Improving Chronic Heart Failure Care in the VA: The Role of Nurse-Physician Co-Leadership

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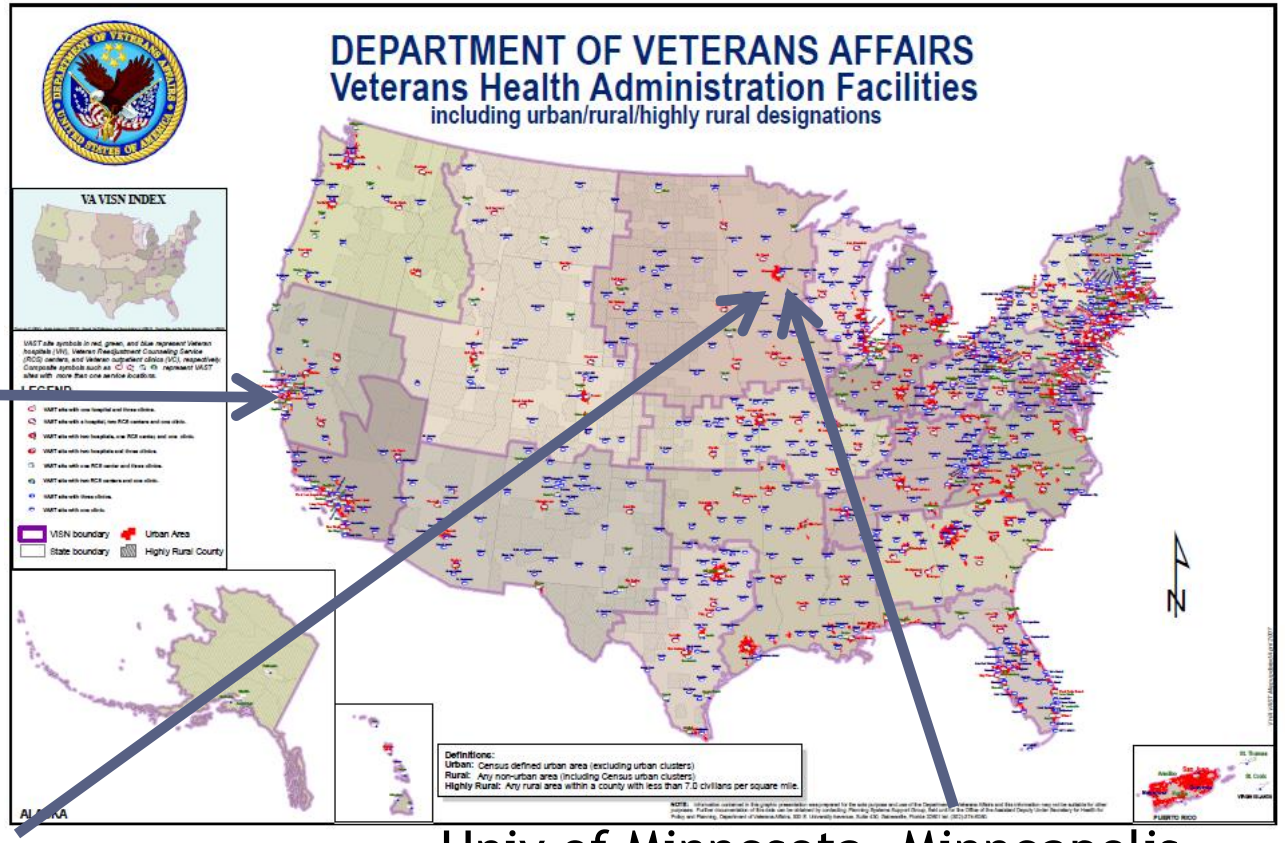
The research team and sites

VA CHF QUERI
Palo Alto



VA Minneapolis

Univ of Minnesota, Minneapolis

Our goals

- Characterize nurse-physician co-leadership of HF care in the VA
  - Examine the relationship between co-leadership and provider and patient-centered outcomes
  - Examine the antecedents of co-leadership
  - Describe the relationship paths
- Examine how contextual factors of HF providers moderate relationships of the model

Research on collaboration and teamwork

- Knaus et al (1986) – APACHE II-predicted death rates better where teamwork higher
- Baggs et al (1992) – collaboration was associated with fewer deaths, ICU readmits
- Baggs et al (1999) – the risk of adverse outcomes with collaboration was 3%; without collaboration it was 13.9%
- Wheelan et al (2003) – staff who perceived their teams functioning better as a group were on units with lower mortality rates

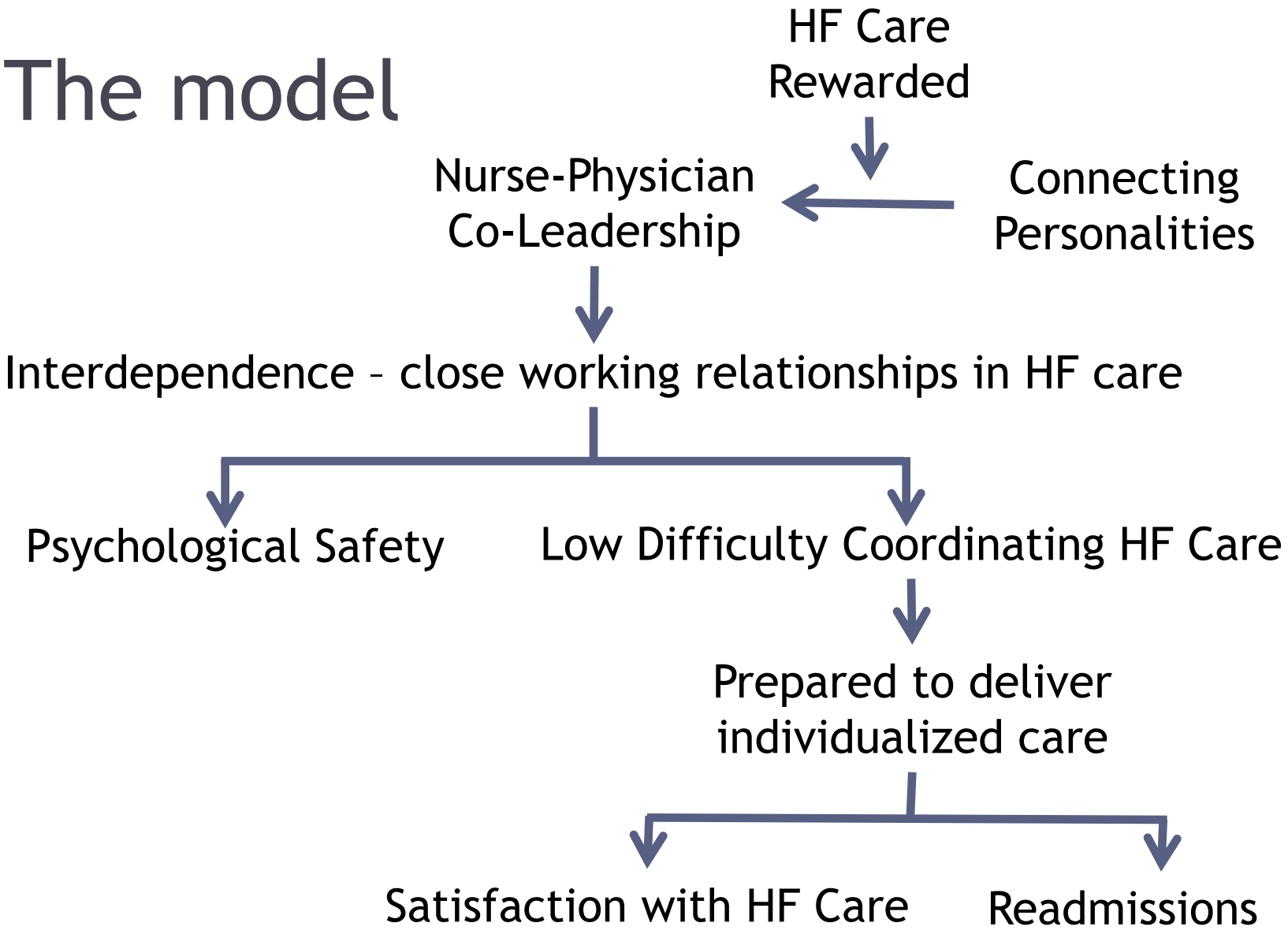
Co-Leadership

- Gilmore: “productive pairs”
  - Areas of complementary expertise
  - Shared goals and infrastructure
- Tucker & Spear:
  - Nurse and physician leadership in the care team
  - Nurses as crucial partners due to their knowledge of process improvement and the patient condition
- Gittell “Relational coordination”
  - “a mutually reinforcing process of interaction between communication and relationships carried out for the purpose of task integration” (http://www.jodyhoffergittell.info/content/rc.html)

Nurse-Physician Co-Leadership

- "the effective modeling by nurses and physicians of leadership role behaviors"

The model



The sample

- Unit of analysis: VA inpatient medical centers (stations) providing HF care
- Convenience sample of all members in VA CHF QUERI Heart Failure Provider network
  - Cardiologists, physicians, nurse practitioners, nurses, pharmacists, telehealth coordinators, and others
  - 428 surveys were sent out
- Respondents: 105 physicians, 81 nurses, 14 others
- 90 facilities with a physician or nurse responding.
  - Physicians only 38, Nurses only 13, Physicians and nurses 39
  - Had more than 1 respondent in 50 (56%) of the facilities
- Because of missing values for some responses included 70 to 74 facilities in the analysis

Variables

- Outcome
  - Provider satisfaction with HF care
  - Readmissions within 30 days with primary HF diagnosis (secondary analyses for primary or secondary HF diagnosis or any diagnosis)
- Mediating
  - Co-leadership (physician leadership, nurse leadership), interdependence, psychological safety, coordination difficulty, preparedness for individualized care
- Independent Variables
  - Connecting personalities, rewarded for HF care
- Control variables
  - Station size (number of HF discharges), supportive facility context, HF clinic, participation in QI activities, HF care routines,

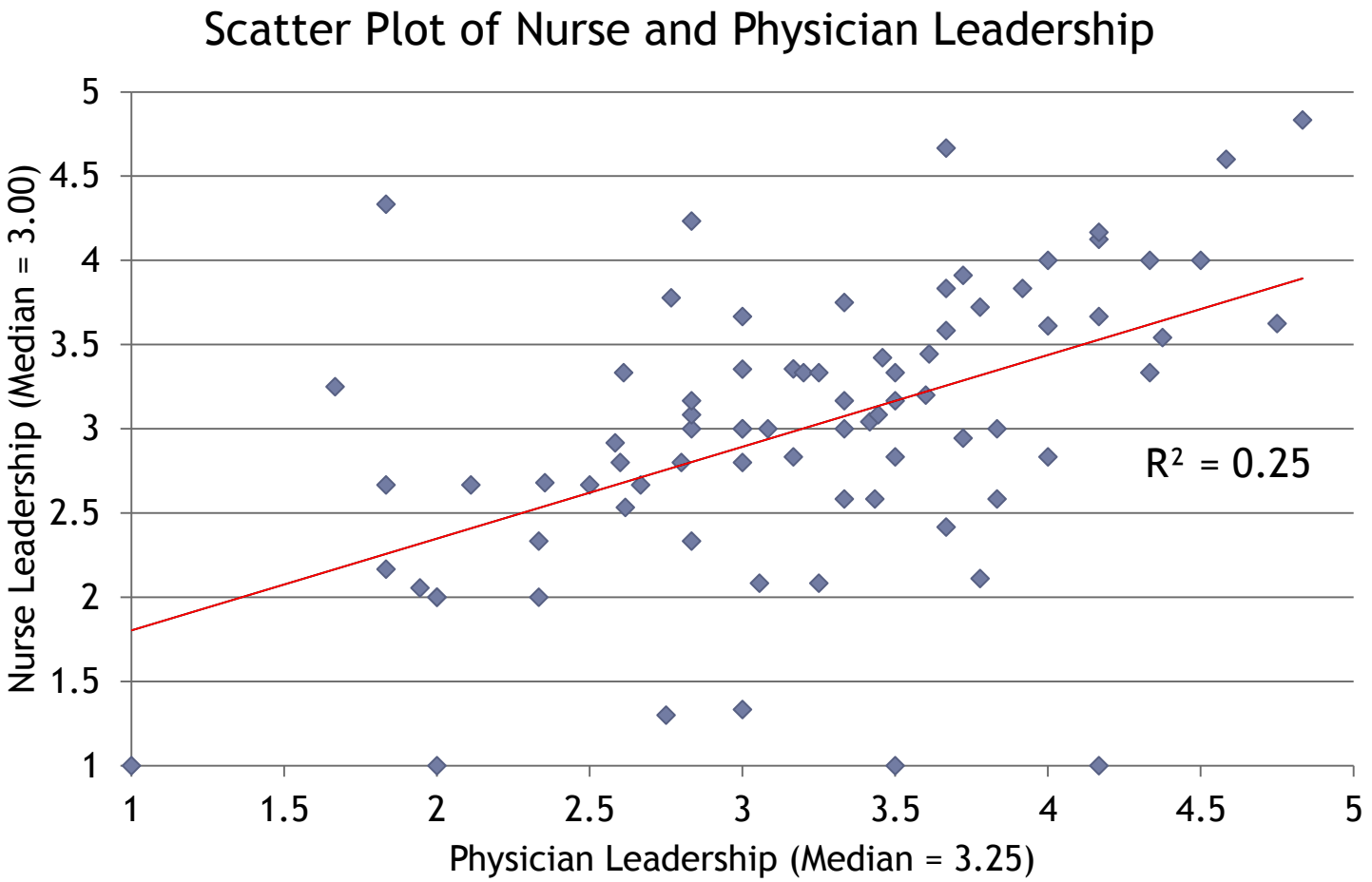
Analysis Methods

- Measure Construction
  - Factor analysis and Cronbach alpha's to assess discriminant validity and internal reliability
- Aggregated measures to station level
  - Tested for differences across facilities using Stata's Loneway procedure
- Models
  - Regression for organizational measures with clustering within VISN
  - Grouped logit for 30 day readmissions with a HF diagnosis with bootstrapped errors

Co-Leadership

- During the PAST 6 MONTHS, how much do you feel nurses (physicians) you work with regularly to provide HF care took the lead regarding the following
  - In decisions about patient care
  - In identifying and fixing problems in work processes and care transitions
  - In team building and coaching
  - In handling interpersonal issues
  - In articulating a vision for HF care provision
  - In acquiring necessary resources for HF care
- In a rotated factor analysis, two factors clearly emerged – one for nurse leadership and one for physician leadership
- Reliability
  - For nurse framing: Cronbach alpha 0.94
  - For physician framing: Cronbach alpha 0.92
- Correlation between nurse and physician leadership: 0.50

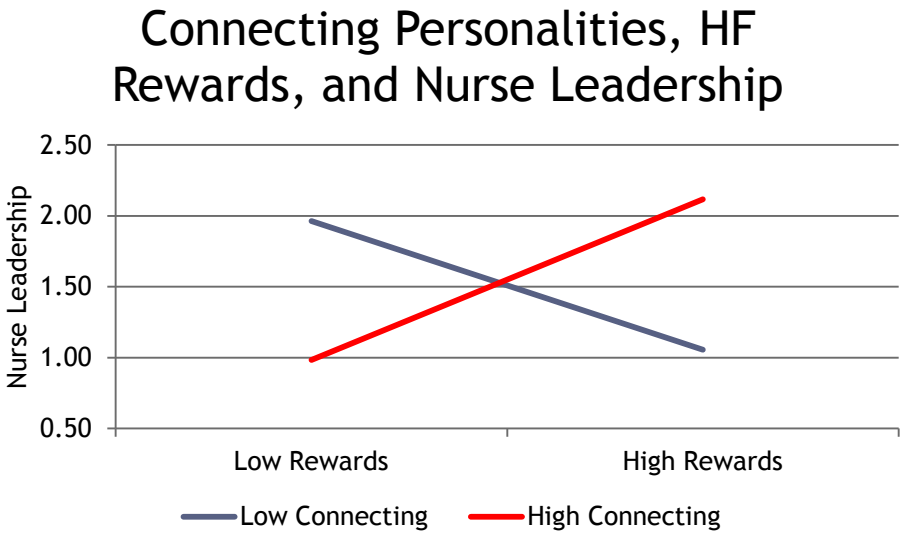
Co-Leadership Scatter Plot

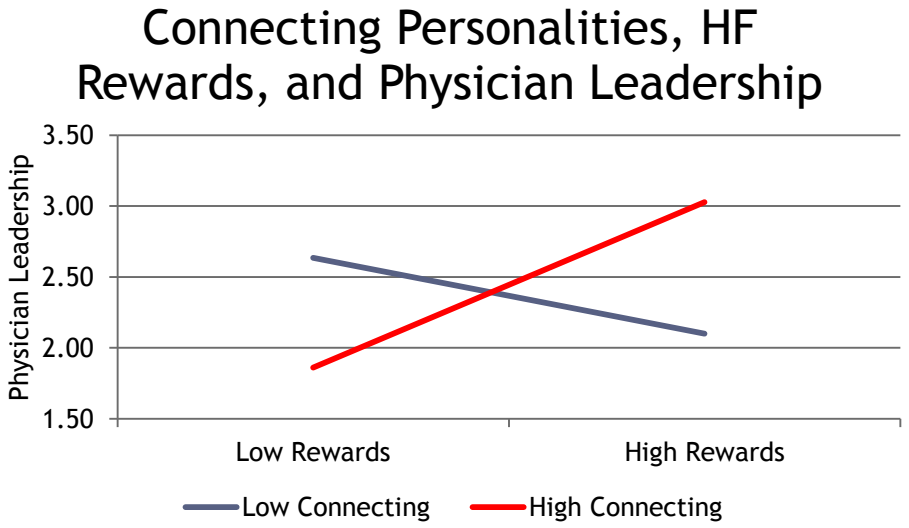


Results

- ↑ Co-leadership by physicians and co-leadership by nurses → ↑ Interdependence
- ↑ Interdependence → ↑ Psychological safety and ↓ Difficulty in coordinating HF care
- ↓ Difficulty in coordinating HF care → ↑ Preparedness for providing individualized care
- ↑ Preparedness for providing individualized care → ↑ Satisfaction with HF care
- ↑ Preparedness for providing individualized care and ↑ Participation in QI activities → ↓ 30 day readmissions with primary HF diagnosis
  - Joint test – $X^2 = 9.94$, p=.0069.
  - In a model without participation in QI activities, prepared is significant with the odds ratio for a one unit change of .89.

Results: Connecting Personalities, Rewards, and Leadership





Subset Analysis: Readmissions in Care Groups (Teams)

- 49 stations with at least one MD or RN respondent who said there was a HF care group: Does your facility have a care group? A care group is a group of providers in your facility dedicated to HF care for your facility's patients. Predominantly stations with a heart failure clinic.
  - Larger stations with a heart failure clinic and more respondents per station, higher participation in QI, higher perceptions of being rewarded for HF care, and feeling of better prepared to provide individualized HF care
- A one-unit increase in prepared was associated with odds ratio for 30 day readmissions of
  - .85 (prob < .06) - HF primary diagnosis
  - .84 (prob < .06) - HF primary or secondary diagnosis
  - .86 (prob < .01) - Any diagnosis

Results: Control Variables

- ↑ Supportive station context →
  - ↑ Nurse leadership
  - ↓ Preparedness for providing individualized care
    - Indirect effects through nurse leadership and reducing difficulty in coordination are positive
  - ↑ Satisfaction with HF care
- ↑ HF care routines → ↓ Psychological safety
- ↑ Participation in QI activities → ↑ Preparedness for providing individualized care
- Satisfaction with HF care higher in a HF clinic and lower in larger stations

Discussion

- What does this mean for reducing HF readmissions?
  - HF care is more than just routines and processes – it also involves effective team work
  - Team work affects readmissions through its effect on being prepared to provide individualized care
  - Nurse-physician co-leadership improves team work
- What is the role of psychological safety?
- What is the role of HF care routines?
  - Institutionalizing care processes makes finding significant effects difficult
- Is there the evidence the relations are causal?

Limitations and Extensions

- Self-selection effects
- Low power
- Measuring of nurse-physician relational co-leadership
  - Focused on individual professional component
  - Measurement of relational component (modeling positive inter-professional relations) needs to be explored further

What should we be doing?

- Increase interdependence because it starts a cascade of effects that increases preparedness and reduces readmissions
  - Insure consistency between rewards and connecting personalities
  - Encourage nurse and physician leadership
- How does interdependence work?
  - A concept alignment process – process for addressing divergent viewpoints?
  - Creating situational awareness

How can we promote leadership to increase interdependence?

- Encouraging connecting personalities, perhaps by recruiting or selection
- Provide a supportive context that promotes a partnership between leaders with complementary expertise
- Provide joint HF team leadership coaching for nurses and physicians
- Provide team development through structured reflection that includes all professions
- Provide joint training and support

Thank You

Questions?