician to order the prescribed interventions.
- It is important that autonomy for the bedside nurse and respiratory therapy for the care of the ventilator patient be supported by organizational leadership and the physicians.

A Multidisciplinary, Staff-Driven Quality Improvement Project Utilizing Evidence-Based Guidelines for Cardiac Surgical Wound Prophylaxis and Care

St. Peter's Hospital

PARTNERS

The team for this initiative included infection control staff, the infection control physician, quality and safety staff, the operations manager, physician assistants, nurse practitioners, anesthesiologists, nursing staff, clinical nurse specialist, heart surgeons, and the director of cardiovascular surgery.

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PROJECT DESCRIPTION

Over the past five years, St. Peter's Hospital has successfully maintained low surgical site infection rates, particularly sternal and mediastinal infections. The hospital uses surgical evidence-based practice guidelines and the "Plan-Do-Study-Act" methodology to monitor and improve performance and patient safety. Medicare's elimination of reimbursement for certain post-surgical complications, such as mediastinitis or a deep sternal wound infection (DSWI), is intended to reduce the cost burden of health care, and it has given health care providers an additional incentive to avoid hospital-acquired conditions.

A multidisciplinary team reviewed the current literature and the Society of Thoracic Surgeons best practice guidelines and found that in 2007, routine mupirocin intra nasal administration was a recommendation for all patients undergoing cardiac surgical procedures in the absence of negative testing for staphylococcal colonization. This practice was initiated in the third quarter of 2007, and surveillance cultures were initiated for those patients who were transferred into the facility from another inpatient facility or admitted from a nursing home. The other subset of patients who received surveillance cultures were those patients who were deemed to be inpatients for greater or equal to 48 hours prior to surgery. The facility continued its Surgical Care Improvement Project initiatives to optimize peri-operative glucose control and consulting endocrinology when warranted preoperatively.

OUTCOMES

- The following table demonstrates the hospital's DSWI rates for the past five years:

YEAR	Number of Patients with DSWI/ Number of Open Heart Procedures	% DSWI
2003	6 / 709	0.85
2004	1 / 768	0.13
2005	6 / 709	0.85
2006	2 / 757	0.26
2007	5 / 711	0.70

During the fourth quarter of 2007, there were no instances of DSWI or Methicillin-Resistant *Staphylococcus aureus* surgical site infections in cardiac surgery.

A Multidisciplinary, Staff-Driven Quality Improvement Project Utilizing Evidence-Based Guidelines for Cardiac Surgical Wound Prophylaxis and Care

St. Peter's Hospital (CONTINUED)

LESSONS LEARNED

- The hospital's consistently low cardiac surgical site infection rate for five years has been maintained by ongoing interdepartmental communication and collaboration. This was enhanced during 2007 with a new infection control practice using mucopiricin intranasal administration preoperatively.
- A key element to the hospital's success is the use of standing orders and protocols based on best practices that are modified using continuous process improvement with evidence-based practice guidelines.
- Best-practice guidelines are continually observed to make improvements to the service initiatives.
- Re-evaluating any new practice by prospectively gathering outcomes data closes the feedback loop.
- The hospital's SCIP initiatives continue to serve patients well.
- Continuously reviewing evidence-based practice guidelines can only assist in any process endeavors.
- Incorporating and educating the "supporting cast" in cardiac surgery improves process compliance and connects leadership with point-of-care practice, thus maximizing success.

Increasing Detection and Standardizing Care for the Treatment of Severe Sepsis

Stony Brook University Medical Center

TOP 10TH PERCENTILE SUBMISSION

PROJECT DESCRIPTION

Stony Brook University Medical Center is actively engaged in the Surviving Sepsis Campaign of the Institute for Healthcare Improvement's Critical Care Learning Collaborative. Severe sepsis kills approximately 1,400 people worldwide each day and is identified as the leading cause of death in the non-coronary intensive care unit. The facility adopted the Surviving Sepsis Campaign's goal of a 25% reduction in mortality.

Resuscitation and management sepsis "bundles" were first tested in the surgical ICU and emergency department in January 2006. The resuscitation and management bundles were modified by the pediatric ICU medical staff for pediatric use, and then tested in the pediatric ICU and pediatric urgent care unit. The initiative continued to spread throughout the facility, specifically to the medical ICU and medical-surgical units.

Each of the critical care units developed a severe sepsis screening tool that was pertinent to its population. All patients are screened in the critical care units at admission, daily, and as needed. Severe sepsis screening was also built into the ED triage system. All patients presenting with suspected severe sepsis are identified as level two (e.g., high-risk situation). In addition, the severe sepsis screening tool designed by the Surviving Sepsis Campaign was copied on the back of the rapid response team form to ensure sepsis screening at each RRT call.

A fever panel containing the measuring of serum lactate was instituted in the ED. Patients presenting with a fever greater than 38.3 degrees Celsius are flagged at the triage desk. This action triggers the ordering of the fever panel by the ED physician. A "rule-out" sepsis panel was also instituted in the ED for further identification of organ dysfunction.

OUTCOMES

- Post-implementation, there was a 33.7% reduction in the severe sepsis mortality rate over the baseline period.
- There was a 16.6% increase after implantation in the compliance of the resuscitation bundle.
- The facility had an 18.9% decrease in average length of stay following implementation for patients admitted through the ED.
- Patients were discharged more than 2.5 days sooner during the post-implementation period, resulting in an estimated \$3,500 to \$8,500 savings in cost of stay per patient.

PARTNERS

Partners for this initiative included the nursing staff, physicians, nurse practitioners, chief quality officer, and pharmacy staff.

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Increasing Detection and Standardizing Care for the Treatment of Severe Sepsis

Stony Brook University Medical Center (CONTINUED)

LESSONS LEARNED

- People do what you inspect, not always what you expect.
- Perception is not always reality.
- Continual feedback increases reliability.
- Seek out your physician champion to engage in one small test of change. Small tests of change are easier to accept than widespread change.
- Drill-downs are insightful.
- Leadership support is key to successful hospital spread of initiatives.
- It is better to test and modify protocols from other hospitals than to create protocols from scratch.
- Standardization of care aids in the reliability of the services provided to the patient. Decreased variation in the delivery of care is associated with improved compliance and better outcomes.
- Breaking down the bundles into smaller, attainable steps assists in achieving compliance.

Red Rules for Patient Safety: Improving Hand Washing and Patient Identifier Compliance

SUNY Upstate Medical University

TOP 10TH PERCENTILE SUBMISSION

PARTNERS

Partners for this initiative included the chief executive officer, chief operating officer, chief nursing officer, physician chairmen, environmental health and safety staff, environmental services director, patients and families, unit managers, staff level auditors, and organizational training and development.

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PROJECT DESCRIPTION

Improving hand washing compliance and full compliance with patient identifier checks can be an elusive goal for many hospitals. The hospital selected these two quality improvement initiatives for initial “Red Rules” implementation—the Red Rules concept entails focusing on a limited number of simply defined, high-risk behaviors on which the hospital wants to achieve and sustain 100% compliance.

To improve compliance with any safety initiative, clinical staff must feel ownership of the issue and it must be easy for staff to do the right thing. Providing actual patient case examples from the institution where patients were harmed or a near-miss occurred made the issue real for staff. To facilitate compliance with hand washing, more than 85 additional alcohol foam hand sanitizer dispensers were installed in the inpatient and outpatient settings. Patients and families were engaged in the campaign through a public service announcement placed on patient education television, posters in patient rooms reminding staff and families to wash their hands, and patient education pamphlets distributed to all patients at registration. Educational materials were designed to engage families at all levels of literacy. Observational audits were initially conducted every two to three weeks of the campaign.

Audits involved not only observation of behavior, but immediate intervention and one-on-one education if the appropriate behavior was not observed. Audit results were compiled and distributed back to the units by the patient safety officer within one week of audit completion. Physician chairmen followed up individually with any members of their department who had observed continued non-compliance. Units with sustained 100% success over three months of audits were awarded patient safety champion certificates, and posters publicly thanking the staff were hung outside each clinical unit for patients, families, and staff to see. Costs for the campaign were minimal, given the degree of success that was achieved.

OUTCOMES

- Overall hand washing and sanitizing compliance improved in the inpatient setting, increasing from 80% to 94%, and in the outpatient setting from 74% to 94% over a six-month period.
- Patient identifier compliance improved for physicians most dramatically in the inpatient setting, from 67% to 100%, and in the outpatient setting, from 55% to 98%.
- Reported wrong patient medication events decreased 47%.
- A Joint Commission physician surveyor in an October 2007 accreditation visit observed: “I have seen hospitals where staff wash their hands because we are there; but here, you can tell it is a way of life.”

Red Rules for Patient Safety: Improving Hand Washing and Patient Identifier Compliance

SUNY Upstate Medical University (CONTINUED)

LESSONS LEARNED

- Address real and perceived barriers to compliance first.
- Less rules equals more success. Focus staff on a couple of rules to make success sustainable.
- Leadership buy-in is key. Physician chairmen buy-in was a major motivator for medical staff behavior change.
- Use clinical cases from your own institution to drive home the point that “it can happen here.”
- Rapid turnaround of audit results keeps staff engaged.
- The focus on the improvement project must be unrelenting until compliance is sustained.

Target Zero MRSA Infections, Blending Evidence with Innovation

ViaHealth/Rochester General Hospital

TOP 10TH PERCENTILE SUBMISSION

PARTNERS

Partners for this initiative included the administration, governing board, care providers, and physicians.

PROJECT DESCRIPTION

At ViaHealth/Rochester General Hospital, the Methicillin-Resistant *Staphylococcus aureus* surgical site reduction program was implemented on the cardiothoracic (CT) service with a goal of “zero defect.” The program was uniquely structured by a multidisciplinary team, which met weekly to identify quality improvement initiatives. This initiative was based on the principles of positive deviance, which included hands-on learning, focus on actionable behaviors, and staff owning the changes. Staff recommendations that were implemented as part of this initiative included obtaining nares cultures on entry onto the CT service weekly and on discharge from the hospital; isolating patients colonized with MRSA; administering mupirocin for decolonization of nares; creating dedicated thermometers for all intensive care unit patients; installing additional alcohol gel dispensers in patient rooms; and measuring and reporting results of culture data.

As new protocols were implemented, the team created simple and applicable tools, such as checklists for patients receiving MRSA screening, to standardize initial compliance and eventually ensure that best practices became habitual for all clinicians. Key messages from complex policies and procedures were summarized into bullet points that were posted for staff members. To showcase progress and motivate staff, data were widely publicized in staff lounges and employee newsletters, and posted on the “Wall of Measures,” which shows goals and actual rates for both protocol compliance and clinical outcomes.

OUTCOMES

- The hospital achieved a statistically significant decrease in the MRSA post-operative wound infection rate.
- In 2006, 16 of 835 cases were culture positive for MRSA compared to one in 756 cases in the 11 months following the project.
- Overall, surgical site infections in this population decreased 50%.
- It is estimated that the results of the MRSA intervention decreased length of stay by 85.5 days and resulted in a cost savings of \$630,000.

LESSONS LEARNED

- Zero defects is an achievable goal.
- Processes must be hard-wired into everyday practice to ensure reliability.
- Staff engagement in best practices promotes reliable, quality patient outcomes.
- Quality improvement begins at the bedside and interdisciplinary collaboration is essential.
- Initial failures provide the catalyst for more robust improvement opportunities.

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PATIENT SAFETY: MEDICATION MANAGEMENT

Reduction of Medication Dosing Errors

Kings County Hospital Center

PARTNERS

Partners for this initiative include the office of medical director; the associate medical director; and leaders from the pharmacy, clinical laboratory, and hospital information systems departments.

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PROJECT DESCRIPTION

Kings County Hospital Center began to note several medication errors (sentinel events) in the second and third quarters of 2006. Further analysis centered on weight-based medication dosing errors. There were no provisions for these errors in the existing computer systems, including the computer physician order entry (CPOE) system. At the same time, other weight-based dosing factors surfaced including provider knowledge-base or information deficits, and inadequate user training. The hospital determined that increased intervention by pharmacy could lead to a reduction in high-risk medication dosing errors.

The pharmacy identified 21 medications with defined therapeutic drug levels including high-alert medications such as digoxin, phenytoin, aminoglycosides, and warfarin. The clinical laboratory established a process for reporting non-therapeutic or abnormal drug levels to the ordering provider and to pharmacy. A designated pharmacist reviews all abnormal drug levels. If a new CPOE order is not found, the pharmacist contacts the ordering provider and reviews the reported out-of-range therapeutic drug level and receives the order for the appropriate re-adjustment of the drug dosage.

Success in this program has led to adding additional medications and laboratory results into the current process.

OUTCOMES

- This non-technical system intervention by the pharmacist has reduced medication dosing errors from a high of 119 in the first quarter of 2007 to 80 in the fourth quarter of 2007, and projected dosing errors of less than 50 in the first quarter of 2008.
- Medication dosing errors have been reduced by an average of between one and two total errors each week.
- There have been no sentinel events predicated on medication dosing errors of the 21 identified drugs since the introduction of this program.

LESSONS LEARNED

- This is a program that does not require a higher level of technological sophistication, such as an electronic medical record, CPOE, or medication administration record.
- The adoption of a similar linkage of provider, pharmacy, and laboratory for the review of drug dosing would result in the decrease of inaccurate doses reaching the patient and increasing the safety of patients.



Reduction of Medication Dosing Errors

Kings County Hospital Center (CONTINUED)

- Future considerations include involving pharmacy in the review of medication doses for patients with reduced renal function.
- Regardless of the sophistication of the technology in place, redundancy is critical for patient safety. In this experience, the redundancy of pharmaceutical intervention for all abnormal therapeutic drugs has led to dosage adjustments, avoiding patient harm, and improving patient safety.

Medication Reconciliation

Putnam Hospital Center

PROJECT DESCRIPTION

Medication errors are one of the leading causes of injury to hospital patients, and chart reviews reveal that the majority of medication errors occur at patient points of contact where care is transferred or “handed off” to another caregiver. To address this issue, The Joint Commission incorporated medication reconciliation requirements into the 2007 and 2008 National Patient Safety Goals. Under this requirement, medication reconciliation is defined as a formal process of comparing a complete and accurate list of each patient’s current home medications (name, dosage, frequency, and route) against the physician’s admission, transfer, and/or discharge orders, with discrepancies brought to the attention of the prescriber for correction.

Putnam Hospital Center created an interdisciplinary medication safety team to review and develop improvements to the medication reconciliation process. The team’s focus was on providing a consistent medication reconciliation process across the continuum of care at Putnam Hospital Center, including inpatient and outpatient venues. Successful team initiatives included:

- standardizing the process for medication history assessment and implementing the use of a standardized medication reconciliation form to document the patient’s home medication list;
- developing a monitoring tool and process for use in both open and closed record reviews and performance improvement activities;
- developing in-services, newsletters, and discussions regarding medication reconciliation requirements;
- incorporating medication safety, including medication reconciliation, in mandatory education and orientation programs;
- providing computer-generated medication order forms, thereby eliminating the need for the practitioner to hand-write these orders;
- collaborating with the health information management department to provide the medication reconciliation information directly to the next provider of care upon discharge;
- customizing the pharmacy clinical software to display outcomes of pharmacist medication reconciliation interventions on the medication administration record (MAR)—since the MAR is reviewed at each transfer point, the medication reconciliation outcomes are immediately available at these interfaces; and
- implementing a process to capture the home medication list from the emergency department’s Emergisoft software application, thereby eliminating the need for the caregiver to hand-write it.

PARTNERS

Partners for this initiative include the medical staff, and staff from the nursing, pharmacy, respiratory therapy, radiology, physical therapy, and patient care services departments.

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Medication Reconciliation

Putnam Hospital Center (CONTINUED)

OUTCOMES

- In 2006, 4,628 reconciliations were processed. Of these, 874 (18.8%) required pharmacist intervention, especially during the fourth quarter and implementation of the new MAR. In 2007, 6,490 reconciliations were processed on admission and only 109 (1.7%) required a pharmacist's intervention. This represented a 17.1% decrease in pharmacist intervention.
- In 2006, medication reconciliation was completed on 74.3% of internal transfers. In 2007, medication reconciliation was completed on 91% of internal transfers. This represented a 16.7% increase in medication reconciliation on transfer.
- In 2006, medication reconciliation was forwarded on 82.3% of admissions. In 2007, medication reconciliation was forwarded on 93.5% of admissions. This represented an 11.2% increase in medication reconciliation forwarding.

LESSONS LEARNED

- A multidisciplinary team approach is essential to overcoming the many barriers to success for this initiative.
- Pharmacist intervention at the admission interface resulted in appropriate medication regimen revisions to improve the quality of pharmaceutical care.
- Establishing a consistent reconciliation process with standardized procedures and documentation provides an environment for success.
- To be effective, the medication reconciliation process must be incorporated into the organizational culture of caring for patients.

Failure Mode and Effects Analysis: A Proactive Approach to Preventing Chemotherapy Errors

White Plains Hospital Center

PARTNERS

Partners for this initiative included the director of nursing for critical care, who served as facilitator, nursing management, registered nurses from the day and night shifts on the inpatient oncology unit, registered nurses from the outpatient oncology unit, and pharmacists.

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PROJECT DESCRIPTION

White Plains Hospital Center's initiative focused on how an oncology nurse facilitated a Failure Mode and Effects Analysis (FMEA) process to proactively improve chemotherapy safety checks. Near-misses were occurring on the oncology unit, even though safety checks were applied during the chemotherapy administration process. The clinical nursing staff decided to apply this FMEA method into practice.

A multidisciplinary FMEA team diagrammed the steps in the chemotherapy process and brainstormed potential failure modes and their effects on the patient. Each failure mode was assigned a severity rating and a risk priority number for each effect. The failure modes were then prioritized and hazard scores were identified. The hazard scores that were identified as a "16" during this process have a high probability for an error to occur with increased severity.

After evaluation of these hazard scores, safety measures were implemented to reduce failures in the chemotherapy safety check process. The key to the success of this project was that the bedside nurses helped to develop the action plans to safeguard against chemotherapy errors. Working in a blame-free environment in regard to medication errors encouraged the staff to be honest with identifying which steps in the chemotherapy process were being followed.

This chemotherapy error prevention process is an ongoing performance improvement process that enhances the professional liability of the clinical provider.

OUTCOMES

- Body surface area checked by two nurses showed compliance increased from 93.3% in first quarter to 100% by fourth quarter of 2007.
- "Time-out" compliance increased from 93.3% in first quarter to 100% by fourth quarter 2007.
- Changes made to chemotherapy order sheets showed sustained compliance of 100% throughout the 2007 monitoring period.

LESSONS LEARNED

- FMEA facilitators are key to clearly defining the part of the chemotherapy process that the team will examine. Someone with prior experiences performing an FMEA is helpful.
- With leadership sponsors, implementation of changes identified through the process were able to occur. Otherwise, the process may have faced barriers or lacked the necessary resources.
- The key to its success was having the "right people" on the team; in particular, those who do the "hands-on" work of the process under study.

Failure Mode and Effects Analysis: A Proactive Approach to Preventing Chemotherapy Errors

White Plains Hospital Center (CONTINUED)

- Educating the staff on the FMEA process and lessons learned is vital to getting buy-in from the rest of the involved staff. Increasing awareness led to increased compliance.
- Invest the needed resources to complete the complex process prior to embarking on FMEA. This FMEA project needed 11 team members who met every week for four weeks. Meetings were approximately 1.5 to two hours long, which means a total of 66 to 88 staff hours away from their regular work.

PATIENT SAFETY: PRESSURE ULCERS

The Process of Assessment and Treatment of Pressure Ulcers to Reduce Risks to Patient Safety

Coney Island Hospital

PROJECT DESCRIPTION

Coney Island Hospital's goal in this initiative was to improve the quality and safety of the process for assessment, treatment, and prevention of pressure ulcers. Coney Island Hospital standardized the pressure ulcer assessment process, improved its ability to identify patients at high risk for developing pressure ulcers, and implemented a plan of care that was tailored to the need of the high-risk patient. The hospital also used "Decubiti Deputies" to provide best practices "24/7" and conducted outreach on neighboring long-term care facilities to ensure that their residents will continue to receive consistent best practices for prevention and reduction of pressure ulcers when they return to the facilities.

With the concepts of process design, patient safety, performance improvement, resource allocation, provision of qualified staff, assessment, and planning in mind, the hospital leadership made pressure ulcers a priority project for review and improvement. Using the hospital's quality methods, opportunities for improvement were identified and actions taken. The best practices that were implemented have gone beyond the walls of the facility and are being continued at neighboring long-term care facilities.

By preventing the formation of pressure ulcers, limiting the extension of existing pressure ulcers, and identifying and treating patients at high risk for ulcer formation, resources are conserved and patient care is improved—this underscores the concept that providing high-quality, safer care saves money.

OUTCOMES

- Despite the increase in patients with pressure ulcers present on admission, the number of patients who developed pressure ulcers while in the facility increased by only 0.1%. Patients who come into the facility with pressure ulcers are more likely to develop additional ulcers or extend their existing ulcers.

LESSONS LEARNED

- The success of this program underscores the compelling need for collaboration between all members of the health care team to improve communication, assessment, prevention, and treatment of pressure ulcers. It also highlights the importance of staff education, reducing variation, and improving the continuum of care.
- The need to keep skin integrity in the minds of caregivers is paramount to a proactive approach to patient care, since healing chronic wounds is a long, resource-intensive, and challenging process.
- Empowering ancillary staff has a profound impact on staff morale and the care provided to patients.

PARTNERS

Internal partnerships were formed between the members of the Wound Care Team and nursing, physician, social work, and dietary staff. External partnerships were established with neighboring long-term care facilities.

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Utilizing Expert Clinicians Within a Shared Governance Structure to Successfully Reduce Nosocomial Pressure Ulcer Incidence in Hospitalized Patients

Highland Hospital of Rochester

PARTNERS

Partners for this initiative included senior, unit, and department council leadership, advanced practice nurses, the facility's multidisciplinary value analysis advisory board, vendors, and physicians.

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PROJECT DESCRIPTION

Highland Hospital is a 261-bed acute care hospital designated as a Center of Excellence in Bariatrics and as a NICHE (Nurses Improving Care of Hospitalized Elders) facility. These two specialty populations' risk potential for developing skin breakdown compelled the hospital to employ new approaches for improving performance in pressure ulcer prevention. Two certified wound ostomy continence advanced practice nurses successfully led a team of staff nurses to develop and execute a plan that resulted in sustained improvement. The nursing department's shared governance structure helped support this initiative. The staff nurse skin team used the "Plan-Do-Study-Act" performance improvement model, which included the following components: increasing the frequency of risk assessment of all patients to weekly, developing an evidence-based standard of care for maintaining skin integrity, educating all patient care staff, conducting more comprehensive audits, holding more frequent rounding, creating action plans individualized to meet the need of specific unit populations, purchasing specialty sleep surfaces, and cultivating peer accountability and influence.

OUTCOMES

- The facility-wide nosocomial pressure ulcer rate has been below target for seven of the past 12 months, and consecutively for four months.
- The intensive care unit nosocomial pressure ulcer rate decreased from 29% to 16%, representing 45% improvement.
- The progressive care unit (step-down) nosocomial pressure ulcer rate decreased from 13% to 7.5%, representing a 42% improvement.
- Adult medical and surgical nosocomial pressure ulcer rates have been lower than the national database mean for two of the past three reporting quarters.

LESSONS LEARNED

- Leadership by clinical experts was key to successful implementation and continued positive performance outcomes.
- Staff involvement in planning, implementation, and evaluation improved buy-in, teamwork, and sustainability of outcomes.
- Building upon a shared governance structure and recommitting an existing team to new goals facilitated improvement.
- Standards of care based on current evidence must be developed and followed consistently.

Utilizing Expert Clinicians Within a Shared Governance Structure to Successfully Reduce Nosocomial Pressure Ulcer Incidence in Hospitalized Patients

Highland Hospital of Rochester (CONTINUED)

- Hourly patient rounding positively affects outcomes.
- Purchase of special beds and surfaces can be easily justified as an offset to expensive rental costs, and will achieve optimal long-term organizational efficiency and cost containment.
- Dependable systems/processes and engagement of all nurses (peer influence) may take longer to establish but are important components of assuring sustainability.

Pressure Ulcer Reduction

Long Island Health Network

PARTNERS

Partners for this initiative included the LIHN hospitals: Brookhaven Memorial Hospital Medical Center, Good Samaritan Hospital Medical Center, John T. Mather Memorial Hospital, Mercy Medical Center, New Island Hospital, St. Catherine of Siena Medical Center, St. Charles Hospital Center, St. Francis Hospital—The Heart Center, South Nassau Communities Hospital, and Winthrop-University Hospital.

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PROJECT DESCRIPTION

With wide variations in performance found among its ten hospitals, Long Island Health Network (LIHN) recognized an opportunity to improve the prevention of hospital-acquired pressure ulcers. Clinicians from member hospitals were brought together as a committee to develop network-wide best practice guidelines. Three key priorities were identified: 1) early identification of patients at risk; 2) appropriate documentation and staging of pressure ulcers in the emergency department; and 3) environmental changes to decrease the likelihood of pressure ulcers developing.

In response, the committee developed an educational program for the ED focusing on the identification and staging of pressure ulcers. Each hospital agreed to enhance its ED documentation to require explicit identification and staging of pre-existing pressure ulcers. The committee directed LIHN to pursue group acquisition of pressure relief mattresses for stretchers in the ED based on specific requirements from each hospital.

OUTCOMES

- All inpatient discharges are processed through the Agency for Healthcare Research and Quality's Patient Safety Grouper software, and the results are distributed to the individual hospitals quarterly. Each hospital receives charts of its performance under the patient safety measures (including pressure ulcers) as well as work lists of the numerator cases for detailed review and analysis.
- The committee will review the performance reports and evaluate the individual and collective progress achieved as the data become available. In the interim, anecdotal reports support the changes the committee has introduced and a clear improvement trend is anticipated.

LESSONS LEARNED

- Involving hands-on experts from each hospital at the start of the initiative is critical.
- Each member facility must be "on the same page" to standardize processes, training, and materials for consistency in delivery.
- Validating best practice proposals against standards from national associations contributes to rapid acceptance by affected staff.
- The administration at each hospital must be involved and committed to the project goals.

Reducing the Incidence of Pressure Ulcers

Massena Memorial Hospital

PARTNERS

Partners for this initiative include the medical equipment rental supply company; physicians; and representatives from Medline, administration, nursing, physical therapy, dietary, and process improvement.

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PROJECT DESCRIPTION

In response to the growing concern associated with the formation of pressure ulcers, Massena Memorial Hospital embarked on a process change to reduce and prevent pressure ulcer formation. The project goal was to decrease the incidence of pressure ulcers by 20% and the severity of the ulceration by 50% within one year. A multidisciplinary team was formed to assess current practice, evaluate implementation strategies, and improve clinical outcomes. A three-month evaluation period identified hydrocolloid dressings as the treatment of choice. Utilizing evidence-based practice, nurses and nurse aides received education on assessment (Braden Scale score), prevention (turning and positioning), and treatment.

Data collection on pressure ulcer formation is ongoing to maintain the results, further assess performance, and continuously improve.

OUTCOMES

- The incidence of pressure ulcers on the medical-surgical floor declined by 40% within one year.
- The rate of Stage 3 and Stage 4 ulceration was reduced by 90%.
- Nursing staff are now following standard practice of care protocols for pressure ulcers.
- The Braden Scale assessment tool has been successfully implemented.
- Communication has greatly improved between staff and local nursing homes in regard to collaboration of care for shared patients.

LESSONS LEARNED

- Evidence-based practice is essential to ulcer management care.
- Early intervention is key to successful reduction in the severity of pressure ulcers.
- Communication with multidisciplinary teams is critical.
- Decreased incidence of ulcer formation reduces patient length of stay.
- A commitment from administration is needed to make necessary changes in practice.

Pressure Ulcer Prevention Across the Continuum

New York Hospital Queens

PARTNERS

Partners for this initiative include nursing and medical staff from the acute and long-term care facilities.

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PROJECT DESCRIPTION

Nursing home residents, particularly those with multiple co-morbidities, are living longer and have multiple admissions to the acute care setting. Communication between the acute and long-term care settings upon resident transfer is often limited and not timely. Pressure ulcer risk assessment and treatment is one area that is often not adequately addressed, despite the majority of residents being at high risk for pressure ulcer development. New York Hospital Queens' goal was to establish a mechanism for the prevention of pressure ulcers in nursing home patients in the acute care setting through early identification and intervention.

This initiative was conducted with the collaboration of an acute care hospital and its affiliated long-term care facility. Two inpatient units, the medical intensive care unit (MICU), and ventilator unit were chosen for this intensive effort.

A team was established, composed of nursing and medical leadership and bedside staff from the acute and long-term care settings. The basic targets included standardization to improve quality, continuity of care, and cost containment. The team compared assessment tools, pressure-relieving support surfaces, devices, pharmaceutical products, and nutritional supplements. The hospital transfer documentation was amended to include an anatomical diagram. Wound care formularies were compared and standardized. The team conducted weekly rounds on all nursing home residents admitted to the hospital. Transfer documentation was assessed.

OUTCOMES

- There was a significant decrease in hospital nosocomial pressure ulcer rates on both acute care project units. The MICU began with a 5% rate at the start of the project and achieved 0% by the end of 2007. The pulmonary unit began with 7.5% and achieved 0% by the end of 2007.
- Due to the review of all transfer documentation, there has been an increase in the thoroughness of pressure ulcer risk assessment, documentation, and congruence of wound measurements.
- The wound care formulary has been standardized.
- There are anecdotal data on the increase in staff satisfaction during weekly rounds.

LESSONS LEARNED

- Bedside caregivers need to be involved in any project that directly affects patient care.
- Nursing and medical leadership needs to be visible.
- Communication between the acute and long-term care settings needs to take place for all transferred patients.
- Standardization of documentation of risk assessment and wound care across all settings of care leads to better patient outcomes.

Prevention of Facility-Acquired Pressure Ulcers Using a PDSA Approach

Northeast Health/Albany Memorial Hospital/
Samaritan Hospital

PROJECT DESCRIPTION

The goal of Northeast Health's initiative was to decrease the prevalence of facility-acquired pressure ulcers by implementing a comprehensive, system-wide prevention program. To achieve its goal, the organization used the "Plan-Do-Study-Act" methodology for quality improvement.

The Northeast Health Acute Care Division's Wound, Ostomy, and Skin Care Nursing Service, implemented across two acute care facilities, is the central component of the prevention and treatment of pressure ulcers program. The service was created in 1998 and is the first nurse practitioner managed consultative wound, ostomy, and skin care service in the northeast region.

Strategies have included nursing education of Braden Scale assessment tool calculation and interpretation, validation and congruence of the Braden scales, implementation of skin care protocols including prevention and treatment of pressure ulcers, and system-wide tracking of pressure ulcer incidence.

OUTCOMES

- Facility-acquired pressure ulcers decreased from 15.5% to 6.2%.
- Braden Scale documentation on admission increased from 92% to 98.3%.
- Braden Scale congruence between nurse practitioners and registered nurses increased from 76.0% to 79.3%.
- Skin assessment documentation on admission increased from 88% to 97.9%.

LESSONS LEARNED

- Ongoing institution-wide vigilance is crucial to achieving a facility-acquired pressure ulcer rate of zero.
- Braden Scale and skin assessment documentation on admission has been facilitated with the use of electronic documentation.
- Continuing education regarding the use of the Braden Scale needs to be validated annually on a mandatory basis.

PARTNERS

Partners include administration, performance improvement, physicians, nurses, physical and occupational therapy, nutritional services staff, education, management, information systems specialists, and the system-wide value analysis team.

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Let's Go for Zero: Don't Be Beat—Check Those Feet

North Shore University Hospital—Stern Family Center for Extended Care and Rehabilitation

PARTNERS

Partners for this initiative include the dietary department, rehabilitation department, and NS-LIJ health system facilities.

PROJECT DESCRIPTION

The leadership of the North Shore University Hospital Stern Family Center for Extended Care and Rehabilitation (CECR), a 256-bed skilled nursing facility in the North Shore-Long Island Jewish Health System (NS-LIJ), has a strong commitment to quality and performance improvement. Leadership works together to promote teamwork, integrity, respect, and caring, in addition to clinical excellence. CECR targeted pressure sore reduction as a performance improvement initiative. Information about the success of this project was presented to the NS-LIJ trustees and senior organizational leadership who, in turn, prioritized a skin care performance improvement initiative across the entire health system and the continuum of care.

Using the “Plan-Do-Study-Act” cycle of continuous improvement, the committee, which met monthly, agreed on a strategy that included a review of the literature and existing skin care protocols used in the system. Data are collected on an ongoing basis and aggregated monthly. Each nursing unit maintains a pressure ulcer log, which contains information regarding source of pressure ulcer (present on admission or nosocomial), identification of risk potential per the Braden Scale, and treatment interventions and healing progress. Establishing a rate allows CECR to compare itself against itself and other system long-term care facilities. This information is presented at the monthly performance improvement coordinating group and communicated to all nursing care units. The information, presented as a facility but also analyzed by unit, enables the geriatric nurse practitioner (wound care nurse), to identify potential weaknesses or problem areas and to provide timely re-education to staff and/or residents.

OUTCOMES

- Weekly interdisciplinary pressure ulcer rounds are held.
- There was a 60% reduction in nosocomial pressure ulcers from 2000 to 2007.
- Following implementation, there was a reduction of heel ulcers by 40% from 2006 to 2007.
- A nursing unit experienced zero nosocomial pressure ulcers in 2007.

LESSONS LEARNED

- Key elements of this initiative's success included the interdisciplinary team pressure ulcer committee meetings, weekly interdisciplinary pressure ulcer rounds, and weekly pressure ulcer assessment and narrative for the first four weeks of admission utilizing the Bates Jensen Wound Assessment Tool.
- Education of staff, residents, and families is important.
- A key to success is to challenge and empower all levels of staff to be part of the solution.

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When Business Intelligence Facilitates CQI: A Multidisciplinary Pressure Ulcer Initiative Reduces Hospital Costs and Improves Patient Care Outcomes

South Nassau Communities Hospital

PARTNERS

Partners for this initiative included patient care services, the wound care center, the performance improvement department, and Hill-Rom Company.

PROJECT DESCRIPTION

The pressure ulcer prevalence rate at South Nassau Communities Hospital was 24.7% in 2005, increasing from 20.7% in 2004, and the facility-acquired incidence rate was higher than the acute care mean. Given this trend, senior leadership directed that pressure ulcer reduction be made a performance improvement priority.

An action plan was developed and implemented. Phase I included the consolidation of skin care products to one vendor and education of nursing staff in their use and placement on exchange carts for easy staff access. Treatment protocols based on clinical guidelines were established for each pressure ulcer stage and implemented as standing orders. Zone-aire mattresses were purchased for all medical-surgical and critical care beds.

In Phase II, a wound care nurse position was created and filled in November 2005. The nurse's primary orientation was at the wound care center, with partial acute care responsibilities. In April 2006, the nurse assumed primary responsibility for inpatient acute care. A pressure ulcer competency program was developed for all registered and licensed practical nurses, with 441 nurses receiving mandatory 90-minute training on the assessment and management of pressure ulcers in early 2007.

OUTCOMES

- The number of patients with acquired pressure ulcers, including Stage I, has been reduced from 2.5 per 1,000 patient days in September 2006 to 0.9 per 1,000 patient days in December 2007, a 64% decrease.
- There was a decrease from 304 patients with acquired ulcers in 2004 to 162 in 2007. At a cost of \$40,000 to \$70,000 per patient for treatment, this represents a savings of between \$6,480,000 and \$9,940,000.

LESSONS LEARNED

No single item caused the significant decrease in acquired pressure ulcers. A combination of increased awareness, a wound care specialist, the installation of pressure relieving devices, the purchase of improved products with corresponding treatment protocols, and a hospital-wide competency program led to this improvement in care.

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Data Driving Hospital-Acquired Pressure Ulcers Reduction

St. Francis Hospital—The Heart Center

PARTNERS

This initiative was led by the WOCN and partners included nurse managers and the nursing education, performance improvement, and data analysis departments.

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PROJECT DESCRIPTION

St. Francis Hospital's goal for this initiative was to reduce the percentage of hospital-acquired pressure ulcers on its medical-surgical units. This innovative program began in 2006 when the problem of a high hospital-acquired pressure ulcer prevalence rate was noted by the wound, ostomy, and continence nurse (WOCN). Nursing leaders supported a plan that required changing from quarterly to monthly pressure ulcer prevalence studies to evaluate trends faster and to mandate staff education in accurate pressure ulcer assessment.

By using data, there was notable improvement in the reduction of hospital-acquired pressure ulcers on the medical-surgical units. Data collection at the hospital is conducted in a non-punitive, meaningful, and timely manner, which enhances the importance of quality principles of pressure ulcer prevention. The team then promotes inquiry such as "What did we miss?" or "What can we do differently?"

The medical-surgical units were rewarded for decreasing the rate of hospital-acquired pressure ulcer prevalence to zero in September 2007. The chief nursing officer celebrated their success with a light buffet on all shifts and provided each nurse with a special gift card.

OUTCOMES

- By using data, prevalence of hospital-acquired pressure ulcers on the medical-surgical units went from a high in March 2006 of 10% to a low of 0% in September 2007. The improvements have been sustained below 2.5% since August 2007.
- The overall hospital-acquired pressure ulcer prevalence rate dropped from 13.1% in 2006 to 4% by the fourth quarter of 2007.

LESSONS LEARNED

- Conducting prevalence studies without the unit nurse managers was less effective. The unit nurse managers became the driving force by which staff took greater accountability.
- Prompt posting of the data after each study allows trends to be recognized by the staff, managers, and certified nurse specialist; this enables timely system changes.
- Using graphs to display data encourages identification of trends and opportunities for improvement.
- Mandatory education in the accurate staging of pressure ulcers improved the accurate identification of those wounds.
- Educational initiatives helped the staff better identify and properly document pressure ulcers, both those that are present on admission and those that develop later.

Reducing Facility-Acquired Pressure Ulcers

St. Mary's Hospital, Amsterdam

PARTNERS

External partners for this initiative included Ascension Health, the Hill-Rom Company, and the Institute for Healthcare Improvement. Internal partners were the SKIN team; nurses; certified wound, ostomy and continence nurse; and the education, physical therapy, dietary, materials management, information technology, and quality management departments.

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PROJECT DESCRIPTION

As an organization committed to providing excellent clinical care, St. Mary's Hospital in Amsterdam adopted several strategies to eliminate facility-acquired pressure ulcers. The goal of this initiative is to achieve zero facility-acquired pressure ulcers by July 2008. The initiative was started in 2006 when a multidisciplinary core pressure ulcer team was assembled, composed of representatives from nursing, education, quality, dietary, materials management, and information technology.

Since the inception of the project, the hospital has been building a safer health care environment by continuously improving its culture, structure, and processes to support excellent clinical care. Leadership support was very visible at all levels—from the executive leadership to the front-line supervisors. Facility-acquired pressure ulcers were incorporated as a performance indicator in the hospital-wide report card, which is reviewed quarterly by the quality executive committee and the board of directors. Initially, the project was piloted on one unit to test the proposed change using the “Plan-So-Study-Act” approach. Recognizing a direct link between process, practice, and products led to the adoption of the “SKIN” bundle with the following components:

- Surface selection**—selection of appropriate support surfaces;
- Keep turning**—keep patients moving/offload pressure;
- Incontinence management**; and
- Nutrition**—manage nutrition and hydration.

Continuing education, communication, responding to requests, newsletters, and skin fairs have proven valuable for spreading and sustaining the initiative. In addition to improving patient safety, this initiative has helped achieve cost savings by decreasing the length of stay and reducing debridement costs and costs associated with surgical interventions.

OUTCOMES

- The average pressure ulcer rate has decreased from 1.4 per 1,000 patient days in 2006 to 0.8 per 1,000 patient days in February 2008.
- There has been a 39% reduction in the hospital's pressure ulcer rate since the launch of the project.
- There has been a 69% reduction in facility-acquired pressure ulcer incidents from 2004 to 2007.
- There has been a 58% reduction in facility-acquired pressure ulcer incidence since the initiation of the project.
- St. Mary's Hospital's rate is 76% lower than the national pressure ulcer prevalence (acute care) for 2007.

Reducing Facility-Acquired Pressure Ulcers

St. Mary's Hospital, Amsterdam (CONTINUED)

LESSONS LEARNED

- Leadership support at all levels of the organization is essential.
- It is important to identify team leaders/champions and use a multidisciplinary team approach.
- Major initiatives can often start with small tests of change.
- Continuing education is imperative to keep the campaign momentum going.
- Successes should be celebrated—no matter how small.
- Objective metrics for monitoring and managing the project are critical.
- Continuous feedback and reports on the data collected and analyzed help to drive success.
- Debriefings after each event are a key part of education.

A Team Approach to Get to the Surface of Pressure Ulcer Prevention

SUNY Upstate Medical University

PARTNERS

Partners for this initiative included the nursing skin and wound care team; the multidisciplinary skin and wound care committee (with representation from dietitians, physical therapy, surgeons, central equipment, central distribution, and nursing support services); nursing administration; hospital administration; and the capital budget, nursing documentation, and ergonomics committees.

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PROJECT DESCRIPTION

Upstate Medical University's nursing staff established a skin and wound care team to improve nursing quality through the development of nursing skin champions from each inpatient unit. They worked on projects related to continuing education and policy and protocol development. Members of the team bring the educational, policy, and protocol information back to the unit level during pre-scheduled, four-hour monthly meetings. Nursing administration supported the team by ensuring that skin champions were not responsible for patient care during that time block. Quarterly, the skin and wound care team was pre-scheduled for an eight-hour shift to complete nosocomial pressure ulcer prevalence studies as a team, ensuring compliance with the National Database of Nursing Quality Indicators guidelines and improving the reliability of prevalence data.

A clinical nurse specialist, the leader of the team, completed wound training at a Wound, Ostomy, and Continence Nursing (WOCN) Society-accredited program and became a Certified Wound Care Nurse. This led to the development of a pressure ulcer prevention protocol, based on the WOCN clinical practice guidelines that promote an evidence-based practice approach to prevention.

Key prevention strategies included using the Braden Scale risk assessment, implementing a prevention protocol for at-risk patients, using support surfaces, providing nutritional support, turning and positioning practices, and implementing moisture and incontinence management. A facility-wide educational initiative was developed to increase awareness of the importance of maintaining skin integrity. Education was provided in short lecture formats online; as well as through critical care orientation presentations, bed demonstration fairs, clinical rounds, and unit based in-services.

OUTCOMES

- The hospital achieved and maintained 100% compliance with risk assessment documentation and 100% compliance with use of preventive support surfaces.
- A 50% reduction in nosocomial pressure ulcer prevalence was achieved by decreasing prevalence from an average of 9% to 4.5%.
- The monthly rental cost for support surfaces was reduced by 90%, representing a savings of \$265,000 per year.

LESSONS LEARNED

- Engaging a team of "skin champions" led by a Certified Wound Care Nurse Specialist motivates and supports change at the unit level through empowerment of bedside nursing staff.

A Team Approach to Get to the Surface of Pressure Ulcer Prevention

SUNY Upstate Medical University (CONTINUED)

- Incorporating the Braden Scale risk assessment tool with definitions into daily nursing documentation is vital to achieving reliable compliance with risk assessment.
- Once risk assessment is completed, policies and protocols should direct the interventions that need to be implemented by nursing staff for the at-risk patient, based on the level of risk for skin breakdown.
- A high-quality pressure redistribution replacement mattress should be on every hospital bed frame, ensuring all patients have a preventive mattress from the time of admission.
- Low air-loss surfaces should not be used for treatment alone. Hospitals should use hospital-owned low air-loss surfaces for patients with a Braden Scale score less than or equal to nine—this has been successful in preventing ulcers in patients at highest risk and in decreasing the cost of specialty bed rentals.
- Despite the use of appropriate preventive surfaces for patients at risk, if the at-risk patient is not turned every two hours, a pressure ulcer may still develop. A turning campaign to address the barriers to effective turning, appropriate documentation of turning, and use of posted individualized turning schedules is needed to address poor compliance with turning.

PATIENT SAFETY: RESTRAINT

Restraint Reduction: An Organization Priority

Queens Hospital Center

PARTNERS

Partners for this initiative included the emergency, CPEP, inpatient behavioral health, and medical-surgical units/ departments.

PROJECT DESCRIPTION

The leadership of Queens Hospital Center and the New York City Health and Hospitals Corporation support the use of alternatives to restraints and less restrictive interventions whenever possible. Since 2000, the hospital has successfully developed, implemented, and maintained a comprehensive program that addresses the application of restraint or seclusion as a critical intervention that creates an environment for potential physical, psychological, and emotional harm and must therefore be limited to only those situations in which no other means are available to protect the patient or others from harm.

Each episode of restraint use is analyzed to ensure compliance with standards and to identify opportunities for improvement. The analysis focuses on both patient and staff behavior regarding the need for restraint. Several improvement initiatives were implemented that contributed to the elimination of restraints in the medical-surgical units as well as reduction of restraint use in the emergency department, the comprehensive psychiatric emergency program (CPEP), inpatient psychiatry, and the intensive care unit. These improvements included:

- training staff for appropriate use and application of restraints;
- early recognition and response to signs of physical and psychological distress that may trigger the use of restraints;
- engaging in crisis de-escalation;
- creating an individualized plan of care with patient involvement;
- encouraging the collective efforts of all disciplines;
- cohorting patients to facilitate close observation by auxiliary nursing staff; and
- ongoing monitoring and data analysis.

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OUTCOMES

There is a continuous decline in the use of restraint for all areas per 1,000 patient care days:

- The rate for restraint use for the medical-surgical units was 14.49 in 2007, compared to 17.46 in 2006. These restraints are mainly in the intensive care unit. The medical-surgical units have been restraint-free since July 2007.
- The rate for restraint use in the emergency department is 0.53 in 2007, compared to 2.18 in 2006.
- The rate for restraint use in the CPEP unit is 6.40 in 2007, compared to 12.4 in 2006.
- The rate for restraint use in the inpatient psychiatry unit is 4.4 in 2007, compared to 7.84 in 2006.

Restraint Reduction: An Organization Priority

Queens Hospital Center (CONTINUED)

LESSONS LEARNED

- Staff understand that the leadership is playing a central role in restraint reduction.
- Continuous monitoring and analysis keep the issue at the forefront.
- Successes need to be communicated to direct care providers, and it is important to publicly acknowledge success.
- Staff feel more empowered with the knowledge about the risks associated with restraint use.

SPECIALTY SERVICES: BEHAVIORAL HEALTH

Violence Reduction Protocol: Reducing Patient and Staff Injuries and Seclusion and Restraint Utilization in Behavioral Health Care

Jacobi Medical Center/North Bronx Healthcare Network/
New York City Health and Hospitals Corporation

2008 PINNACLE AWARD WINNER—UNIT/DIVISION BASED CATEGORY

PROJECT DESCRIPTION

The leadership of Jacobi Medical Center's behavioral health division identified the need to reduce violent events, seclusions, and restraints based on nationally declared priorities and on events within the organization that left staff feeling vulnerable to assault by violent psychiatric patients. A committee designed and implemented the Violence Reduction Protocol (VRP) as a systematic approach to patient assessment, staff communication, and patient treatment in the interest of reducing violent behaviors.

VRP included screening all patients, first at the point of entry for the current treatment episode regarding past violent actions, and second by integrating the "Broset Violence Checklist" (BVC) into the intake process. If the patient's history showed a past pattern of violence and/or if the current BVC showed a score of two or more, the patient was deemed to have failed the screen. The VRP form is linked to a personalized treatment plan. The assessment sought to ascertain factors that precipitate patient violence, identify specific calming measures that might assist the patient to de-escalate in the face of impending loss of self-control, and indicate the patient's preference regarding medications that could be offered on an as-needed basis. Finally, the assessment identified patient preference regarding the use of seclusion or restraint if all other measures failed and the situation was imminently dangerous.

The charts of those enrolled in the program were identified with brightly colored tags and their names were placed on a white board visible only to staff, allowing staff to easily and quickly identify the patients at highest risk for violent behavior. Nursing staff performed the BVC assessments once per shift on all VRP enrollees. If a patient scored two or more on the BVC, he or she was continued in the VRP. VRP enrollment was continued for 24 hours subsequent to a drop in BVC score below two, to ensure that the reduction in violent potential was relatively persistent. Nursing and psychiatry staff were taught to communicate information pertinent to the VRP enrollees to oncoming staff, and staff unfamiliar with the patients. The VRP and the BVC score proved to be useful shorthand techniques for rapidly communicating information regarding high-risk patients.

PARTNERS

Partners for this initiative included nursing, psychiatry, psychology, social work, therapeutic activities, and peer counseling staff.

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Violence Reduction Protocol: Reducing Patient and Staff Injuries and Seclusion and Restraint Utilization in Behavioral Health Care

Jacobi Medical Center/North Bronx Healthcare Network/
New York City Health and Hospitals Corporation (CONTINUED)

OUTCOMES

This initiative led to statistically significant decreases in:

- patient injuries (36%), restraint episodes (33%), and seclusion episodes (9%); and
- staff injuries, which decreased by 75%—but there were too few in numbers to statistically analyze.

LESSONS LEARNED

- A highly structured program to assess and manage violence-prone patients can be productively implemented on a busy urban inpatient psychiatric service.
- It is a myth that seclusion and restraint reduction leads to more violent, chaotic inpatient units. If violent behavior is intercepted earlier in its course and is treated more effectively, inpatient units can be safer and calmer, with reduced reliance on restrictive measures.
- Nursing staff are able to utilize a violent behavior rating scale once per shift, around-the-clock, to maintain a constantly updated awareness of a patient's violence potential.
- Staff members readily embrace a novel approach to reducing violent behaviors so long as it is comprehensive and pays dividends in patient and staff safety.
- Simple measures that enhance staff awareness and communication regarding high-risk patients improve safety and treatment.
- The program is less effective for highly psychotically disorganized patients who are unable to collaborate with staff in production of a VRP treatment plan.

Reduce Use of Psychiatric Restraint Devices Without Increasing Utilization of Highly Restrictive Modalities in Management of the Highly Agitated Patient

St. Catherine of Siena Medical Center

PARTNERS

Coordinated by the chief of psychiatry and psychiatric nursing director, manager, and advanced nurse practitioner, the team included senior leadership, medical staff, and other members of the psychiatric patient care delivery system.

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PROJECT DESCRIPTION

St. Catherine of Siena Medical Center's goal was to reduce the use of psychiatric restraint devices while promoting patient and staff safety. The organization reviewed the inter-relatedness of the many different components of this complex process and how they must work in unison. The focus was on making lasting change, because the organization believes that there is a significant safety risk inherent in the use of psychiatric restraints and seclusion. The staff have long recognized that any harm to the patient, mental or physical, because of these interventions, is not acceptable if an alternative method can be used.

An interdisciplinary team began reviewing the current practice, the evidence-based literature, and testing the re-design process. The theme was to eliminate a punitive type of milieu and the motto became, "Talk down, not take down." Implementation strategies included education, monitoring and auditing, role modeling, and indoctrination of each staff member to the philosophy of restraint device reduction. Potential barriers to success included: newly hired staff members, varied levels of experience, personal reactions to violence, and change in administration.

Finally, the team addressed potential triggers in the environment and enhanced medication management and psychiatrist rounding times.

OUTCOMES

- In 2003, there were 35 episodes of restraint use, yielding an annual rate of 2.56 cases per 1,000 patient days.
- In 2004, there were no episodes of restraint use. In 2005 and 2006, there was one episode of restraint each for a 0.07 per 1,000 patient day rate.
- In 2007, there were no episodes of psychiatric restraint use, validating a sustained reduction without an increase in seclusion or one-to-one observation costs.

LESSONS LEARNED

- Positive results are rewarding and motivating to staff as they continue to reduce psychiatric restraint usage.
- All team members are equally important and accountable for their contributions in restraint reduction.

Positive Anger Management Outcomes Through Occupational Therapy Intervention

St. Elizabeth Ann's Health Care and Rehabilitation Center

PARTNERS

The partners for this initiative included the medicine, substance abuse, nursing, psychology, social work, and therapeutic recreation departments.

PROJECT DESCRIPTION

St. Elizabeth Ann's Health Care and Rehabilitation Center's occupational therapy (OT) program manages a "Skills for Life" initiative on an 80-bed unit for people living with human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS). The OT program's treatment plans include goals to address anger management and positive coping skills. This quality improvement initiative measured outcomes of the OT services provided to clients. The goals for the initiative were client-based and focused on enhancing the quality of life through increased skills to support community integration, educational readiness, health promotion, and positive social interaction.

A comparison review of behavior reports, which recorded any verbal, physical, or socially inappropriate behaviors, was conducted during the last quarter of 2006 and the first quarter of 2007. The criteria for review was OT treatment five times a week for 30 minutes, with a minimum of four weeks between the date of admission and OT evaluation, and goals in one or more of the following: positive anger management, positive coping, and positive use of leisure time.

OUTCOMES

- Initial review at the end of the last quarter of 2006 indicated a 46% decrease in negative behaviors. Those individuals with an increase in negative behavior had no anger management goals, while 83% with a decrease in negative behavior had anger management goals.
- A follow-up review at the end of the first quarter of 2007 indicated a 54% decrease in negative behavior, with no increases in negative behavior. All of those in the increased behavior category had anger management goals.

LESSONS LEARNED

- Participation in an OT treatment plan that includes positive anger management and/or coping and positive leisure activity decreases negative behavior. The greatest decrease in negative behavior was among clients whose treatment plan included anger management.
- Positive outcomes indicate that OT intervention has the potential to help clients develop performance skills and patterns that will support success in their environment.

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Reduction in the Use of the Quiet Room on a Psychiatric Unit

St. John's Episcopal Hospital

PARTNERS

Partners include the multidisciplinary team consisting of management and frontline staff nurses, physicians, clinical leadership, and administration.

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PROJECT DESCRIPTION

St. John's Episcopal Hospital's geriatric unit staff began an initiative to reduce the use of the "quiet room" as an initial response to inappropriate behavior by patients on their unit. Both management and frontline staff agreed it was time to rethink this intervention as a method for modifying behavior. The manager and educator started by getting staff buy-in, by establishing a collaborative performance improvement project. Simultaneously, staff attended on-site crisis intervention classes. One of the first steps was to have staff members be more visible on the unit. The manager and educator made frequent rounds with the staff to support their efforts to use alternatives to the "quiet room." The alternatives developed included:

- promote staff visibility to patients;
- allow staff to be available to deal one-to-one with patient concerns and help to calm those patients through the use of therapeutic communication skills;
- enlist the assistance of unit activity therapists who offered additional activities to redirect unacceptable behaviors to a more positive outlet; and
- review the patient's current medication regimen and make changes as needed.

Lastly, the staff focused on interpersonal relationships to prevent isolation and generally reduce "triggers" that lead to unacceptable behaviors. The staff were also trained in de-escalation skills.

OUTCOMES

- The use of the quiet room was consistently below the benchmark of a rate of 15 times per month.
- The use of restraints/seclusion occurred for 16 patients in 2006 and dropped to seven patients in 2007—a 56% decline.
- Documentation required in the event a patient was in the quiet room, restrained, or secluded improved as education and emphasis allowed staff to fully understand and appreciate this significant intervention.

LESSONS LEARNED

- A team approach empowers staff to embrace a performance improvement project and to achieve positive outcomes.
- By identifying ways to reduce the use of the "quiet room," the use of restraints and seclusion also decreased.

Decrease Elopement Incidents Through the Development and Implementation of an Elopement Risk Procedure

SUNY Upstate Medical University

PARTNERS

The partners for this initiative were the psychiatric inpatient unit, including the patient service manager and nursing director, the nursing unit staff, the patient services leaders, and the incident review committee.

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PROJECT DESCRIPTION

SUNY Upstate Medical University's psychiatric inpatient unit believes that every effort should be taken to minimize the possibility of patient elopements because of the potential effect on patient safety and treatment. The definition of elopement utilized for this quality improvement initiative was "any patient leaving the hospital grounds without permission." After the facility's incident review committee observed a trend of increasing patient elopements, it worked with unit patient service leaders to review elopement policies and used the "Plan-Do-Study-Act" methodology to identify methods to decrease patient elopements. The group decided that to increase staff awareness, a yellow sticker would be placed on patients' medical records indicating they were an elopement risk. During daily patient rounds, the treatment team identifies high-risk patients, documents this on the unit census sheet, and discusses treatment planning for further therapeutic interventions. Additionally, when a patient is an elopement risk, the unit door is opened manually, eliminating the use of the automatic door release.

OUTCOMES

- The unit has a formal process for identifying patients at risk for elopement.
- Communication regarding elopement risk has improved because of a consistent focus on risk awareness and the importance of decreasing elopements.
- In a two-year period (2005-2007), the number of elopements has decreased by 80%.

LESSONS LEARNED

- Implementing a simple process change brought about a significant decrease in patient elopements.
- Engaging staff in this process resulted in a high level of commitment and support to decrease elopements while increasing patient safety.

Virtual Reality Treatment Program

SUNY Upstate Medical University

PARTNERS

This initiative was led by a clinical psychologist working with a team of psychologists, nurse practitioners, and social workers.

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PROJECT DESCRIPTION

The Virtual Reality Therapy (VRT) treatment program at SUNY Upstate Medical University's Adult Psychiatry Clinic offers a new state-of-the-art human-computer interaction form of therapy for individuals with anxiety disorders due to fear of flying, heights, public speaking, and storms. With the goals of improving the quality of the anxiety disorders treatment program and offering evidence-based therapeutic options, a licensed clinical psychologist spearheaded the VRT treatment program in the summer of 2007. A training period followed for a team of psychologists, nurse practitioners, and social workers.

After an initial diagnostic interview is conducted to ensure that the service is appropriate for the presenting problem, participants are placed in a computer-generated, three-dimensional virtual world (using head-mounted display goggles and headphones) and guided through the selected environment. Through this program, participants learn to gradually tolerate and cope with anxious physical reactions and thoughts because they are exposed to feared situations. The VRT-trained therapists guide the participant through every stage of their virtual exposure. Pre- and post-treatment measurements (Beck Anxiety Inventory, self-reporting of successfully approaching real-life feared situation) and multiple within-session analog measurements (0-10 anxiety scale) are taken to collect data on participant progress and the effectiveness of treatment. Research indicates that on average, six to 12 sessions are required to achieve maximum benefit and generalization to real-life situations. Research has also demonstrated that VRT is as effective as standard, real-life exposure.

OUTCOMES

The initial data collected to date show that patients in the program have significant reductions in anxiety inventory scores when approaching feared situations.

LESSONS LEARNED

It is important to increase community awareness of these services through written materials, media outreach, and education.

SPECIALTY SERVICES: EMERGENCY SERVICES

Improving the ED Patient Experience by Streamlining Processes and Creating Necessary Change

Cayuga Medical Center

PROJECT DESCRIPTION

Cayuga Medical Center established a multidisciplinary quality improvement team to address patient “throughput” issues and improve clinical quality in the emergency department. This team, championed by administrative leaders, identified the barriers that affected the throughput experience and worked to establish a strategic plan for change. Using the “Plan-Do-Study-Act” methodology for testing and implementing change in rapid cycles, Cayuga Medical Center developed innovative techniques to hard-wire the process changes.

Among the initiatives developed by the group were increasing the speed of admissions from the ED, transition physician order sets, creating an admissions nurse position, and setting schedules with environmental services for quicker room turnover. To further help improve efficiency and patient care, the team created a separate area in the ED where patients with minor conditions could be treated more quickly, and established a list of serious conditions that should bypass the triage station and be brought immediately to a room. Standardized protocols for treatment of common conditions were introduced and put into practice. The information systems and performance improvement departments worked with the ED staff to create a database to track and analyze patient turnaround times. Patient satisfaction was measured through Press Ganey scores.

OUTCOMES

- Turnaround times for discharged patients were reduced from 260 to 195 minutes.
- The average wait time to see a physician went from 100 to 76 minutes.
- Patient satisfaction improved by 47% using the ED Press Ganey percentile ranking.
- Cayuga Medical Center received designation as a Stroke Center.

LESSONS LEARNED

- Establishing a multidisciplinary team and involving front-line staff encourages participation and accelerates necessary process changes.
- Eliminating waste from care processes helps increase the time clinicians spend in direct care activities.
- Standardizing work areas to ensure that the right thing happens on time, every day or night, will lead to hard-wiring improvement.

PARTNERS

The improvement team, called the “ED focus group,” was championed by the vice president of operations and the ED medical director and included the ED director, performance improvement director, ED frontline staff, inpatient medical-surgical nurses, and representatives from information systems, customer relations, laboratory, materials management, radiology, and environmental services.

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Improving Communication with Emergency Department Patients in Partnership with the Community

Cayuga Medical Center

PARTNERS

Partners in this initiative include staff and students from Cayuga Medical Center, Cornell University, and Ithaca College.

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PROJECT DESCRIPTION

Cayuga Medical Center's Volunteer Patient Advocate Program was designed to improve the overall patient experience in the emergency department. In an area that had undergone many changes in a short period, the patient satisfaction scores had dropped to the first percentile. Formal and informal processes identified that a patient's knowledge of what is happening during a visit plays a key role in the perceived value of the care.

All available hospital staff were involved in changes in the ED. While the staff were able to do rounds during the day, it was difficult to maintain consistent patient interaction in the late afternoon and evening hours without changing staffing levels. The Volunteer Patient Advocate Program addressed that need. The majority of the patient advocates were recruited from two local colleges—Cornell University and Ithaca College. Students are eager to become involved in a program that would allow them direct contact with patients and enable them to test their skills and commitment to pursuing a career in health care. They do rounds with patients in the ED, from 3 to 9 p.m. each evening, and on the weekends from 11 a.m. to 9 p.m. They serve as a conduit for information between patients and their caregivers.

OUTCOMES

- Each advocate serves as a source for information, comfort, and support for family members.
- During the busiest hours, the patient advocates assist the nurses by relaying questions and concerns and keeping patients informed about the status of their care.
- Since this program began, the overall Press Ganey patient satisfaction score for the ED has risen from 47%.
- The score for the question about keeping patients "informed about delays" has risen 42%.

LESSONS LEARNED

- It is important to establish a strong connection between the charge nurses and patient advocates.
- Staff education before implementation encourages active participation and communication.
- Be aware of the timing of college breaks; seek community volunteers as well as students.

The “No Wait” Emergency Department

Hudson Valley Hospital Center

PARTNERS

Partners for this initiative included the hospital leadership, and ED medical, nursing, ancillary, and registration staff.

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PROJECT DESCRIPTION

Hudson Valley Hospital Center identified the need to make changes in its emergency department because of poor patient satisfaction scores, employee satisfaction scores in the 50th percentile, and flat patient volume. The hospital implemented the “Plan-Do-Check-Act” (PDCA) improvement model to look at all ED processes, determine areas for improvement, and institute change.

To address patient concerns about and the quality implications of ED waiting, the hospital leadership developed the concept of a “no wait” emergency department. Always focusing on patient safety and quality, the “no wait” aims to provide treatment as quickly as possible. The process was revolutionary and required an entirely new approach to patient flow, as well as a huge commitment on the part of all staff including medical, nursing, ancillary, and registration. It meant re-engineering the entire ED patient care process.

The plan to create a no wait ED included adding additional patient bays in the triage area and developing a redesigned entrance to help maximize patient satisfaction and expedite time to treatment. However, the hospital realized that doing the construction alone would not be enough; ED leadership needed to change existing processes to support the new patient flow. The goals of this initiative are measured by increased patient and employee satisfaction scores, increased patient volume, and decreased time-to-room and time-to-physician.

OUTCOMES

- In August 2005, the “no wait” ED opened and, to date, positive results have been maintained.
- The time from arrival to seeing the first provider has decreased 50%.
- The time from arrival to going to a room decreased 60%.
- Patient satisfaction results have been above the 90th percentile for two years.
- Employee satisfaction jumped to the 97th percentile from the 53rd percentile the year before.
- Because of improved turnaround times, there was increased capacity for ED patients—this led to a 12% increase in volume.

LESSONS LEARNED

- During “go live,” leadership support of the staff is essential to addressing staff anxiety about losing control of their environment.
- When something is not working, staff should be empowered to make changes as long as they stay within the definitions of the program. Letting them know their ideas are valued gives them a feeling of control.
- It is important for senior leadership to take an “all hands on board” approach to ED overcrowding.

Reducing “Left Without Being Seen” From the Emergency Department

Little Falls Hospital/Bassett Healthcare

PARTNERS

Partners for this initiative included the performance improvement team, laboratory phlebotomists, radiology technicians, ED staff, ED registration staff, and the entire hospital staff, which is accountable for intervening on behalf of the patient.

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PROJECT DESCRIPTION

Little Falls Hospital, a 25-bed Critical Access Hospital, observed that its emergency department’s (ED) “left without being seen” (LWBS) rates far exceeded national benchmarks and were the highest in the Bassett Healthcare system. LWBS is defined as any patient who presents for treatment to the ED and leaves before being evaluated by a physician/provider. These patients are at significant risk for not being evaluated by a provider. This issue has significant negative impact on patient satisfaction and revenue loss.

In 2005 and 2006, the ED volumes at Little Falls Hospital were 11,700 and 12,002, with LWBS rates of 2.0% and 3.3%, respectively. In the fourth quarter of 2006, the LWBS rate was 4% of volume. To address this issue, the hospital brought together a performance improvement team, led by the ED nurse manager, which researched the medical literature and identified the following best practices:

- reduce admission time by 30 minutes;
- change the process so that the patient presents to triage and then goes directly into a room;
- develop a policy that outlines accountability for reporting a potential LWBS; and
- change the culture.

OUTCOMES

- The team experienced immediate results the first quarter, and this continued throughout the year—there was a 65% reduction of LWBS, from 400 in 2006 to 142 in 2007. It is important to note that 50% of the 142 LWBS incidents occurred within the first two months of the initiative.
- The first quarter results of 2008 showed continued success.
- Patient satisfaction scores for “time in waiting room” improved from 79% in early 2007, to 85% in a second survey in 2007, to 91% in the first survey of 2008.

LESSONS LEARNED

- Active intervention by hospital staff can result in significant improvement in quality of care, patient satisfaction, and financial performance.
- Patients are more likely to wait for an evaluation in a treatment room than in the waiting room.
- Although it was a mandate to get those who were going to be admitted to the hospital out of the ED in 30 minutes, this needed to be reinforced several times and continues to be an ongoing audit item.
- Staffing increases are not always the solution.

MedHost Computerized Documentation in the Emergency Department

Mercy Hospital of Buffalo

PARTNERS

Partners for this initiative included ED associates and physicians, MedHost representatives, and acute care hospital associates.

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PROJECT DESCRIPTION

Mercy Hospital of Buffalo initiated MedHost computerized documentation in the emergency department in October 2007. Patient safety has improved by having the clinicians documenting at the patient bedside on mobile computers rather than at the nurse's station. Physicians enter their own orders into the computer, reducing errors in reading illegible handwriting and expediting turnaround times. The computer screens show icons depicting outstanding test results. When the test results are ready, the icon stops blinking, noting that they are available, and a pager system alerts the clinicians to the available results. These time-saving initiatives have expedited decision-making and care of patients.

The computerized documentation has improved legibility issues within the ED. Any papers brought with the patient can be scanned into the system so that the entire visit is permanently saved. Having this information readily available for future visits has improved continuity of care, enhanced patient safety, and has saved time from waiting for old records to be pulled.

Quality of care and documentation is readily accessible in the system. Managers can remotely access the entire ED, allowing close monitoring of patient flow and staffing levels. Incomplete documentation reports can be run to prompt clinicians to improve their documentation. Quality reports can be run on wait time, turnover time, and productivity.

Prompts and canned text customized for disease processes help to remind providers of evidence-based medical approaches and serve as a reminder for proper documentation to improve publicly-reported data.

Staff education prior to the rollout of this system was vital. Three-hour computer classes were provided at various times of the day for staff convenience.

OUTCOMES

Since implementation, there was a reduction in the length of stay of discharged and admitted patients in 2007, compared to the same timeframe in 2006.

LESSONS LEARNED

- Structured education prior to implementation assisted with a successful rollout.
- The availability of MedHost representatives and “super users” during the transition week was vital to the success.
- Some pagers have been lost; having a strict sign-out system will assist in keeping track of them.

The ED Task Force

St. Luke's Cornwall Hospital

PARTNERS

Internal partners for this initiative included the executive team; the board of trustees; nursing staff; medical staff; and the information technology, volunteer, radiology, case management, security, and behavioral health departments. External partners included community members and the community clinic.

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PROJECT DESCRIPTION

In collaboration with the board of trustees and members of the community, St. Luke's Cornwall Hospital established an emergency department task force to respond to the challenges of improving patient flow and satisfaction in the ED. The task force consisted of a hospital-wide collaborative membership to research and gather feedback from all venues within the facility. It became a large task that included developing new initiatives and strategies, identifying best practices, advancing technology, and improving performance measures.

Process improvements included:

- expanding ED fast track hours;
- increasing doctor coverage and utilization of physician extenders;
- creating a bed flow coordinator and assigning a case manager to the ED;
- reversing triage—improving bedside registration and moving registration to the triage fast track area;
- focusing on pain management;
- placing the digital picture archiving system on all department computers;
- using “first call” to notify the primary medical doctor earlier;
- eliminating unnecessary testing and monitoring laboratory/radiology turnaround times;
- changing the media used in computerized tomography scanning;
- rounding staff every four hours and rounding charge nurses and physicians at the beginning of every shift and when needed;
- ensuring that the patients were informed while waiting (each staff member was given a card with the time it takes to have laboratory and radiology tests processed);
- expanding ED liaison hours to evenings and conducting ED and behavioral health meetings to discuss issues;
- meeting with the community health clinic to discuss referrals;
- analyzing patient volume by category of triage, by day of the week, by time of day, and expanding telemetry beds;
- increasing ED registered nurse staffing and establishing shared governance staff councils to discuss issues with patient flow;
- implementing new staff badges for better identification;
- putting computers in every fast track room; and
- sharing all patient comments with staff.

The ED Task Force

St. Luke's Cornwall Hospital (CONTINUED)

OUTCOMES

- The walkout rate decreased from 3.6% to 1.8%.
- The average time between decision to admission (“bay out”) is three hours and 15 minutes.
- The average time from triage to bay out is seven hours and 15 minutes.
- The average time between triage and registration is 20 minutes.
- The average time between triage and discharge is two hours and 25 minutes.
- The average time for bed assignment is less than 30 minutes.
- There have been no patient diversions.
- Patient surveys, time-sensitive tracking of all testing, and performance improvement statistics were positive.

LESSONS LEARNED

- Engage all partners in the community and hospital to identify and address problems and solutions.
- While the hospital is making great headway in patient flow and patient satisfaction, the ED continues to be a focus for improvement.
- Change cannot be made in a silo; every department is affected.
- Diversity among perceptions must be identified and addressed to effect positive change.

SPECIALTY SERVICES: OBSTETRICS

The Impact of a Team Approach in Improving Obstetric Rapid Response in Maternal Child Health at a Community Academic Hospital

New York Hospital Queens

PROJECT DESCRIPTION

New York Hospital Queens experienced two maternal deaths due to hemorrhage in 2000-2001, prompting the formation of an interdisciplinary team to evaluate and implement systemic change. The introduction of a patient safety program aimed at improving the care of women with major obstetric hemorrhage was introduced in late 2001. Process changes were made at the direction of an interdisciplinary patient safety team and “Team Blue” was born. Team Blue is the term used for the obstetric rapid response team before the term “rapid response team” was coined. Team Blue allows for the effective communication of an emergency situation to the maternal child health team and ensures a coordinated, interdisciplinary team response. Early diagnosis, assessment, and management protocols for patients at high risk for major obstetric hemorrhage were developed and communicated to all staff members.

As case volume increased, teamwork among maternal child services was seen as essential to prevent errors, increase staff satisfaction, and decrease cost of care delivery. New York Hospital Queens utilized the Voluntary Hospital Association’s crew resource management program for team training to provide maternal child services with tools to implement a team approach in day-to-day activities.

OUTCOMES

- There have been zero mortalities secondary to obstetrical (OB) hemorrhage since 2002, despite a 64% increase in volume and a corresponding increase in OB hemorrhage cases (three cases in 2000, compared to 21 in 2007).
- The employee satisfaction survey reflected a significant increase in nursing staff satisfaction, compared to the overall medical center’s survey and national benchmarks. This reflects the increases in the areas of overall teamwork and communication.

LESSONS LEARNED

- Ownership of the process by the in-house, attending obstetrician is critical.
- Listening to front-line staff is essential. Issues regarding safety and teamwork are well received by the management team.
- It is important to provide immediate, positive acknowledgement of the staff for a job well done.
- A simple, one-page “Situation-Background-Assessment-Recommendation” communication tool used by all nursing units ensured the consistent flow of information.
- Ongoing challenges relate to changes in staff, training new staff (physicians, physician assistants, nursing staff, etc.), ensuring training of residents, and rotating staff.

PARTNERS

Partners for this initiative include the obstetric/gynecology department-in-house attending physicians; physician assistants, residents, anesthesiologists, certified registered nurse anesthetist, neonatologists, patient care services, respiratory services, the blood bank, operators, senior management, and all front-line nursing staff. External partners included the VHA-supply chain management facilitator and Management Science Associates (an employee satisfaction consulting firm).

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Team Performance Plus

St. Charles Hospital

PROJECT DESCRIPTION

St. Charles Hospital's obstetrics team implemented a new initiative in May 2006 called Team Performance Plus. Effective communication and teamwork among the health care team has a profound impact on patient care, and in the delivery room it means the best possible care for mothers and babies. With that goal in mind, the aim of the initiative was to improve patient care through improved communication between and among disciplines, situation monitoring throughout the continuum of care, mutual support and respect among caregivers, and effective team leadership. In February 2006, three physicians and three registered nurses were chosen to participate in train-the-trainer course work on Team Performance Plus, which was provided by Risk Management Foundation Strategies. Between April and May 2006, all staff members of labor and delivery, all attending anesthesiologists and certified registered nurse anesthetists, all attending obstetricians, nursing leadership on the maternity unit, as well as the director of neonatology and neonatal nurse practitioners completed the team training.

Medical records of mothers and newborns in Statewide Planning and Research Cooperative System (SPARCS) format, containing 9,058 perinatal discharges from January 1, 2004 to September 30, 2006, were submitted to and analyzed by National Perinatal Information Center/Quality Analytic Services (NPIC/QAS) to determine the volume and significance of ten adverse events that may occur during labor and delivery.

OUTCOMES

Highlighted below are the findings from the NPIC/QAS analysis conducted for St. Charles Hospital.

Data Measurement	Pre-training		Post-training	
	All 2004	1 st -3 rd Q* 2005	3 rd -4 th Q* 2006	1 st -2 nd Q* 2007
Total deliveries	2520	1803	1152	1109
Maternal deaths	0	0	0	0
Intrapartum neonatal death	0	0	0	0
Uterine rupture	0	0	0	0
Unplanned maternal transfer to intensive care unit	4	4	2	2
Birth trauma	3	3	1	3
Return to operating room/labor and delivery	2	6	4	1

PARTNERS

Internal partners for this initiative included obstetrical patients, newborns and families, obstetricians, nursing staff, and anesthesiologists. External partners included the National Perinatal Information Center/Quality Analytic Services, and RMF Strategies.

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Team Performance Plus

St. Charles Hospital (CONTINUED)

Data Measurement	Pre-training		Post-training	
	All 2004	1 st -3 rd Q* 2005	3 rd -4 th Q* 2006	1 st -2 nd Q* 2007
Neonatal ICU admission \geq 2.5 kg and \geq 37 weeks	72	63	11	9
Inborn \geq 2.5 kg and APGAR $<$ 7	2	2	1	0
Maternal blood transfusion	15	6	3	4
3rd or 4th degree perineal laceration	71	52	38	26
Total Adverse Events	169	136	50	45

* Note: Data were not collected for all quarters of 2005, 2006, and 2007.

LESSONS LEARNED

- Expecting health care professionals to work as a team has enhanced performance and improved outcomes for mothers and babies.
- Improved communication with the nurses on the maternity unit has smoothed the transition of patient care between departments.
- Education of all staff is critical prior to implementation.
- Interdisciplinary cooperation is essential
- Ongoing mentoring is vital to success.

Birthing Center Perinatal Bereavement Program

St. Luke's Cornwall Hospital

PARTNERS

External partners include Adelina and Friends SIDS Awareness Foundation, Hudson Valley Renegades, and Caitlin's Memories. Internal partners include the board of trustees; executive team; Birthing Center bereavement council nurses; nursing leaders; the birth registrar; and information technology, marketing, emergency department, social work department, Birthing Center, neonatal intensive care, and pediatric nursing staff.

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PROJECT DESCRIPTION

Birthing Center nurses at St. Luke's Cornwall Hospital formed a unit council to assess current services and practices related to perinatal loss. The nurses saw an opportunity to improve patient care and develop evidence-based standards of care. A multidisciplinary team was formed to evaluate past practices and assess future patient-centered needs, as well as the educational needs of the staff. This effort was supported hospital-wide through its shared governance structure, which facilitated a collaborative effort with other departments and acceptance of change in practices.

OUTCOMES

- In 2006, there were 13 losses; in 2007, there were 16 losses (eight prior to program/eight since program inception) including intrauterine fetal demise, stillborn, spontaneous abortion, and/or newborn mortality.
- Since the program's inception in September 2007, all eight of the families who experienced a perinatal loss benefited from the services of the program.
- Before the program's implementation, patients with perinatal loss verbalized feelings of being lost and alone and a lack of support for the patient and families.
- Patient statements since the inception of the program included thanking the staff for giving them the "gift" of the footprints and the memories, and notes of thanks to the nursing, social work, and health information management departments for supporting the family through such a difficult time. One family expressed, "During this difficult situation your staff was especially wonderful toward all our needs. They went above and beyond their duties to comfort us in our most trying time."
- Nurses prior to the bereavement services were searching for a better process to support these families. Since the inception of the program they have expressed that "Having a program in place to help guide our patients through the process has helped me to improve my practice as a nurse, and made this difficult time for my patients just a little bit easier." A social worker stated, "Bereavement classes changed my clinical style; taking the time to understand the long-term effects of a fetal demise added another dimension."

LESSONS LEARNED

- A hospital-wide, multidisciplinary approach is essential to the success of such a program and the infiltration of a change in process as it relates to perinatal bereavement, loss, and grief.



Birthing Center Perinatal Bereavement Program

St. Luke's Cornwall Hospital (CONTINUED)

- Staff suggested that if the acuity on the unit is high, when a family experiences a loss, that a bereavement support person be called in to support the family and the staff. This has been noted by the staff to be a concern for losses that occur on weekends and holidays.
- For the future, the hospital plans to form a support group for perinatal loss and hold an annual bereavement ceremony to honor all babies' lives.

SPECIALTY SERVICES: PEDIATRICS

Reducing Complications in the Neonatal Intensive Care Unit by Optimizing Nutrition and Growth

Stony Brook University Medical Center

TOP 10TH PERCENTILE SUBMISSION

PROJECT DESCRIPTION

In March 2006, Stony Brook University Medical Center formed a multidisciplinary team to improve patient growth by optimizing nutrition. Evidence-based literature supports the belief that early and aggressive nutrition in premature infants improves clinical outcomes related to length of stay, weight gain and growth, and improved neuro-developmental outcomes. Nevertheless, published research does not provide clear indications and guidance for nutritional delivery. The neonatal intensive care unit (NICU) high-risk population was identified as neonates weighing 1,500 grams or less.

The team worked collaboratively to deploy the following improvements: creating a daily goal and plan of care form and multidisciplinary rounds, developing and implementing enteral and parenteral feeding guidelines, and creating and using feeding tables (i.e., standard caloric, protein, and nutritional breakdown for each feeding type). Active participation from the unit's medical and nurse leadership assisted in the minimization of resistance from the bedside staff. In addition, improvement ideas were tested on a small subset of the targeted population and evaluated for usefulness.

OUTCOMES

- The quality improvement team exceeded its objective to improve patient growth by optimizing nutrition.
- Short-term analysis of all infants weighing less than 1,500 grams six months pre- and post-implementation showed that the post-implementation NICU babies were regaining birth weight faster, were fed sooner, and were nipping more rapidly than the babies included in the baseline period.
- Head circumference improved significantly in the post-implementation group compared to the baseline group.
- Nutritional parameters showed protein intake on day four of life was significantly higher in the post-implementation group.
- The data support the assumption that increased communication and participation of the multidisciplinary team in the development and application of guidelines and daily goals leads to improved patient outcomes.

PARTNERS

Partners for this initiative included physicians, the nursing staff, nurse practitioners, and pharmacists.

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Reducing Complications in the Neonatal Intensive Care Unit by Optimizing Nutrition and Growth

Stony Brook University Medical Center (CONTINUED)

LESSONS LEARNED

- Multidisciplinary identification and communication of patient goals is critical to improve patient outcomes.
- The development of nutritional guidelines is essential to systematically provide optimal nutrition and to improve growth in high-risk infants.
- Consistent, comprehensive, and systematic appraisal of growth and nutrition intake leads to improved nutritional outcomes for very low birth weight infants.
- Decreased variation in the delivery of care is associated with improved compliance and better outcomes.
- Standardization of care improves the reliability of the services provided.

Inpatient Management of Acute Asthma Exacerbation in Pediatric Patients

SUNY Upstate Medical University

PARTNERS

Partners for this initiative include the pediatric hospitalist, pediatric clinical nurse specialist, pediatric physicians and residents, pharmacy, and pediatric registered nursing staff.

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PROJECT DESCRIPTION

SUNY Upstate Medical University's pediatric service created a multidisciplinary team to address asthma management and decrease emergency room visits and hospitalizations. Using pediatric core measures recommended by The Joint Commission, in collaboration with National Association of Children's Hospitals and Related Institutions and the Child Health Corporation of America, the plan included specific medication management and asthma education for all pediatric patients between age two and 18 who are admitted to the hospital with acute asthma exacerbation. The plan helps the child by preventing potential damage to his or her growing lungs, helps the parent by preventing missed workdays, and saves the health care system money.

After a brainstorming session and evaluation of current management of asthmatics, a guideline for management (including use of corticosteroids and relievers) and a home management plan were developed. Physicians were educated on the appropriate medical management, and the registered nursing staff received information on how to educate the patient and families. In April 2007, *Guidelines for the Inpatient Management of Asthma in Pediatric Patients* and the *Asthma Action Plan* were implemented at SUNY Upstate Medical University.

OUTCOMES

- There has been 100% compliance on ordering corticosteroids for all inpatient asthma patients.
- There has been 100% compliance on ordering relievers for all inpatient asthma patients.
- There has been 40% compliance on completing the *Asthma Action Plan* (home management plan).

LESSONS LEARNED

- It is important to re-educate physicians and registered nursing staff on the completion of the *Asthma Action Plan*, in particular ensuring that a copy is maintained for the medical record.
- It is recommended that a link to the asthma education documentation be included as part of computerized nursing documentation.

Pediatric Patient Safety Rounds

SUNY Upstate Medical University

PARTNERS

Partners for this initiative include nursing; physician/house staff; and the child life, pharmacy, dietary, and environmental service departments.

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PROJECT DESCRIPTION

To promote a collaborative approach to patient safety, the SUNY Upstate Medical University Department of Pediatrics embarked on patient safety walk rounds in 2006. In this initiative, the pediatric medical director and a staff member from nursing/hospital administration meet with a variety of staff on one of the inpatient units on a bi-weekly basis. Patient safety walk rounds begin with an update of pending issues from the previous month, and then concentrate on current activity in the unit. In particular, participants in rounds share both near-misses and actual errors. The group's brainstorming focuses on system issues that could be changed to prevent similar incidents in the future. The discussion also calls upon staff to identify current patients in the unit who are at risk of medical errors because of factors unique to them or the unit. A smaller subset of the group met with families to obtain their perspective on the safety environment of the unit and concluded with a summary of "action items" that needed to be addressed including an assignment for who was responsible for follow-up. Minutes were taken in a standard format and were circulated to the involved clinical providers, staff working in that area, and the pediatric facility.

OUTCOMES

- Staff on each of the pediatric units completed an Agency for Healthcare Research and Quality-validated patient safety culture survey before beginning this initiative. This survey will be repeated after 18 months post-implementation.
- Issues raised in patient safety rounds are archived in a database, which is used as a mechanism to track, trend, and manage performance improvements.

LESSONS LEARNED

- Senior leaders must be involved and champion the process of patient safety walk rounds.
- Rounds should be multidisciplinary and all levels of staff should be able to bring up any topic.
- The focus should be non-punitive and focus on identification of system issues that need to be corrected or streamlined.
- No issue or topic should be seen as unimportant.



ACRONYMS USED OFTEN IN THIS BOOK

AHA	American Hospital Association
AMI	Acute Myocardial Infarction
CLAB	Central Line-associated Bloodstream Infection
CMS	Centers for Medicare and Medicaid Services
ED	Emergency Department
ICU	Intensive Care Unit
IHI	Institute for Healthcare Improvement
MRSA	Methicillin-Resistant <i>Staphylococcus Aureus</i>
OR	Operating Room
PDSA	Plan-Do-Study-Act
RN	Registered Nurse
RRT	Rapid Response Team
SCIP	Surgical Care Improvement Project
VAP	Ventilator-associated Pneumonia



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