ECONOMICS OF HEART FAILURE READMISSIONS

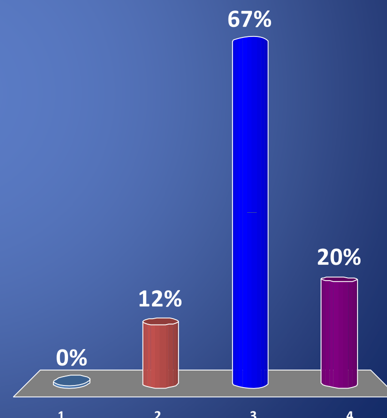
A CHANGING PARADIGM OR TIME FOR ACCOUNTABILITY

ALLINA CARDIOVASCULAR NURSING CONFERENCE 2011

AMIN RAHMATULLAH, MD FACC
DIRECTOR , HEART FAILURE PROGRAM
METROPOLITAN HEART AND VASCULAR INSTITUTE
MERCY and UNITY HEART CENTER

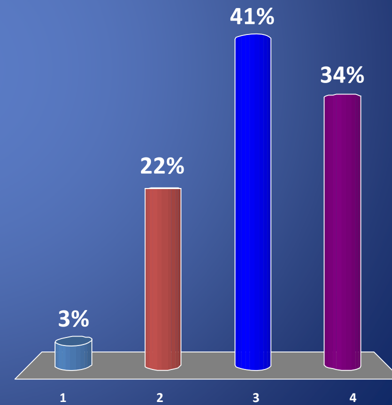
30 day readmission for heart failure hospitalization is:

1. ~4%
2. ~10%
3. ~25%
4. ~50%



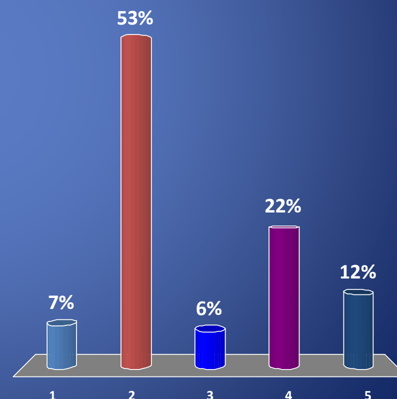
One year mortality following heart failure hospitalization is:

1. ~2%
2. ~10%
3. ~15%
4. >20%



Which of the following is not the main reason for frequent HF readmission?

1. Inadequate patient medical care
2. Financially lucrative for hospitals
3. Poor handoff
4. Failure in discharge planning
5. Progressive illness



ACUTE HEART FAILURE SYNDROME

•A complex clinical syndrome that results from structural or functional cardiac disorder.

•More than 5.7 million HF patients with > 550,000 annual cases.

•1 year mortality after first hospitalization is 10-20%

•Life time risk of developing HF is 20% persons age > 40 .

•3.4 million outpatient visits annually, > 10.5 million ER visits

•

•More than 1.2 million hospital discharges annually. (up 171%)

•

•Estimated direct and indirect annual cost of HF in 2007 was 33.2 billion, $ 37 billion in 2009

74 year old male with heart failure

•Admitted with congestion – EF 30%

•Diuresed with IV diuretics 11 lbs (ready to dc on Day 4)

•On day 4 doing well, weight down feeling better

•On day 4, creatinine up to 1.9 (baseline 1.4)

•Lasix held and patient asked to resume in 3 days

•Follow up with primary in 2 weeks.

•5 days after dc , patient calls up primary's office with a 5 lb weight gain and dyspnea. Leaves message with triage nurse.

•Calls back following day with more dyspnea

•Asked to go to ER – gets readmitted on day 7 post dc

HF READMISSION ECONOMICS

- 27% readmission in 30 days (Jencks et al, 2009)
- # 1 cause of readmission in the United States.
- $17.4 billion for unplanned readmissions in 2009
- 59% readmissions in 19 months (Reigel et al)
- Decreasing readmission would decrease cost = improved quality ???
- Improved survival following hospitalization has not resulted in decrease in readmissions.
- Only a third or less of readmissions due to HF
- Half of readmissions due to non cardiac causes
- Remaining (1/6) due to non HF cardiac causes
- Reimbursement today based on fee for service.

Why HF?

- It is common
- It is expensive (1/10 of Medicare patients use 1/3 of resources)
- High readmission rates that are not uniform across geographic regions suggesting this can be changed.
- It causes suffering and endangers our patients.
- Cross most boundaries of the care system
  - Inpatient
  - Outpatient
    - Specialty Care and Primary Care
    - Home Health Services
    - Palliative and Hospice Care
- Opportunity to test coordination of care

Predicting Hospitalizations

- Male gender
- Diabetes
- COPD
- Anemia
- Renal dysfunction
- Recent hospitalization

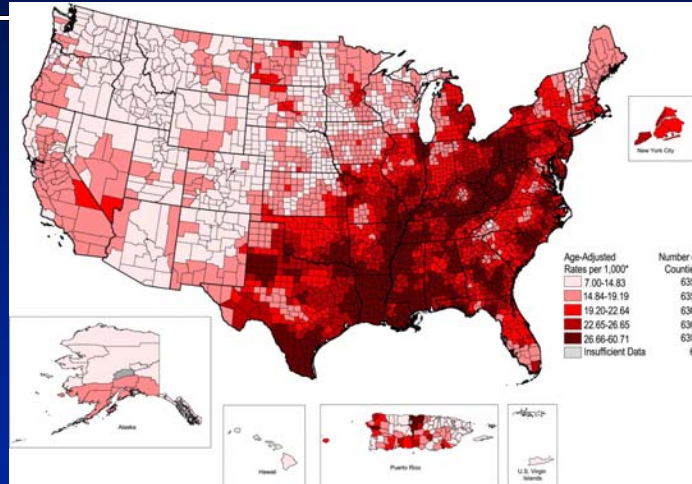
- Association between mortality and repeat hospitalization was attenuated by advanced age and renal dysfunction.
- Risk of hospitalization was similar in patients with and without systolic dysfunction.

Mortality after Hospitalizations.

- History of hospitalization, # of HF hospitalization and shorter time to readmission are predictors of mortality.
  - In patients with 1 hospitalization , 60% 1 year rate of readmit- 44% for CV reasons and 30% for HF.
  - In patients with 2 or more hospitalizations, 60% 1 year rate of readmit – 96% for CV reasons and 60% due to HF

- Hospitalization in patients with HF may serve as markers for disease progression

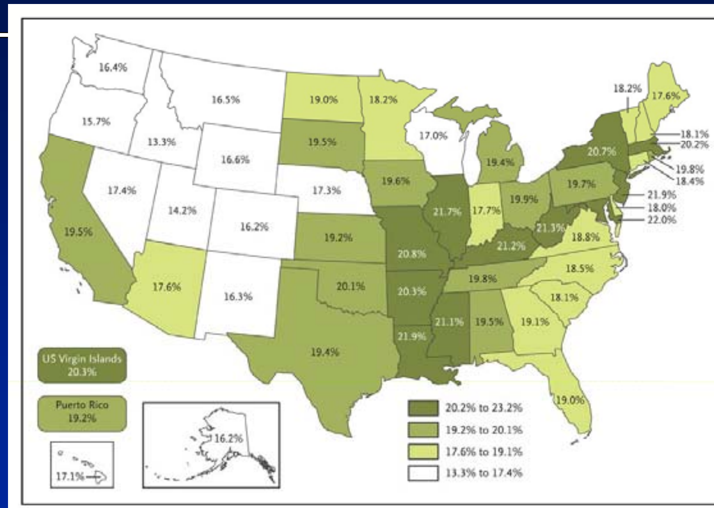
HF Hospitalization Rates Among Medicare Beneficiaries, Age >=65 Years, 2000-2006: Total Population



Casper, M. et al. J Am Coll Cardiol 2010;55:294-299

Copyright ©2010 American College of Cardiology Foundation. Restrictions may apply.

Rates of Rehospitalization within 30 Days after Hospital Discharge



Jencks SF et al. N Engl J Med 2009;360:1418-1428

HEART FAILURE READMISSIONS

REFORMS AND PAYMENT CHANGES.

- GREATER TRANSPARENCY
- RECOVERY AUDIT CONTRACTOR PROGRAM
- READMISSION PAYMENT POLICY
- BUNDLED PAYMENTS
- CHANGING CARE DELIVERY MODELS

STRATEGIES TO REDUCE HF READMISSIONS

- EFFECTIVE INPATIENT CARE
- PROPRER HAND OFF
- MULTIDISCIPLINARY FOLLOW UP
- PROPRER TRANSITION HOME/ HOME HEALTH
- REMOTE MONITORING/ CARE MANAGEMENT
- HEART FAILURE CLINICS.
- PALLIATIVE CARE

EXECUTING THE STRATEGIES

- PROGRAM SELF ASSESSMENT
- OPPORTUNITY IDENTIFICATION
- CREATION OF A COMPREHENSIVE PLAN
- CONTINUED SUPPORT

HEART FAILURE READMISSIONS

REFORMS AND PAYMENT CHANGES.

- GREATER TRANSPARENCY
- RECOVERY AUDIT CONTRACTOR PROGRAM
- READMISSION PAYMENT POLICY
- BUNDLED PAYMENTS
- CHANGING CARE DELIVERY MODELS

STRATEGIES TO REDUCE HF READMISSIONS

- EFFECTIVE INPATIENT CARE
- PROPRER HAND OFF
- MULTIDISCIPLINARY FOLLOW UP
- PROPRER TRANSITION HOME/ HOME HEALTH
- REMOTE MONITORING/ CARE MANAGEMENT
- HEART FAILURE CLINICS.
- PALLIATIVE CARE

EXECUTING THE STRATEGIES

- PROGRAM SELF ASSESSMENT
- OPPORTUNITY IDENTIFICATION
- CREATION OF A COMPREHENSIVE PLAN
- CONTINUED SUPPORT

WHERE DOES YOUR HOSPITAL STACK UP

- Greater transparency for better outcome, safety and effective care
- USA today
  - "Hospital check-ins may slow heart failure readmissions" May 10 2010
- http://www.usatoday.com/news/health/hospitals-graphic.htm?state=25&cond=2&mType=2
- www.qualitycheck.org
- www.hospitalcompare.gov
- Need to maintain current levels of reimbursement, grow volume and compete in market place ---- now must be differentiated on quality

RECOVERY AND AUDIT CONTRACTOR PROGRAMS

•Medicare to reduce improper payments due to medically unnecessary care, improper coding etc

•$700 million recovered in 2006-2009

•HF- the most claimed service for improper payments

•Fourth highest in terms in dollar amt collected.

HEALTH CARE REFORM IN RELATION TO HF

- Lower payments for readmissions/ lower overall payments to hospitals with high rates of readmissions.
- 20% of original admission payment withheld if readmitted within 7 days, 10% if readmitted in 15 days (Baucus 2009)
- Bundled payments- based on single episodes of care or time frame.
  - Incentives for cost savings
  - Incentives of shared savings

CHANGING CARE DELIVERY MODEL

•Accountable Care Organizations (ACO's)

- combination of providers that take responsibility for a defined population

-Are accountable for the overall costs and quality of care for the population

Incentivizes cost containment, shares in savings and focuses on quality improvement by encouraging care coordination between physicians and hospitals. (MedPAC 2008)

Patient Protection and Affordable Care Act (2010) directs CMS to create ACO by January 2012.

CHANGING CARE DELIVERY MODEL

- Medical Home Model.
  - PCP paid a monthly fee (in addition to Medicare fees) to provide medical home services
  - 2% of cost savings are shared.
  - Increasing access
  - Care management and coordination of f/up
  - Outpatient services.
  - Self management
  - Avoid duplication
  - Referral tracking
  - Performance reporting and EMR

HEART FAILURE READMISSIONS

REFORMS AND PAYMENT CHANGES.

- GREATER TRANSPARENCY
- RECOVERY AUDIT CONTRACTOR PROGRAM
- READMISSION PAYMENT POLICY
- BUNDLED PAYMENTS
- CHANGING CARE DELIVERY MODELS

STRATEGIES TO REDUCE HF READMISSIONS

- EFFECTIVE INPATIENT CARE
- PROPRER HAND OFF
- MULTIDISCIPLINARY FOLLOW UP
- PROPRER TRANSITION HOME/ HOME HEALTH
- REMOTE MONITORING/ CARE MANAGEMENT
- HEART FAILURE CLINICS.
- PALLIATIVE CARE

EXECUTING THE STRATEGIES

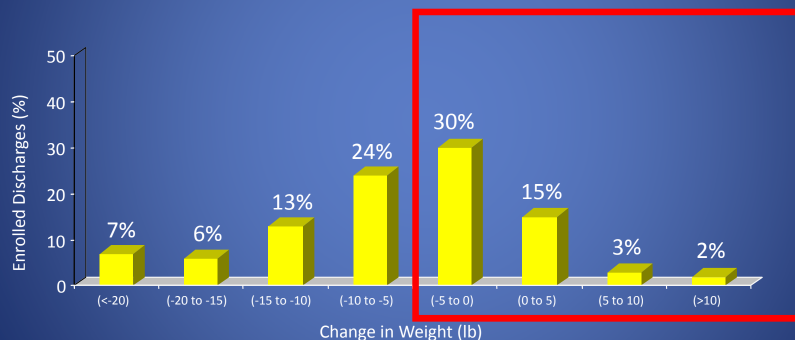
- PROGRAM SELF ASSESSMENT
- OPPORTUNITY IDENTIFICATION
- CREATION OF A COMPREHENSIVE PLAN
- CONTINUED SUPPORT

OUTCOMES OF PATIENTS WITH ADHF

- mean LOS 4.3 days, hospital mortality 3.2- 3.8 % (10 years ago LOS > 6 days and readmission rate ~17%)
- Mean weight loss 2.6 kg. 21% gained weight.
- 8.6 % died at 60 days
- 41.5% had HF symptoms at discharge
- 15.4 % patients continued to have rales.
- 27% had lower extremity edema.

Inadequate Diuresis During ADHF Treatment

All Enrolled Discharges in Over 12 Months (01.01.2003–12.31.2003)
Who Were Discharged Home (including home with additional and/or outpatient care)



Change in Weight From Admission to Discharge

Note: For the chart, n represents the number of patients who have both baseline and discharge weight, and the percentage is calculated based on the total patients in the corresponding population. Patients without baseline or discharge weight are omitted from the histogram calculations.

ADHERE® Database

EFFECTIVE INPATIENT CARE

- Guideline/ evidence- based care
- Review of etiology of HF- ischemia often ignored.
- Managed by the right physician/cardiologist
- Look for secondary causes eg meds, NSAIDS
- Consideration to anemia, thyroid and lung disorders
- Adequate diuresis prior to discharge.
- Decide on right time for discharge
- Adequate and comprehensive discharge plan/ summary

Readmissions

Jencks et al. NEJM April 4.2.2209

- Main reasons for readmissions
  - Inadequate in patient medical care
  - Failures in discharge planning and fragmentation of care.
    - Patient not ready for discharge/ "cookie cutter"education
    - Poor social support
    - Poor self management skills
  - Insufficient outpatient care and poor hand off
  - Inadequate community care
  - Progressive illness

Improving Care Across the Continuum:
Reducing HF Rehospitalization

Readmissions
Jencks et al. NEJM April 4.2.2209

Heart Failure

- No ambulatory visit within 30 days for 52% of those readmitted
- Discharge summary not required for 30 days (CMS)
- 41% of dc patient have tests pending that no physician has followed up
- Up to 25% charts have medication discrepancies at dc
- High proportion of patients discharged with anemia uncorrected, persistent pleural effusion and renal failure.

IDEAL DISCHARGE PLANNING

- **Enhanced admission assessment**
  - Identify post dc needs
  - Admission med reconciliation
- **Enhanced teaching and learning**
  - Identify key stakeholders
  - Customize education
  - Multiple media- written, verbal, visual, charts, color etc
  - Daily reinforcements and teach back
- **Patient centered "hand-off" communication**
  - Dc **summary and PCP communication**
  - **Involve family in dc planning**
  - **Medication reconciliation**
- **Post acute care follow up**
  - **3-5 day follow up**

The Red Yellow Green Tool

HEART FAILURE ZONES

EVERY DAY

Weigh yourself on your scale when you return home from the hospital.
Your weight: ________ pounds.

EVERY DAY:
- Weigh yourself in the morning before breakfast, write it down and compare it to yesterday's weight.
- Take your medicine as prescribed.
- Check for swelling in your feet, ankles, legs and stomach.
- Eat low-salt food.
- Balance activity and rest periods.

Which Heart Failure Zone are you today? GREEN, YELLOW or RED?

GREEN ZONE

ALL CLEAR – This zone is your goal
Your symptoms are under control. You have:
- no shortness of breath
- no weight gain of more than 2 pounds in one day (it may change 1 or 2 pounds some days)
- no swelling of your feet, ankles, legs or stomach
- no chest pain.

YELLOW ZONE

CAUTION – This zone is a warning
Call your doctor's office if you have any of the following:
- ❒ weight gain of 3 pounds in one day or a weight gain of 5 pounds or more in one week
- ❒ more shortness of breath than usual
- ❒ more swelling of your feet, ankles, legs, or stomach than usual
- ❒ feeling more tired than usual (no energy)
- ❒ a dry, hacking cough
- ❒ feeling dizzy
- ❒ feeling uneasy: you know something is not right
- ❒ harder to breathe when lying down (need to sleep sitting in a chair).

RED ZONE

EMERGENCY
Go to the emergency room or call 911 if you have any of the following:
- struggling to breathe: unrelieved shortness of breath while sitting still
- chest pain
- confusion or unable to think clearly.

ALLINA
Hospitals & Clinics

Available at:
http://akn.allina.com/content1/groups/patient-care/@akn-commprgov/documents/patient_care_documents/137316.pdf

HEART FAILURE READMISSIONS

REFORMS AND PAYMENT CHANGES.

- GREATER TRANSPARENCY
- RECOVERY AUDIT CONTRACTOR PROGRAM
- READMISSION PAYMENT POLICY
- BUNDLED PAYMENTS
- CHANGING CARE DELIVERY MODELS

STRATEGIES TO REDUCE HF READMISSIONS

- EFFECTIVE INPATIENT CARE
- PROPRER HAND OFF
- MULTIDISCIPLINARY FOLLOW UP
- PROPRER TRANSITION HOME/ HOME HEALTH
- REMOTE MONITORING/ CARE MANAGEMENT
- HEART FAILURE CLINICS.
- PALLIATIVE CARE

EXECUTING THE STRATEGIES

- PROGRAM SELF ASSESSMENT
- OPPORTUNITY IDENTIFICATION
- CREATION OF A COMPREHENSIVE PLAN
- CONTINUED SUPPORT

MULTIDISCIPLINARY FOLLOW UP

- Phone follow up/ case management.
  - Phone call 24, and 72 hrs post dc
  - Weekly call for 4 weeks
  - Monthly calls
  - Costs ????
- Remote monitoring
  - Weigh scales
  - Devices.
- Heart failure RN
  - Clinic education
  - Coordination of care
- HF cardiologists
  - Designing and documenting treatment plan.
  - Ensure compliance with guidelines.
- Primary care provider.
  - All care unrelated to HF, but contributing

HOME HEALTH / TRANSITIONAL CARE

- HOME HEALTH CARE
  - Home health designed to improve education
  - Detect and treat early signs of decompensation.
  - Decrease in readmissions by 21-46% (Naylor 1999)
  - Cost savings of $4500- $8100 per patient (Naylor 2004) .
  - Trained HF nurses skilled in physical assessment.

- TRANSITIONAL CARE MODEL
  - Integrating nursing across continuum of care- hospital , primary care and specialists.
  - Medication self management
  - A patient centered record
  - Knowledge of adverse symptoms of their condition.
  - 2 months post dc, half as likely to be readmitted (Brock and Jenks 2008)

HEART FAILURE READMISSIONS

REFORMS AND PAYMENT CHANGES.

- GREATER TRANSPARENCY
- RECOVERY AUDIT CONTRACTOR PROGRAM
- READMISSION PAYMENT POLICY
- BUNDLED PAYMENTS
- CHANGING CARE DELIVERY MODELS

STRATEGIES TO REDUCE HF READMISSIONS

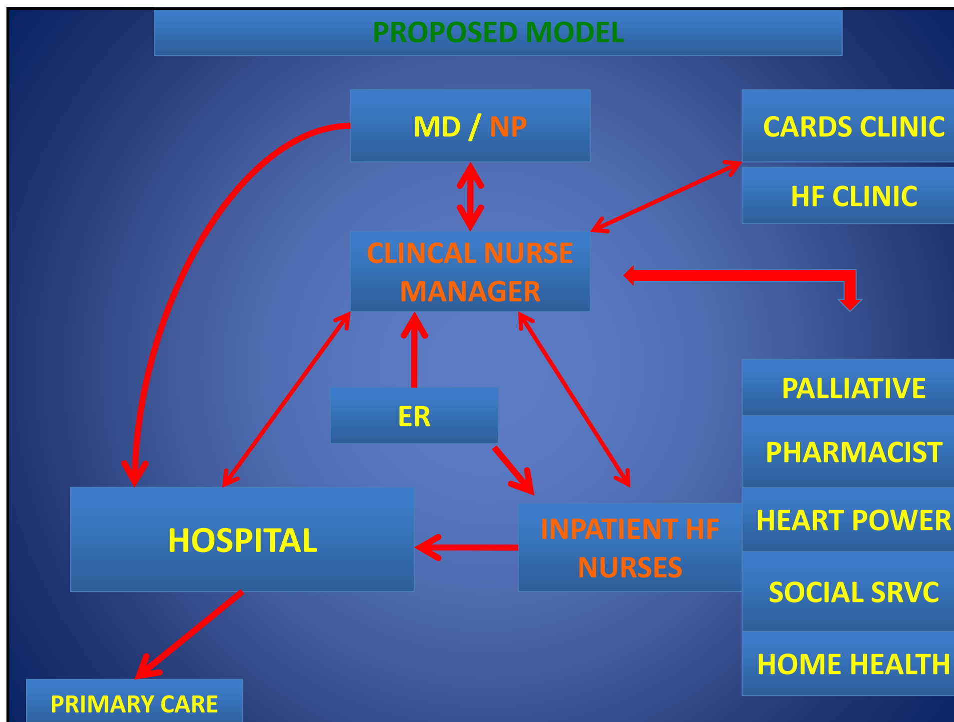
- EFFECTIVE INPATIENT CARE
- PROPRER HAND OFF
- MULTIDISCIPLINARY FOLLOW UP
- PROPRER TRANSITION HOME/ HOME HEALTH
- REMOTE MONITORING/ CARE MANAGEMENT
- HEART FAILURE CLINICS.
- PALLIATIVE CARE

EXECUTING THE STRATEGIES

- PROGRAM SELF ASSESSMENT
- OPPORTUNITY IDENTIFICATION
- CREATION OF A COMPREHENSIVE PLAN
- CONTINUED SUPPORT

COMPONENTS OF A HEART FAILURE CLINIC

DISEASE MANAGEMENT	•EDUCATION AND COUNSELLING •SELF CARE AND SELF MANAGEMENT •ENSURE SOCIAL AND FINANCIAL SUPPORT •ENSURE FOLLOW UP •ABILITY TO INTEGRATE AND COORDINATE CARE
FUNCTIONAL ASSESSMENT	•NYHA ASSESSMENT ON EVERY VISIT •6MWT DURING RISK ASSESSMENT
QUALITY OF LIFE ASSESSMENT	•ASSESSMENT AT BASELINE AND AT CHANGE OF STATUS
MEDICATION THERAPY MANAGEMENT	•DRUG LIST EVALUATION BY MD, RN OR PHARMACIST •LOOK FOR DISCREPANCIES •ENSURE COMPLIANCE WITH GUIDELINES •CHECK FOR DRUG –DRUG INTERCATIONS/ ? NSAIDS/ DUPLICATIONS •PATIENT MANAGED DIURETIC UTILIZATION
DEVICE EVALAUTION	•EVALUATE CANDIDACY FOR ICD/ BIVENTRICULAR DEVICE •OPTIMAL FUNCTTIONING AND PROGRAMMING OF DEVICE •ASSESSMENT OF VOLUME STATUS VIA THORACIC IMPEDANCE (IN SOME VENDORS)
NUTRITIONAL ASSESSMENT	•EDUCATION •SALT DISCRETION •MEASURE AND TRACK NUTRITIONAL METRICS
FOLLOW UP	•ADEQUATE AND STANDARDIZED FOLLOW UP FOR ALL PATIENTS
ADVANCE PLANNING	•PATIENT PLANS MEDICAL AND NON MEDICAL CARE BEFORE CONDITION PRCLUDES HIM /HER FROM MAKING THE DECISION.
QUALITY ASSESSMENT	•CONTINUOUS QUALITY ASSESSMENT OF PATIENT OUTCOME , PROCESSES AND STRUCTURAL COMPONENTS.



MHVI HF Clinic

- HF clinic in operation since Feb 2008
- Over 1500 patients enrolled.
- Patients seen and followed by their own primary cardiologists, and HF cardiologists
- Follow up for these patients are with HF mid level provider.
- New HF patients seen in HF clinic within 3-5 days.
- HF nurse clinician sees inpatients prior to discharge and customizes education.
- Phone call in 24 hrs post dc and then phone care management often as dictated till 30 days after discharge.
- HF nurse clinician meets all new and returning patients in the HF clinic for ongoing education.
- Pharmacist in HF clinic meets all HF patients to go over all medications and resolve discrepancies.
- Patients dc from ER followed in HF clinic within 24-48 hrs
- 90% OF ALL HOSP DC FOLLOWED UP AT THE HF CLINIC
- Data presented at HFSA 2010 in San Diego

HEART FAILURE READMISSIONS

REFORMS AND PAYMENT CHANGES.

- GREATER TRANSPARENCY
- RECOVERY AUDIT CONTRACTOR PROGRAM
- READMISSION PAYMENT POLICY
- BUNDLED PAYMENTS
- CHANGING CARE DELIVERY MODELS

STRATEGIES TO REDUCE HF READMISSIONS

- EFFECTIVE INPATIENT CARE
- PROPRER HAND OFF
- MULTIDISCIPLINARY FOLLOW UP
- PROPRER TRANSITION HOME/ HOME HEALTH
- REMOTE MONITORING/ CARE MANAGEMENT
- HEART FAILURE CLINICS.
- PALLIATIVE CARE

EXECUTING THE STRATEGIES

- PROGRAM SELF ASSESSMENT
- OPPORTUNITY IDENTIFICATION
- CREATION OF A COMPREHENSIVE PLAN
- CONTINUED SUPPORT

OPTIMAL INPATIENT CARE

- ID all HF patients real time (i.e. BNP Workbench Report)
- All Patients who need a cardiologist see one: See the right cardiologist
- Provide Self-Management Support (SMS)- using "Red-Yellow-Green" tool to all patients
- Identify all patients needing home care

OPTIMAL DISCHARGE

- Use HF Discharge order set
- Generate a "30 day plan" for next level of care
- Set up appointment for 3-5 days in clinic after D/C ("HF Visit")
- Make it clear to all who the patient is to call for problems
- Reconcile Medications correctly

OPTIMAL TRANSITION

- Phone call to patients 24 hours after D/C
- Home visits with Home Care RN to patients at risk based on call
- Self Management Support (SMS) : Patient uses "Red-Yellow-Green" tool to Self Manage
- Scales available for patients
- Clinic appointment 3-5 days after D/C

OPTIMAL OUTPATIENT CARE

- Patient seen in clinic in 3-5 days
- All meds reviewed and verified (Med Reconciliation)
- Follow the "30 day plan" started in hospital
- Reinforce Self Management Skills
- Uptitrate meds to target dose
- ID Patients for Care Management

EXECUTING HF READMISSION REDUCTION STRATEGIES.

SELF ASSESSMENT

- NUMBER OF ADMISSIONS
- NO. OF READMSSIONS
- QUALITY BENCHMARKS
- COST OF CARE
- CASE MANAGEMENT
- EDUCATION
- POST ACUTE CARE FOLLOWUP
- CHART REVIEW
- CAUSES OF READMSSION

IDENTIFY OPPORTUNITY

- ORGANIZE TASK FORCE
- PERFORM GAP ANALYSIS OF EXISITING PROGRAM ATTRIBUTES AND BEST PRACTICES.
- PRIORITIZE NEEDS ACCORDING TO GREATEST OPPORTUNITY FOR IMPACT
- DEFINE KEY STRATEGIES.

PLAN

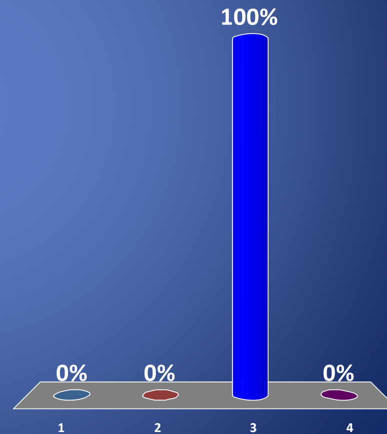
- MAKE A CASE OF ORGANIZATIONAL FOCUS ON HF READMISSIONS
- CLEARLY STATE GOALS AND METRICS FOR TRAKING PERFORMANCE
- HF PROGRAM DESIGN COMPONENTS
- FINANCIAL FEASIBILITY
- IDENTIFY PHYSICIAN AND OTHER CLINICIAN CHAMPIONS

IMPLEMENT

- OBTAIN KEY STAKEHOLDERS BUY-IN
- EDUCATION INITIATIVE AROUND HEART FAILURE
- PILOT TESTING
- STAFF PROGRAM AND ALLOCATE RESOURCES.
- DEDICTED FACILITY SPACE
- BILLING AND CODING
- MEASUREMENT AND MONITORING

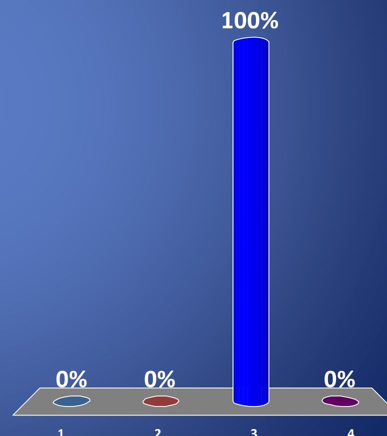
30 day readmission for heart failure hospitalization is:

1. ~4%
2. ~10%
3. ~25%
4. ~50%



One year mortality following heart failure hospitalization is:

1. ~2%
2. ~10%
3. ~15%
4. >20%



Which of the following is not the main reason for frequent HF readmission?

1. Inadequate patient medical care
2. Financially lucrative for hospitals
3. Poor handoff
4. Failure in discharge planning
5. Progressive illness