VHVI Town Hall

February 18, 2011
Growth
Outreach Network

To make a cardiovascular patient referral or coordinate an inpatient hospitalization transfer, call (866) 886-2478 or (615) 343-9186.

For outpatient appointments call (615) 322-2318.

VanderbiltHeart.com
Congratulations!

In recent patient preference surveys, Vanderbilt Heart was ranked number one in the Nashville area for heart care! This is a huge honor because the rankings were based on patient preference among all Nashville area heart care centers!

Thank you so much for all you do!

n = 1400 consumers, 57 counties
Making Patient Care a Top Priority...
John Johns patient experience
New Interactive Marketing Campaign

We are using a patient's genome to protect against heart attacks and stroke.

Each person responds differently to medicine. Using DNA, our doctors match heart patients with the right blood thinner. It's one of the many ways we are tailoring medicine to the unique characteristics of each patient.

VanderbiltHealth.com/breakthroughs

VANDERBILT UNIVERSITY MEDICAL CENTER

The promise of discovery
New EP Lab
Quality
H2H- Heart Failure Readmissions - Background

• The 30-day HF readmission rate at VUMC (25.7%) was comparable to the national rate of 24.5%.

• Impending decrease in reimbursement from CMS for readmissions starting in 2012
3 Question Framework

Medications + Appointment + Symptom Management = Transition

1. **Medication Management Post-Discharge**: Is the patient familiar and competent with his or her medications and is there access to them?

2. **Early Follow-Up**: Does the patient have a follow up appointment scheduled within a week of discharge and is he or she able to get there?

3. **Symptom Management**: Does the patient fully comprehend the signs and symptoms that require medical attention and whom to contact if they occur?
Plan-Do-Study-Act

Change One  Change Two  Change Three
“testing” the change

- Wiz Orders
- Pathway
- Inpatient Multidisciplinary Team
- Electronic Identification Board
- Education
## Heart Failure Identification Board

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Education

• Heart Failure Book
  – Multidisciplinary Team updated education materials
    • Given to newly diagnosed patients and those with needed reinforcement

• Heart Failure Trifold
  – Education material for ALL heart failure patients
  – Includes all core measures (diet, activity, smoking cessation)

• Discharge Wizard
  – Letter to every patient
    • Includes defaults to walk through core measures
PEER - Patient Education and Engagement Record

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Feb 15th

Deborah

Goal met: [ ]

Disease: Education

- [ ] Video: Getting started with Tx
- [ ] Handbook: Heart failure
- [ ] Sheet: Discharge instructions
- [ ] Sheet: About your Heart
- [ ] Sheet: HF Top 10 Rules
- [ ] Sheet: Symptoms and causes of HF
- [ ] 1:1 discussion with RN

Comment: [ ]
Outcomes

• Increase in Heart Failure Core Measure Compliance to 97%
• Decrease in Readmission Rate in Pilot population to 13.4%
University HealthSystem Consortium
O/E Data Rankings

Vanderbilt Cardiac Surgery ranked 3rd in the nation!
ACUTE EPISODES OF CARE PACKAGES: DEMONSTRATION PROJECT WITH ACUTE CORONARY SYNDROME
Acute Episodes of Care: Project Overview

OVERVIEW

- Develop framework to deliver comprehensive care incorporating inpatient and outpatient care teams under an episode-based / bundled reimbursement model

→ one lump sum payment covers a 6-month continuum of care

VanderbiltHeart.com/AcuteEpisodes
Improving Value in Healthcare

VALUE = (BETTER) QUALITY
- Safe, Evidence-Based Best Practices
- Coordinate Care Across Continuum
- Patient Service Experience

(LOWER) COST
- Eliminate Unneeded Care
- Efficient Workflows
- Practice at Top of License

• How do we give patients “everything they need and nothing they don’t?”
  – Standardize care according to evidence-based care pathways
  – Improve the “tools” our teams rely on to deliver the best care for every patient, every time
  – Facilitate Personalized Medicine by building in appropriate flexibility and customization based on clinical presentation, patient history

VanderbiltHeart.com/AcuteEpisodes
Coordinating Care Across the Continuum

- **Admission Dx**
  - Diagnostic Testing
  - "Sources of Truth"
  - EBM Order Set Usage

- **Diagnostic Testing**
  - Cardiac Cath
  - Non-Invasive Diagnostic Testing

- **Inpatient Pathways**
  - Medically Mgd. Pathway
  - Interventional Pathway
  - Surgical Pathway

- **Discharge**

- **Outpatient Pathway**
  - Care by Risk Level
  - High Risk of Another Ischemic Event
  - Low / Moderate Risk of Another Ischemic Event
  - Not Applicable (SNF, Hospice, etc.)

- **Lower the 9 Modifiable Cardiac Risk Factors Score**
  - Inpatient Pathway Pilots – Med Mgt, PCI, CABG
  - Tools to Guide Care to Pathway
  - Patient Education & Engagement
  - Pathway Pilot Data Management
  - Internal (VHVI) Communications & Roll-Out

- **24-Hour Post-Discharge Phone Call Pilot**

- **7-Day Post-Discharge Visit**

- **Cardiac Rehab Pilot**

- **Readmission Avoidance**
  - **Address “Non-Cardiac” Barriers**
Outcomes Goal
• Create value by reducing rate of non-value-added downstream encounters and downstream ischemic events following an initial episode of Acute Coronary Syndrome

Financial Goals
• Create capacity within the VHVI / VUMC (inpatient, Dx and therapeutic)
• Limit healthcare spend over time for ACS patients, demonstrating value to payers & employers
  – Lower score for 9 Modifiable Cardiac Risk Factors over the course of the defined episode of care
  – Reduce avoidable related readmissions
  – Minimize repeat Dx tests, re-caths & downstream interventions
  – Minimize avoidable complications

VanderbiltHeart.com/AcuteEpisodes
Research & Innovation
A Prospective Natural-History Study of Coronary Atherosclerosis

Rate of Major Adverse Cardiovascular Events (%)

- TCFA (all): 4.9 (Present: 1.3, Absent: 1.7)
- TCFA + MLA ≤ 4 mm²: 10.2 (Present: 1.7, Absent: 1.7)
- TCFA + PB ≥ 70%: 16.4 (Present, Absent: 1.7)
- TCFA + PB ≥ 70% + MLA ≤ 4 mm²: 18.2 (Present: 1.9, Absent: 1.9)
Innovation
Vanderbilt Center for Cardiac Regeneration

Developing Cell Therapies to restore heart function
- clinical trials ongoing
- 8 basic and translational labs collaborating to develop the science behind cell therapies

Dimmeler et al., JCI, 2005
Clinical Programs

VHVI Biorepository

Systems Biology ‘-omics’

Population Studies e.g. SCCS

Clinical Trials Pilots RCTs MCCTs

Candidate Genes, Pathways

Innovation

Dave Harrison, Vascular Biology Center

Charles Hong

Large Case Michael Hill

Chee Lim

iPS Small and Large Animal Disease Model Studies

Novel Pathophys And Therapeutic Hypotheses
Untreated

neuregulin (15 min)

pFAK(Tyr861)
Neuregulin improves Cardiac Function after STEMI in rats

Michael Hill et al, AHA 2010
Enrolling: Safety of NRG/GGF2 in systolic heart failure

PI: Dan Lenihan
Co-Is: Carrie Geisberg, Tom DiSalvo, Mary Keebler, Huck Muldowney
Outreach

Identifying Vulnerable Populations

Hussaini (TSU), Sampson (Meharry, Vanderbilt) and colleagues, Circulation, Heart Failure; 2011
Excellence in Academics

HEALTH PLANS/DELIVERY SYSTEMS
Geisinger Health
Kaiser Permanente
Intermountain Health
(Do not have football teams)

Excellence in Healthcare Delivery

Our Vision
“Top 10” CV Program
eg PENN

UNIVERSITIES
Harvard
Princeton
MIT
Caltech
(Do not have hospitals)

Assention Health?
HCA?

Vanderbilt
Unmet Needs in AS Management

Patients Not Treated for Symptomatic AV Stenosis

2005: 867,030 - 1,734,060 patients not treated for symptomatic AV stenosis!!!
Percutaneous Aortic Valve Prosthesis

Edwards

CoreValve
All Cause Mortality

NNT = 5.0 pts

- TAVI: All-cause mortality (%)
  - 50.7%
  - 30.7%

- Standard Rx: All-cause mortality (%)
  - 50.7%

Numbers at Risk

<table>
<thead>
<tr>
<th></th>
<th>TAVI</th>
<th>Standard Rx</th>
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<tr>
<td>Months</td>
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<td>All-cause mortality (%)</td>
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<td>1 yr</td>
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<td>NNT</td>
<td>5.0 pts</td>
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<th>138</th>
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<tr>
<td>Standard Rx</td>
<td>179</td>
<td>121</td>
<td>88</td>
<td>41</td>
<td>12</td>
</tr>
</tbody>
</table>
European Experience with TAVI: Inoperable vs. Medical Therapy

Pilgrim T et al EuroPCR 2010
Corevalve Trial: 1\textsuperscript{st} Arm: Inoperable vs. Medical

**Inclusion Criteria**
- Degenerative AS
  - Mean gradient $> 40$ mmHg
  - Jet velocity greater than $4.0 \text{ m/s}$
  - Initial AVA $\leq 0.8 \text{ cm}^2$
- Co-morbidities such that the probability of procedural death or serious, irreversible morbidity should equal or exceed 50%.

**Sample Size**
- 398 Subjects: 266 CoreValve\textsuperscript{®} PAV, 132 OMM

**Endpoints:**
- All-Cause Mortality
- Mortality + Re-hospitalization
- Mortality + Major Stroke
Corevalve Trial: 2nd Arm
TAVI vs. High Risk AVR

**Inclusion Criteria**
- Degenerative AS
  - Mean gradient > 40 mmHg
  - Jet velocity greater than 4.0 m/s
  - Initial AVA ≤ 0.8 cm²
- Estimated surgical mortality > 15%
  (STS > 8 and/or severe co-morbidities)

**Sample Size**
790 total
- 395 CoreValve® PAVI
- 395 Surgical AVR

**Endpoints (Noninferiority):**
- All-Cause Mortality
- Powered Secondary Endpoints
- Long-Term Safety and Durability
Referral for CoreValve trial:
Access line: 615-343-9188
Coordinator: 615-343-4349
Dr. Hoff’s paper *Results of Completion Arteriography After Minimally Invasive Off-Pump Coronary Artery Bypass* was published in the January edition of *The Annals of Thoracic Surgery*
Dr. Petracek’s paper *Minimally Invasive Mitral Valve Surgery Expands the Surgical Options for High-Risk Patients* has been accepted for presentation at the American Surgical Association. This is one of the most prestigious surgical meetings!
Awards

Nurse awards nominations are open until March 1! Information is available on the Vanderbilt Heart homepage, Vanderbilt Heart Intranet, or at VanderbiltNursing.com
Join us for Cardiology 2011!

Back by popular demand...
The COURAGE Trial Debate Update
Chronic Angina: Medications, Stents, or Both?

Featuring Cardiologists

[Images of two doctors]

www.vanderbiltcardiology2011.com

February 25 & 26, 2011
Hutton Hotel • Nashville, Tennessee

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Friday and Saturday • February 25 & 26, 2011
Hutton Hotel • Nashville, Tennessee

CME Credit
This activity has been approved for AMA PRA Category 1 Credit™.

AAFP Credit
Application for CME credit has been filed with the American Academy of Family Physicians. Determination of credit is pending.

CNE Credit
Continuing Nursing Education credit has been applied for through the Tennessee Nurses Association.

Sponsored by
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Division of Cardiovascular Medicine

February 25 & 26, 2011
Questions?