



4th Annual Courage to Improve Conference

Community Acquired Pneumonia Project

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St. Mary's Hospital



*Building on Our
Tradition of Caring*



Antibiotic Timing Team Members

Joan Gelrud, RN, MSN, CPHQ
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Physician Champion,
ED Collaborative

Nelson Figueroa, RN, BSN, CNA
Director, Emergency Care Center

Nancy Griffin, RRT, NPS, AE-C
Director, Pulmonary Services

Marian Kangas, BS
Infection Control Practitioner

Paul Flynn, BS, RRT
Respiratory Therapist

Eileen Davis, RN III
Emergency Care Center Nurse

Joanne Koterwas, MS, PMP
Clinical Analyst

Kristin Rice
Administrative Support



SMH Mission and Vision

- **Our Mission:** St. Mary's Hospital (SMH) in Leonardtown, Maryland is a community hospital that upholds its tradition of caring by continuously promoting, maintaining and improving health through education and services while insuring fiscal integrity.
- **Our Vision:** St. Mary's Hospital (SMH) is an integral partner in the Southern Maryland healthcare continuum:
 - SMH is recognized as the leader in healthcare
 - SMH is proactive in furthering the health of all in the community
 - The hospital provides excellence in care, service and education
 - Our future is built on welcoming positive change and innovation
 - We are valued and recognized as the employer of choice



SMH Values

- St. Mary's Hospital has adopted **CARE** with **RESPECT** as a framework of essential values to carry out its mission and vision.

Customer Service Regardless

Actions Speak Louder than Words

Respect is the Golden Rule

Excellence in All We Do

Responsibility

Education/Information

Safety

Pride

Empathy

Courtesy

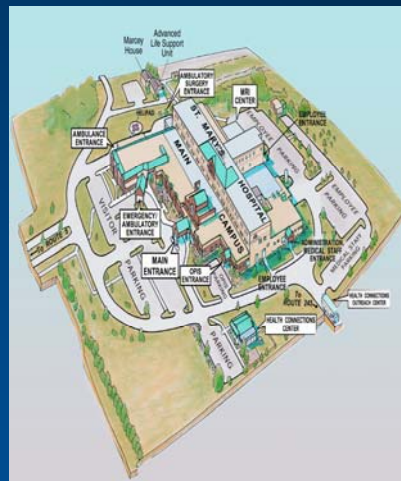
Teamwork



Current Facility and Services

• Leonardtown

- Original 32 acres, plus newly purchased 11.3 acres of contiguous land
- Main hospital building- 119,301 square feet
- Health Connections Center- community outreach & education
- Secondary Building- currently used by county for ALS Unit and Marcey House program



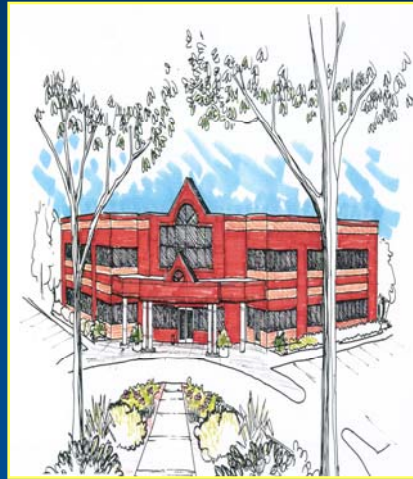
Current Facility and Services

- **Charlotte Hall**

- St. Mary's Medical Center at Charlotte Hall- Express Care, Physician Offices and Laboratory

- **Lexington Park**

- St. Mary's Hospital Health Center at Lexington Park- Laboratory and Health Connections programs



Range of Services

- **Acute Care Services**

The hospital provides general acute, medical, surgical, pediatric and critical care services.





Range of Services

- **Perioperative Services**

Surgery at SMH equates to excellence in technology, design, and caring throughout our Perioperative Services Department. Our operating rooms are fully equipped to offer a variety of surgical procedures, including total joint replacements, cataract surgery, ear, nose and throat surgery, aortic aneurysm, by-pass vascular procedures, A-V shunts, prostate surgery, kidney surgery, lithotripsy, etc. as part of our daily schedule.



The newly renovated Ambulatory Surgery Center has 21 beds, including an isolation room.



Range of Services

- **Women's Health & Family Birthing Center**

The hospital's five birthing rooms, jacuzzi room, twelve private postpartum rooms, outpatient testing suite and spacious nursery provide for the needs of women.

St. Mary's Hospital has a telemedicine link with Children's National Medical Center so that Pediatric patients may receive a comprehensive specialty examination and diagnosis right in the nursery.



Range of Services

- **Emergency Services**

The hospital provides comprehensive, 24-hour emergency services. In addition, the hospital is designated as an emergency psychiatric evaluation facility and a rape crisis center by the Maryland Department of Health and Mental Hygiene. The hospital also participates in the statewide Medevac emergency helicopter system. The hospital's Emergency Care Center (ECC) has 13 acute rooms, with two psychiatric observation rooms, two orthopaedic rooms, two GYN rooms, and a two-bed trauma/cardiac room. The Center includes a six-bed Fast Track area with a separate waiting room.



Range of Services

- **Behavioral Health Services**

The hospital has a 12-bed inpatient psychiatric unit. In addition to general acute psychiatric services, SMH provides individual and group therapy, occupational therapy and psychiatric social work services.

Partial Hospitalization Day Treatment and Intensive Outpatient Services are provided for dually-diagnosed patients. Emergency psychiatric evaluations are also performed in the ECC.



Range of Services

- **Cancer Care**

The Outpatient Infusion Service (OPIS) is an ambulatory oncology clinic providing clinical research trials, chemotherapy, biotherapy, blood product transfusions, intravenous hydration and medications. Minor procedures such as bone marrow aspirations and biopsies, thoracentesis, paracentesis, lumbar punctures, and venous access device placement are also performed in OPIS. The unit provides a patient resource library.



Range of Services

- **Health Connections**

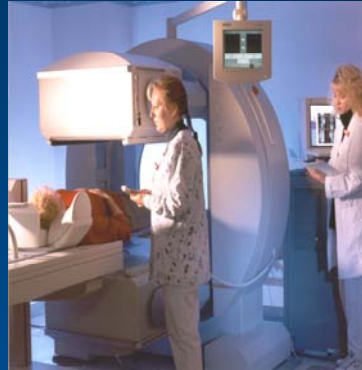
The hospital offers a varied selection of community education and screening programs. The programs are developed in response to the leading causes of morbidity and mortality in St. Mary's County and the major diagnoses treated at the hospital. Over the past year, Health Connections sponsored blood pressure, vascular and cholesterol screenings, pediatric and adult health fairs, diabetes classes, seniors programs, weight management, a variety of support groups and health fairs.



Range of Services

- Therapeutic and Diagnostic Services

The hospital provides a complete range of therapeutic and diagnostic services for inpatients, emergency patients and outpatients, including physical, speech and occupational therapy, angiography, radiation oncology, MRI, CT, lab, EEG, sleep studies, EKG, echo-cardiography, transesophageal echo-cardiography, pain management, and pulmonary function testing.



Project Description

The SMH Emergency Care Center (ECC) strove to improve the identification of pneumonia patients and the timeliness of antibiotic administration to be within four (4) hours of hospital arrival.

Project Aim

By June 2006, SMH would improve the rate of antibiotic administration to pneumonia patients within four (4) hours of hospital arrival to greater than or equal to 90%.



Measure

- Antibiotic administration within four (4) hours of hospital arrival for admitted patients with primary diagnosis of pneumonia.



Population

Inpatients, 18 years of age and older, with a principal diagnosis code of pneumonia or a principal diagnosis code of septicemia or respiratory failure and another diagnosis code of pneumonia.



Strategies and Interventions

- Implemented Community Acquired Pneumonia (CAP) Protocol.
 - Patient presents to Emergency Care Center with signs and symptoms of pneumonia (i.e. fever, cough, pleuritic chest pain, dyspnea, malaise, chills and/or trouble breathing).
 - Initial health care provider: registered nurse performs rapid evaluation and orders STAT chest X-ray with "CAP Guidelines with SOB, cough, or fever" listed as reason for CXR in Hospital Information System. ***Remember to establish pregnancy status in females of child bearing age.**
 - Radiology Department is alerted to CAP Guidelines by CXR order in HIS and flags the x-ray jacket with oversized bright colored (pink) paper in front of jacket and returns jacket to ECC. ***Pink paper will identify potential critical test result.**
 - Patient's CXR is read by first available physician. The diagnosis of pneumonia is confirmed or ruled out.
 - MD writes orders for diagnosis of pneumonia which triggers the following:
 - . If patient presents with comorbidities i.e. CHF, COPD, DM, or recent pneumonia then physician initiates STAT orders for CBC, CMP, Blood Cultures X2, followed by antibiotic therapy.
 - . If patient presents without co-morbidities physicians will initiate orders deemed necessary.



Strategies and Interventions (continued)

- Educated ECC staff on use of CAP Protocol.
- Educated Diagnostic Imaging staff on process changes involving CAP Protocol.
- Instituted physician review of all outlier cases with follow-up.
- Discussed collaborative data outcomes/findings during Department of Emergency Medicine meetings.
- Implemented practice changes based on the results of physician outlier reviews.



Methods Used to Evaluate the Project

- Monthly chart reviews are performed for each pneumonia patient who visits the ECC.
- The Physician Champion reviews every outlier case and follows up with appropriate parties about the outlier(s).
- Data is aggregated and presented in graphical format at ED Collaborative meetings and Department of Emergency Medicine meetings (see Results slide).



Keys to Our Success

- Physician review of outlier cases was invaluable. A practice change was implemented as a result of the reviews.
- The partnership between the ECC and the Diagnostic Imaging department was considered a key to our success.
- Implementing simple process changes were easy for staff to embrace.

Lessons Learned

- A Physician Champion is a great asset when attempting to change medical practice.



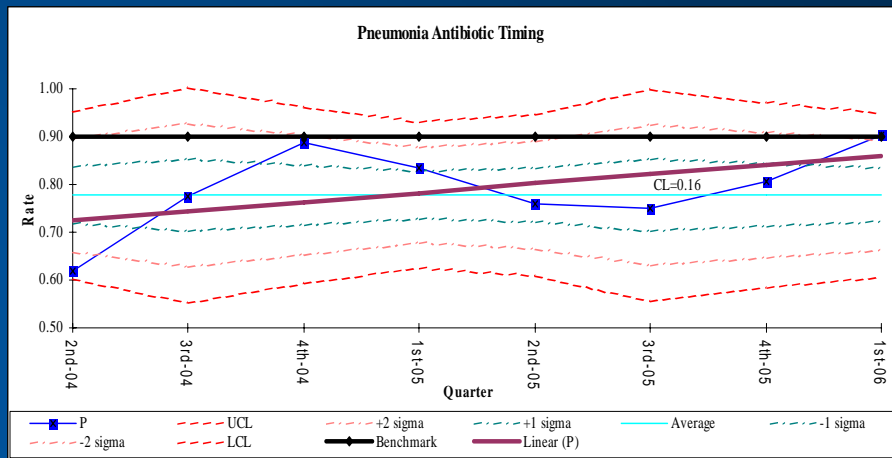
Barriers

- Antibiotic timing was missed due to incidental diagnoses found in trauma patients. These cases make 100% compliance a challenge.
- Radiology technicians did not initially flag pneumonia patients' films for rapid ECC intervention.
- The entire team was not alerted when patients have pneumonia, potentially slowing intervention.



Results

- The rate of admitted patients receiving antibiotics has improved from 62.00 (2nd quarter 2004) to 90.38 (1st quarter 2006).



Next Steps

- Present data in graphical format for Diagnostic Imaging staff.
- Place pink pneumonia flags on patients' doors for team awareness.
- Continue chart reviews, data analyses and presentations in the ECC to monitor outcomes.
- Continue meetings to overcome barriers and implement opportunities for improvement.

Tying It All Together



St. Mary's Hospital consistently pursues our strategic vision to assure that we continuously excel in quality, patient safety and service.

St. Mary's Hospital is driven by our mission, values and service standards.