An Integrated Approach to Heart Failure Care

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and
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Disclosure

Neither presenter has an actual or potential conflict of interest, financial interest/arrangement, or affiliation with an organization that could be perceived as a conflict of interest in relation to this presentation.
Why Heart Failure?

• Approximately 5.8 million American adults with heart failure, with around 670,000 diagnosed each year

• Heart failure is the most common DRG discharge diagnosis for those ≥ 65 years old, and fourth leading cause of hospitalization in US adults

• The Patient Protection & Affordable Care Act will penalize hospitals with higher than expected heart failure readmissions
Today’s Presentation

- An integrated health system
- Congestive Heart Failure Project, 1995 – 2000
- The PGP Demonstration Project, 2005 – 2010
- Redesign of heart failure services
- Patient Registry
- Quality and financial outcomes
- What’s next?
St. John’s Clinic

- 509 physicians, 42 specialties
  - 199 primary care
  - 310 specialists
- 150 mid-levels
- 2,000 co-workers
- 70 sites in 35 communities
- 1.4 million patient visits per year
St. John’s Hospital

• 886 Beds
• Serves southwest Missouri and Northwest Arkansas
• Heart Institute
• Level I Trauma Center and Burn Center
• Children’s Hospital
• Cancer Center
• Stroke Center
St. John’s Health System

• The Nation’s No. 1 Integrated Health Care Network
  (IMS, January 2012; No. 1 three times since 2007)

• Top Ten Clinics for Patient Satisfaction
  (Press Ganey, 2006 - 2011)
Health Plans Medical Management

• Utilization Management and Review
• Disease Management
• Case Management
• Demand Management – “Nurse on Call”
• Pharmacotherapy
• Quality Management
• Medical Data Management
Mercy Health

**WHO WE ARE** Sites & Statistics

**HOSPITALS**
- 24 acute care hospitals
- 6 managed hospitals
- 3 heart hospitals
- 1 rehab hospital

**AMBULATORY SERVICES**
- 211 clinic locations
- 26 urgent care centers
- 7 outpatient surgery centers
- 5 retail clinics

**MEDICAL STAFF & CO-WORKERS**
- 36,000 co-workers
- 1,557 integrated physicians
- 4,584 active medical staff (includes integrated and non-integrated physicians)
- 621 advanced practitioners

**UTILIZATION**
- 3,937 staffed beds
- 574,666 ED visits (FY11)
- 6,566,057 outpatient visits (FY11)
- 160,382 inpatient discharges (FY11)
Congestive Heart Failure Project
1995-2000

• Objectives
  – Reduce HF Readmission Rates
  – Expedite Care
  – Improve Quality of Life
  – Control Costs
Congestive Heart Failure Project 1995-2000

- Interventions
  - Required universal enrollment of all inpatients with heart failure
  - Established Telemonitoring Program with standardized protocols and algorithms for use in phone follow-up interventions
  - Developed educational program for patients
  - Developed communication tools between telemanagement team and physicians
  - Implemented toll-free phone access for patients
  - Developed HF support groups
  - Provided scales and blood pressure monitors to patients
Congestive Heart Failure Project 1995-2000

• Established exercise program for Heart Failure patients
  – Nutritional counseling
  – Stress management counseling
  – 12 week/36 session exercise program with telemetry monitoring
  – Pre- and Post- Program health self-assessment questionnaires
Congestive Heart Failure Project 1995-2000

• From 1997-2001, enrollment increased from 272 patients to 1,229

• Results
  — Readmission rates were decreased
  — Quality of life for HF patients improved
  — Healthcare costs were reduced
Congestive Heart Failure Project 1995-2000

• Readmission Rates
  – 30 day
    • 7.6 to 4.0%
  – 180 day
    • 20.8 to 14.0%
Congestive Heart Failure Project 1995-2000

• Six minute walk distance
  – Increased from 1308 to 1755 feet (mean)
  – An increase of 34.2 %

• SF-36 Physical Health and Mental Health Scores Improved
Congestive Heart Failure Project
1995-2000

- Cost savings
  - By reducing readmissions, direct health care costs were decreased by an estimated $1.59 million per year
Congestive Heart Failure Project
1995-2000

• Program highlights
  – Universal enrollment
  – Emphasis on patient education and self-monitoring
  – Multiple lines of access for patients
  – Patient advocacy
  – Constantly keeping the patient on the “straight and narrow path” of a stable clinical course
Congestive Heart Failure Project 1995-2000

• The straight and narrow path of clinical stability
Congestive Heart Failure Project 1995-2000

- With the successes of the CHF Project, these measures were implemented and used continuously from 2000-2004
- Expanded role of telemonitoring
- Refinement of criteria for enrollment, management and disenrollment
- Established management strategies for the stabilized patients.
- Overall, managed a cohort of ~ 3000 patients
CMS Physician Group Practice Demonstration Project

“Better Care for Medicare”

James T. Rogers, MD
PGP Demonstration Project
Goals and Objectives

Save money while improving quality of care

• Encourage coordination of Part A and Part B services
• Reward physicians for improving health outcomes
• Promote efficiency through investment in administrative structure and process
PGP Demonstration Project
Overview

• Three year project with two one year extensions
• April 1, 2005 – March 31, 2010
• Base year 2004
• Inflation and risk adjustment formulas
• Share what is saved, if quality measures are met
PGP Heart Failure Quality Measures
Performance Year 2 – Performance Year 5

- HF-1 Left ventricular function assessment
- HF-2 Left ventricular ejection fraction testing
- HF-3 Weight measurement
- HF-4 Blood pressure screening
- HF-5 Patient education
- HF-6 Beta-blocker therapy for pt with LVSD
- HF-7 Ace Inhibitor/ARB therapy for pt with LVSD
- HF-8 Warfarin therapy for A fib
- HF-9 Influenza vaccination
- HF-10 Pneumonia vaccination
PGP Demonstration Project
Process for Improvements

• Use the tools
  – Integrated system
  – Medical management

• Use the data

• Align incentives

• Engage physicians
PGP Heart Failure Committee

- Multidisciplinary team
- Develop strategies to reduce HF admissions and readmissions
  - HF education
    - Provider – HF Summit, academic detailing
    - Nursing – support services
  - Readmission chart review
  - Evaluate treatment and monitoring modalities
Provider Education

• Heart Failure Summit
  – Presented by cardiology and primary care champions
  – Four hours on a Saturday
  – Agenda
    • PGP overview
    • Evidence-based guidelines for HF assessment and treatment
    • System HF support services
    • PGP HF quality measures
Provider Education

• Academic detailing
  – Rounds to Springfield and Regional primary care meetings
  – 1 ½ - 2 hours in the evening
  – Agenda
    • Evidence-based guidelines for HF assessment and treatment
    • System HF support services
    • PGP HF quality measures
Nurse Education

• HF support services staff
  – Inpatient and ambulatory case management
  – Cardiac rehab and Heart Failure Resource Center
  – Home health care
  – Nurse on Call

• Agenda
  – HF assessment and treatment
  – HF support services redesign
  – Medication reconciliation
  – HF patient notebook
  – SBAR communication
Readmission Chart Review

• 30 day unplanned HF readmissions
• Patients identified by Utilization Management
• Reviewed by physician HF champions
• If admission was potentially avoidable, attending physician was sent a letter
  – Readmission reason noted
  – Trends identified
  – Support services available: Heart Failure Resource Center, HHC, cardiology consult, Hospice
Evaluate Treatment and Monitoring Modalities

- Ultra filtration with Aquapheresis
- Home monitoring with Health Buddy system
Redesign of HF Support Services

Inpatient

- Providers
- Floor nurses
- Cardiac rehabilitation
- Utilization/case management
- Emergency department case manager
- Social Work
- Clinical pharmacist
- Dietician
- Palliative care and Hospice
Inpatient HF Support Services

Providers

• Medication reconciliation
• Evidence based guidelines for HF management
• “Curb-side” cardiology consults
• Referrals to support services as needed
Inpatient HF Support Services

Floor nurses

- Clinical pathways
- Ongoing assessment of patient needs
- Ongoing delivery of care plan
- Referrals to HF support services as needed
Inpatient HF Support Services

Cardiac rehabilitation

• One-on-one patient/family HF education emphasizing self-management skills
• Confirmation of understanding of education
• Monitored daily ambulation
• Transition to Heart Failure Resource Center
Inpatient HF Support Services

Case management

• Utilization/case management
  – Identification of patients with diagnosis of HF and referral to care services
  – Discharge planning assessment and referrals
  – Ensure scheduling of discharge appointment

• Emergency department case management
  – Evaluate for appropriate level of care
  – Collaborate/communicate with UM/CM
  – Referral to community resources
Inpatient HF Support Services

Social Work
• Resource finding for patient needs
• Discharge arrangements

Clinical Pharmacist
• Medication related admission review
• Polypharmacy review

Dietician
• Diet education
Inpatient HF Support Services

Palliative care and Hospice

• Provider education on availability of services
• Referral when appropriate
Redesign of HF Support Services

Ambulatory

- Provider
- Heart Failure Resource Center
- Home health care
- Case management
- Disease management
- Nurse on Call
- Medication Access Program
- Hospice
Ambulatory HF Support Services

Providers

• Discharge follow-up visit within seven days
• “Call in, get in”
• Medication reconciliation
• Evidence based guidelines for HF management
• “Work” the Patient Registry
• Referral to support services as needed
Ambulatory HF Support Services

Heart Failure Resource Center

• Standing order for hospital discharges
• One-on-one patient education
• Monthly support group, quarterly newsletter
• 24/7 coverage
• Outbound phone follow-up
• Interactive Voice Response (IVR) system
  – Increased capacity
  – Reinforcement of self-monitoring
Interactive Voice Response

- Enrollees call in daily between 4 am and noon
- Answer 10 questions using touch-tone phone
  - Have you felt more short of breath in the last day?
  - Have you noticed swelling in the last day?
  - Did you wake up short of breath last night?
  - Did you sleep in a chair, or propped up by pillows more than usual?
  - Have you had any lightheadedness or dizziness in the last day?
  - Please enter this morning’s weight followed by the # key.
  - Have you checked your blood pressure today? Please enter it.
  - Have you checked your heart rate today? Please enter it.
  - Do you need to have a nurse contact you for questions related to HF?
  - Do you plan to be in a situation where you will be unable to call us?
- If answer is outside preset parameters, alert is sent to nurse
- Patient contacted, triaged, and provider notified as appropriate
Ambulatory HF Support Services

Home health care

• Medicare reimbursed home visit
• Post-discharge home visit(s) – not homebound
• Services provided:
  – Heart failure assessment
  – Safety assessment
  – Medication reconciliation
  – Patient education
• Challenges
Ambulatory HF Support Services

Case management
- Available to traditional FFS Medicare
- Assist to carry out the physician’s treatment plan
- Complex, high-risk cases
- Disease education and resource finding

Disease management
- Use disease specific evidence based guidelines
- Programs: COPD, CAD, CHF, DM, depression
- Post-discharge follow-up calls
Ambulatory HF Support Services

Nurse on Call

- Demand management program
- 24/7 telephone availability of registered nurses
- Health information and symptom triage
- Education for self-management
- Direction to appropriate level of care
- Outbound follow-up calls
- Update provider on clinical status
Ambulatory HF Support Services

Medication Access Program

• HF is a target population
• Assist with financial application to obtain medication supply from pharmaceutical manufacturers

Hospice

• Provider education on availability of services
• Referral as appropriate
Redesign of HF Support Services

Challenges

• Patient identification
  – Principal diagnosis
  – Secondary diagnosis
• Duplication of services
• Documentation of care
• Communication
Patient Registry Goals

• Identify gaps in care and optimize treatment for cohort

• Facilitate reaching out to the patient

• Ensure appropriate and timely care is provided during patient office visits
Patient Registry Functionality

Provide a view of patient information

• At the point of care

• Where gaps in care occur

• Outcome summary reports
### Patient Registry

**Clinical Information**

#### Preventive Care

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#### Referrals/Programs

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#### Congestive Heart Failure

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#### Coronary Artery Disease

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<td>Total Cholesterol</td>
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<tr>
<td>HDL</td>
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<td>LDL</td>
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### Custom Input Forms

- [Full Input Form]
## Patient Registry

### Visit Planner

**Patient Information**

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**Preventive Care**

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**Blood Pressure**

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**Colorectal Screening**

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**Hypertension**

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**Congestive Heart Failure**

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**Coronary Artery Disease**

Patient does not have this disease

**Legend**

-12* = Value/age is out of target range/ frequency.
# Physician Specific Outcome Report

**Disease:** Congestive Heart Failure – FGP Cohort Patients  
**Reporting Period:** 04/01/2006 - 03/31/2007  
**FSC:** ALL  
**Physician Name:** BOWLIN, STEVEN K MD

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<th>MRN</th>
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<th>First Name</th>
<th>DOB</th>
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<th>LV Systolic Function %</th>
<th>Weight</th>
<th>Weight</th>
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<th>Beta Blocker Assessed</th>
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**Total Patients:** 24  
**Percentages:**  
- 83.33%  
- 30.00%  
- 83.33%  
- 33.33%  
- 47.83%  
- 47.83%  
- 30.43%  
- 30.43%  
- 100.00%  
- 75.00%

**Total for all patients (189):**  
- 73.02%  
- 39.86%  
- 74.07%  
- 35.45%  
- 38.07%  
- 37.50%  
- 35.96%  
- 35.96%  
- 84.62%  
- 50.00%
## “Go Green” Report

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<tr>
<th>DO</th>
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<th>% LVSD &lt;40 on Beta Blocker</th>
<th>% LVSD &lt;40 on ACEI/ARB</th>
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<td>81.63%</td>
<td>81.63%</td>
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</table>
PGP Demonstration Project

Data

- Quality
- Financial
- Outcomes
St. John’s Health System
PGP Demonstration Project
Heart Failure Quality Measures
CY 2004 and Performance Year 2 – Performance Year 5 with Targets
St. John’s Health System
PGP Demonstration Project

Difference between Target Expenditures and Actual Expenditures

Target Minus Actual Expenditures in Dollars

Year 1: -5,000,000.00
Year 2: 0.00
Year 3: 10,000,000.00
Year 4: 15,000,000.00
Year 5: 7,000,000.00
PGP Demonstration Project
Outcomes Data

Co-morbid Conditions

% of Patients Admitted with HF

Hypertension
Coronary Artery Disease
Diabetes

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010
PERIOD 1  PERIOD 2
Heart Failure Readmission Rates Vary Across the Country

Distribution of Heart Failure Risk-Adjusted 30-Day Readmission Rates
United States, July 2006–June 2009

24.7% National Average

= St. John’s Hospital – 21.3%

Sources: Hospital Compare Database—data reported for discharges July 2006–June 2009; Sg2 Analysis, 2009.
Redesign and Future Directions

- IVR and telemedicine
  - Expand capacity
  - Centralize telemonitoring across the Mercy System
  - Add advanced telemonitoring devices where appropriate
Redesign and Future Directions

• Medical Home initiatives
  – Create Medical Home targeting heart failure patients
  – Provide preventative and proactive care
  – Optimize medical therapies continuously, not only after clinical events or deterioration
Redesign and Future Directions

• EHR solutions
  – Patient identification
  – Patient stratification
  – Clinical pathways
  – Communication between care team
  – Registries and population management
  – Treatment optimization/Best Practice tools
  – Monitoring dashboard
Command Center
Mercy Heart Failure Management Redesign and Future Directions

- Heart Failure Clinic
  - Frequent, serial evaluations in outpatient setting
  - Outpatient therapies
  - Easy access for patients
  - Role in optimizing the cohort of HF patients
  - Access to advanced HF therapies
  - Follow-up less than 7 days
“Why 7 day follow up?”

- Duke Clinical research
- Median length of stay was 4 days and 21.3% of patients were readmitted within 30 days.
- Patients who were discharged from hospitals with more consistent follow up were 15% less likely to be readmitted within 30 days of hospitalization than those who weren’t

Hernandez et al. *JAMA* 2010;303:1716-1722.
Post-discharge Follow-up Visit

PCP Office Visit Program

- PCP Office Visits within 30 Days
- PCP Office Visits within 7 days
- Time to Visit

Periods:
- Period 1
- Period 2

Average Days to Office Visit

Office Visit (%)

Years:
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
Lessons Learned

• Heart Failure is a chronic disease, characterized by periods of stability and repetitive episodes of decompensation
• The absolute number of patients with heart failure is growing and will continue to expand
• The severity of illness and complexity of this cohort is becoming greater and greater
• The cost of managing these patients is huge, and advanced treatment modalities are very expensive
Lessons Learned

• There is no one solution to improving outcomes for patients with heart failure
• The needs of any given patient may not be the same as another
• The care issues are not only medical
• Barriers to successful treatment may also include socioeconomic limitations, access to resources, personal circumstances
Lessons Learned

“Success in Failure”

• A multi-pronged approach to treatment offers the best hope of successfully treating this complex disease
Lessons Learned
“Success in Failure”

In treating heart failure,

– “the whole is greater than the sum of its parts”
Questions???