CARDIOLOGY GRAND ROUNDS

Presentation: The Allina Health Cardiovascular Service Line can help you care for patients with Heart Failure. Really.

Speaker: Spencer H. Kubo, MD FACC
Heart Failure Program Leader, Allina CV Service Line
United Heart and Vascular Clinic

Date: Monday, March 30, 2015, 7:00 – 8:00 AM
Location: ANW Education Building, Watson Room

OBJECTIVES
At the completion of this activity, the participants should be able to:
1. Summarize Allina Health's approach to improving Heart Failure care including care protocols, support services and quality measurements.
2. Describe the multidisciplinary approach to HF patient care and how it impacts patient outcomes.
3. Restate processes that reduce 30 day readmission rates

ACCREDITATION
Physicians: This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of Allina Health and Minneapolis Heart Institute Foundation. Allina Health is accredited by the ACCME to provide continuing medical education for physicians. Allina Health designates this live activity for a maximum of 1.0 AMA PRA Category 1 Credit™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Nurses: This activity has been designed to meet the Minnesota Board of Nursing continuing education requirements for 1.2 hours of credit. However, the nurse is responsible for determining whether this activity meets the requirements for acceptable continuing education.

Others: Individuals representing other professional disciplines may submit course materials to their respective professional associations for 1.0 hours of continuing education credit.

DISCLOSURE STATEMENTS
Speaker(s): Dr. Kubo has declared that he does not have a conflict of interest in making this presentation.

Planning Committee: Dr. Michael Miedema, and Eva Zewdie have declared that they do not have any conflicts of interest associated with the planning of this activity. Dr. Robert Schwartz declared the following relationships - stockholder: Cardiomind, Interface Biologics, Aritech, DSI/Transoma, InstyMeds, Intervalle, Medtronic, Osprey Medical, Stout Medical, Tricardia LLC, CoAptus Inc, Augustine Biomedical; scientific advisory board: Abbott Laboratories, Boston Scientific, MEDRAD Inc, Thomas, McNerney & Partners, Cardiomind, Interface Biologics; options: BackBeat Medical, BioHeart, CHF Solutions; speakers bureau: Vital Images; consultant: Edwards LifeSciences.
The Allina Health CV Service Line can help you care for your HF patients. Really.

Spencer H. Kubo MD
United Heart and Vascular Clinic
HF Program Leader - Allina CV Clinical Service Line
Adjunct Prof of Medicine - University of Minnesota

Kim Wolf BSN MBA
Program Manager, Heart Failure Service Line, Allina Health

Pam Rush BSN
Director of Clinical Programs, CV Service Line

Minneapolis Heart Institute Grand Rounds
March 30, 2015
Disclaimer: Unusual Features of this Grand Rounds Presentation

• Very light on hard data; and the data that is presented will be considered “squishy”
  - But the observations tell a story
• Stumbled onto an incredible energy source that deals with process improvement
  - Potentially a game changer
• Looking at HF in a different way; from a different perspective
  - Ask you to do the same (for at least 45 minutes)
Why look at Heart Failure from a Different Perspective?

• The Advisory Board published “Beyond 4 Walls” in 1996

• Penny Wheeler MD, CEO: “The care of our patient does not stop or start at the hospital door.”

• Because the HF patient is freakin’ complex
Why is HF so challenging today?

Advanced Age
Often Dependent on Family for:
- Medication
- Food Intake
- Medical Instructions
- Transportation

Multiple Co-Morbidities
- DM, AF, COPD
- Cancer, Arthritis, Sleep Apnea
- Non-Compliance, Dementia
- Addictive Behaviors
- Social Isolation

Financial Issues

“I do my job. I hope others are doing their job.”

Best care requires coordination of all of the touch points!
No single person “owns” the problem
Quarterback is the best position to act as a leader.
Your 8:00 am appointment

We don’t need to change what happens *INSIDE* the exam room

What happens *OUTSIDE* this room has a huge impact on outcomes
3 Objectives

1. Review what we have done at United
   A success story with 30-day readmissions

2. Short Term:
   What we would like to implement at MHI/ANW: Care Coordination

3. Long Term:
   What we are doing with the HF Program
The Problem at United: 30 Day Readmissions

United Hospital

Baseline: United Median (Jan 2009-Apr 2012) - 18.2%
Goal: Dec 2012 - 17.0%

United Three Month Rolling Rate (Feb-Apr 2012):
Num: 29  Den: 110  Rate: 26.36%
30 Day HF Readmissions are Epidemic

Google HF Readmissions= 2.5 million hits
Two Periods of Heightened Patient Vulnerability*

- Hospital
  - 30 day readmission rate

- Primary Care
  - 6 month readmission rate

- Home
  - * AKA Fumbles, gaps in care, dropping the ball!
From Hospital to Home
30 Day Readmission Rates at Mercy/Unity 2008-2013

Somebody has figured it out already!
Heart Failure RN Care Coordinator

- Primary contact person(s) in cardiology
- Proactive identification of high risk patients
- Summarize problems/concerns during hospitalization
- Connect/coordinate all outpatient providers
- Active triage of phone calls (One phone number for patients, hospitalists, primary care physicians, nursing units, SNFs, etc.)
- Responsible for coordinating and formalizing care plan with MD and communicating plan to all outpatient providers
- Primary connection between PCP and cardiology
- Responsible for patient education
- Proactive calling of patients
Cardiology Back Up/Oversight

- Approve medication changes/follow-up
- New patients referred to MHI
- Refer/identify appropriate patients
- Referral for VAD/Transplant/Advanced HF Program
- Referral for high-risk surgery
- Hospice/Palliative Care referral
- “Tough” conversations
Yellow arrow denotes start of the Heart Failure Program at United
Sept 2013 HF Readmissions Rate YTD (Goal is < 17%)
30-Day HF Readmission Rates at ANW

Yellow arrow denotes start of HF program at ANW
30-Day Heart Failure Readmissions
Combined 4 Metro CV Hospitals

2013 National Average = 24.8%
Allina Regional Hospitals
2014 Heart Failure 30-Day Readmissions

Rising tide raises all ships!

Bar chart showing the percentage of 30-day readmissions for heart failure at various hospitals. The hospitals listed are Buffalo, Cambridge, New Ulm, Owatonna, River Falls, and St. Francis. St. Francis has the highest percentage, while Buffalo has the lowest.
MHI/ANW Advanced Heart Failure RN Care Coordinators

Emily Anderson, RN CHFN
Rebecca Giraldo, RN
Vanessa Hislop, RN
Dianna Schwartz, RN CHFN
CV CSL Heart Failure Care Coordinators at MHI/ANW and UHVC/United

Nancy Aberg, RN
Kelly Chowdhury, RN MAN
Mary Doheny, RN
Jessica Krueger, RN
Kelsey Rickert RN
What does HF look Like at Allina?

11 hospitals  
3 Cardiology Groups  
55 PCP clinics  
25,000 employees  
50,651 pts with HF*  
12,735 hospitalizations  
(14% of all hosp!)  

* Was 42,000 in 2012

Everybody touches HF in their own community

Hardly anyone touches each other

Can we think of HF on a “system” level?
<table>
<thead>
<tr>
<th>Nursing</th>
<th>Care-Coordination</th>
<th>Protocols and Guidelines</th>
<th>Measurement and Reporting</th>
<th>Education</th>
</tr>
</thead>
</table>

Heart Failure Program Committee

Spencer H. Kubo MD - Physician Lead
Kim Wolf – Program Manager
Heart Failure Program Committee Members

- **Chair of Clinical Variation Committee**
  - Amin Rahmatullah MD – MHVI

- **Members:**
  - Pam Rush MSN CV CSL
  - Nora Friedrichs RN – CV Director, United
  - Primary Care Clinic Manager
  - Kim Wolf –CV CSL
  - Denise Mueller
  - Craig Strauss MD
  - Rachel Foss

- **Co-Chairs: Care Coordination Committee**
  - Michael Samara MD – Cardiologist, MHI
  - Steve Bergeson MD – Medical Director, Care Improvement

- **Members:**
  - Louise Jacobs RN – CV Director, ANW
  - Saul Singh MD – Hospitalist, Unity
  - Kim Wolf – CV CSL
  - Nancy Aberg RN – HF Care Coordinator, United
  - Emily Anderson RN – HF Care Coordinator, MHI
  - Anne McDonald MSW – HF Social Worker, ANW
  - Greg Clancy DNP – Process Improvement
  - Kate McClure- ACT team manager
  - Neal Buddensiek MD SCT
  - Sue Chapman Business Analyst
  - Leslie Palm CDS
  - Kelsey Rickert RN HF Care Coordinator ANW

- **Chair of Education**
  - Wendy Gunderson CNS ANW

- **Members:**
  - Spencer Kubo MD
  - Pam Rush – Director of Clinical Programs, CV CSL
  - Kim Wolf –CV CSL
  - Wendy Gunderson – CNS, United
  - Robin Braun RN Lead Heart Failure Clinician MHVI

- **Chair Measurement and Reporting**
  - Alan Bank – Cardiologist, UHVC

- **Members:**
  - Frances Hoffman – Director Advanced HF Program, MHI
  - Patrick Lytle MPH – Manager of CV Analytics, MHVI
  - Denise Mueller – Data Analyst, CV CSL
  - Randy Scheper Finance ANW
  - Kim Wolf –, CV CSL
  - Joy Longley DNP UHVC
How Can the Allina HF Service Line Help you care for HF patients TODAY?

6 examples of "making connections"

- Create a Dashboard to monitor outcomes
- Palliative Care Task Force
- Transitional Care Unit partnerships
- Measuring Quality of Life
- Cardio-Oncology
- VADs/Transplant
Measuring Outcomes with the HF Dashboard!

**Heart Failure**

**Selected Filters**
- Exclude Current Month: Y
- Visits Type: Hospital
- Visit Year: 2014

**Visit Year**

**Visit Month**
- Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec

**Visit Filters**
- Visit Type: Hospital
- Patient Type: 
- Location: 
- Any DIk Visit Type: 

**Care Coordination Summary**
- Year: 2014
- % Care Coordinated 30 Days After Discharge or During Hospital Stay: 77.8%
- % Care Coordinated 30 Days After Discharge: 52.5%
- % Care Coordinated During Hospital Stay: 63.8%
- Denominator: 985

**Impact: Patient Experience**
- Question Category: 
- Care Coordinated During Hospital Stay: Y
- % Top Box: 57.5%
- % Top Box Denominator: 147

**Impact: Readmissions**
- % Readmissions: N = 18.0%, Y = 18.2%
- Readmission Denominator: N = 254, Y = 853
- PPR Rate: N = 11.4%, Y = 11.4%
- PPR Denominator: N = 255, Y = 548

**Impact: Follow Up Visits and ALOS**
- Care Coordinated During Hospital Stay: Y
  - % F/U Cardiology or PCP: 50.1%
  - % F/U Cardiology Denominator: 675
  - % F/U PCP: 18.4%
  - % F/U PCP Denominator: 302
  - ALOS: 4.94

**Care Coordination Rate**
- % Care Coordinated 30 Days After Discharge or During Hospital Stay
- % Care Coordinated 30 Days After Discharge
- % Care Coordinated During Hospital Stay

**Care Coordination Type**
- Hospital UTY
- Hospital MCT
- Hospital UTD
- Hospital ANW

**Location**
- Location
Number of Patients with Heart Failure at Allina Health

<table>
<thead>
<tr>
<th>Year</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>32,899</td>
</tr>
<tr>
<td>2011</td>
<td>40,241</td>
</tr>
<tr>
<td>2012</td>
<td>44,845</td>
</tr>
<tr>
<td>2013</td>
<td>48,146</td>
</tr>
<tr>
<td>2014</td>
<td>52,916</td>
</tr>
</tbody>
</table>
Percentage of Primary HF Hospitalizations with Cardiology Involved

* Number of Patients

* 2093

2010 2011 2012 2013 2014

50% 60% 70% 80% 90% 95%
Percentage of Hospitalizations with a Secondary Diagnosis of HF with Cardiology Involved

* Number of patients

2010: 12,228
2011: 12,135
2012: 11,777
2013: 11,385
2014: 10,629
Percentage of Allina PC Patients with HF Referred to a Cardiologist

- 2010: 40%
- 2011: 45%
- 2012: 50%
- 2013: 55%
- 2014: 60%

Number of patients:
- 2010: 17,928
- 2011: 19,501
- 2012: 20,468
- 2013: 21,112
- 2014: 21,491

* MH area
* MHVI area
* UHVC area

* Number of patients
The Urgent need for Palliative Care in HF

• 28% of all readmissions at ANW died within 90 days of second hospitalization

• 46% of all readmissions at United died within 90 days
  – Only 2 patients had hospice ordered >1 week before date of death. The rest occurred within 48 hours of death.

• Formed work group to address the need for palliative care
Percentage of Primary HF patients with an *order* for palliative care consult during hospitalization

- **ANW**: 17.2%
- **Mercy**: 24.8%
- **St. Francis**: 91.6%
- **United**: 14.7%
- **Unity**: 41.2%

Pilot program at United
To start 2015
Transitional Care Units: Outreach Project

• Partnered with 6 high volume facilities for Allina Heart Failure discharges (and high re-admit rates!)
• Provided on-site staff education (knowledge gap was astonishing!)
  – 98 TCU staff have received HF education to date
  – Eagerness to learn was equally astonishing!
• Liaison to provide HF expertise for staff questions
• Improved communication
Outreach Impact
30-Day Readmissions from participating facilities

N=87 patients

N=113 patients

2013 Before Outreach: 29.20%

2014 Outreach program in progress: 12.3%

Before Outreach: 2013

Outreach program in progress: 2014
One secret to success: Road trip! Make a site visit
Why Measure Quality of Life (QoL)?

• Predicts mortality and morbidity
• Relates to chronic diseases (e.g., heart failure)
• Improves doctor-patient relationship
• Optimizes patient-centered care
• Allows one to assess effectiveness of treatments
<table>
<thead>
<tr>
<th>Global</th>
<th>Question</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global1</td>
<td>In general, would you say your health is...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Global2</td>
<td>In general, would you say your quality of life is...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Global3</td>
<td>In general, how would you rate your physical health?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Global4</td>
<td>In general, how would you rate your mental health, including your mood and your ability to think?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Global5</td>
<td>In general, how would you rate your satisfaction with your social activities and relationships?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Global6</td>
<td>In general, please rate how well you carry out your usual social activities and roles. (This includes activities at home, at work and in your community, and responsibilities as a parent, child, spouse, employee, friend, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
### PROMIS-10

**Global06**

To what extent are you able to carry out your everyday physical activities such as walking, climbing stairs, carrying groceries, or moving a chair?

<table>
<thead>
<tr>
<th>Completely</th>
<th>Mostly</th>
<th>Moderately</th>
<th>A little</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5 | 4 | 3 | 2 | 1

**Global10**

In the past 7 days...

How often have you been bothered by emotional problems such as feeling anxious, depressed or irritable?

<table>
<thead>
<tr>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5 | 4 | 3 | 2 | 1

**Global08**

In the past 7 days...

How would you rate your fatigue on average?

<table>
<thead>
<tr>
<th>None</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>Very severe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5 | 4 | 3 | 2 | 1

**Global07**

How would you rate your pain on average?

<table>
<thead>
<tr>
<th>No pain</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Worst imaginable pain</th>
</tr>
</thead>
</table>

© 2009 PROMIS Health Organization and PROMIS Cooperative Group
516 Unique H.F. Patients by Location

- MHI: 62
- MHVI: 151
- UHVC: 303
Important for Care Team to Know - Heart Failure

Average Response by Question and Dimension

Average Response by Question and Program (13 - Care Team to Know)

* Value on x-axis shows quantity of completed questionnaires for the selected question (not blank).

Response Distribution by Question (13 - Care Team to Know)
### Scoring Thresholds of All Questionnaires - Heart Failure

<table>
<thead>
<tr>
<th>Threshold</th>
<th>High Physical</th>
<th>Low Physical</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Mental</strong></td>
<td>29.9% (n=188)</td>
<td>27.5% (n=173)</td>
<td>57.4% (n=361)</td>
</tr>
<tr>
<td><strong>Low Mental</strong></td>
<td>4.8% (n=30)</td>
<td>37.8% (n=238)</td>
<td><strong>42.6% (n=268)</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>34.7% (n=218)</td>
<td>65.3% (n=411)</td>
<td><strong>100.0% (n=629)</strong></td>
</tr>
</tbody>
</table>
**Raw Scores and Percent Changes- 1<sup>st</sup> to Most Recent Questionnaire per Patient**

<table>
<thead>
<tr>
<th>Question</th>
<th>Base</th>
<th>End</th>
<th>% Change</th>
<th>Days</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Health Score-PGIHH</td>
<td>13.31</td>
<td>13.65</td>
<td>3.7%</td>
<td>123</td>
<td>876</td>
</tr>
<tr>
<td>Physical Health Score-All HF</td>
<td>11.84</td>
<td>12.29</td>
<td>6.4%</td>
<td>44</td>
<td>89</td>
</tr>
<tr>
<td>UHVC</td>
<td>11.81</td>
<td>12.35</td>
<td>6.0%</td>
<td>49</td>
<td>57</td>
</tr>
<tr>
<td>MHVI</td>
<td>11.85</td>
<td>12.18</td>
<td>7.6%</td>
<td>35</td>
<td>28</td>
</tr>
<tr>
<td>MHI</td>
<td>12.25</td>
<td>12.25</td>
<td>3.0%</td>
<td>39</td>
<td>4</td>
</tr>
</tbody>
</table>

*Percent change calculations are done at an individual level then averaged for all patients.*
Cardio-Oncology Protocols

- Monitor with Echo: EF and strain
- Which patients need consultation
- Protocol for change in EF/LV function
- Database
- Common protocol: MHI, UHVC, MHVI
- Common reports: hundreds to thousands of patients
### Volume of Heart Transplants and VADs

<table>
<thead>
<tr>
<th>2013 Statistics</th>
<th>AllinaHealth¹</th>
<th>FAIRVIEW²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>Health Clinics</td>
<td>59</td>
<td>47</td>
</tr>
<tr>
<td>Staffed beds</td>
<td>1,812</td>
<td>1,475</td>
</tr>
<tr>
<td>Inpatient admissions</td>
<td>112,973</td>
<td>72,291</td>
</tr>
<tr>
<td>Clinic visits</td>
<td>3.3 million</td>
<td>1.5 million</td>
</tr>
<tr>
<td>Surgical procedures</td>
<td>106,400</td>
<td>75,000</td>
</tr>
<tr>
<td>Births</td>
<td>15,364</td>
<td>9,200</td>
</tr>
<tr>
<td>ER visits</td>
<td>320,305</td>
<td>167,000</td>
</tr>
<tr>
<td>Heart Transplants</td>
<td>14</td>
<td>22</td>
</tr>
<tr>
<td>LVADs</td>
<td>20s</td>
<td>40s</td>
</tr>
</tbody>
</table>

Have we reached all the patients in need in the Allina System?

¹ www.allinahealth.org
² www.fairview.org
Some final thoughts

• Have we delivered on what we promised in 2013? Or at least "making progress"?

• Key perspective: How can Allina Health help you take care of your HF patients?

• We are on a mission to develop a SYSTEM wide HF program

• Get beyond your 4 walls

• We listen to your feedback and suggestions!