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Transitions in Care

Tuesday November 8, 2016

12:00pm – 1:00pm Central

Presenter: Nancy Albert, PhD, RN, CCNS,
CHFN, CCRN, NE-BC, FAHA, FCCM, FAAN

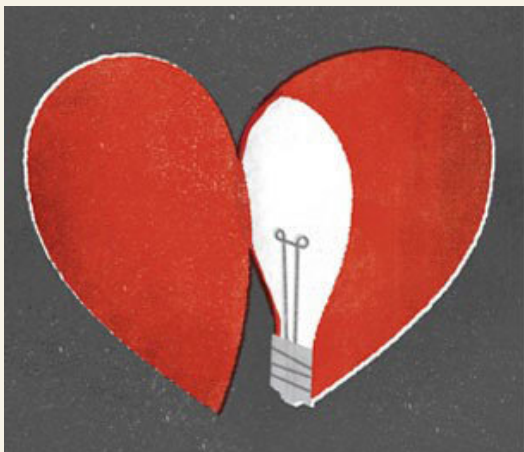
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Transitions in Care



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Disclosures

- **Nancy M. Albert PhD, RN**
 - **Chair of the Patient Navigator Program, an ACC-led program**

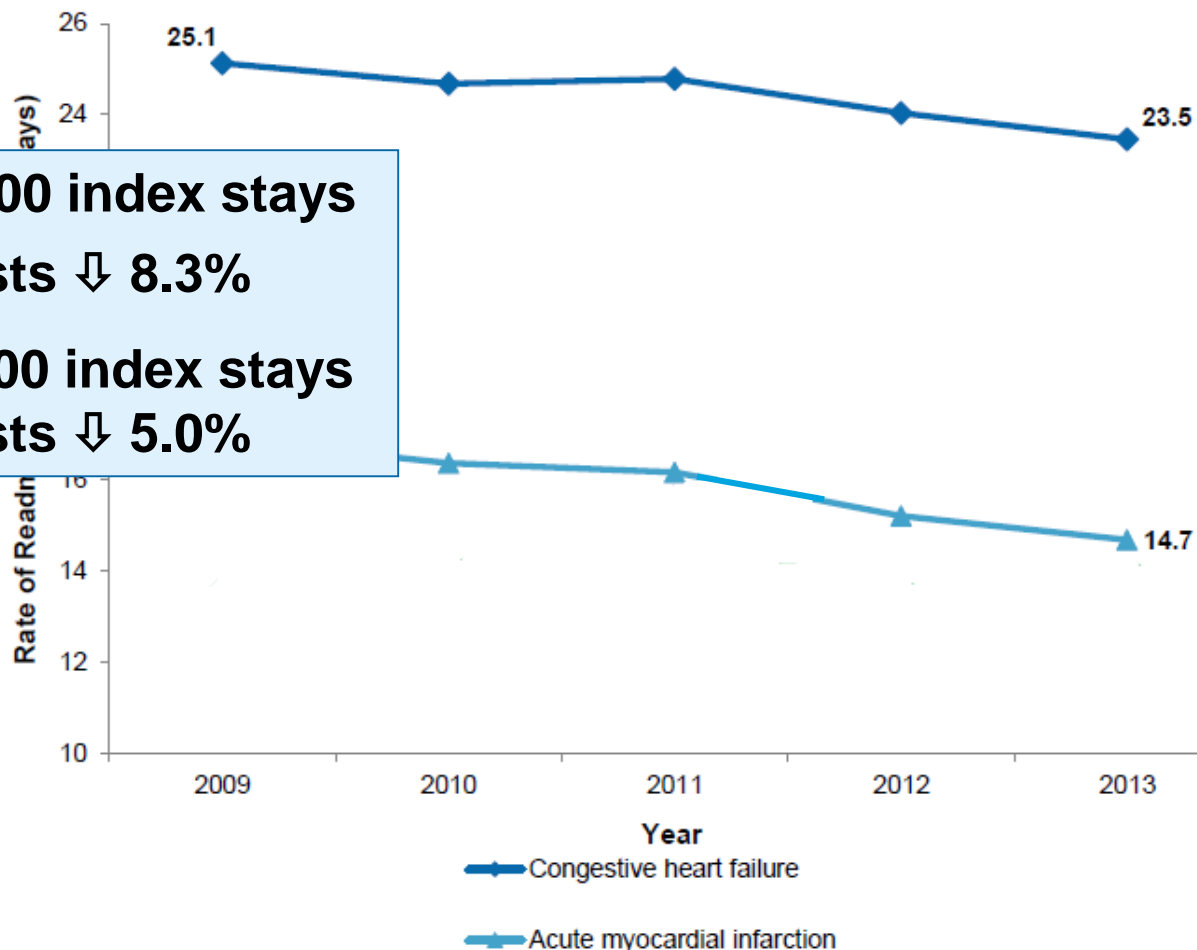
Transitions in Care

Objectives:

- **Explain why transitions in care are needed, especially from hospital-to-home**
- **Describe transition care programs that work and do not work**
- **Discuss what transition care factors seem to be most important**

Change in All-Cause Readmission 2009-2013

All-cause rate of readmission, by principal diagnosis of index admission, 2009–2013



HF: ↓ 6.6% per 100 index stays

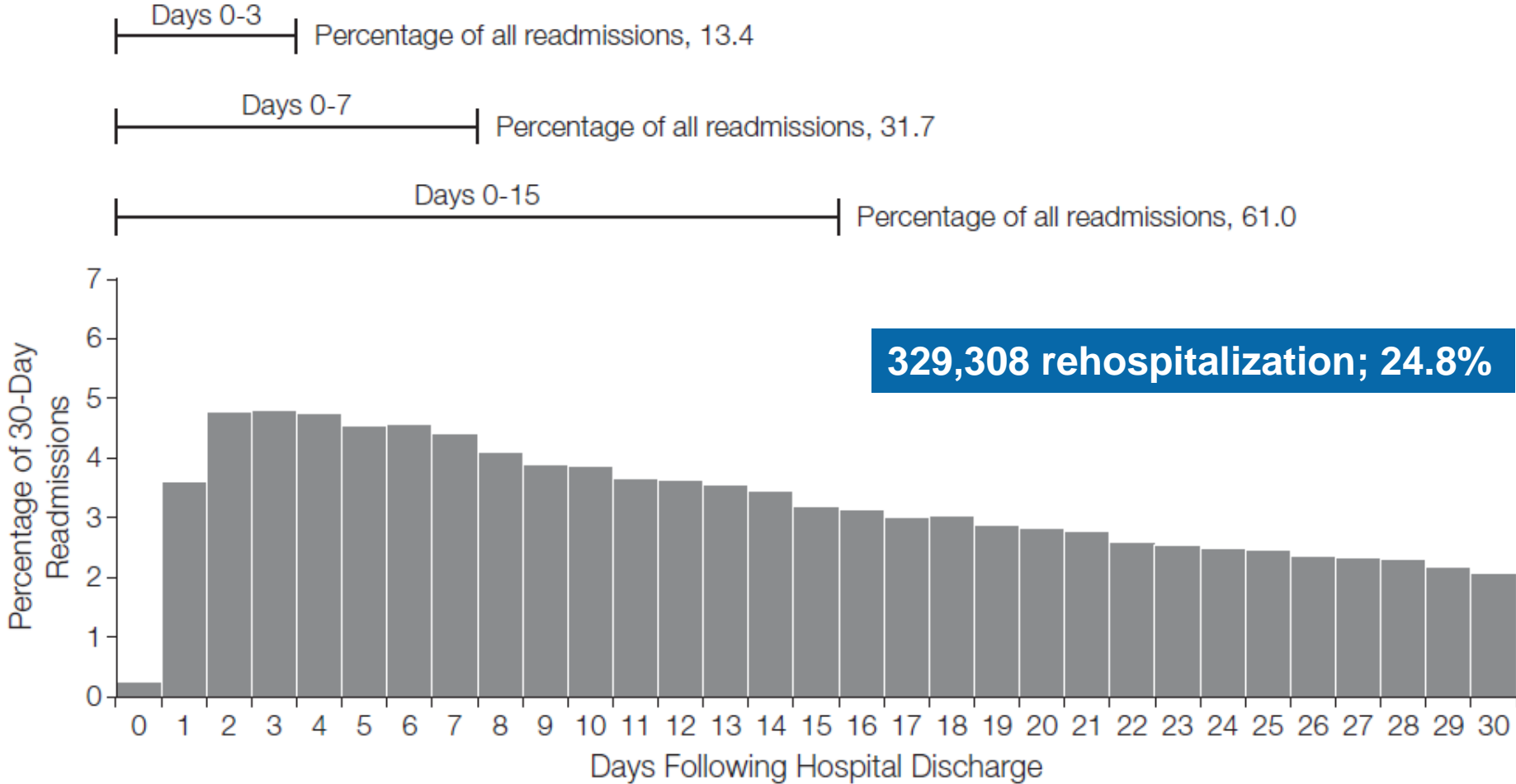
Aggregate costs ↓ 8.3%

AMI: ↓ 13.1% per 100 index stays

Aggregate costs ↓ 5.0%

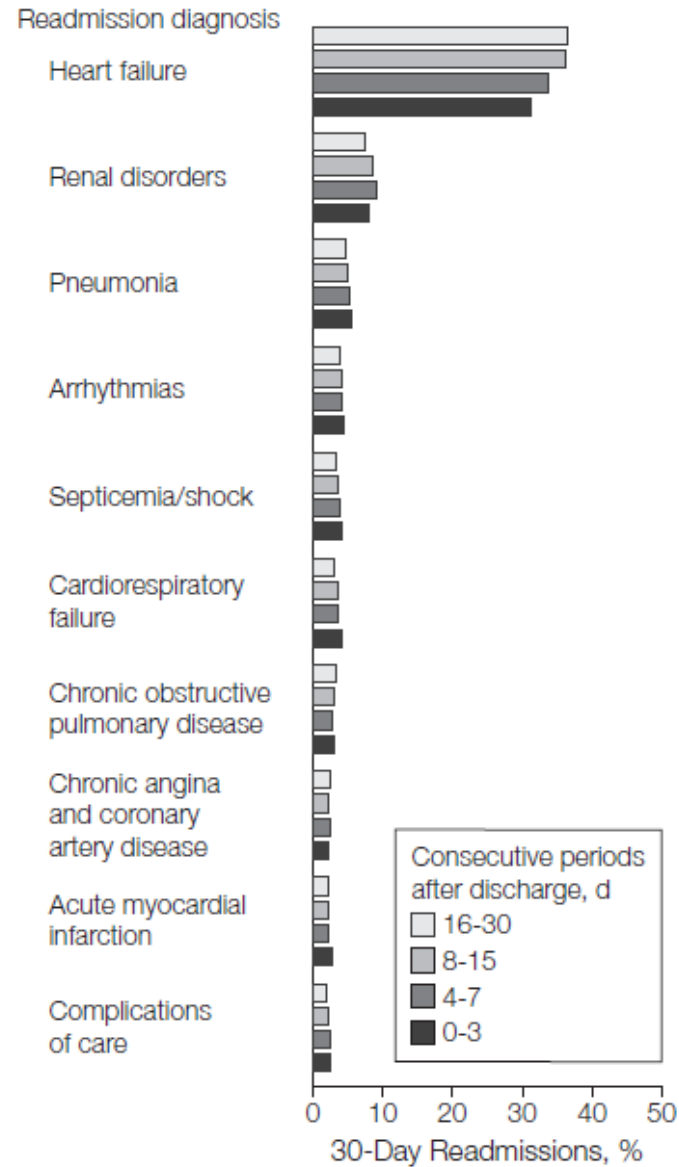
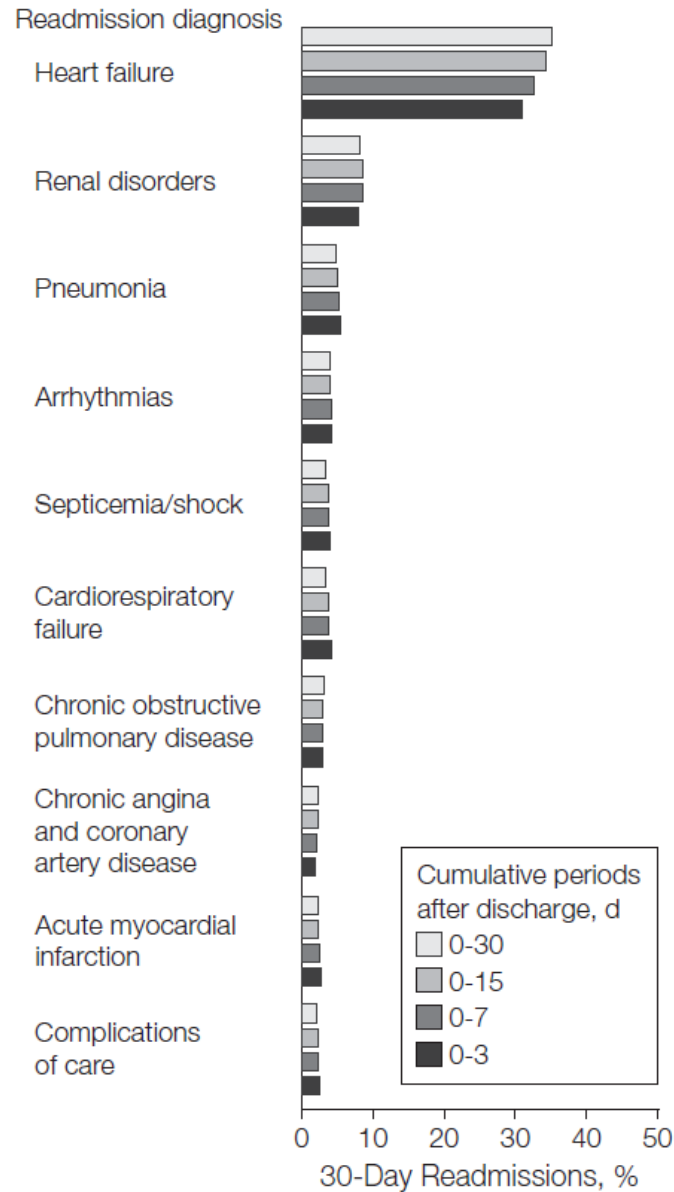
Payers	Changes \$ (%), 2009-2013 HF / AMI
Medicare	-8.6 / -3.6
Medicaid	-2.3 / 3.6
Private	-20.4 / -17.6
Uninsured	10.4 / 4.0

HF Readmission in 30 Days 2007-2009; N=1,330,157



Dharmarajan K et al. Diagnoses and Timing of 30-Day Readmissions After Hospitalization for Heart Failure, Acute Myocardial Infarction, or Pneumonia. JAMA. 2013;309(4):355-363.

HF Readmission in 30 Days



Readmissions:
Days 0-3= 44,257
Days 0-7= 104,362
Days 0-15= 201,005
Days 0-30= 329,308

Clinical Predictors of 30-Day Rehospitalization

Factors	GWTG-HF; N=33,349 ¹	Medicaid Pts; N=4548 ²	Elders N=2176 ³	Alberta CA N=18,590 ⁴
Abnormal troponin	1.15 (1.1-1.2)			
Black race (vs. white)	1.11 (1.0-1.2)			
↑ creatinine-Kid. Dis.	1.12 (1.1-1.2)	1.45 (1.1-1.9)	1.72 (1.3-2.2)	1.43 (1.2-1.7)
Medicaid (vs. comm.)		1.68 (1.3-2.2)		
Prior adm. < 1 yr.			1.25 (1.1-1.5)	
Diabetes			1.17 (0.9-1.4)	
Atrial Fibrillation				1.14 (1.0-1.3)
Age ≥ 75 yrs				1.43 (1.0-2.0)

1. Eapen ZJ et al. Validated, Electronic Health Record Deployable Prediction Models for Assessing Patient Risk of 30 -Day Rehospitalization and Mortality in Older Heart Failure Patients. *JCHF*. 2013;1(3):245-251.
2. Allen et al. Rates and Predictors of 30-Day Readmission Among Commercially Insured and Medicaid-Enrolled Patients Hospitalized With Systolic Heart Failure. *Circulation Heart Fail* 2012;5:672-9.
3. Krumholz et al. Predictors of Readmission Among Elderly Survivors of Admission With Heart Failure. *Am Heart J* 2000;139:72-7.
4. Eastwood et al. Clinical Research Determinants Of Early Readmission After Hospitalization For Heart Failure. *Can J Cardiol* 2014;30:612-18.

Patient-Identified Factors of HF Hospitalization

- Interviews; Reasons for rehos \leq 6 months
 - 28 patients
 - 8 from community hospitals
 - 20 from academic centers

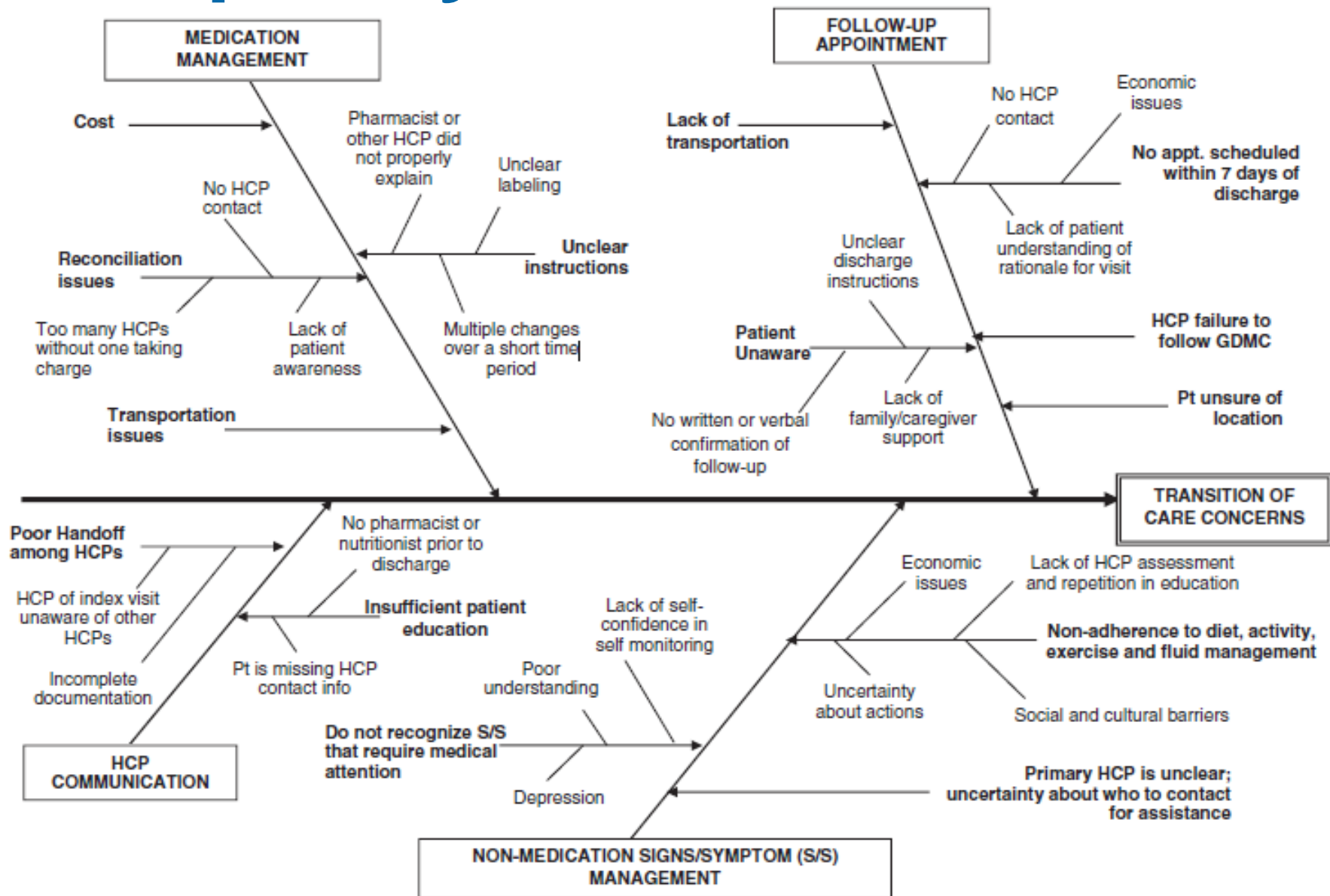
No differences in themes between those admitted \leq 30 days vs. $>$ 30 days from their last admission

- Unavoidable progression of illness
- Influence of psychosocial factors
- Good but imperfect self-care
- Health system failures

Behavioral Predictors of 30-Day Rehospitalization; N=729

Predictor	Univariate Regression			Multivariable Regression		
	OR	95% CI	P	OR	95% CI	P
Service decline/refusal	2.21	1.42-3.43	0.0004	1.75	1.07-2.87	0.03
Nonadherence	1.99	1.28-3.10	0.002	1.72	1.07-2.76	0.03
Dementia	1.91	1.08-3.40	0.03	1.51	0.81-2.81	0.19
Depression	1.55	1.00-2.40	0.05	1.14	0.68-1.91	0.62
Missed appointment	1.99	1.28-3.09	0.002	1.73	1.06-2.80	0.03

Complexity of HF Care



Patient-Identified Factors of HF Hospitalization

Health system failures – 5 sub-themes

- **Suboptimal health care delivery**
 - Premature discharge (1/3)
 - Recognition of this by clinicians at the readmission
 - Not stabilized on a diuretic regimen that would be sustainable at home
 - Limitations of the health care system to improve their health status

Patient-Identified Factors of HF Hospitalization

Health system failures – 5 sub-themes

- **Highly variable contact w healthcare providers in-between hospitalizations**
 - Nature and timeliness of appointments was questioned by patients
 - Acute care was often needed before the appt.
 - When appt. happened, it was difficult to determine if the provider was able to recognize and reverse events
 - Home care, palliative or hospice care was rarely mentioned

Patient-Identified Factors of HF Hospitalization

Health system failures – 5 sub-themes

- **Broad/general issues**
 - Better care coordination
 - Better communication between patient/providers
 - Attitudes and insensitivity of providers
- **Education**
 - Assistance with menu planning
 - Better communication about test results
 - Better use of resources (d/t ED inefficiencies)
 - Pt: Better convey exp. of *living with HF* to providers
- **Providers need to be more efficient/knowledgeable about managing HF**

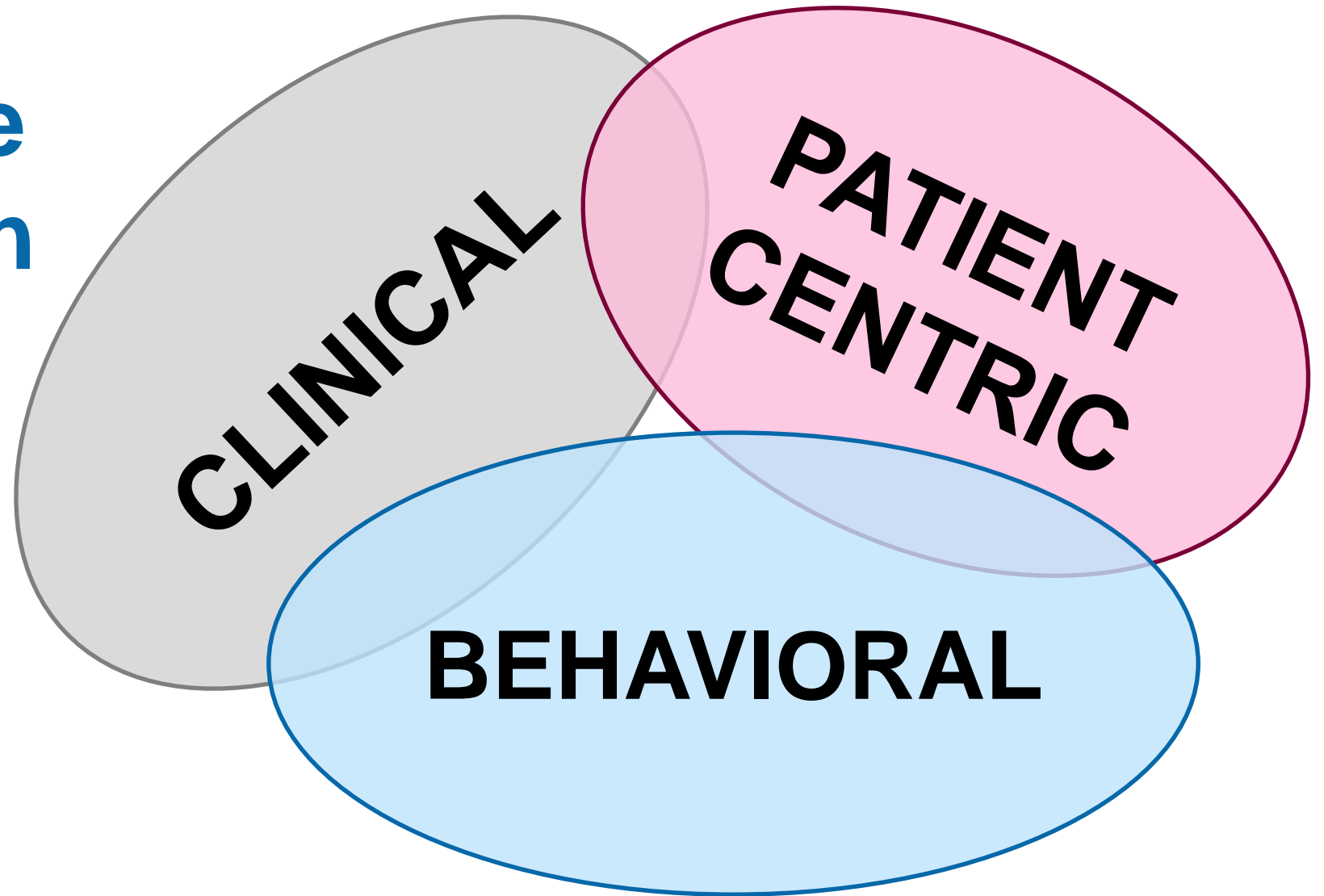
Transition of Care - Heterogeneous Programs

Caregivers and Interventions of Transition of Care Programs

Program	Healthcare Providers			Intervention Themes							
	Nurse	Social Worker	Interdisciplinary	Early Admission Assessment	Medication Reconciliation	Patient Education (Including Teach-Back)	Caregivers	Telephone Follow-Up	Home Visits	Handoff	Early Follow-Up
Bridge model ¹⁷		•		•				•			
Care Transitions ¹⁸	•			•		•	•	•	•	•	•
Care Transitions ¹⁹			•			•		•	•		•
EDPP ²⁰		•					•	•			•
PCCHF ²¹	•					•		•		•	•
PCCHF ²²	•		•	•		•		•	•		
PDCT ²³	•				•	•	•		•	•	•
Project BOOST ²⁴			•		•	•	•	•			
Project Red ²⁵	•		•	•	•	•		•		•	•
STAAR ²⁶			•	•	•	•	•				
Transitional Care model ²⁷⁻²⁹	•			•		•	•	•	•		•

BOOST indicates Better Outcomes for Older Adults Through Safe Transitions; EDPP, Enhanced Discharge Planning Program; PCCHF, Patients in Care for Congestive Heart Failure; PDCT, Postdischarge Care Transition; and STAAR, State Action on Avoidable Rehospitalization.

Heart Failure Readmission Risk Factors



Multidisciplinary HF Post-Hospitalization Program

- **Multidisciplinary HF clinics** reduce readmissions, but no reports in the immediate post-discharge period
- **Retrospective cohort study; N = 277 pts**
 - Control pts from 2009 vs.
 - Post discharge pts from 2010-2012
 - 6 visits w PA, pharmacist specialist & case manager; overseen by cardiology
 - Optimizing treatment, medication titration, education, med adherence & identify hospital factors

Multidisciplinary HF Post-Hospitalization Program

- **RESULTS**

- 90-day readmission adjusted HR:

- 0.17 (95% CI: 0.07, 0.41); $p < 0.001$

- Absolute risk reduction, 15.7%; NNT = 7

- Clinic pts had lower 90-day time-to-first HF readmission or all-cause mortality

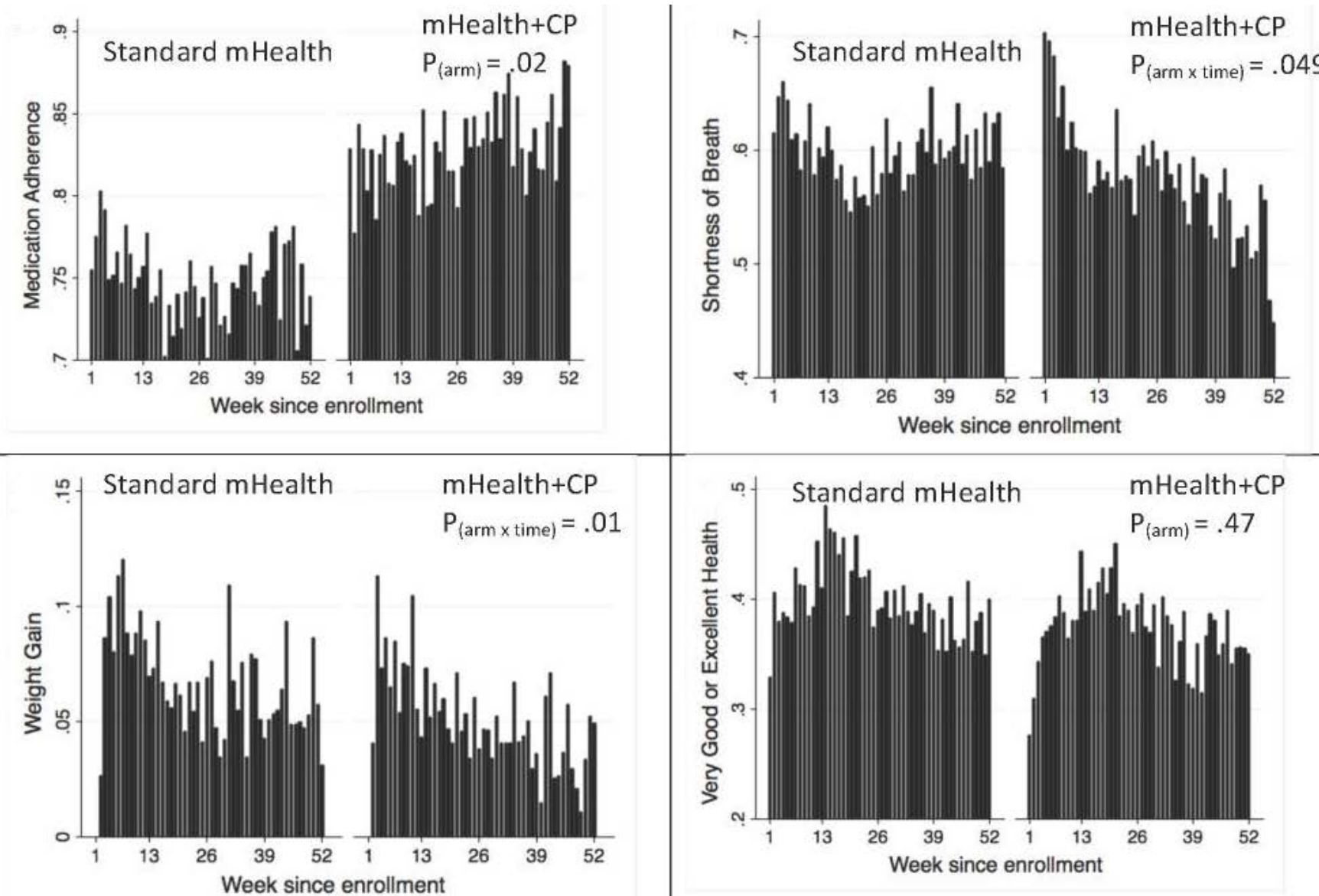
- Adjusted HR: 0.28 (0.06, 0.31), $p < 0.001$

- Absolute risk reduction, 19.6%; NNT = 6

A Mobile Health Intervention Supporting HF Pts & Their Informal Caregivers

- 331 HF pts from Department of Veterans Affairs outpatient clinics
 - + a Care Partner (CP) outside their household
- **Standard mHealth; n=165**
 - 12 months of weekly interactive voice response (IVR) calls (~ 10 min) including health & self-management questions
 - + tailored self-management advice
 - + Healthcare team fax alerts of serious health concerns
- **mHealth+CP; n=166**
 - Standard mHealth + automated emails to CP after each IVR call
 - Inc. feedback on patient status and suggestions for supportive care
- **Outcome: Self-care and symptoms**

M-Health “Prior Week” Outcomes



Piette JD, et al. A Mobile Health Intervention Supporting Heart Failure Patients and Their Informal Caregivers: A Randomized Comparative Effectiveness Trial *J Med Internet Res.* 2015;17:e142.

Care Transition Pharmacist

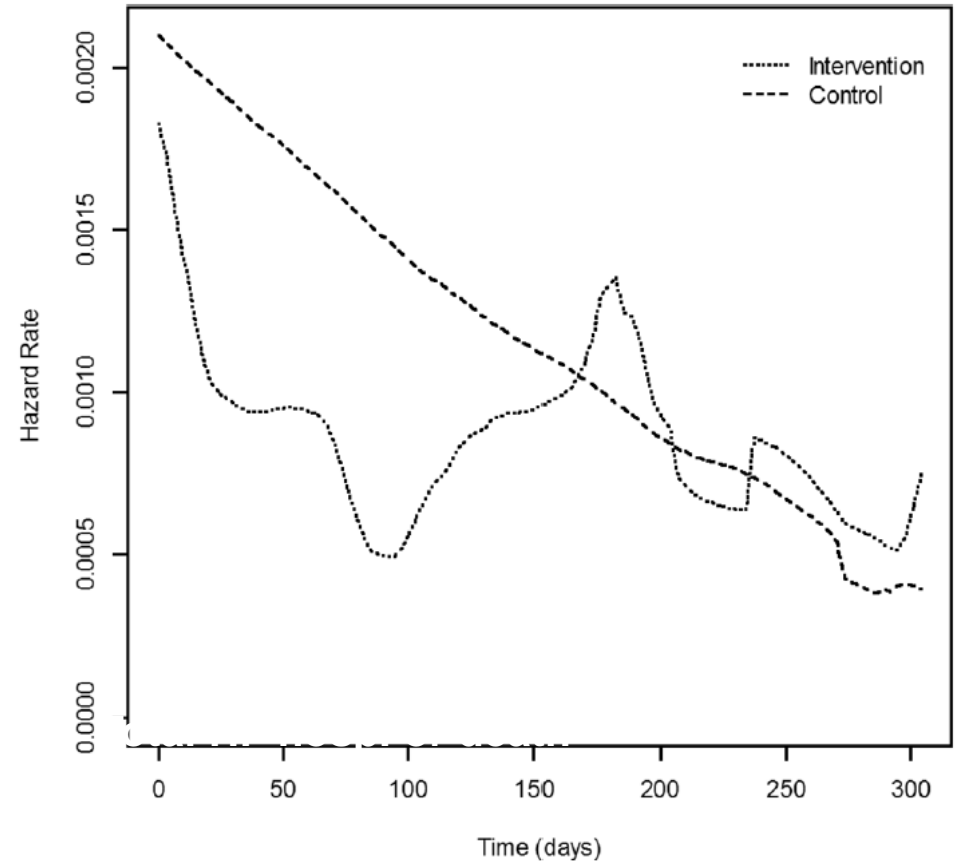
Care Transition Pharmacist intervention (no randomization):

- **Follow-up with pts by phone within 72 hours**
 - Reinforcement of plan of care (67%)
 - Addressed specific med-related issues (9%)
 - Contacted physician for Tx plan clarification or care gap (9%)
 - Reinforced scheduling of the PCP FU appointment (8%)
 - Referral of patient to another caregiver (6%)
- **Results: ↓ 30-day hospital admission or ED visit**

Shared (Group) Multidisciplinary Visits

N=198; UC or UC plus multidisciplinary group clinics

- **Focus: HF self management skills**
 - 8 weeks post discharge
- **4 weekly clinic visits + 1 booster clinic at month 6**
- **From 2-7 months post randomization, longer hospital-free time**
 - HR, 0.45 (95% CI, 0.21–0.98); $P=0.04$



Pt. Navigator Intervention

- RCT; N=1510 of high risk, safety net adults with 1+ risk factor:
 - (1) age \geq 60 years, (2) previous admission in the past 6 months, (3) length of stay \geq 3 days, (4) admission diagnosis of HF or COPD
- Intervention:
 - Coaching / assistance navigating from hospital to home**
 - Hospital visits and weekly phone outreach
 - Discharge prep, med. management, scheduled FU appointments, communication w PCP, and symptom management

Pt. Navigator Intervention

- **RESULTS:**

- ***No difference*** in 30-day readmission rate
- Intervention patients > 60 years showed an adjusted absolute 4.1% ↓ [95% CI: -8.0%, -0.2%] in readmission with an ↑ in 30-day outpatient follow-up
- Intervention patients ≤ 60 years showed an adjusted absolute 11.8% ↑ [95% CI: 4.4%, 19.0%] in readmission with no change in 30-day outpatient follow-up

Text Messaging Intervention

- Pre-post pilot study- **short message service**
 - Automated cell phone messages of:
 - Self-care reminders
 - Education on diet, symptom recognition & health care navigation
 - RESULTS:
 - Improved 4-week self care maintenance ($p=0.003$) & management ($p=0.002$)
 - HF rehospitalization not assessed*

Patient Centered Disease Management Intervention

Multisite, RCT; N=392 patients with HF and KCCQ overall summary scores < 60 (heavy symptom burden/ poor QoL/ impaired NYHA FC)

- **Collaborative care by multidisciplinary team**
 - Nurse coordinator, cardiologist, psychiatrist and PCP
 - Home telemonitoring
 - Patient self-management support
 - Screening and Tx for comorbid depression

Pt Centered DM Intervention

- **RESULTS at 1 year; intervention group vs usual care group:**
 - Improved KCCQ overall summary scores in *both* groups (ns)
 - No differences when analyzing the effect over time at 3, 6 and 12 months (ns)
 - Fewer deaths: 4.3% vs. 9.6%; $p=0.04$
 - Greater improvement in depression scores; $p=0.01$
 - No difference in hospitalization rates

Strengths and Issues of Current Knowledge

- **Programs that worked and didn't work had some of the same features**
 - **Some larger RCT were ineffective in reducing 3-12 month HF readmissions**
 - **Some effective research interventions used pragmatic study designs**
 - **Minimized exclusion criteria**
 - **Approximated real-world settings**
- **Some were small proof of concept projects**
 - **? evolve into large-scale multicenter RCTs**

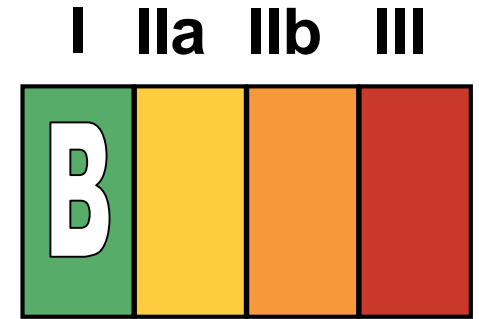
Recommendations for Research

- **Find the most effective, economically sound, broadly applicable transition of care interventions;**
- **Include cost-effective or cost-saving analyses in assessments of interventions;**
- **Choose outcomes after discussion with multiple key stakeholders, including patients;**
- **Minimize site contamination by using site-level randomization**

2013 ACCF/AHA HF Guidelines

Before discharge & at EACH post discharge visit:

- a) Initiate GDMT (if not done or contraindicated)¹
- HF doses may be reduced in hospital
 - Up-titrate before discharge when possible
 - Fill prescription before discharge or call-in prescription
 - ARNI Tx: use NT-proBNP (not BNP) to assess HF status²
 - MRA and hydralazine/nitrate Tx underutilized
- b) Address HF cause, barriers to care, & limitations in support
- Complex!



1. Yancy CW, et al. 2013 ACCF/AHA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. *Circulation*. 2013;128:e240–e327.
2. Semenov AG., et al. Different susceptibility of B-type natriuretic peptide (BNP) and BNP precursor (proBNP) to cleavage by neprilysin: The N-terminal part does matter. *Clin Chem*. 2016;62(4):617-22.

2013 ACCF/AHA HF Guidelines

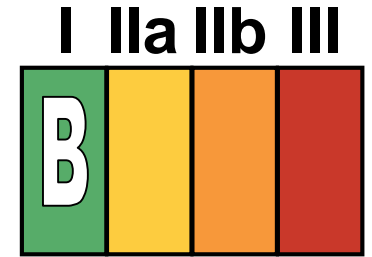
Before discharge & at EACH post discharge visit:

c) Assess volume status and BP; adjust HF therapy

- May have hemodynamic congestion even though clinical congestion is gone
- Low BP does not define HF medication use, unless symptomatic

d) Optimize chronic oral HF therapy

- May require low K⁺ diet or potassium inhibitor
- Consider medication pre-authorization and cost



2013 ACCF/AHA HF Guidelines

Before discharge & at EACH post discharge visit:¹

e) Assess renal function and electrolytes

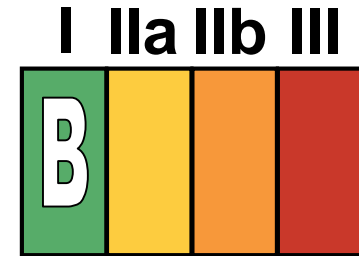
—Renal function may improve when on ACE-I/ARB

—PARADIGM-HF²: > 50% ↑ in creatinine

—enalapril: 1.4%; sacubitril/valsartan: 2.2% (Run-in)

—Both agents: 16% (double blind period)

—AVOID: ACE-I + ARB + MRA



1. Yancy CW, et al. 2013 ACCF/AHA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. *Circulation*. 2013;128:e240–e327.

2. Yancy CW, et al. 2016 ACC/AHA/HFSA Focused Update on New Pharmacological Therapy for Heart Failure: An Update of the 2013 ACCF/AHA Guideline for the Management of Heart Failure A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Failure Society of America. *Circulation*. 2016;27;134:e282-93.

2013 ACCF/AHA HF Guidelines

Before discharge & at EACH post discharge visit:

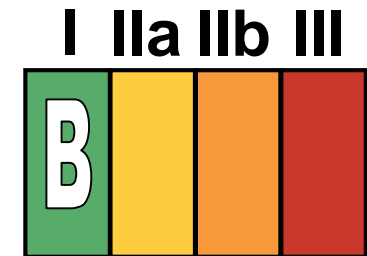
f) Manage comorbid conditions:

- Cardiac related (CAD, AF, HTN)
- Mimics of HF symptoms: anemia, COPD, CRI...

g) Ensure HF education, self-care, emergency plans, and adherence

- Discuss “how”, not just “what”

h) Discuss palliative or hospice care

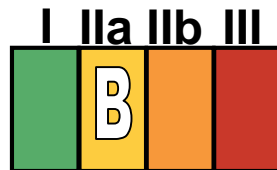


GUIDELINES on End-of-Life

Determination of Prognosis

ACC/AHA (2013)¹

Use of clinical risk prediction tools and/or biomarkers to identify patients at higher risk for post discharge clinical events *is reasonable*



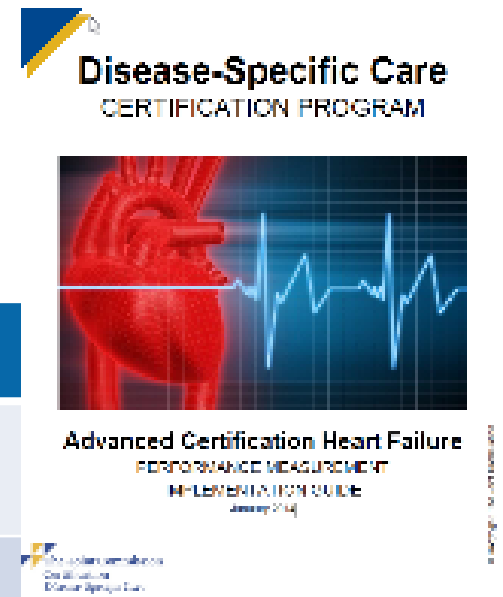
HFSA (2010)²

Consider if advanced, persistent HF with symptoms at rest despite repeated attempts to optimize drug, device & other treatments and 1 or more of the following:

- Frequent hospitalizations
- Chronic poor QOL
- Need continuous IV support

1. Yancy CW, et al. 2013 ACCF/AHA guideline for the management of heart failure: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. *J Am Coll Cardiol.* 2013;62:e147-e239
2. HFSA. *J Cardiac Fail* 2010;12:10-38.

TJC/AHA Advanced Certification in HF



ACHF Measures; Mandatory as of 1/1/2014

ACHF-01: Beta-Blocker Therapy Prescribed at Discharge
(bisoprolol, carvedilol or metoprolol succinate)

ACHF-02: Post-Discharge Appointment for Heart Failure Patients
(scheduled within 7 days of discharge & documented inc. date, location & time)

ACHF-03: Care Transition Record Transmitted
(...to a next provider *within 7 days* of discharge and contains 5 elements)

ACHF-04: Discussion of Advance Directives / Advanced Care Planning
(documentation of one-time discussion of advance directives/care plans)

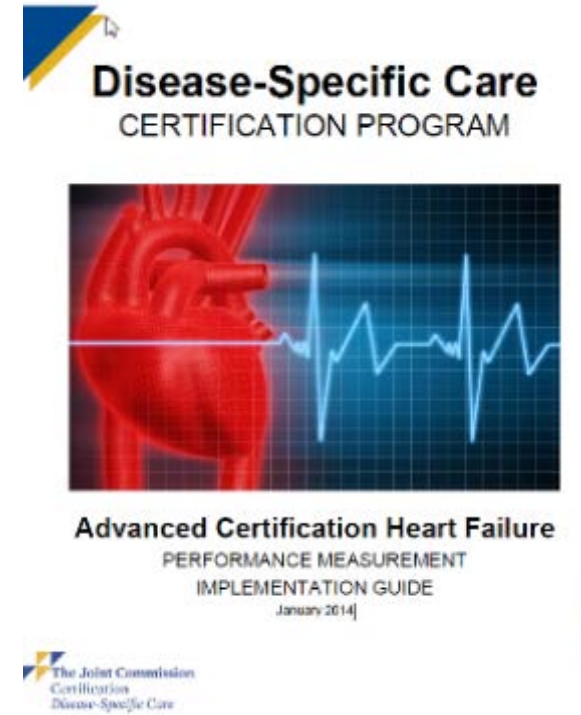
ACHF-05: Advance Directive Executed
(documentation that advance directives were executed)

ACHF-06: Post-Discharge Evaluation for Heart Failure Patients
(re-evaluate for worsening symptoms and treatment adherence by a program team member within 72 hours after inpatient discharge)

TJC-AHA Advanced HF Management Certification

Care Transition Record – 5 Transmitted elements:

- Reason for hospitalization
- Procedures performed during hosp.
- Services/treatments provided during hosp.
- Discharge meds inc. dose and indication for use
- Follow-up services/treatments needed



10 H2H Strategies to Reduce HF Hospitalization

Quality Improvement (QI) resources and performance monitoring

- 1) ≥ 1 QI team for reducing readmission for HF
- 2) Monitor proportion of discharged patients with follow-up appointment within 7 days
- 3) Monitor 30-day readmission rates

Q I Practices in Heart Failure

Force a deeper look into *actions* and *practices*

- **Requires:**
 - **Leadership**
 - **Evidence-based clinical decision support**
 - **algorithms; pocket cards, order sets**
 - **Patient education resources**
 - **Regular review of data & benchmarking**
 - **Process improvement model of change**
 - **Learning from what we do every day**
- **Collaborative care practices (CM/care transitions)**

10 H2H Strategies to Reduce HF Hospitalization

Medication Management

- 4) Provide info about medications -- purpose + which were:
(a) new, (b) changed [dose/frequency], (c) stopped
- 5) Have pharmacist conduct medication reconciliation at discharge
- 6) Have pharmacy tech obtain med. Hx as part of med. reconciliation process

Discharge and follow-up

- 7) Provide pts./caregivers direct MD contact info (for emergencies)
- 8) Arrange an OPD FU appointment *before* patients leave the hospital
- 9) Ensure outpatient MDs are alerted to a patient's discharge *within 48 hours*
- 10) Call pts. regularly post discharge; FU on needs or to provide education

Discussing Heart Failure

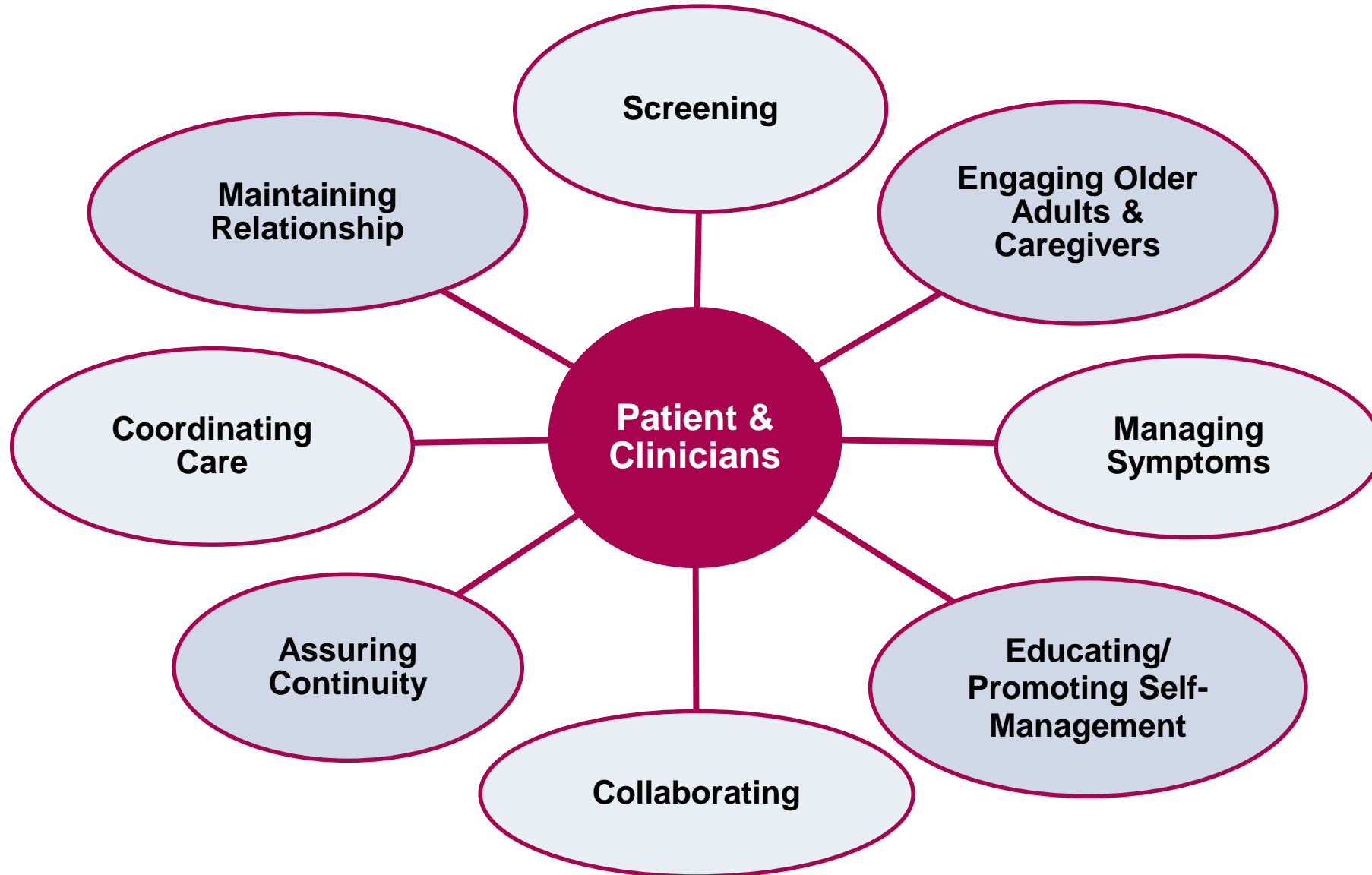


- **Understand how patients and families experience heart failure**
 - **Assess quality of life**
- **Sensitive communication style**

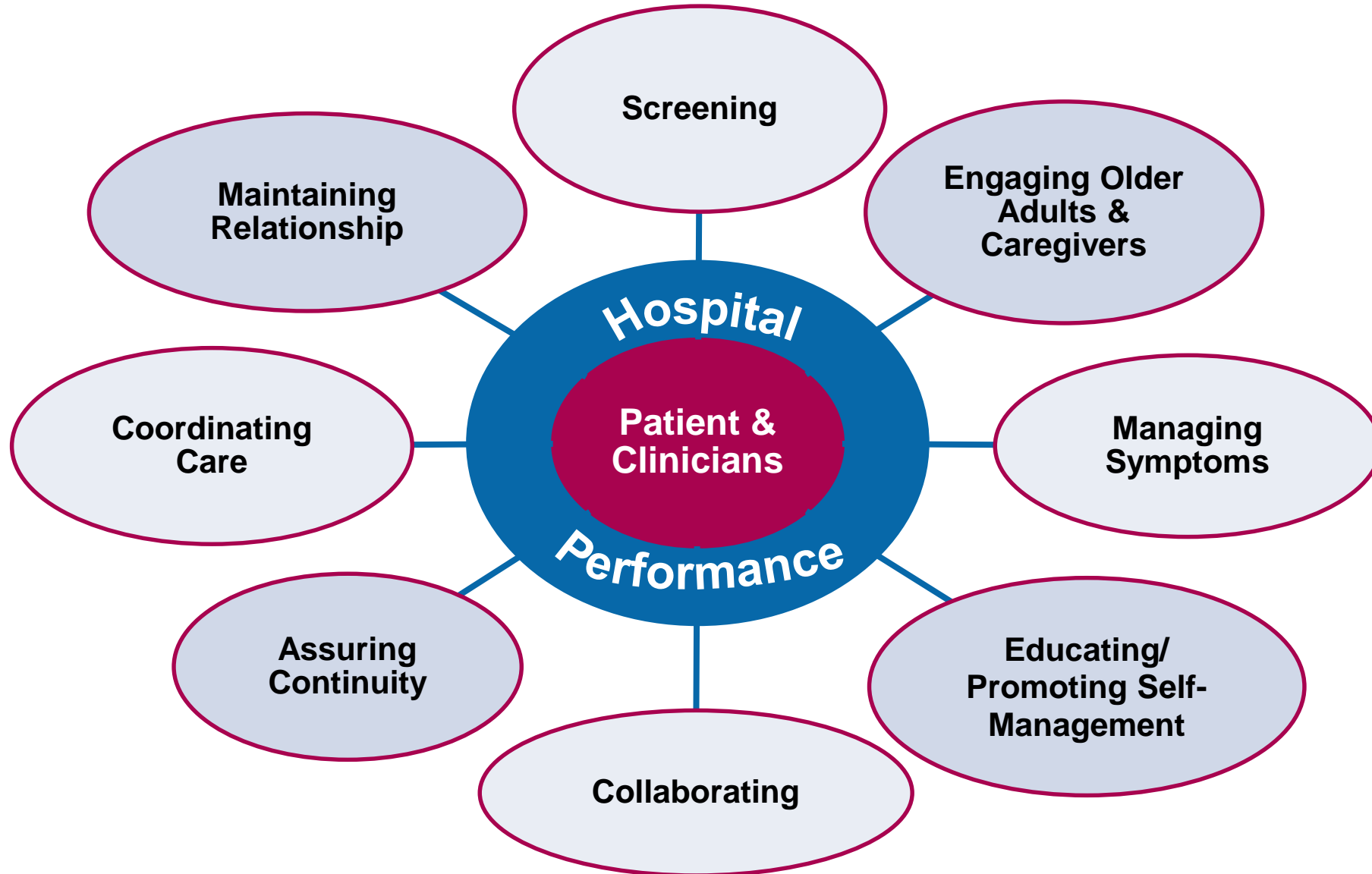
Best Practice - Transparency



Pieces of The Solution



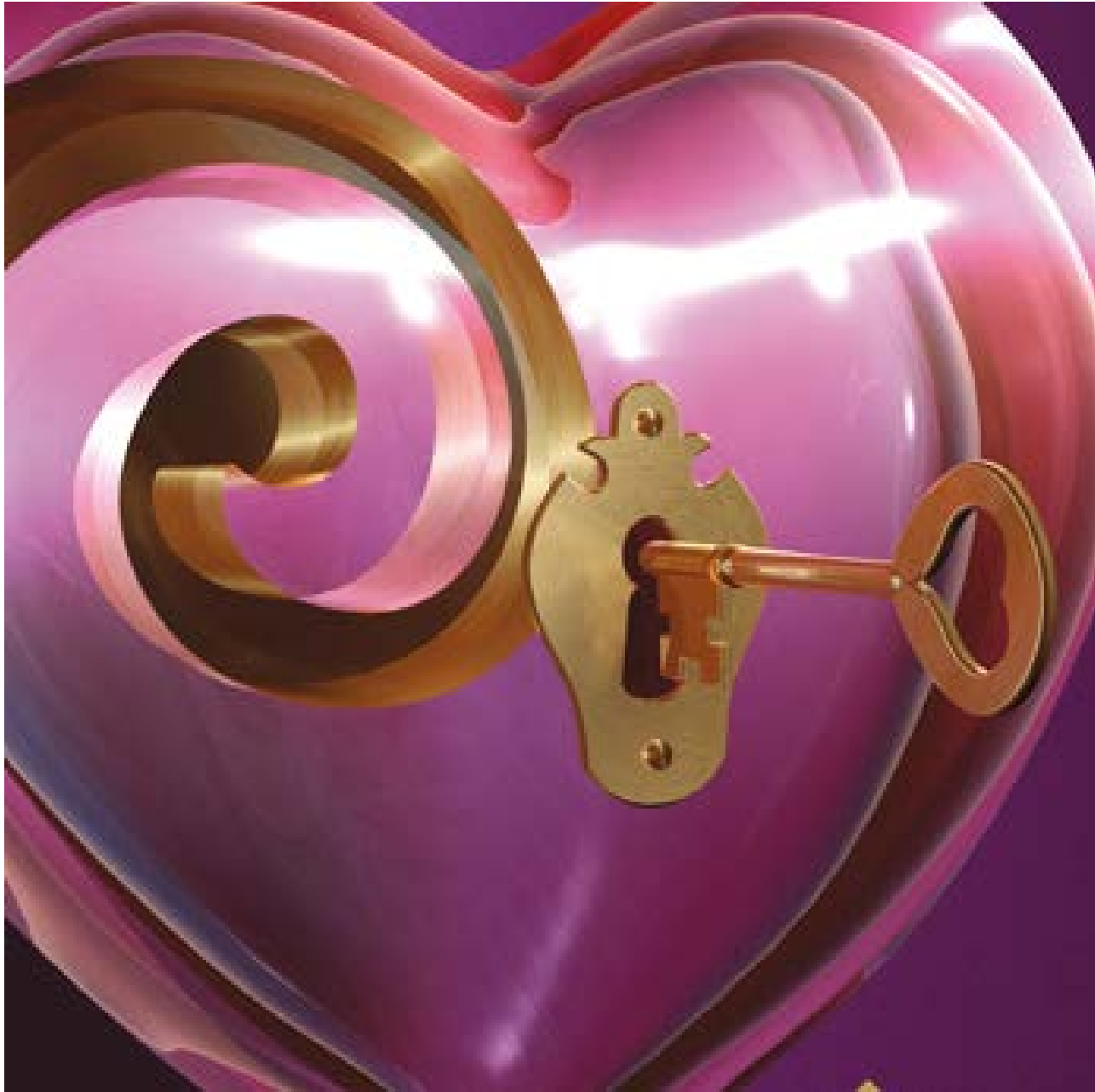
Pieces of The Solution





SUMMARY

- **Reduction of HF readmission programs should:**
 - 1. Use evidence-based physician-guided medical and device therapy**
 - 2. Facilitate institutional programs for effective care transitions**
 - 3. Promote strategies aimed to improve disease management**
 - 4. Engage patients in self-care**



THANK YOU

More Questions about Get With The Guidelines?

Visit heart.org/QualityHF to find your local Get With The Guidelines representative.

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