Get With The Guidelines Best Practices: A look at reducing 30-day heart failure readmission rates

Thank you for joining the webinar! The presentation will begin shortly.

***Please make sure your computer is not on mute and your speaker volume is turned up.**

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HEART FAILURE

Heart.org/QualityHF

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Heart Failure Readmissions:

A New Paradigm For An Old Disease

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Walnut Creek and Concord, California

June 4, 2015

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HEART FAILURE BY THE NUMBERS

OVER HALF
OF THE HEART FAILURE COSTS ARE SPENT ON HOSPITALIZATION

5.1 MILLION PEOPLE
IN THE U.S. SUFFER FROM HEART FAILURE[3]

1,000,000+
OVER 1 MILLION HEART FAILURE ADMISSIONS EACH YEAR[3]

BY 2030, EVERY U.S. TAXPAYER COULD PAY
$244 EACH YEAR
FOR HEART FAILURE EXPENSES[4]

CURRENT APPROACHES

PHYSICIANS TYPICALLY MANAGE HEART FAILURE BY MONITORING SYMPTOMS SUCH AS BODY WEIGHT AND BLOOD PRESSURE USING A TELEHEALTH SCALE

EVEN WITH DAILY SELF-MONITORING[5]

25% OF HEART FAILURE PATIENTS ARE READMITTED TO THE HOSPITAL WITHIN 30 DAYS

50% OF HEART FAILURE PATIENTS ARE READMITTED TO THE HOSPITAL WITHIN 6 MONTHS

ESTIMATED U.S. HEART FAILURE COST[4]

Factors Associated with HF Readmissions

- **Sociodemographic Factors**
  - Age
  - Sex
  - Race
  - Living Status
  - Insurance
  - Income
- **Comorbid Conditions**
  - Diabetes Mellitus
  - Hypertension
  - COPD
  - Coronary Artery Disease
  - Cerebrovascular Disease
  - Atrial Fibrillation
  - Chronic Kidney Disease
- **Markers of HF Severity**
  - Heart Rate
  - Blood Pressure
  - QRS duration
  - LVEF
  - NYHA Functional Class
  - Previous HF hospitalization
  - Intolerance of Standard HF therapy
- **Serum Markers**
  - Blood Urea Nitrogen (BUN)
  - Creatinine/eGFR
  - Sodium
  - Hemoglobin/Hematocrit
  - B-type Natriuretic Peptide
  - Troponin

Ross JS, et al. Arch Int Med 2008; 168: 1371-86.

All Readmissions Are Not HF Related

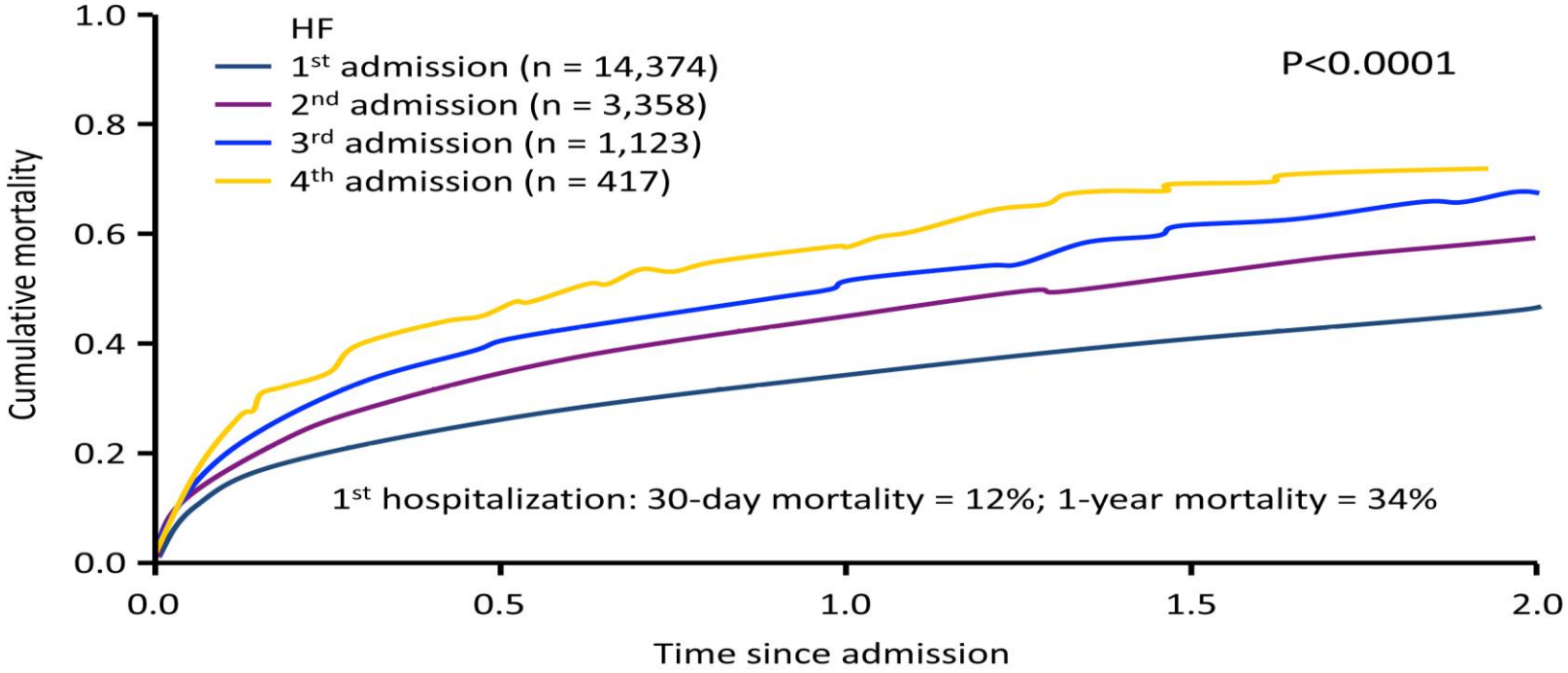
- **Approximately ½ due to Cardiovascular Reasons**

	Cardiovascular		Non-Cardiovascular	Total Readmissions
	Heart Failure	Other CV		
N (%)	713 (16.5%)	936 (21.6%)	2679 (61.9%)	4328

Data reflects 1077 incident HF cases 1987-2006 in Olmsted County, MN

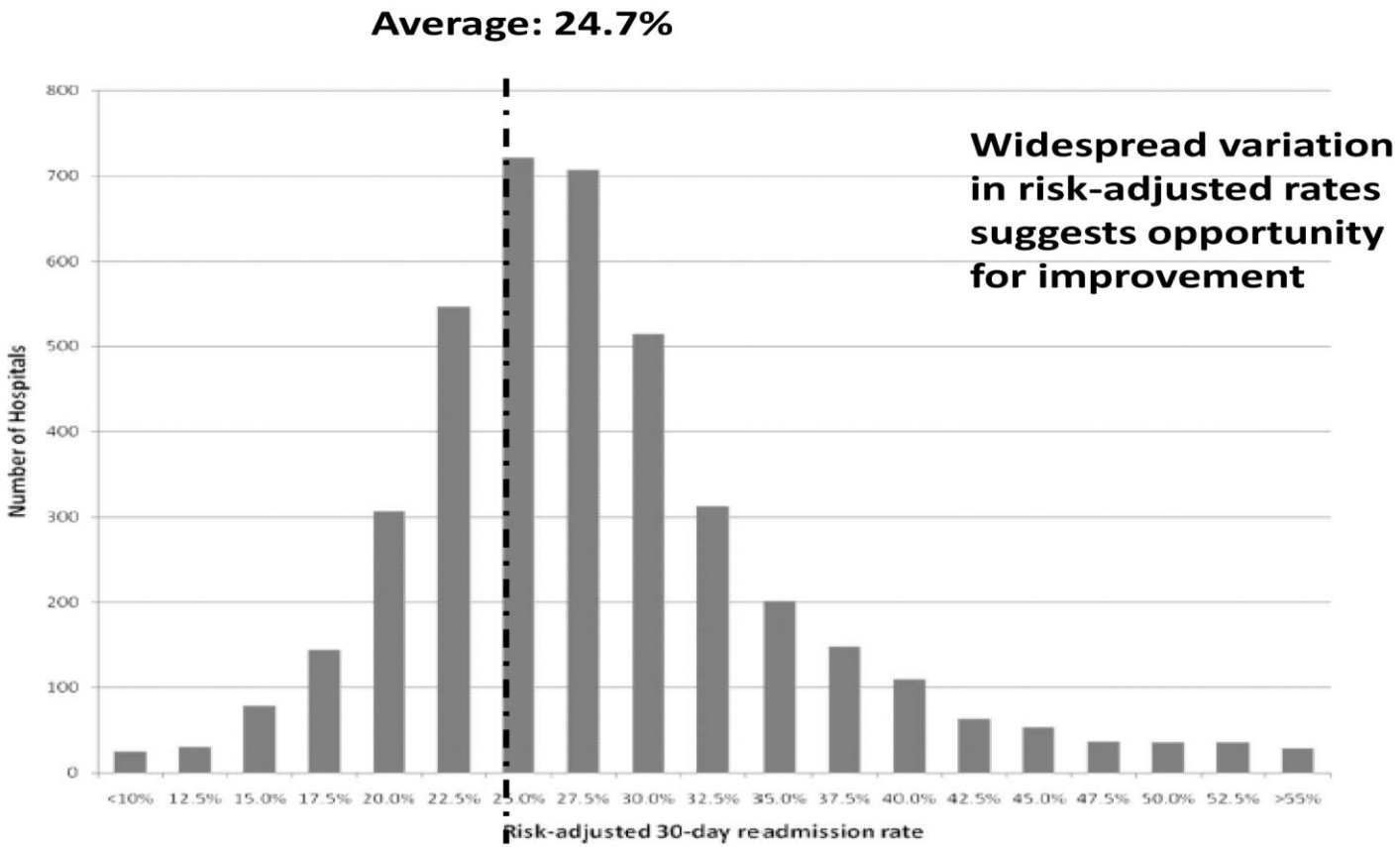
Dunlay S, et al. J Am Coll Cardiol. 2009;54(18):1695-702.

Mortality After HF Hospitalization



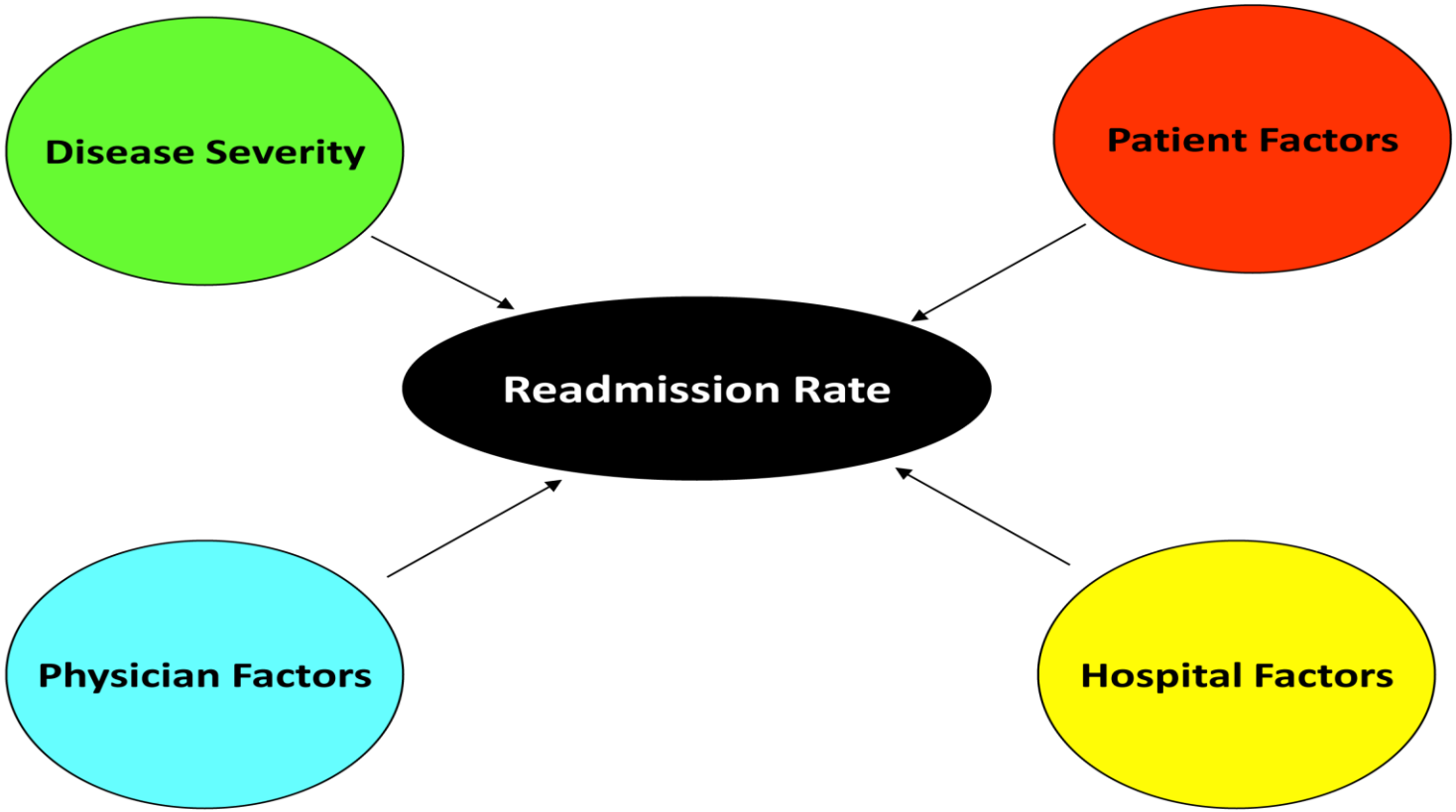
Setoguchi S, et al. *Am Heart J.* 2007;154:260-266.

National Risk-Adjusted 30 Day HF Readmission Rate



Joynt K, Jha A. Circ Cardiovasc Qual Outcomes 2011; 4: 53-59.

Variation in Readmission Rates

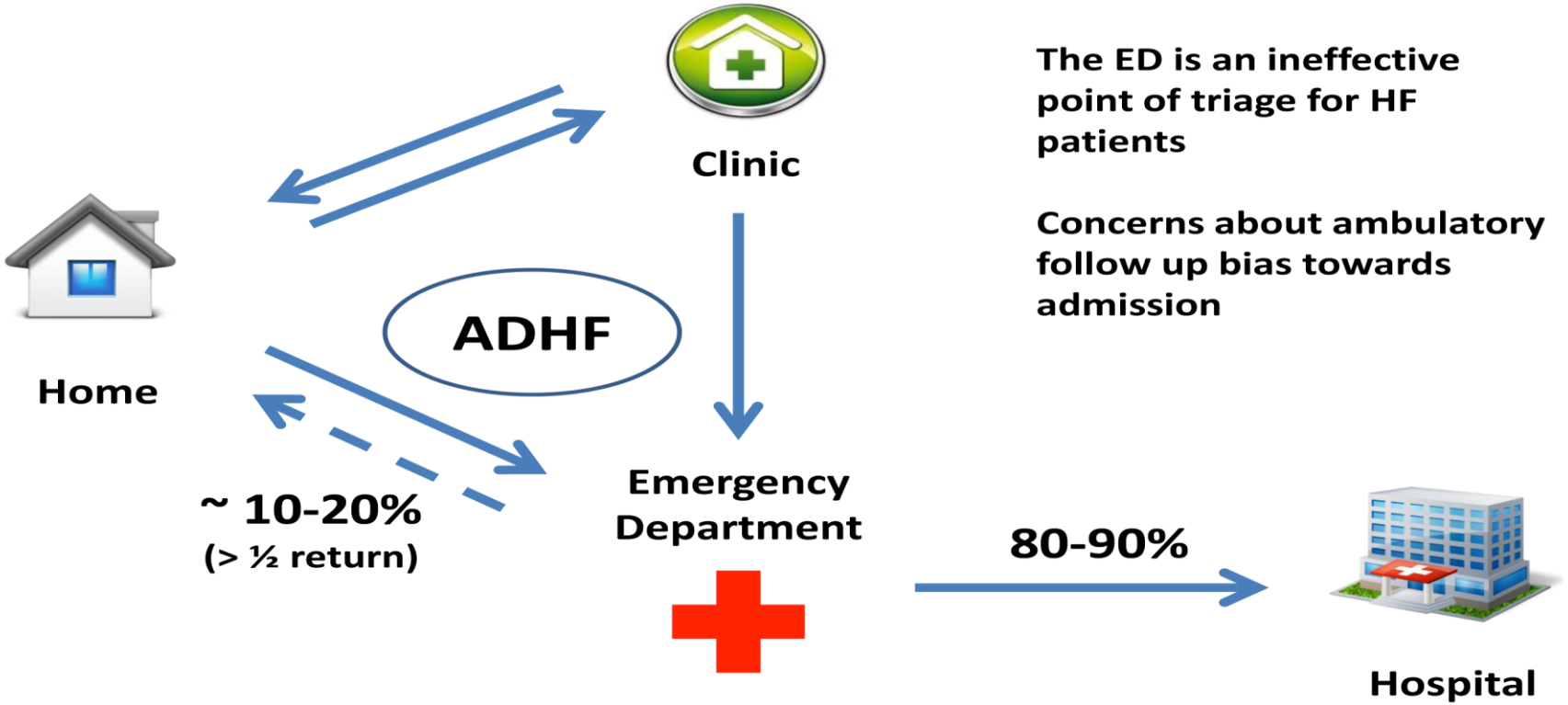


Improving Post Hospitalization Transition

Predischarge Intervention	Postdischarge Intervention
Patient education	Timely follow-up
Discharge planning	Timely PCP communication
Medication reconciliation	Follow-up telephone call
Appointment scheduled before discharge	Patient hotline
	Home visit
Intervention Bridging the Transition	
Transition coach	
Patient-centered discharge instructions	
Provider continuity	

Hansen L, et al. Ann Intern Med. 2011;155:520-528.

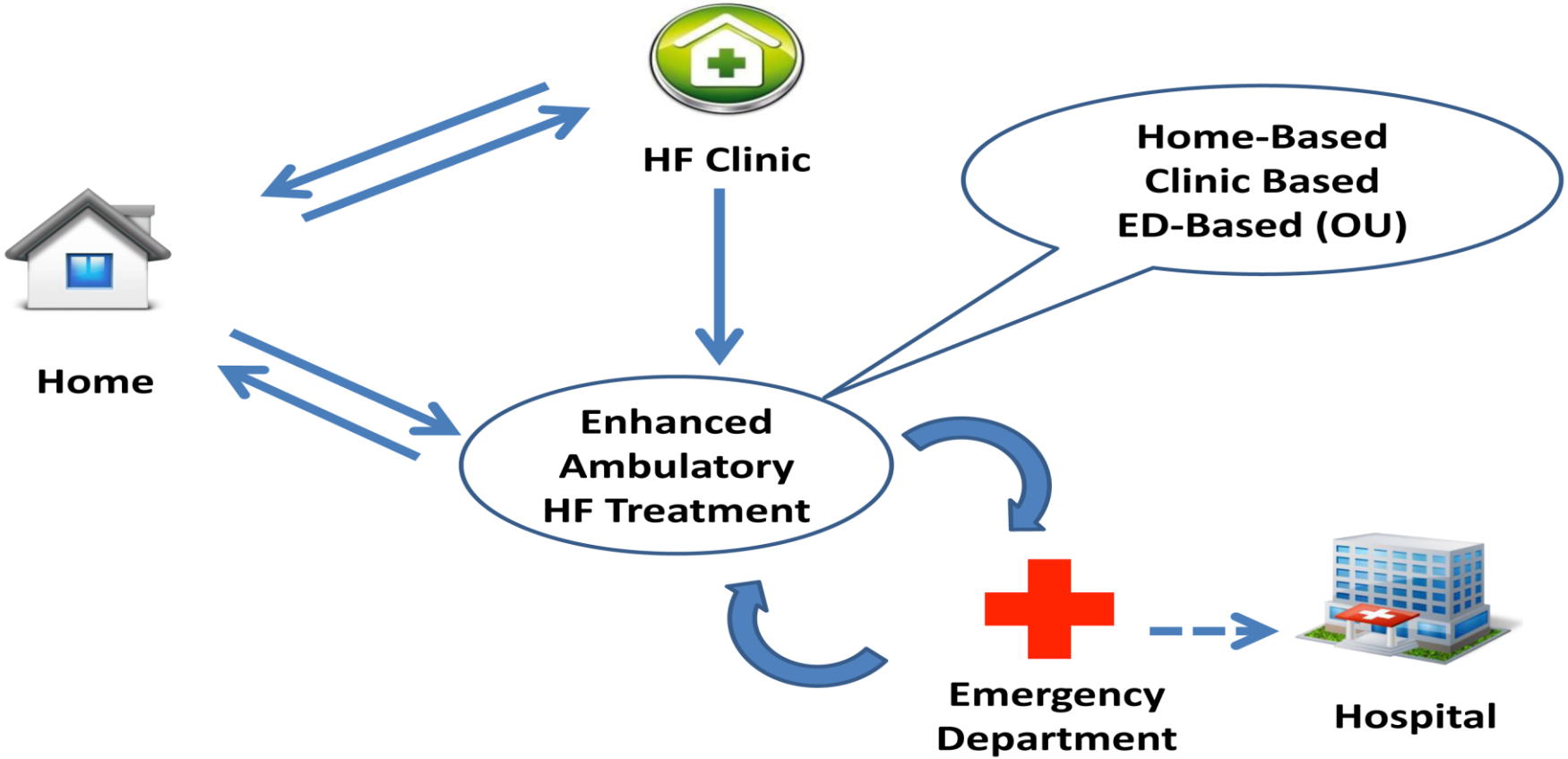
Traditional Model For Out Patient HF Care



The ED is an ineffective point of triage for HF patients

Concerns about ambulatory follow up bias towards admission

New Model For Out Patient HF Care



HF Disease Management Programs

- **Multidisciplinary Disease Management**
  - **Components**
    - Pre-discharge Education to enhance self-care
    - Nurse-led coordination of care and post-discharge surveillance
    - Access to providers with specialty expertise in heart failure
  - **Estimated Impact**
    - 25% reduction in overall mortality
    - 26% reduction in HF (re)hospitalization
    - 19% reduction in overall hospitalization
  - **Generally cost-saving or cost-neutral**
  - **Greatest Impact in the early post-discharge period**

HF Resource Center at John Muir Medical Center

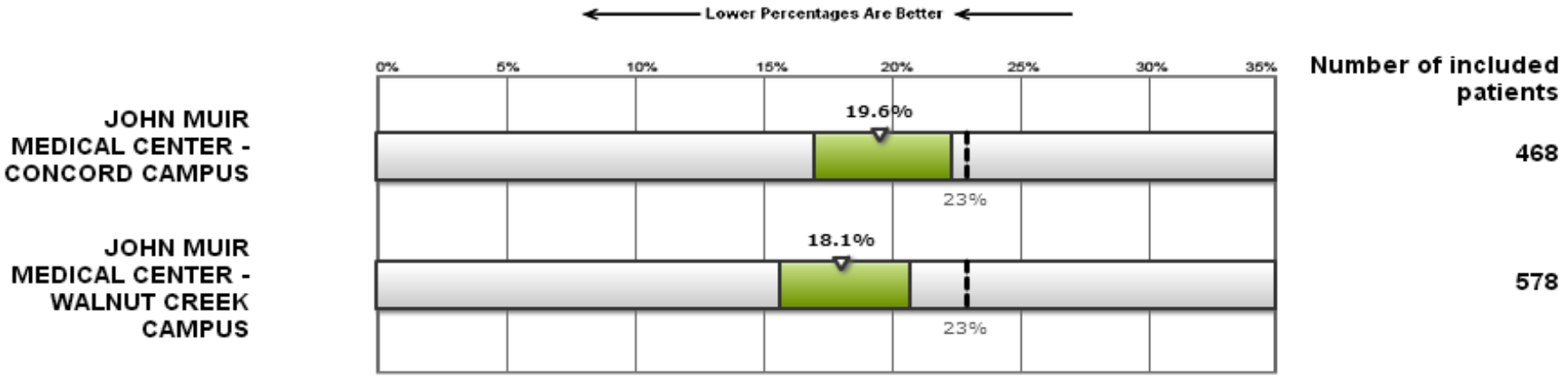
Not a clinic where pts are seen for a visit
We don't bill pts
A different MD doesn't see the pt –so no interference
An "RN Navigator" follows pt through transition of care
Pts can get access to Home health etc
"RN Navigator" interacts with pt + Primary Cardiologists
Visits to ER can be often aborted
We provide scales to patients

Current CMS John Muir Readmissions for HF

Rate of unplanned readmission for heart failure patients

Why is this important?

Hide Graph



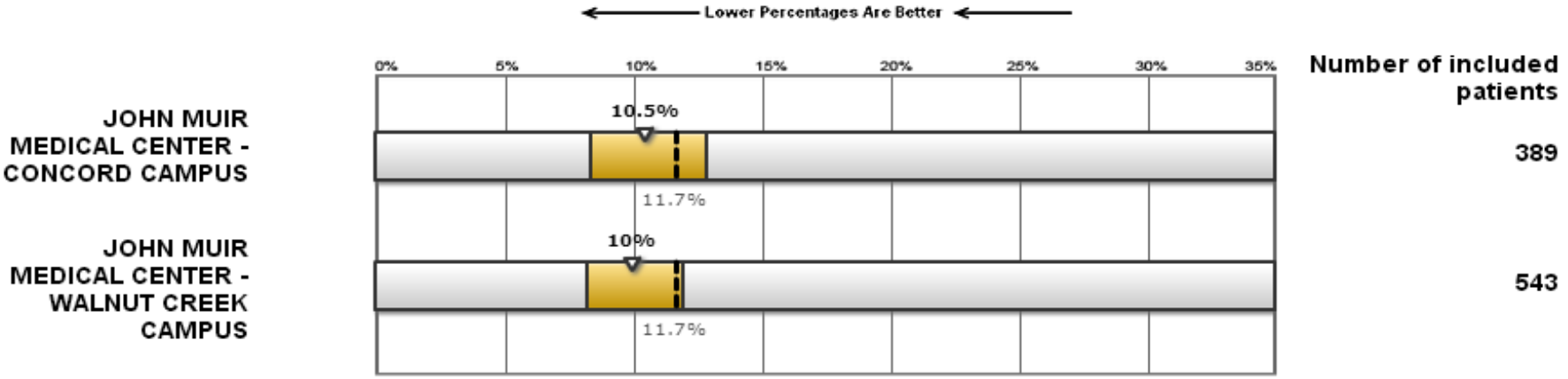
U.S. national rate of unplanned readmission for heart failure patients = 23.0%

Current CMS John Muir Mortality for HF Readmissions

Death rate for heart failure patients

Why is this important?

Hide Graph



U.S. national death rate for heart failure patients = 11.7%

Conclusions

- Models for predicting readmission may have limited utility beyond triage in clinical practice
- Durable impact on preventing heart failure readmissions requires a focus beyond 30 days
- No single intervention is likely to be universally effective
- Different approaches may be necessary to manage different phases of illness
- Noncardiovascular comorbidities, adherence, and social/environmental factors must be addressed in tandem with heart failure management
- Alternatives to the ED for ambulatory triage and intervention are essential

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UC Irvine Health
Readmissions Reduction Project
Heart Failure Program
June 4th, 2015

Nathalie De Michelis, RN BSN
Cardiovascular Program Manager

UC Irvine Health

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Quality Initiatives

Cardiovascular & Readmission Task force Teams

- Both ➔Multidisciplinary group meeting monthly

Multiple National & State Quality Initiatives

- American Heart Association (AHA) -HF Gold Plus achievement award-last 4yrs
- American College of Cardiology (ACC)
- The Joint Commission HF Disease Specific certification since 2008
- DSRIP Projects
  - Improvement of Primary Care in HF Disease management
  - Identification of HF High risk population
  - HF Coach Program (Phone & in person health coaches)

Community Education & Outreach

Research

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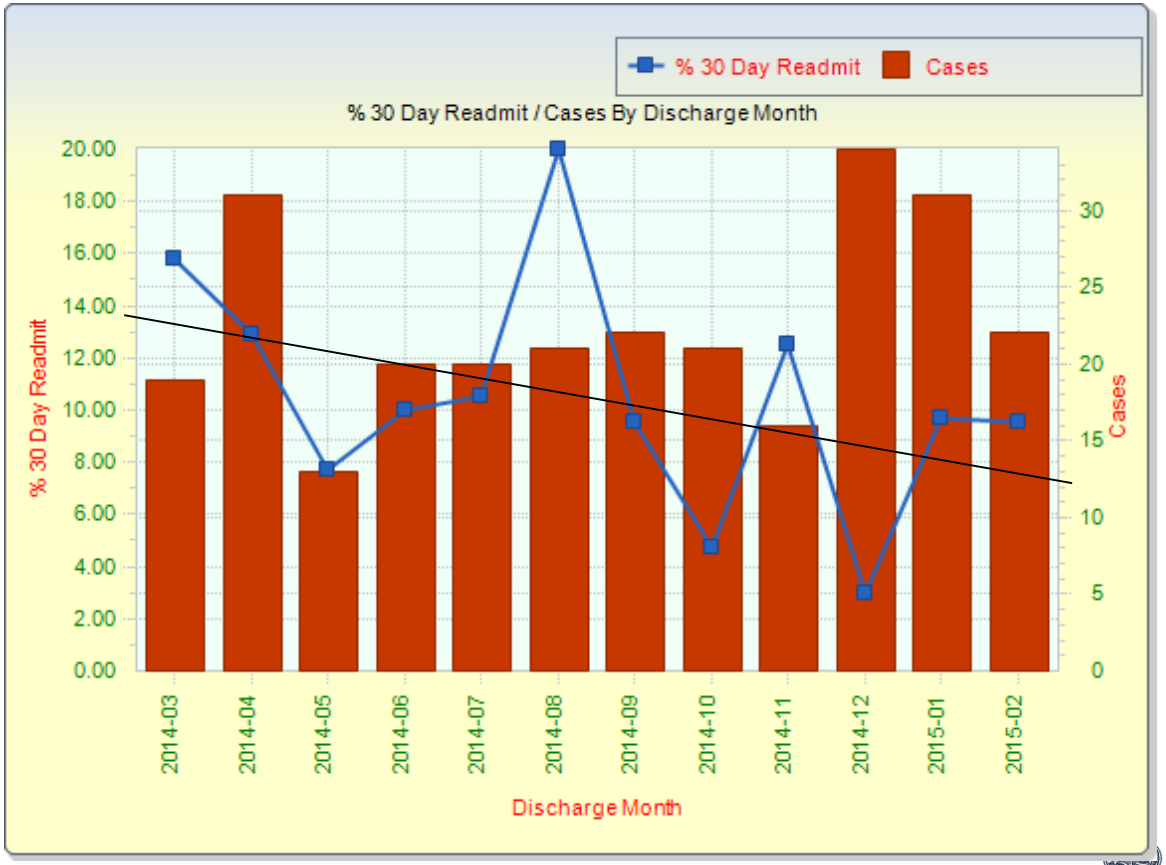
UCI HF Readmission Related Cause only
≥18 y/o, all insurance type – TJC HF DSC measure



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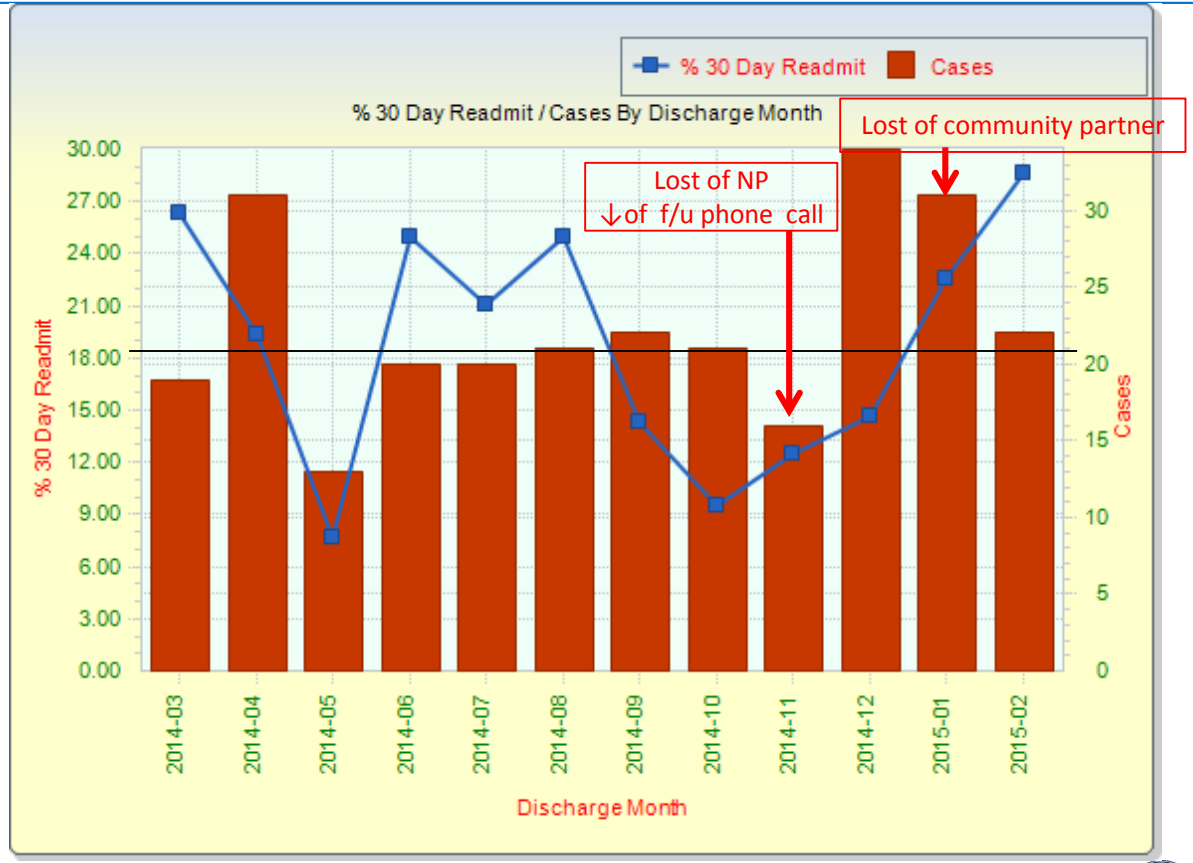
UCI HF Readmission All Cause only
≥18 y/o, all insurance type – CMS measure



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Discharged on GDMT

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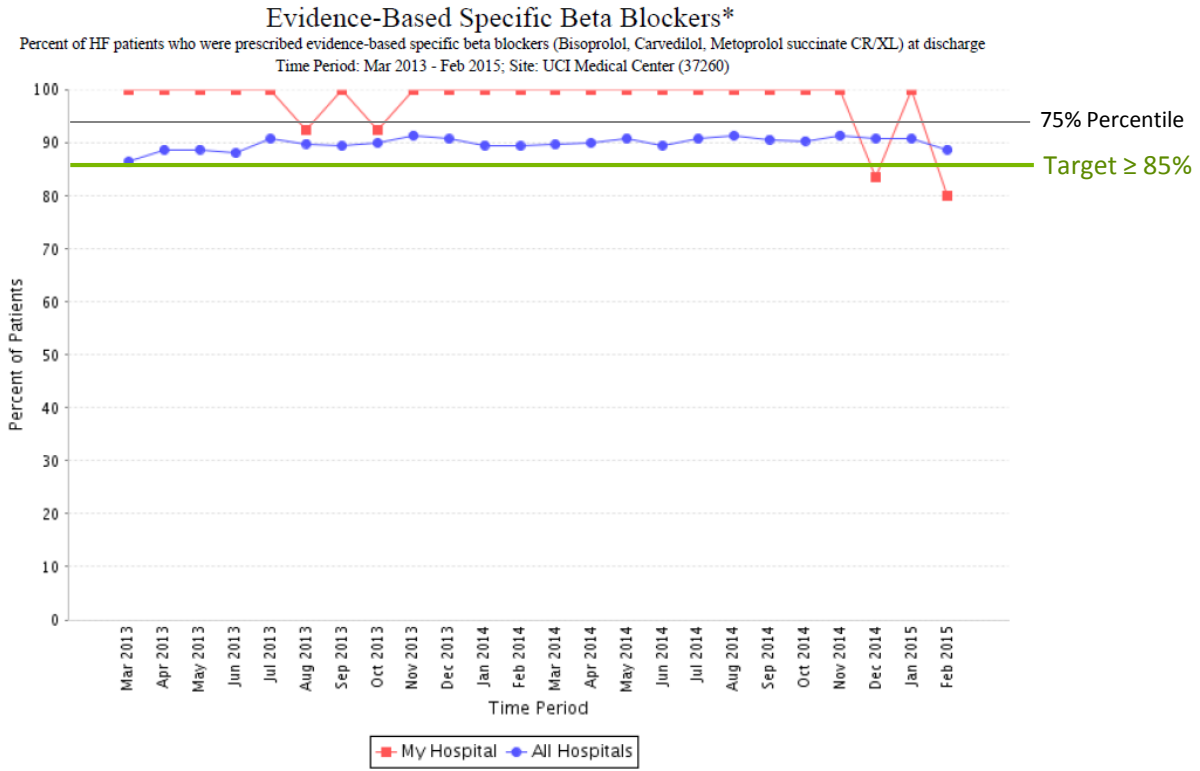
Ensure GDMT
HF Inpatient measures-AHA-GWTG & TJC HF DSC



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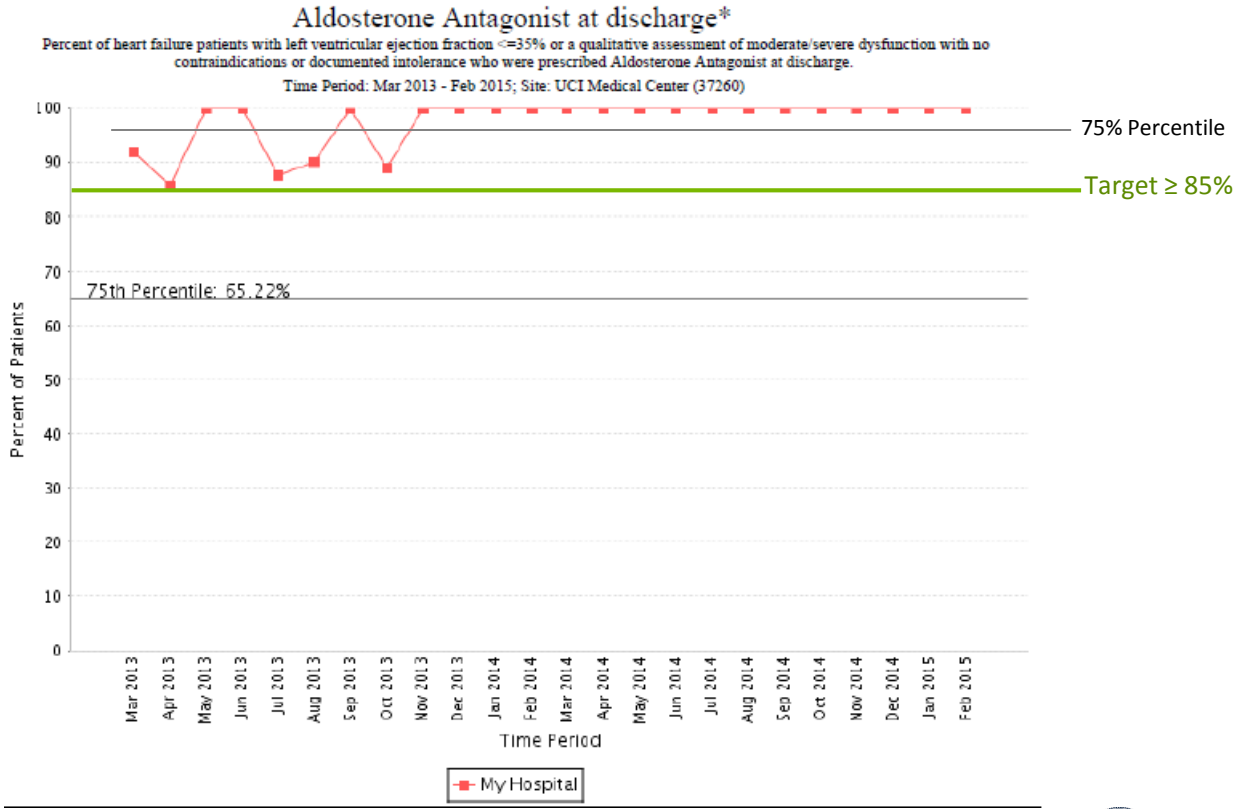
HF Inpatient measures
AHA-GWTG & TJC HF DSC



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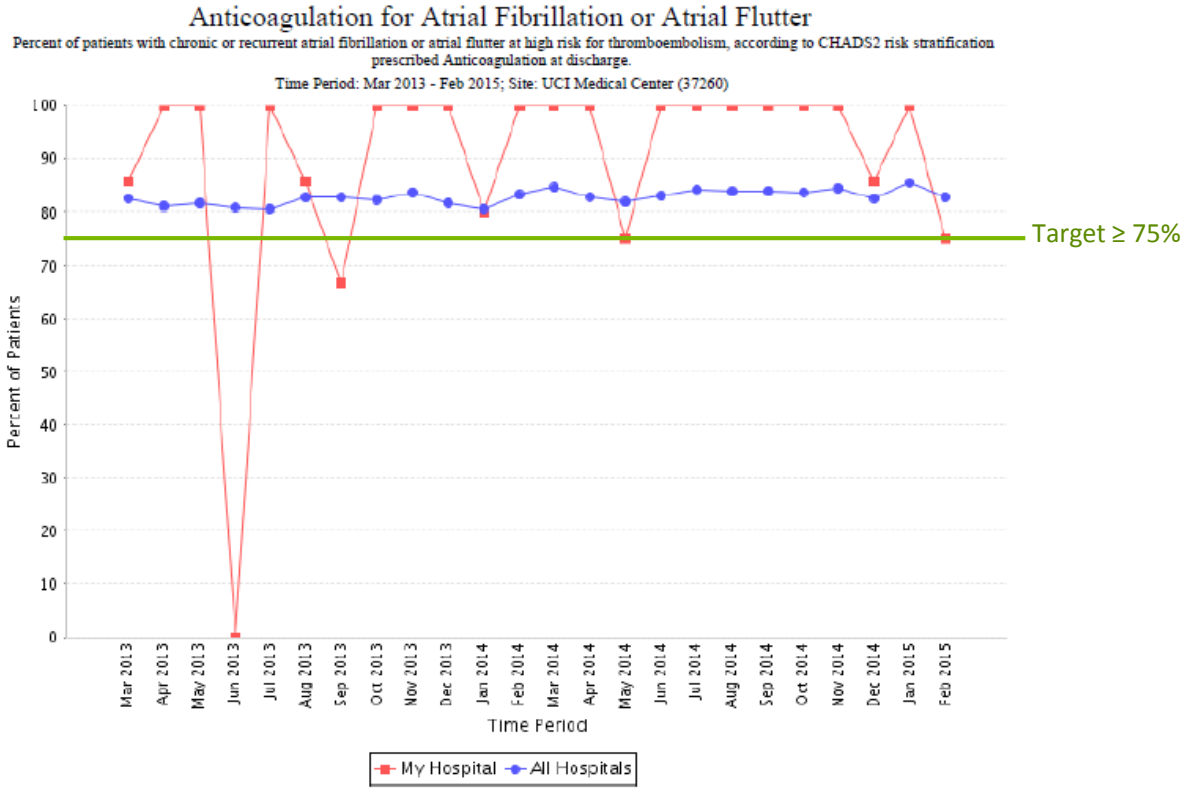
HF Inpatient measures
AHA-GWTG & TJC HF DSC



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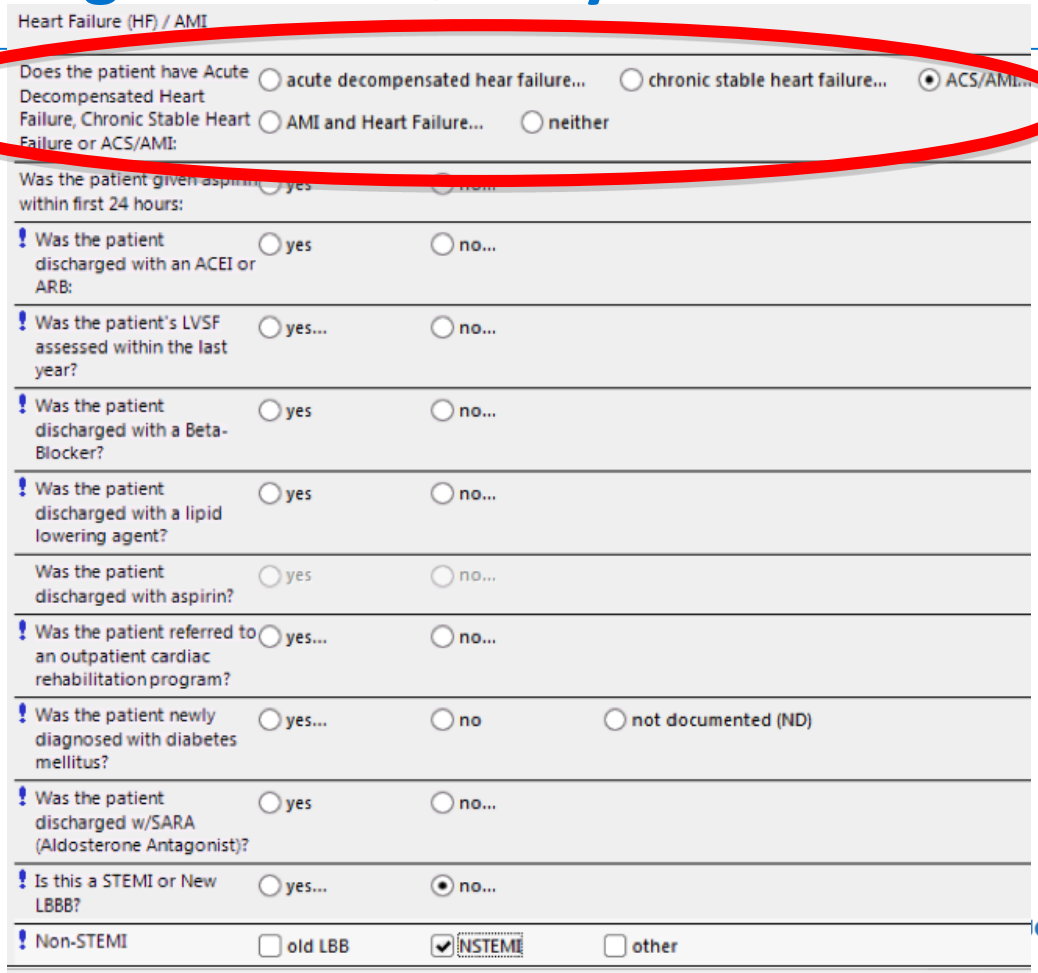
Discharge Note –Quality Measures

Memory Aids &

Last chance to meet AMI & HF Quality Measures



Heart Failure (HF) / AMI

Does the patient have Acute Decompensated Heart Failure, Chronic Stable Heart Failure or ACS/AMI:	acute decompensated hear failure...	chronic stable heart failure...	ACS/AMI...
	AMI and Heart Failure...	neither	
Was the patient given aspirin within first 24 hours:	yes	no...	
Was the patient discharged with an ACEI or ARB:	yes	no...	
Was the patient's LVSF assessed within the last year?	yes...	no...	
Was the patient discharged with a Beta-Blocker?	yes	no...	
Was the patient discharged with a lipid lowering agent?	yes	no...	
Was the patient discharged with aspirin?	yes	no...	
Was the patient referred to an outpatient cardiac rehabilitation program?	yes...	no...	
Was the patient newly diagnosed with diabetes mellitus?	yes...	no	not documented (ND)
Was the patient discharged w/SARA (Aldosterone Antagonist)?	yes	no...	
Is this a STEMI or New LBBB?	yes...	no...	
Non-STEMI	old LBB	NSTEMI	other

Memory Aids

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Heart Failure Discharge Check list

On admission	Given		Teach Back	Comment
Patient guide to HF Hospital Care	☐		☐	Available in English & Spanish
While in the hospital	**Given/Viewed**			**Comment**
HF Zone	☐		☐	Available in English & Spanish
HF Caring for your heart Booklet	☐		☐	Available in English & Spanish
CCTV Heart failure Video	☐		☐	Available in English & Spanish
Documented on the Teaching Plan	☐ yes			
At Discharge	**Given**	**N/A**	**Teach Back**	**Comment**
Cardiac Discharge Education form ➔Signed and placed in Chart	Given ☐ Signed&in chart ☐		☐	Available in English & Spanish
Discharge Instruction document ➔Signed and placed in Chart	Given ☐ Signed&in chart ☐		☐	
Written Discharge Instruction has:	**Yes**	**N/A**	**Teach Back**	**Comment**
Diet instruction (Low salt)	☐	☐	☐	
Activity instruction	☐	☐	☐	
Daily weigh monitoring instruction	☐	☐	☐	
Symptom management	☐	☐	☐	
Smoking cessation counseling	☐	☐	☐	Counseling needed if smoking Hx within the last 12 months
Follow-up appointment with PCP	☐	☐	☐	Time, date & location needed for f/u
Follow-up appointment with HF clinic	☐	☐	☐	Provided to all Acute HF pts
Remind patient to attend appointments	☐	☐	☐	*Inform CM if no f/u appointment made
Medication on Discharge Instruction	**Yes**	**N/A**	**Contraindication documented by MD or PharmD**	
ACEI or ARB ordered at Discharge if EF <40%	☐	☐	☐ *Inform MD if not documented	Dilates blood vessels allowing the heart to pump easier. Directly improve heart function & survival and inhibit, reverse "remodeling"
Beta Blocker ordered at Discharge if EF <40%	☐	☐	☐ *Inform MD if not documented	Inhibit, reverse "remodeling" and inhibit, decrease the release of stress hormones. Decrease work of heart, slow the heart rate, prevent irregular heartbeats and improve survival
Aldosterone blocker at Discharge if EF <40% & mod-sev symptoms of HF, HF post MI with monitoring of Renal function & Potassium	☐	☐	☐ *Inform MD if not documented	Improve survival
Anticoagulation for Atrial Fibrillation	☐	☐	☐ *Inform MD If not documented	
Reinforce importance of medications, to take as prescribed and to makes sure to not run out	☐	☐	☐ teach back	

(This form is not part of the medical record)

DO NOT COPY

HF Program 06/26/2012 rev 08/01/12

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Readmissions Reduction Project

Risk Stratification

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Risk Stratification
Using Modified LACE Tool

- **Why was it chosen?**
  - Validated tool, predictive of readmissions with patient population, used administrative data allowing automation requiring less resources.

Attribute	Value	Points	Pre-Admit	Post-Admit
Length of Stay	Less 1 day	0		
	1 day	1		
	2 days	2		
	3 days	3		
	4-6 days	4		
	7-13 days	5		
	14 or more days	6		
Acute admission	Inpatient	3		
	Observation	0		
Comorbidity: (Comorbidity points are cumulative to maximum of 6 points)	No prior history	0		
	DM no complications, Cerebrovascular disease, Hx of MI, PVD, PUD,	1		
	Mild liver disease, DM with end organ damage, CHF, COPD, Cancer, Leukemia, lymphoma, any tumor, cancer, moderate to severe renal dz	2		
	Dementia or connective tissue disease	3		
	Moderate or severe liver disease or HIV infection	4		
	Metastatic cancer	6		
Emergency Room visits during previous 6 months	0 visits	0		
	1 visits	1		
	2 visits	2		
	3 visits	3		
	4 or more visits	4		
	Take the sum of the points and enter the total ➔			

  - Now calculated automatically in our EMR

LACE Validation

LACE Score	Total	Readmit < 30	No Readmit < 30	% Readmit	% No Readmit
3	132	18	114	13.64%	86.36%
4	980	31	949	3.16%	96.84%
5	2799	61	2738	2.18%	97.82%
6	2401	100	2301	4.16%	95.84%
7	2361	150	2211	6.35%	93.65%
8	2356	215	2141	9.13%	90.87%
9	2340	248	2092	10.60%	89.40%
10	1799	218	1581	12.12%	87.88%
11	1646	313	1333	19.02%	80.98%
12	1122	268	854	23.89%	76.11%
13	899	251	648	27.92%	72.08%
14	716	213	503	29.75%	70.25%
15	447	130	317	29.08%	70.92%
16	264	85	179	32.20%	67.80%
17	300	121	179	40.33%	59.67%
18	211	82	129	38.86%	61.14%
19	64	25	39	39.06%	60.94%
Grand Total	**20837**	**2529**	**18308**	**12.14%**	**87.86%**

LACE ≤ 8
Readmit < 30: **575**
Percentage: **5.50%**

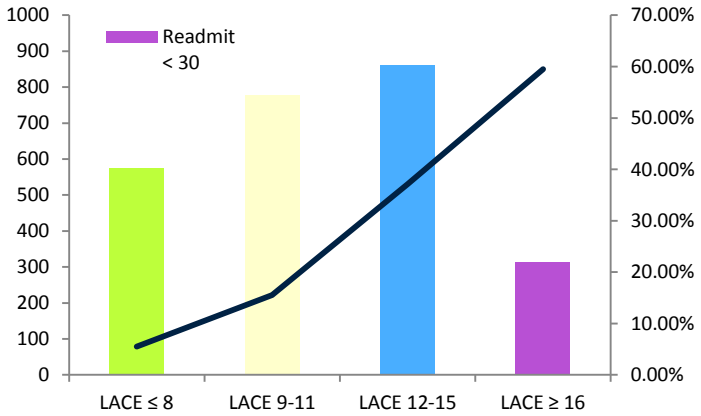
LACE 9-11
Readmit < 30: **779**
Percentage: **15.56%**

LACE 12-15
Readmit < 30: **862**
Percentage: **37.12%**

LACE ≥ 16
Readmit < 30: **313**
Percentage: **59.51%**

LACE ≤ 11
Readmit < 30: **1354**
Percentage: **8.76%**

LACE > 11
Readmit < 30: **1175**
Percentage: **41.26%**



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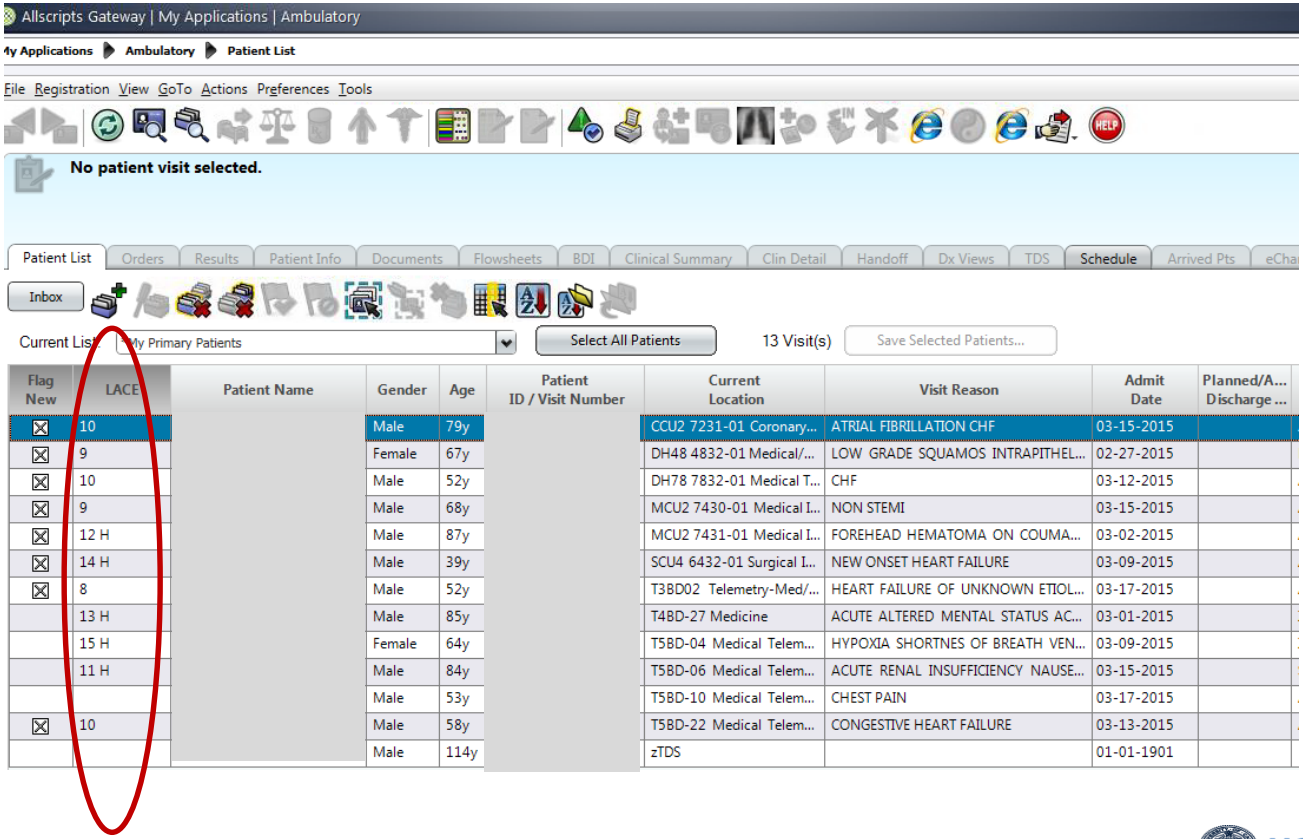
LACE score in Allscripts EMR



Flag New	LACE	Patient Name	Gender	Age	Patient ID / Visit Number	Current Location	Visit Reason	Admit Date	Planned/A... Discharge ...
☒	10		Male	79y		CCU2 7231-01 Coronary...	ATRIAL FIBRILLATION CHF	03-15-2015	
☒	9		Female	67y		DH48 4832-01 Medical/...	LOW GRADE SQUAMOS INTRAPITHEL...	02-27-2015	
☒	10		Male	52y		DH78 7832-01 Medical T...	CHF	03-12-2015	
☒	9		Male	68y		MCU2 7430-01 Medical I...	NON STEMI	03-15-2015	
☒	12 H		Male	87y		MCU2 7431-01 Medical I...	FOREHEAD HEMATOMA ON COUMA...	03-02-2015	
☒	14 H		Male	39y		SCU4 6432-01 Surgical I...	NEW ONSET HEART FAILURE	03-09-2015	
☒	8		Male	52y		T3BD02 Telemetry-Med/...	HEART FAILURE OF UNKNOWN ETIOL...	03-17-2015	
	13 H		Male	85y		T4BD-27 Medicine	ACUTE ALTERED MENTAL STATUS AC...	03-01-2015	
	15 H		Female	64y		T5BD-04 Medical Telem...	HYPOXIA SHORTNES OF BREATH VEN...	03-09-2015	
	11 H		Male	84y		T5BD-06 Medical Telem...	ACUTE RENAL INSUFFICIENCY NAUSE...	03-15-2015	
			Male	53y		T5BD-10 Medical Telem...	CHEST PAIN	03-17-2015	
☒	10		Male	58y		T5BD-22 Medical Telem...	CONGESTIVE HEART FAILURE	03-13-2015	
			Male	114y		zTDS		01-01-1901	

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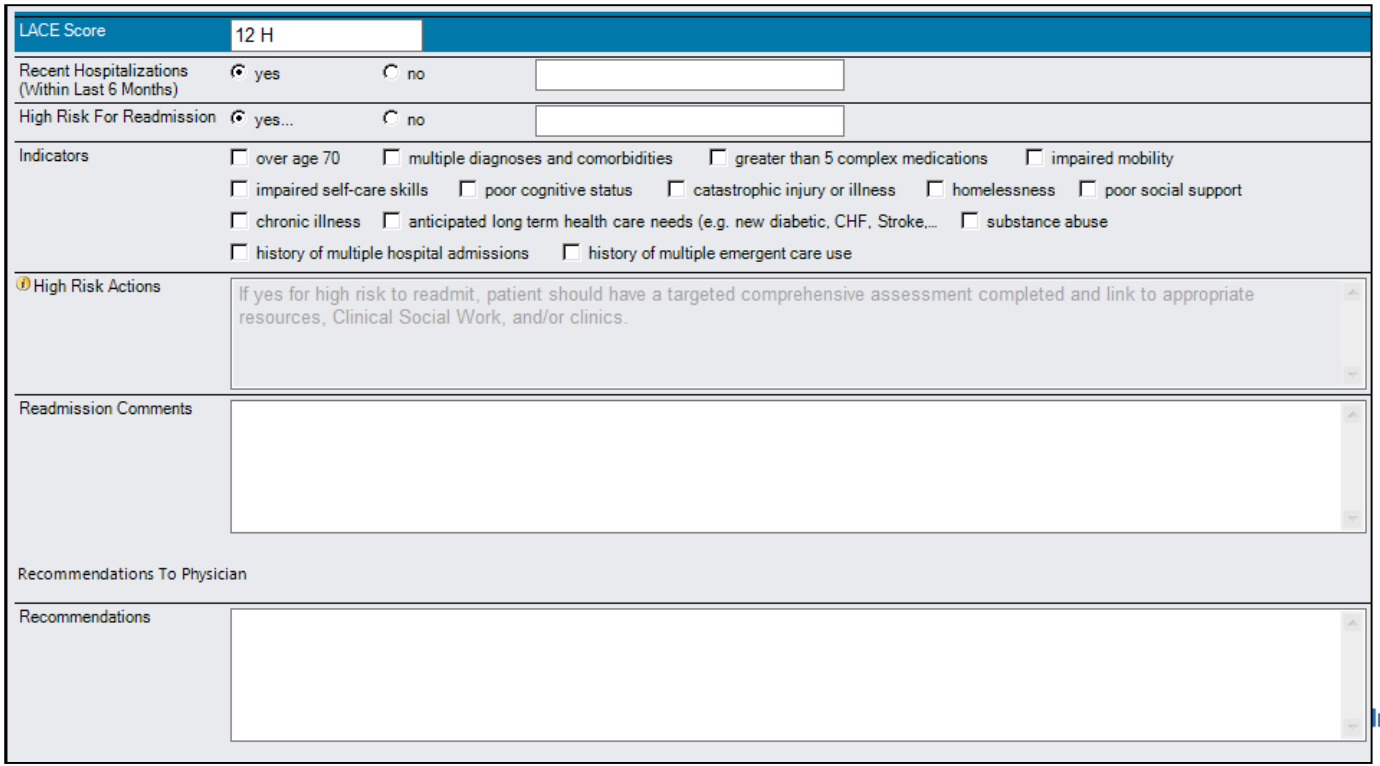
LACE & CM Notes

- LACE Score displayed in the CM's note
- CM initiates recommendations



LACE Score: 12 H

Recent Hospitalizations (Within Last 6 Months): yes / no

High Risk For Readmission: yes... / no

Indicators:
- over age 70
- multiple diagnoses and comorbidities
- greater than 5 complex medications
- impaired mobility
- impaired self-care skills
- poor cognitive status
- catastrophic injury or illness
- homelessness
- poor social support
- chronic illness
- anticipated long term health care needs (e.g. new diabetic, CHF, Stroke,...
- substance abuse
- history of multiple hospital admissions
- history of multiple emergent care use

High Risk Actions: If yes for high risk to readmit, patient should have a targeted comprehensive assessment completed and link to appropriate resources, Clinical Social Work, and/or clinics.

Readmission Comments

Recommendations To Physician

Recommendations

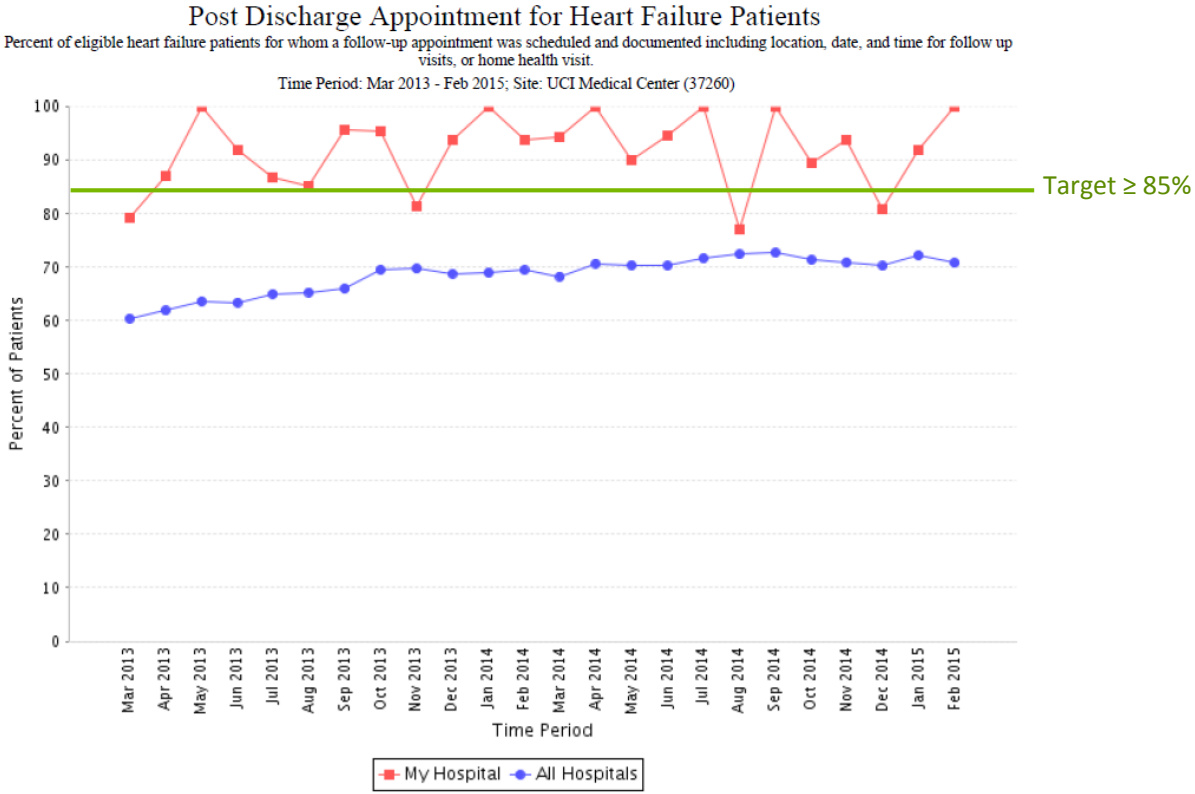
Our Intervention on a score >=11.

Intervention	MD	CM	CSW	RN	Unit PharmD
CSW auto consultation			complete		
Home Health Referral (disease management, med rec and safety eval)	order	request	request		
Follow up appt with PCP and/or HF clinic within 7 days prior to D/C	order	request			
Obtain letter of medical necessity for unfunded & funded patients	write	process			
Referral to Med Safety Clinic for patients with greater than 10 scheduled medications	order	request			request
Make follow-up call to patient within 72 hours of discharge: check on meds, appt,				complete	
Patient Education - disease specific				complete	
Review Discharge meds	order			review	complete

UC Irvine Health Readmission Interventions
Current Interventions for all

- Observation status
- Discharge planning day of admission
- M-F daily discharge huddle
- Dietary Consult based on trigger
- HF NP for consultation & HF education
- Handoff to primary care provider
- 72 Hours follow-up call for HF, AMI & PNA patients
- Open access of Primary care and HF clinics
- IV Lasix available in the HF clinic
- HF-Palliative follow-up clinic for eligible patients
- Opening of a Cardiac Rehab

HF Inpatient measures
AHA-GWTG & TJC HF DSC



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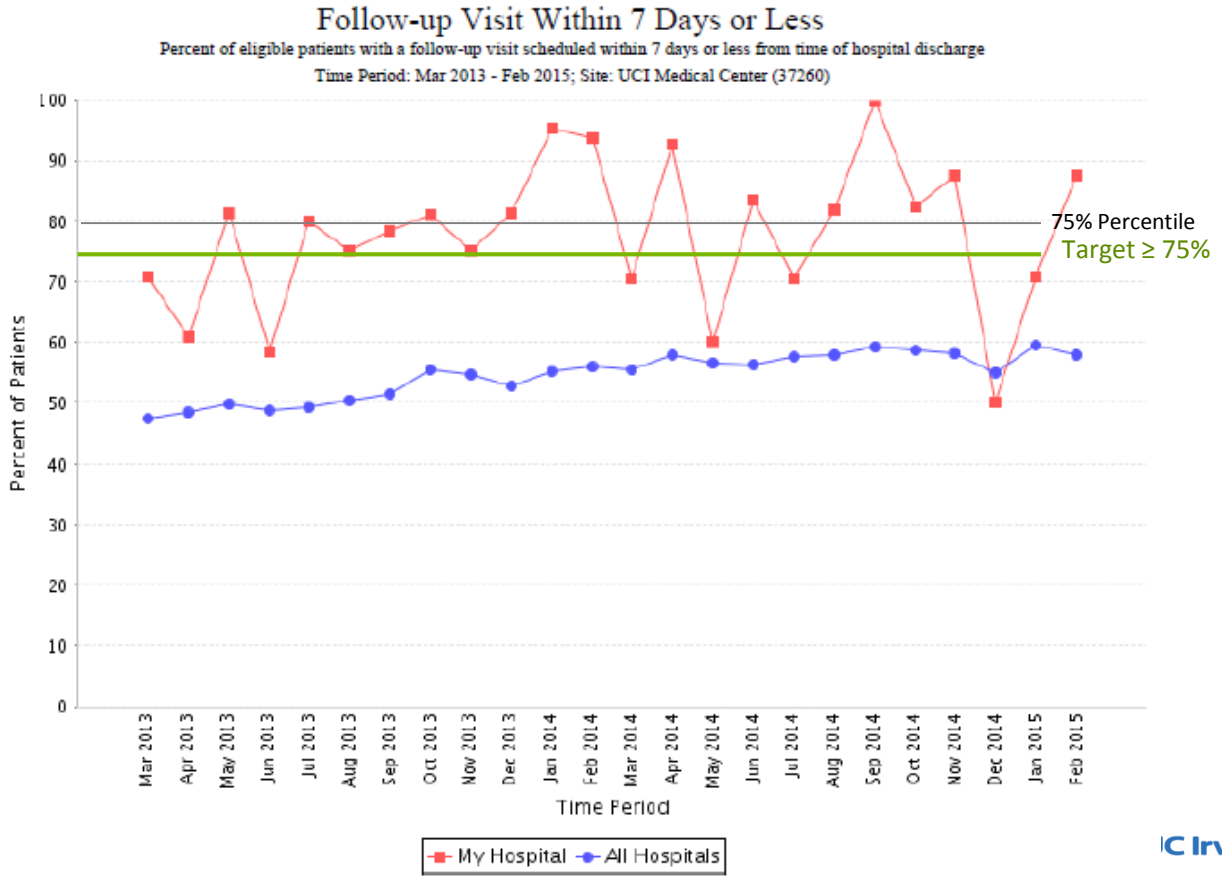

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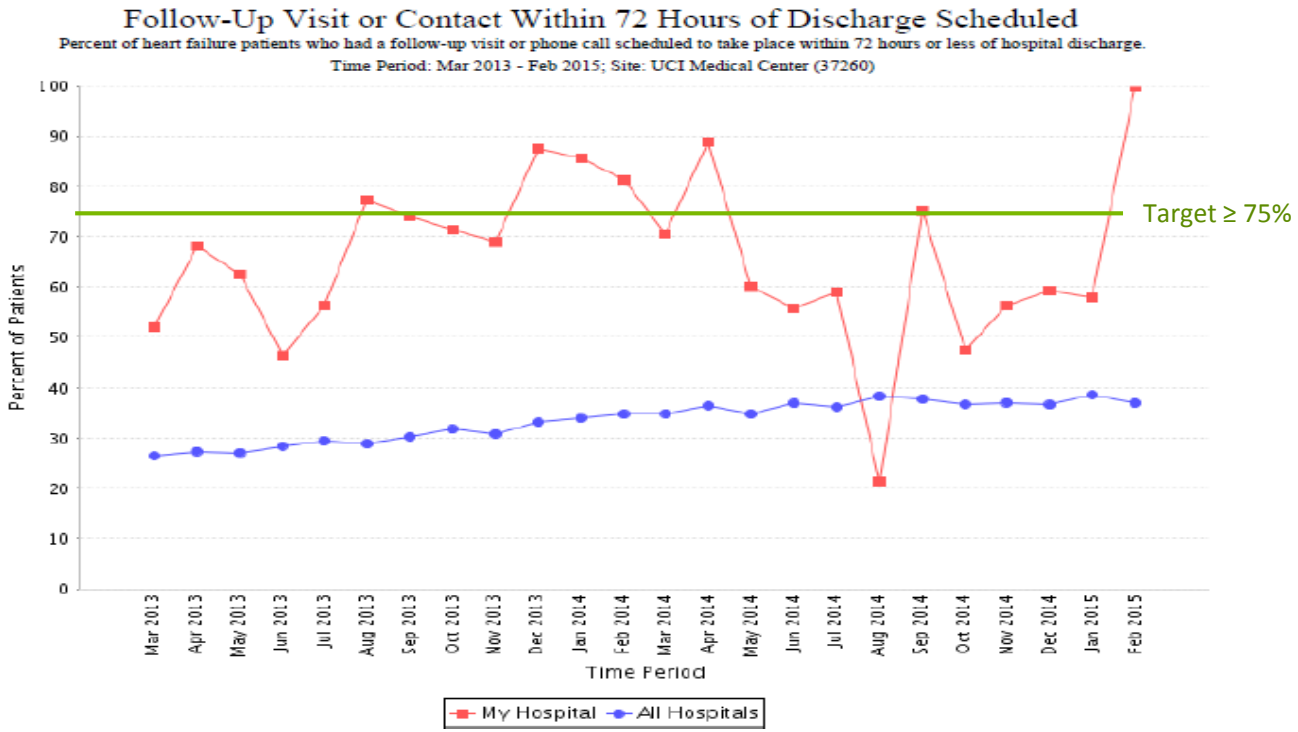

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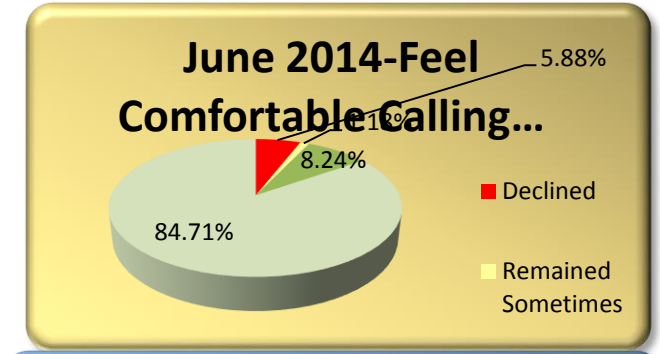
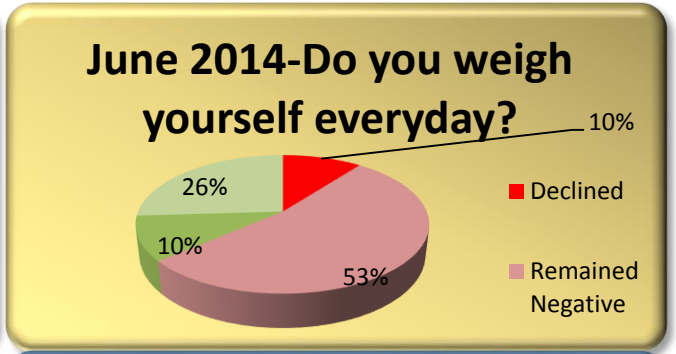
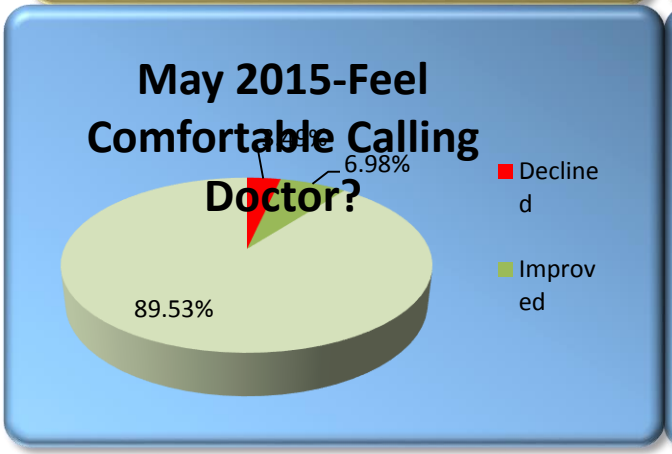
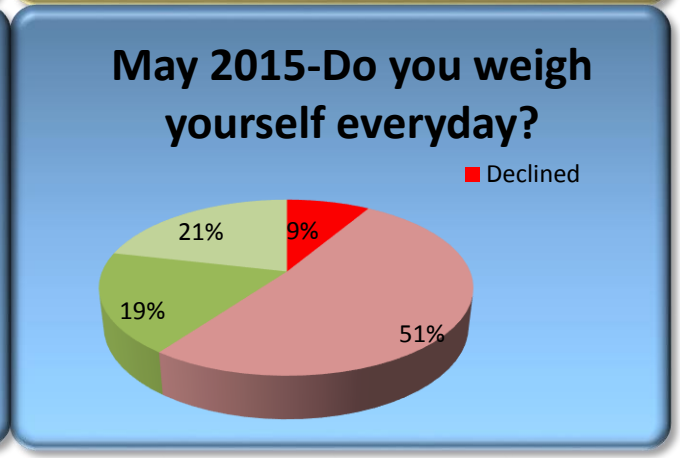
Difference between pre & 30 day post visit Phone-coach call









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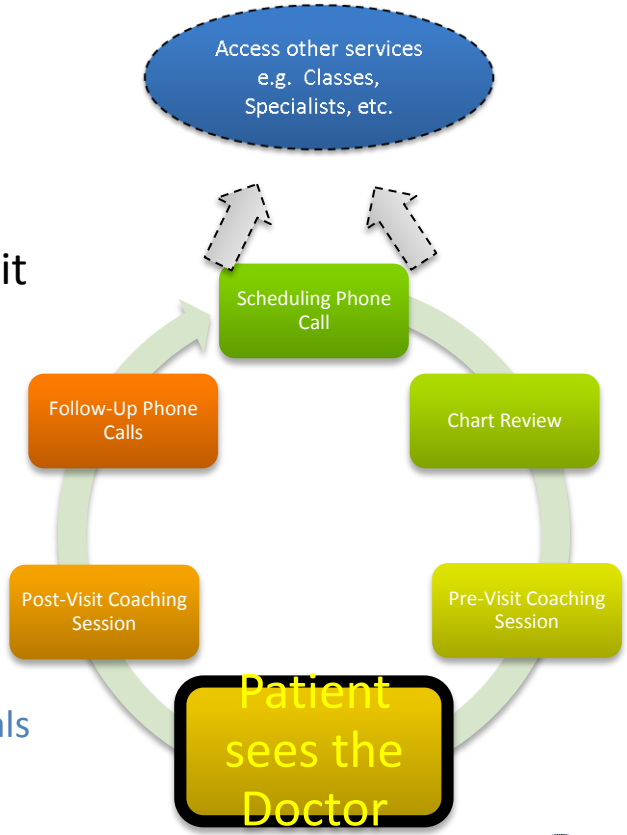
What is Coached Care?

- Work with patients
  - In person in the clinic
  - Over the telephone
  - Before and after the medical visit
- Make the most of the medical visit
  - Set & understand “targets”
  - Know their “status”
  - Identify & prioritize barriers
  - Bring “good” questions for the doctor into the medical visit
- Develop self-management skills for their chronic disease
  - Turn the answers to those questions into specific concrete goals
  - Follow through to accomplish those concrete goals



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Readmissions Reduction Project

Heart Failure-Palliative Program

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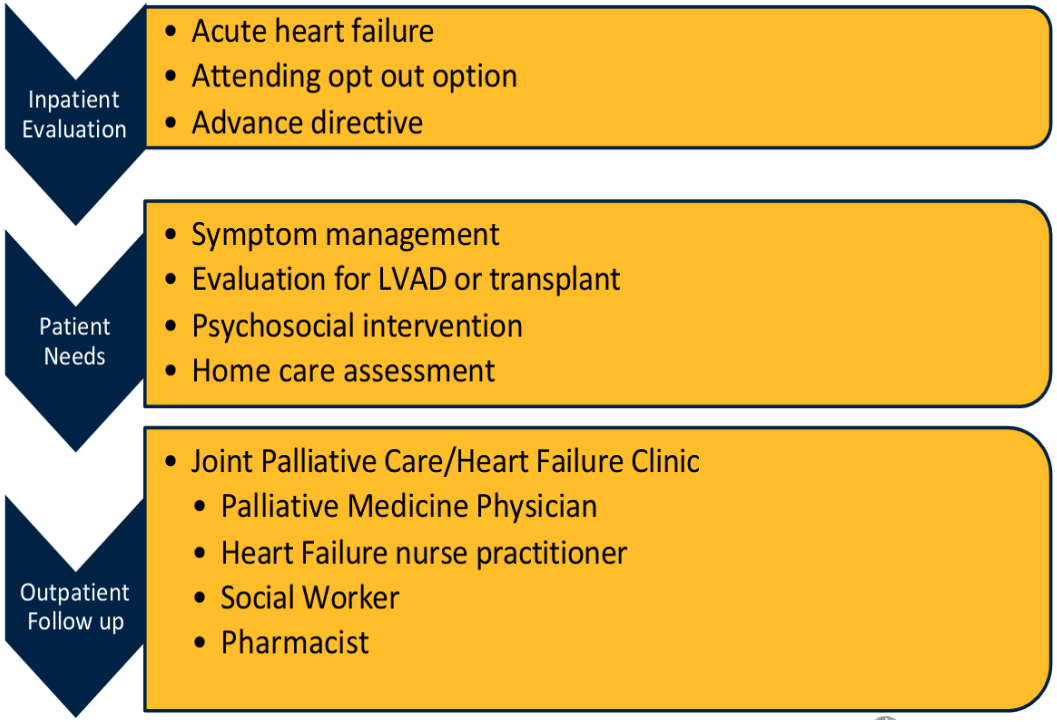
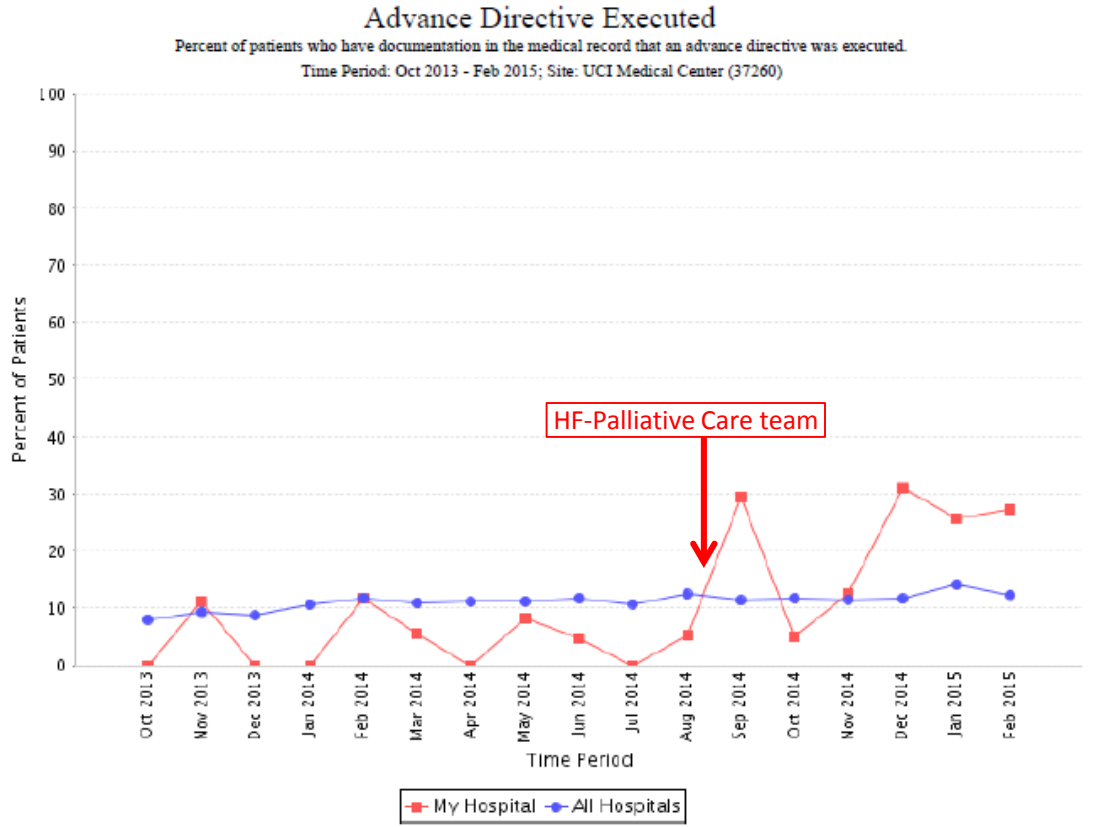
Heart Failure Palliative Care Program
Evaluation Process



HF Inpatient measures
AHA-GWTG & TJC HF DSC



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Readmissions Reduction Project

New tool-Heart Failure-ST2

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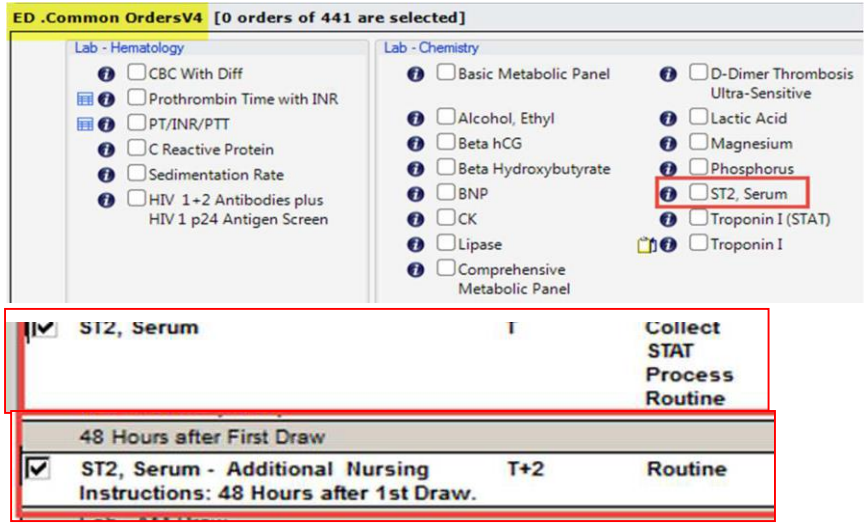
ST2
2013 ACCF/AHA Guideline for the Management of HF

As a biomarker of myocardial fibrosis, soluble ST2 is not only predictive of hospitalization and death in patients with HF but also additive to natriuretic peptide levels in their prognostic value. Strategies that combine multiple biomarkers may ultimately prove beneficial in guiding HF therapy in the future.

Biomarker : “ST2, Serum”

- Now available at UCI
  - Low risk ≤ 35 ng/ml
  - High risk > 35 ng/ml

- In order sets:
  - Stand-alone
  - ED Common
  - HF Admit
  - Afib Admit
  - AMI Admit
  - CCU Admit



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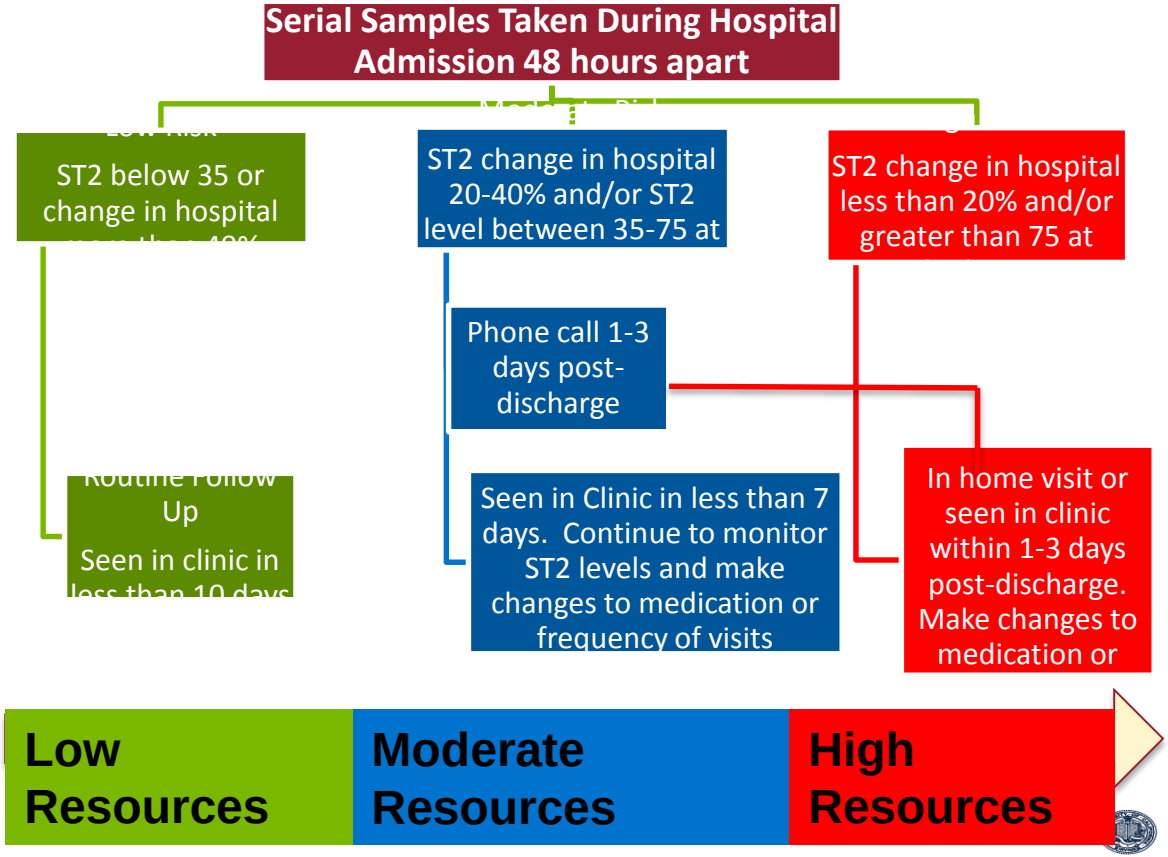
How is it being implemented here?

- For Acute HF admission:
  - ST2 on admission
  - and 48 hours after 1st draw

- Management in the out-patient clinic
  - Baseline ST2
  - If <35 repeat with acute HF symptom
  - If <35 repeat within 6-12 months
  - If >= 35 Repeat 2-3 weeks after change in QDMT

ST2 Could Drive Resource Allocation



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PA Pressure monitoring (CardioMEMs)

UC Irvine Health first in Orange County to use remote heart failure monitoring system

Implanted CardioMEMS sensor helps reduce heart failure-related hospital readmissions

February 10, 2015

UC Irvine Health is the first medical center in Orange County to offer heart failure patients a wireless system that allows cardiologists to remotely monitor their pulmonary artery pressure and heart rate measurements.

Dr. Pranav Patel, UC Irvine Health

Real-time access to this data enables doctors to proactively manage a patient's condition, helping to reduce the rate of hospital readmission related to heart failure, the leading cause of hospitalization among adults 65 and older in the U.S., according to the American College of Cardiologists.

Heart failure refers to the progressive weakening of the heart muscle until it no longer pumps enough blood to meet the body's needs. Advances in treatment allow more patients to survive hospitalization for heart failure, but more than 50 percent of them experience a new onset of symptoms and end up being readmitted within six months. Cardiologists hope the CardioMEMS Heart Failure System will help break this cycle.

Dr. Pranav Patel, chief of the UC Irvine Health Division of Cardiology, implanted the sensor in an 84-year-old male patient on Feb. 6.

"This technology will help change the way we manage heart failure patients," said Patel. "Once the patient returns home, they must pay careful attention to changes in weight, ankle or abdominal swelling and shortness of breath. CardioMEMS monitors their heart rate and artery pressure daily, and transmits that information to a secure database at the hospital or clinic for review by a physician or a nurse. We can identify early warning signals before the patient

http://www.ucirvinehealth.org/news/2015/02/first-to-use-remote-heart-failure-monitoring

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UC Irvine Health Readmission Interventions
Future Intervention

- Lacier LACE score with Dx algorithm and age
- Standardized approach (cross-training)
- Enhance PM discharge huddles
- Increase collaboration of multidisciplinary team
- Improve discharge instructions for social aspects
- Increase referrals to medication safety clinics
- Increase use of novel approach (PA pressure monitoring & ST2)
- Expand on ED Transitions of Care
  - CM and SW screening in ED
- **Creation of a inpatient transition of care team**
- **Opening of a transition of Care Clinic**

THANK YOU

UC Irvine Health

Reducing Heart Failure Readmissions

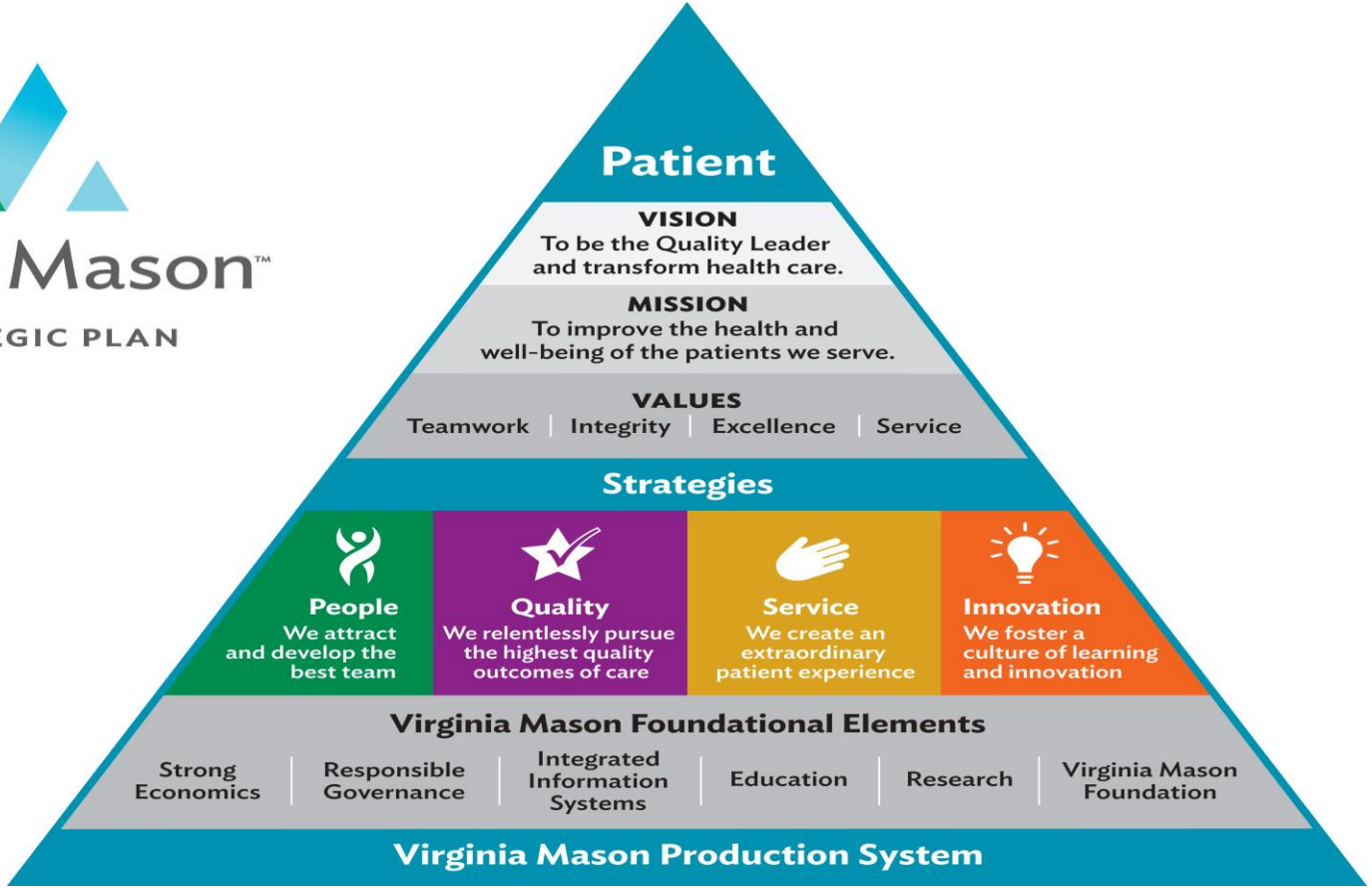
Preparing for the Patient's Discharge from the Hospital

Drew Baldwin, MD
Kavita Malling, MHA

June 4, 2015

Virginia Mason™

OUR STRATEGIC PLAN



Patient Story

Today's Presentation Covers:

1. Measuring & Improving Processes

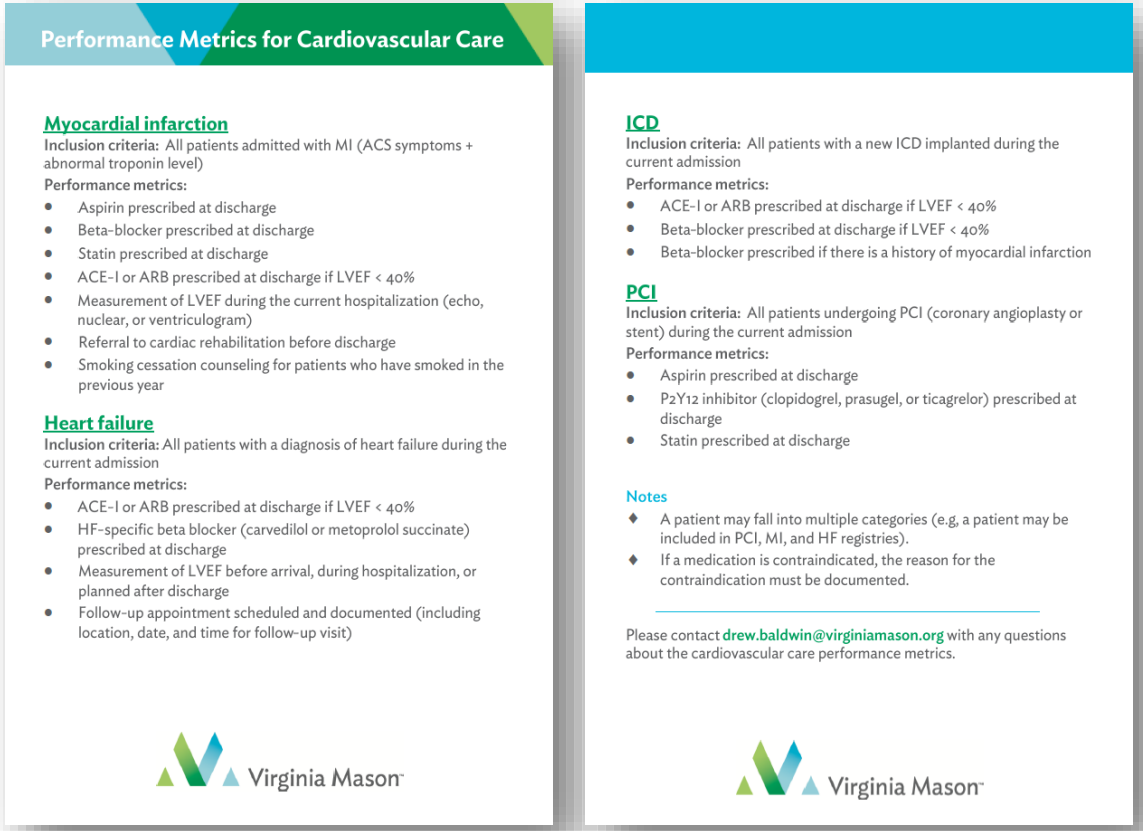
2. Focusing on One Metric

3. Patient Engagement Tools

Measuring & Improving Processes

Data, Tools, and Communication

Double-sided Pocket Cards for Hospitalists & Residents



Performance Metrics for Cardiovascular Care

Myocardial infarction

Inclusion criteria: All patients admitted with MI (ACS symptoms + abnormal troponin level)

Performance metrics:

- Aspirin prescribed at discharge
- Beta-blocker prescribed at discharge
- Statin prescribed at discharge
- ACE-I or ARB prescribed at discharge if LVEF < 40%
- Measurement of LVEF during the current hospitalization (echo, nuclear, or ventriculogram)
- Referral to cardiac rehabilitation before discharge
- Smoking cessation counseling for patients who have smoked in the previous year

Heart failure

Inclusion criteria: All patients with a diagnosis of heart failure during the current admission

Performance metrics:

- ACE-I or ARB prescribed at discharge if LVEF < 40%
- HF-specific beta blocker (carvedilol or metoprolol succinate) prescribed at discharge
- Measurement of LVEF before arrival, during hospitalization, or planned after discharge
- Follow-up appointment scheduled and documented (including location, date, and time for follow-up visit)

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ICD

Inclusion criteria: All patients with a new ICD implanted during the current admission

Performance metrics:

- ACE-I or ARB prescribed at discharge if LVEF < 40%
- Beta-blocker prescribed at discharge if LVEF < 40%
- Beta-blocker prescribed if there is a history of myocardial infarction

PCI

Inclusion criteria: All patients undergoing PCI (coronary angioplasty or stent) during the current admission

Performance metrics:

- Aspirin prescribed at discharge
- P2Y12 inhibitor (clopidogrel, prasugel, or ticagrelor) prescribed at discharge
- Statin prescribed at discharge

Notes

- A patient may fall into multiple categories (e.g, a patient may be included in PCI, MI, and HF registries).
- If a medication is contraindicated, the reason for the contraindication must be documented.

Please contact drew.baldwin@virginiamason.org with any questions about the cardiovascular care performance metrics.

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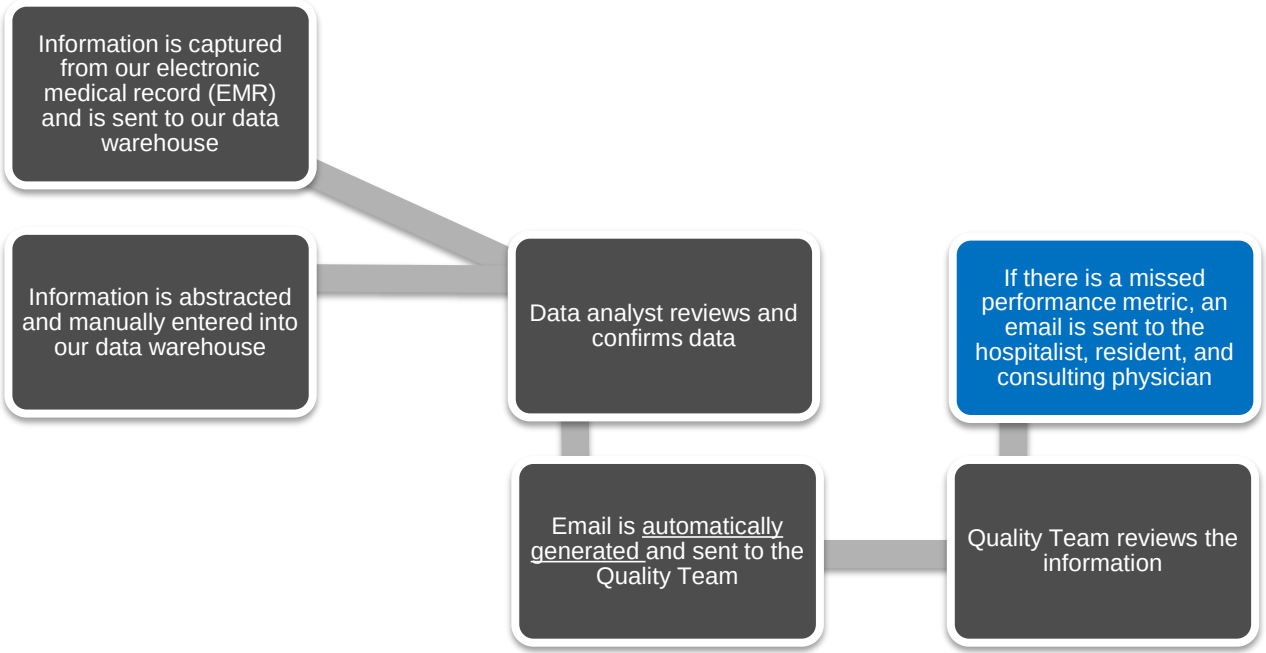
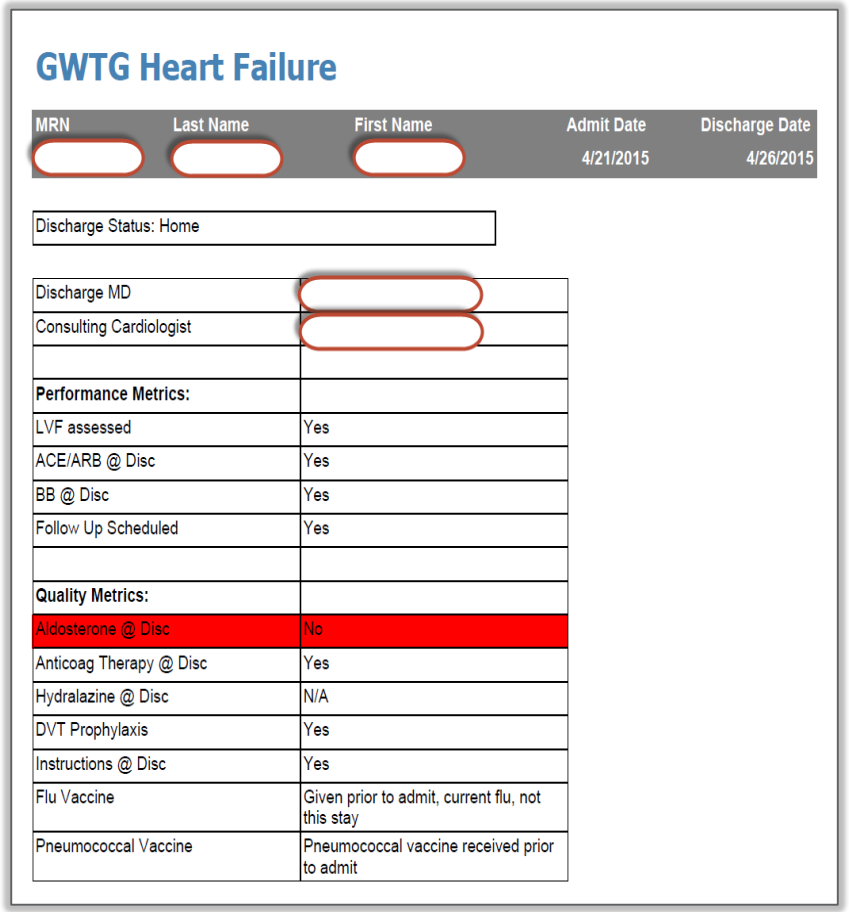
Front *Back*

Process for Giving Direct Feedback to Hospitalists



Automated Report Sent to Quality Team



GWTG Heart Failure

MRN	Last Name	First Name	Admit Date	Discharge Date
			4/21/2015	4/26/2015

Discharge Status: Home

Discharge MD	
Consulting Cardiologist	
Performance Metrics:	
LVF assessed	Yes
ACE/ARB @ Disc	Yes
BB @ Disc	Yes
Follow Up Scheduled	Yes
Quality Metrics:	
Aldosterone @ Disc	No
Anticoag Therapy @ Disc	Yes
Hydralazine @ Disc	N/A
DVT Prophylaxis	Yes
Instructions @ Disc	Yes
Flu Vaccine	Given prior to admit, current flu, not this stay
Pneumococcal Vaccine	Pneumococcal vaccine received prior to admit

Sharing the Data

Trends are shared at monthly meetings in the Heart Institute.

Heart failure metrics	Feb 2015	YTD 2015	90th percentile
# Total cases	37	80	N/a
PROCESS METRICS			
ACE-I/ARB at discharge for LVEF < 40%	100.0%	100.0%	100.0%
HF-specific beta-blocker at discharge for LVEF < 40%	100.0%	100.0%	100.0%
LVEF measurement or documented as planned	100.0%	100.0%	100.0%
Follow-up appointment scheduled (date, time, location documented)	68.2%	63.8%	100.0%
Discharge instructions provided	100.0%	100.0%	100.0%
OUTCOME METRICS			
30-day mortality	8.1%	10.0%	N/a
30-day readmissions	13.5%	16.3%	N/a

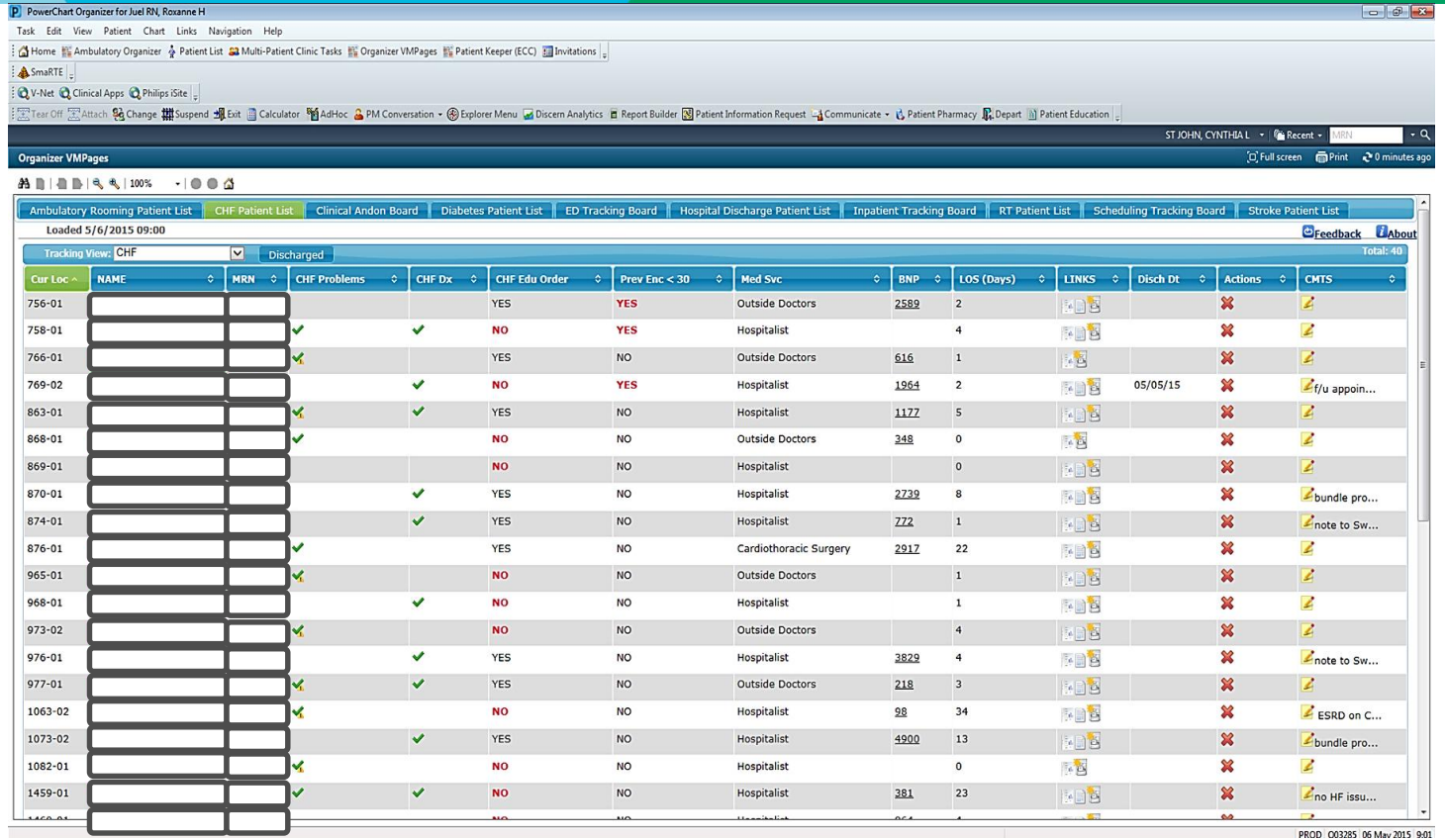
Focusing on One Metric:

Scheduling the Follow-Up Clinic Visit Before Discharge

Post-Discharge Appointment for Heart Failure Patients

Percentage of eligible heart failure patients for whom a follow-up appointment was scheduled and documented including location, date, and time for follow-up visits or location and date for home health visit.

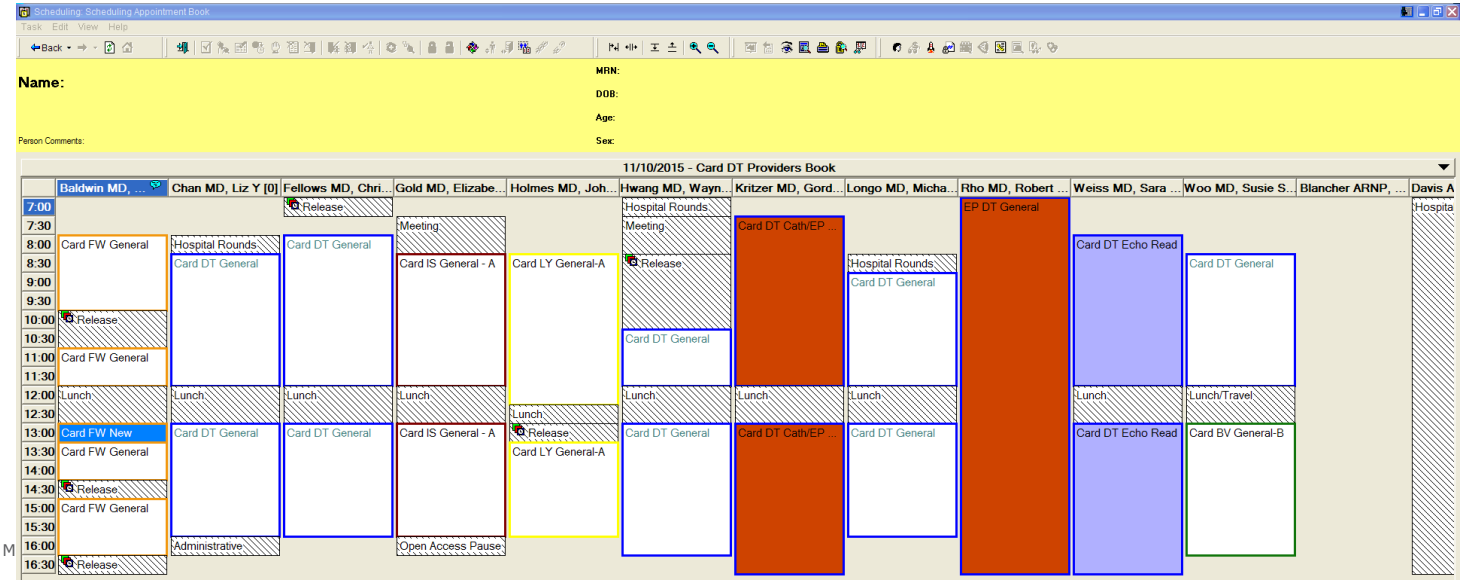
Heart Failure Tracking



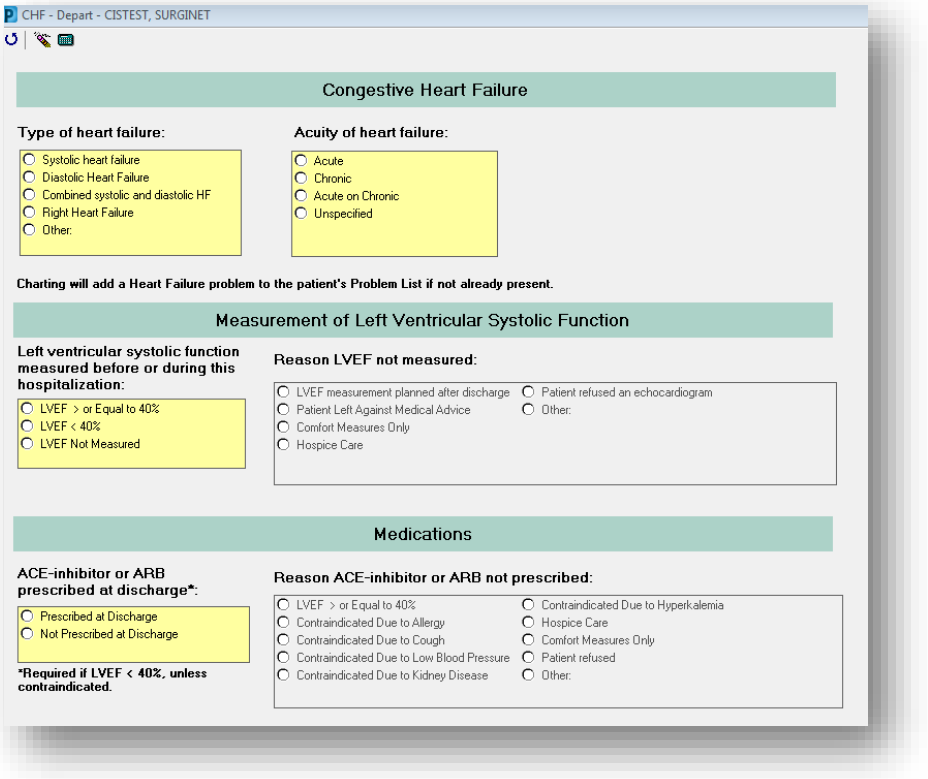
Open Access Scheduling

Key features:

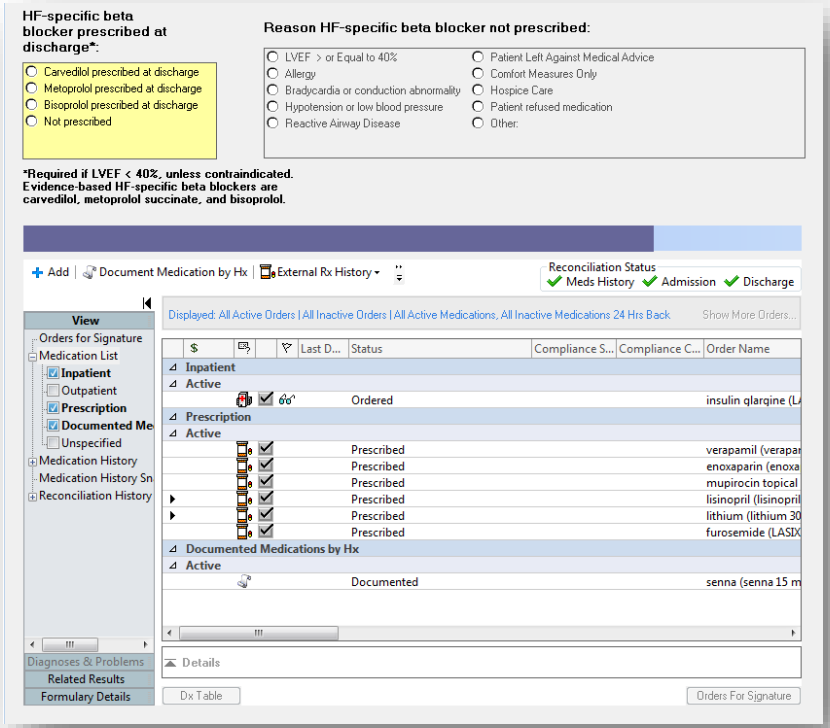
- Goal of open schedules is to allow for maximum flexibility
- No holds blocking the schedule
- Duration of appointment types standardized, across providers
- Simplified scheduling process allowing the software to easily



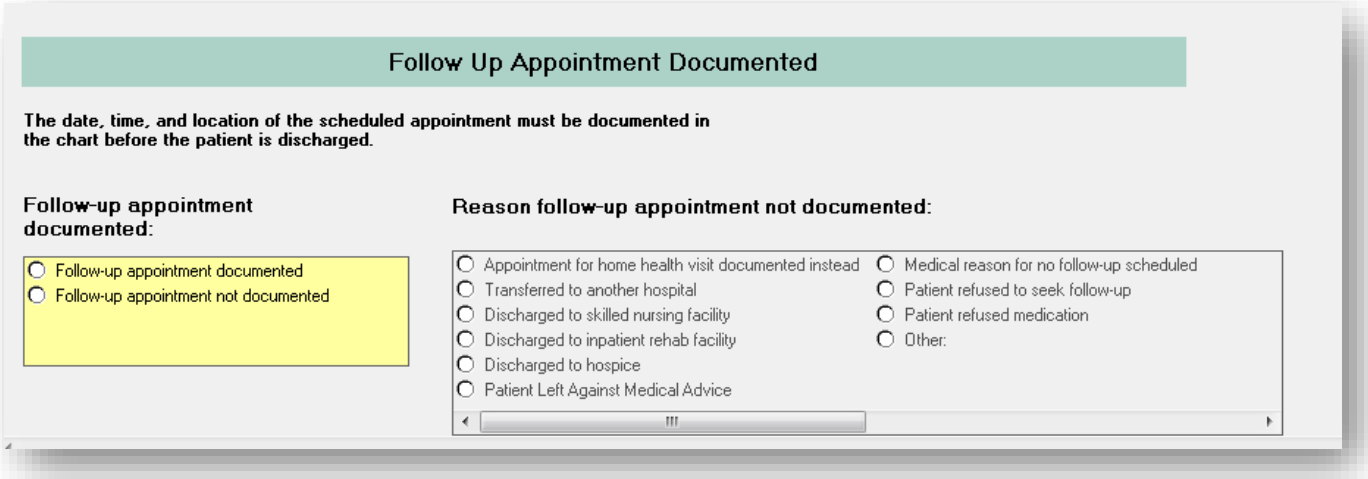
Educating and Getting Physicians Involved
PART 1



Educating and Getting Physicians Involved
PART 2

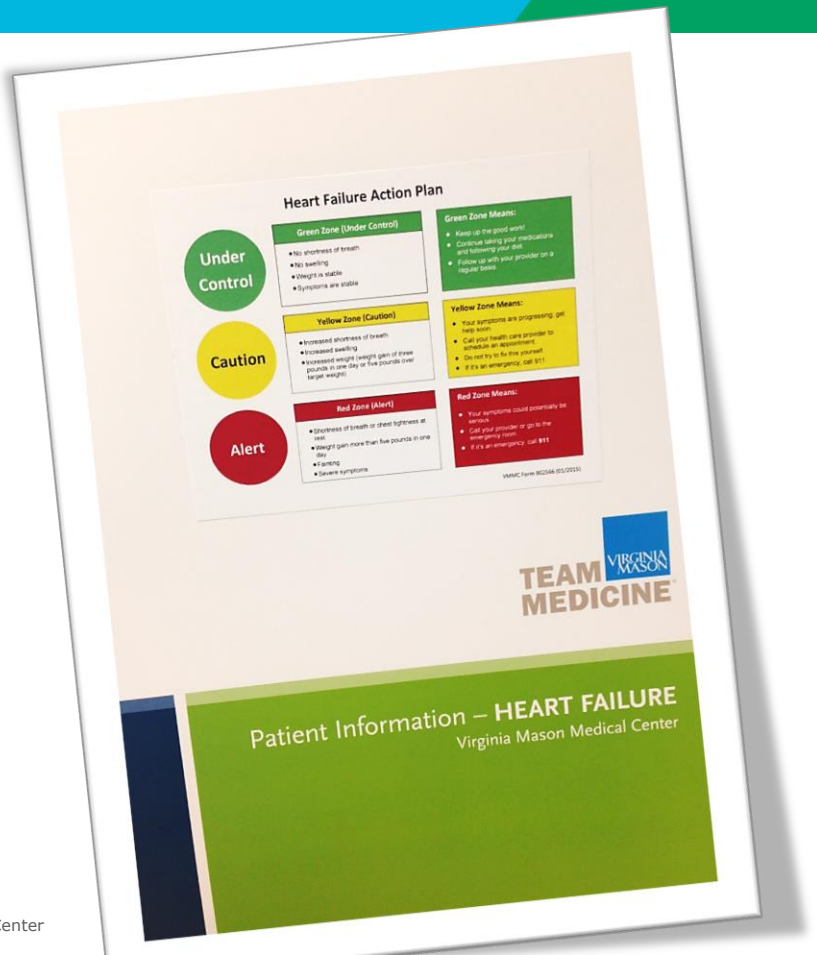


Educating and Getting Physicians Involved
PART 3



Patient Engagement Tools

New Heart Failure Patient Packet



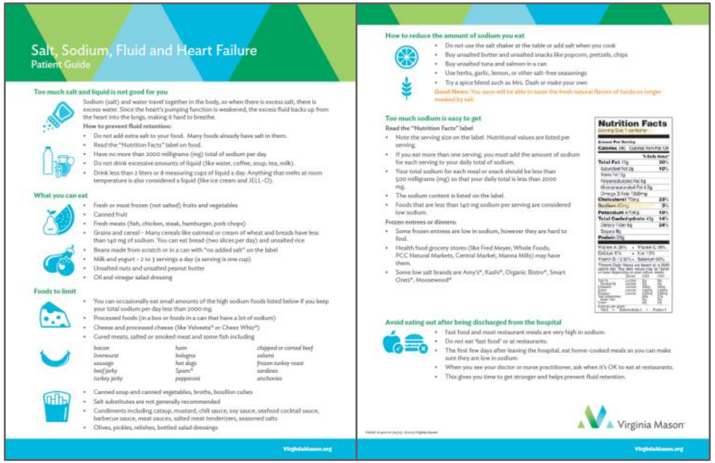
The Heart Failure Patient Education Packet was recently revised because we needed:

More focused language on individual patient needs

Simple and informative visuals

Tools that guide conversation and provide teach-back opportunities

Packets that could be used in the inpatient and outpatient settings



Salt, Sodium, Fluid and Heart Failure
Patient Guide

Too much salt and liquid is not good for you

Sodium (salt) and water travel together in the body, so when there is excess salt, there is excess water. Since the heart's pumping function is weakened, the excess fluid backs up from the heart into the lungs, making it hard to breathe.

How to prevent fluid retention:
- Do not add extra salt to your food. Many foods already have salt in them.
- Read the "Nutrition Facts" label on food.
- Have no more than 2000 milligrams (mg) total of sodium per day.
- Do not drink excessive amounts of liquid (like water, coffee, soup, tea, milk).
- Drink less than 2 liters or 8 measuring cups of liquid a day. Anything that melts at room temperature is also considered a liquid (like ice cream and JELL-O).

What you can eat
- Fresh or most frozen (not salted) fruits and vegetables
- Canned fruit
- Fresh meats (fish, chicken, steak, hamburger, pork chops)
- Grains and cereal – Many cereals like oatmeal or cream of wheat and breads have less than 140 mg of sodium. You can eat bread (two slices per day) and unsalted rice
- Beans made from scratch or in a can with "no added salt" on the label
- Milk and yogurt – 2 to 3 servings a day (a serving is one cup)
- Unsalted nuts and unsalted peanut butter
- Oil and vinegar salad dressing

Foods to limit
- You can occasionally eat small amounts of the high sodium foods listed below if you keep your total sodium per day less than 2000 mg.
- Processed foods (in a box or foods in a can that have a lot of sodium)
- Cheese and processed cheese (like Velveeta® or Cheez Whiz®)
- Cured meats, salted or smoked meat and some fish including

bacon	*ham*	*chipped or corned beef*
liverwurst	*bologna*	*salami*
sausage	*hot dogs*	*frozen turkey roast*
beef jerky	*Spam®*	*sardines*
turkey jerky	*pepperoni*	*anchovies*

- Canned soup and canned vegetables, broths, bouillon cubes
- Salt substitutes are not generally recommended
- Condiments including catsup, mustard, chili sauce, soy sauce, seafood cocktail sauce, barbecue sauce, meat sauces, salted meat tenderizers, seasoned salts
- Olives, pickles, relishes, bottled salad dressings

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How to reduce the amount of sodium you eat
- Do not use the salt shaker at the table or add salt when you cook
- Buy unsalted butter and unsalted snacks like popcorn, pretzels, chips
- Buy unsalted tuna and salmon in a can
- Use herbs, garlic, lemon, or other salt-free seasonings
- Try a spice blend such as Mrs. Dash or make your own

Good News: You soon will be able to taste the fresh natural flavors of foods no longer masked by salt.

Too much sodium is easy to get

Read the "Nutrition Facts" label
- Note the serving size on the label. Nutritional values are listed per serving.
- If you eat more than one serving, you must add the amount of sodium for each serving to your daily total of sodium.
- Your total sodium for each meal or snack should be less than 500 milligrams (mg) so that your daily total is less than 2000 mg.
- The sodium content is listed on the label.
- Foods that are less than 140 mg sodium per serving are considered low sodium.

Frozen entrees or dinners:
- Some frozen entrees are low in sodium, however they are hard to find.
- Health food grocery stores (like Fred Meyer, Whole Foods, PCC Natural Markets, Central Market, Manna Mills) may have them.
- Some low salt brands are Amy's®, Kashi®, Organic Bistro®, Smart Ones®, Moosewood®

Nutrition Facts

Avoid eating out after being discharged from the hospital
- Fast food and most restaurant meals are very high in sodium.
- Do not eat 'fast food' or at restaurants.
- The first few days after leaving the hospital, eat home-cooked meals so you can make sure they are low in sodium.
- When you see your doctor or nurse practitioner, ask when it's OK to eat at restaurants.
- This gives you time to get stronger and helps prevent fluid retention.

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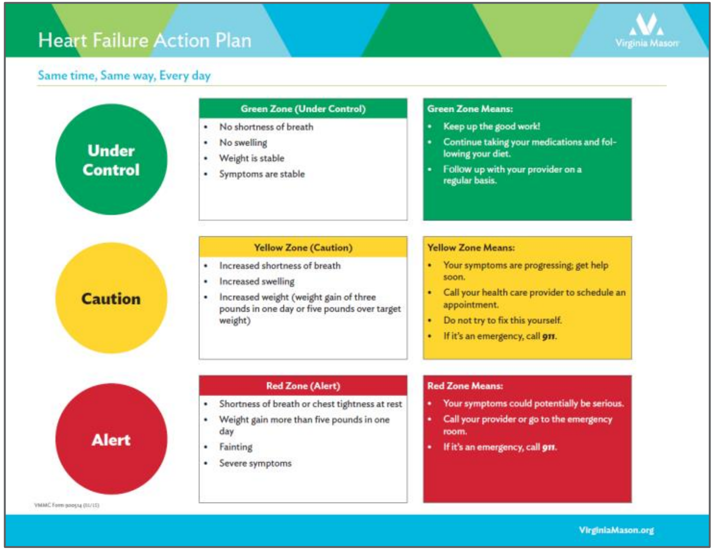

Heart Failure Action Plan

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Same time, Same way, Every day

Under Control	**Green Zone (Under Control)** • No shortness of breath • No swelling • Weight is stable • Symptoms are stable	**Green Zone Means:** • Keep up the good work! • Continue taking your medications and following your diet. • Follow up with your provider on a regular basis.
Caution	**Yellow Zone (Caution)** • Increased shortness of breath • Increased swelling • Increased weight (weight gain of three pounds in one day or five pounds over target weight)	**Yellow Zone Means:** • Your symptoms are progressing; get help soon. • Call your health care provider to schedule an appointment. • Do not try to fix this yourself. • If it's an emergency, call 911.
Alert	**Red Zone (Alert)** • Shortness of breath or chest tightness at rest • Weight gain more than five pounds in one day • Fainting • Severe symptoms	**Red Zone Means:** • Your symptoms could potentially be serious. • Call your provider or go to the emergency room. • If it's an emergency, call 911.

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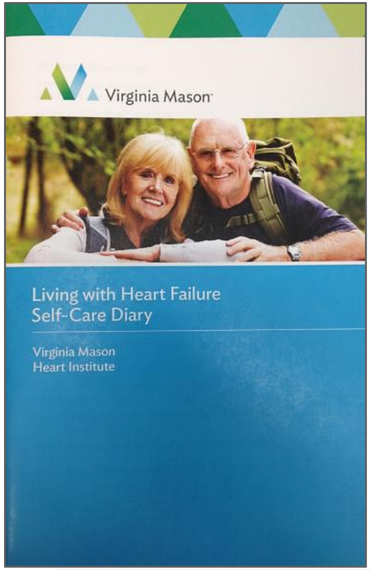

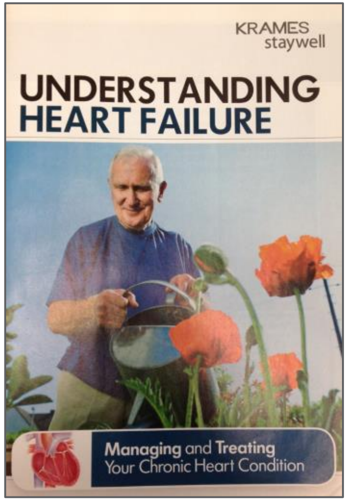

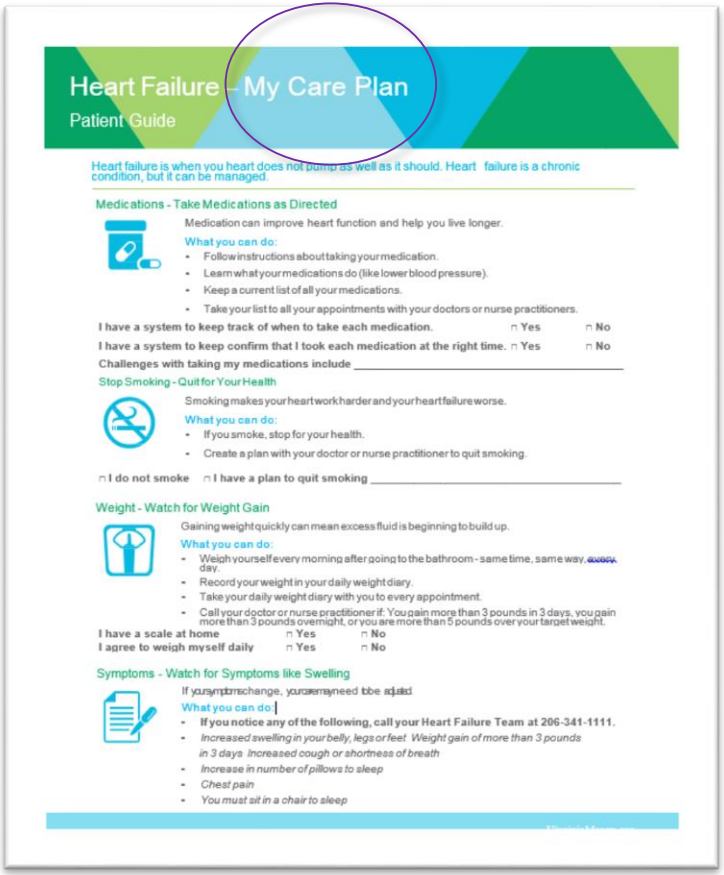

Heart Failure – My Care Plan

Patient Guide

Heart failure is when you heart does not pump as well as it should. Heart failure is a chronic condition, but it can be managed.

Medications - Take Medications as Directed

Medication can improve heart function and help you live longer.

What you can do:

- Follow instructions about taking your medication.
- Learn what your medications do (like lower blood pressure).
- Keep a current list of all your medications.
- Take your list to all your appointments with your doctors or nurse practitioners.

I have a system to keep track of when to take each medication. ☐ Yes ☐ No

I have a system to keep confirm that I took each medication at the right time. ☐ Yes ☐ No

Challenges with taking my medications include _____

Stop Smoking - Quit for Your Health

Smoking makes your heart work harder and your heart failure worse.

What you can do:

- If you smoke, stop for your health.
- Create a plan with your doctor or nurse practitioner to quit smoking.

☐ **I do not smoke** ☐ **I have a plan to quit smoking** _____

Weight - Watch for Weight Gain

Gaining weight quickly can mean excess fluid is beginning to build up.

What you can do:

- Weigh yourself every morning after going to the bathroom - same time, same way, ~~every~~ day.
- Record your weight in your daily weight diary.
- Take your daily weight diary with you to every appointment.
- Call your doctor or nurse practitioner if: You gain more than 3 pounds in 3 days, you gain more than 3 pounds overnight, or you are more than 5 pounds over your target weight.

I have a scale at home ☐ Yes ☐ No

I agree to weigh myself daily ☐ Yes ☐ No

Symptoms - Watch for Symptoms like Swelling

If your symptoms change, your care may need to be adjusted.

What you can do:

- **If you notice any of the following, call your Heart Failure Team at 206-341-1111.**
- *Increased swelling in your belly, legs or feet Weight gain of more than 3 pounds in 3 days Increased cough or shortness of breath*
- *Increase in number of pillows to sleep*
- *Chest pain*
- *You must sit in a chair to sleep*

Diet - Limit Foods High in Salt and Liquids

Sodium (salt) and water travel together in the body, so when there is excess salt, there is excess water. Since the heart's pumping function is weakened, the excess fluid backs up from the heart into the lungs, making it hard to breathe.

What you can do:

- Do not add extra salt to your food. Many foods already have salt in them.
- Read the "Nutrition Facts" label on food.
- Have no more than 2000 milligrams (mg) total of sodium per day.
- Do not drink excessive amounts of liquid (like water, coffee, soup, tea, milk).
- Drink less than 2 liters or 8 measuring cups of liquid a day. Anything that melts at room temperature is also considered a liquid (like ice cream and JELL-O).

I can lower my sodium by _____

Activity - Stay Active and Pace Yourself

The heart is like any other muscle. It needs exercise to stay healthy.

What you can do:

- Stay active. It is important.
- Pace yourself.
- Avoid becoming exhausted.
- Stop and rest during activities if you feel tired or short of breath.
- Discuss activity and exercise with your doctor or nurse practitioner.

A good exercise for me is _____

Get Help - Immediately Call 911 or Your Doctor or Nurse Practitioner

Some symptoms are very serious and require immediate medical attention.

What you can do:

- Immediately call 911, your doctor or nurse practitioner if you experience any of the following:

Shortness of breath unrelieved with rest Wheezing or chest tightness at rest

Unrelieved chest pain Fainting

If I am in the red zone I will _____

Follow Up Appointment - Partner with Your Care Team

What you can do:

- Make sure you have an appointment with your provider taking care of your heart.
- See them within 4 days of leaving the hospital.
- Make a list of questions you have and take it to your appointment.

My next appointment is on _____ **at** _____ **AM/PM**

With _____

Your condition is manageable and you have a very important role.

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Front *Back*

Focusing on the Patient's Progress

Concentrated teaching on making sure the patient:

- Weighs him or herself
- Understands a low sodium diet
- Continues medications, even if he or she is feeling better

CHF Patient Discharge Resource List

-and-

"CHF pick and pull education station"

Does your patient need a scale? Order on Cerner "sup scale"

Does your patient need a Mediset for medications? Vocera "concierge cart" note: this is not yet available. Coming soon☺

CHF education on-demand video: prior to discharge, all CHF patients and/or family should watch the on-demand CHF video #309. *Coming soon: set time/channel each day when video will be played!*

Education Station Contents:

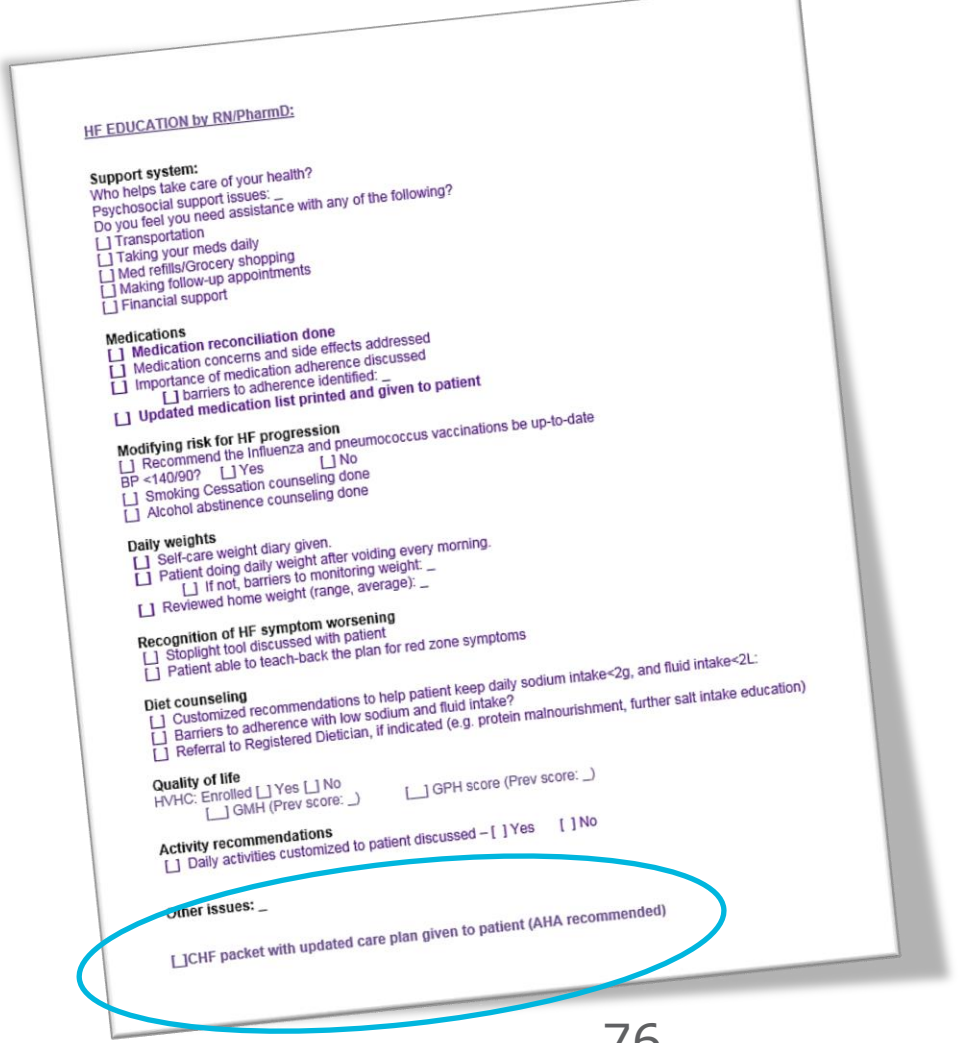
1. Individual eating habits dietary instructions:
   a. Meal planning (those who shop/cook @home)
   b. Low(er) Sodium options for common fast food
   c. Low sodium options for Frozen Dinners
   d. Low sodium soups
2. General information Low Sodium diet handout
3. Sticker for Medication List "do not stop taking meds even if you feel better"
4. Sticker for Discharge Instructions "salt and water are friends and attract each other like magnets"

Plan-Do-Study-Act

PDSA Process Improvement

Testing documentation for the medical chart, with nurses, social workers, and other team members.

Key Learning: **We need nurse-led rounding** to identify heart failure patients before discharge, and to help schedule follow-up appointments.



HF EDUCATION by RN/PharmD:

Support system:
Who helps take care of your health?
Psychosocial support issues: _
Do you feel you need assistance with any of the following?
[ ] Transportation
[ ] Taking your meds daily
[ ] Med refills/Grocery shopping
[ ] Making follow-up appointments
[ ] Financial support

Medications
[ ] **Medication reconciliation done**
[ ] Medication concerns and side effects addressed
[ ] Importance of medication adherence discussed
[ ] barriers to adherence identified: _
[ ] **Updated medication list printed and given to patient**

Modifying risk for HF progression
[ ] Recommend the Influenza and pneumococcus vaccinations be up-to-date
BP <140/90? [ ] Yes [ ] No
[ ] Smoking Cessation counseling done
[ ] Alcohol abstinence counseling done

Daily weights
[ ] Self-care weight diary given.
[ ] Patient doing daily weight after voiding every morning.
[ ] If not, barriers to monitoring weight: _
[ ] Reviewed home weight (range, average): _

Recognition of HF symptom worsening
[ ] Stoplight tool discussed with patient
[ ] Patient able to teach-back the plan for red zone symptoms

Diet counseling
[ ] Customized recommendations to help patient keep daily sodium intake<2g, and fluid intake<2L:
[ ] Barriers to adherence with low sodium and fluid intake?
[ ] Referral to Registered Dietician, if indicated (e.g. protein malnourishment, further salt intake education)

Quality of life
HVHC: Enrolled [ ] Yes [ ] No [ ] GPH score (Prev score: _)
[ ] GMH (Prev score: _)

Activity recommendations
[ ] Daily activities customized to patient discussed – [ ] Yes [ ] No

Other issues: _

[ ]CHF packet with updated care plan given to patient (AHA recommended)

Improving What We Know About the Patient

Ambulatory Summary MPage

Patient Information

Chief Complaint:	No results found
Reason For Visit:	No results found
Primary Physician:	No results found
Attending Physician:	Aaronson MD, Barry A
Referring Physician:	No results found
Service:	Hospitalist
Admit Date:	03/25/15
Advance Directive:	Yes
Last Visit:	No results found
Do have a preferred name that we should use:	Jeff
What type of living situation are you currently in:	I live at home
Who is your primary caregiver:	My wife
Best way to reach me is:	Home phone number
Are there any barriers to receiving care:	My wife and I do not drive
"Know Me" Notes 8/16/2014 12:41 Auth (Verified)	

Virginia Mason™

Each Person.
Every Moment.
Better Never Stops.

Questions?

- We will only be taking text questions.
- Click the green “Q&A” icon on the lower left-hand corner of your screen, select “Ask,” type your question in the open area and click “Ask” again to submit.

More Questions about Get With The Guidelines?

- **Trainings and technical questions will be handled by Quintiles Real-World & Late Phase Research Help Desk**
  - **Contact Quintiles**
    - Call 888-526-6700
    - Email InfosarioOutcomeSupport@quintiles.com

- **Contact Quintiles or visit heart.org/QualityHF to find your local Get With The Guidelines representative.**