

The Transitional Care Model: A Randomized Controlled Trial

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Background

- Congestive heart failure is the most common discharge diagnosis in patients older than 65 years.[1]
- The prevalence of heart failure continues to rise and by 2030 HF costs in the United States are expected to be at least \$53 billion per year [2].
- Approximately 30 to 40 percent of patients with heart failure are readmitted within six months of hospitalization.[3] Unnecessary readmissions contribute significantly to the cost and patient burden of this disease.
- Care coordination is not just a value proposition (higher quality, lower costs) but a patient-safety issue. Patients can be harmed when the many moving parts of their care are not aligned.[4]
- The Transitional Care Model (TCM) is an APRN-led intervention targeting older adults at risk for poor outcomes as they move across healthcare settings and between clinicians. [5,6]
- \$6.8M investment by Arnold Ventures, Missouri Foundation for Health, and VA Health Services Research and Development Service, Department of Veteran Affairs to conduct RCT of the TCM in three health systems in four states (VHA, Trinity Health, USCF Health).
- University of Pennsylvania is the Coordinating Center and Mathematica, Inc. is the external evaluator.

\$53B

Literature Review

The benefits of the TCM have been demonstrated in multiple NIH funded randomized controlled trials (RCTs).

- In one RCT, for example [5], the TCM reduced the likelihood of re-hospitalization or death within 1 year from 61% in the control group to 47% in the treatment group; in a second RCT [6], the TCM reduced the likelihood of re-hospitalization within 6 months from 37% in the control group to 20% in the treatment group.
- In *both* studies, these reductions generated net savings in health care expenditures of ~\$4,500 per patient in 2018 (taking into account the program's costs).
- Studies have found no adverse effects on mortality rates, consistently high patient ratings of their care experience and improvements in their functional status and quality of life.

Research Question

Our goal was to replicate the TCM Model with fidelity to core components to determine if the health and economic effects of the TCM demonstrated in the NIH funded clinical trials can be replicated in "real world" health systems such as UCSF Health.

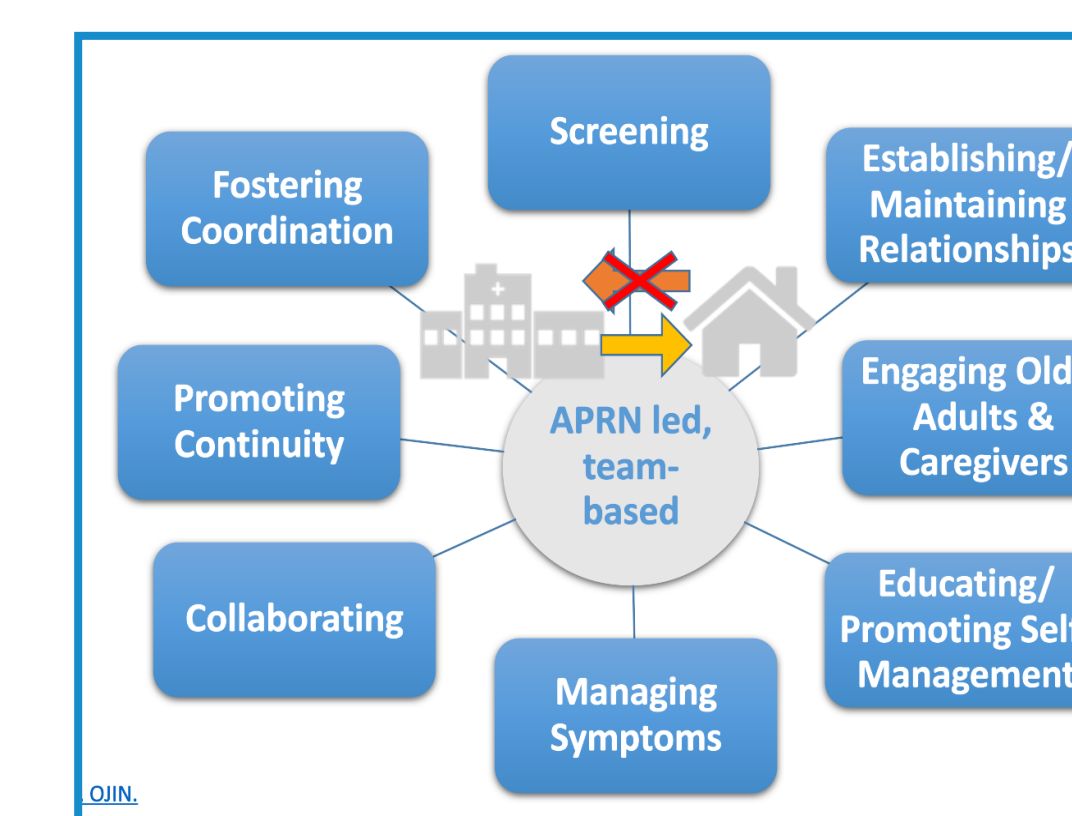
Methods

- RCT enrolled 962 patients at UCSF and six other partnering health systems across four states.
- UCSF: **245 enrolled patients (122 CONTROL / 123 INTERVENTION)**
- Eligibility criteria included: patients 65+ years old, admitted with symptoms of Heart Failure, COPD and/or Pneumonia who reside in the San Francisco area and have one or more risk factors.
- Patients are identified during hospital admission as eligible by an enrollment coordinator. If agreeable to participate and consent complete, the patient is randomized into CONTROL or INTERVENTION groups.



- The intervention group receives support from an Advanced Practice Registered Nurse (APRN) who collaborates with the patient, their caregivers, and health care teams by:

- Visiting and developing an individualized care plans while the patient is in the hospital
- Visiting the patient in the home/SNF within 24-48 hours of hospital discharge
- Accompanying the patient to their first provider visit
- Maintaining regular contact through a minimum of once weekly home visits (in-person and telephonic) over 2 to 3 months to monitor symptoms, support patients with their care needs, and position patients and family caregivers to manage future health needs in a manner consistent with their goals and preferences.



UCSF is a unique site in that patients are able to be enrolled in the RCT by proxy (if screened as cognitively impaired) as well as if their primary language is one of the four site-approved including Russian, Chinese, Spanish and English.

Discussion

We anticipate that our findings will replicate that of the original TCM studies and will again demonstrate improved clinical outcomes, better experience with care, and reduce health resource utilization for those who received the TCM.

In addition, the implementation of this study has provided opportunity to recommend design improvements, as well as a multidisciplinary team, of the TCM model to be implemented at UCSF Health.

Final data and results expected Fall 2024

Next Steps

- Active Intervention Completion: **March 2023**
- Study data synthesis and analyses by Mathematica: **Fall 2024**
- Primary outcome measurement of total number of hospitalizations in year following enrollment in RCT
- Secondary outcome measurements: experience with care, physical and emotional health status, quality of life, and time to first rehospitalization and/or death.

Conclusion

The value of TCM in bridging patients from inpatient to outpatient with the continuity of a small team (including trusted clinicians), patients setting their own goals, and coordination of care in a complex, growing health system will guide strategic planning and engagement with senior leadership to implement the TCM at UCSF Health.

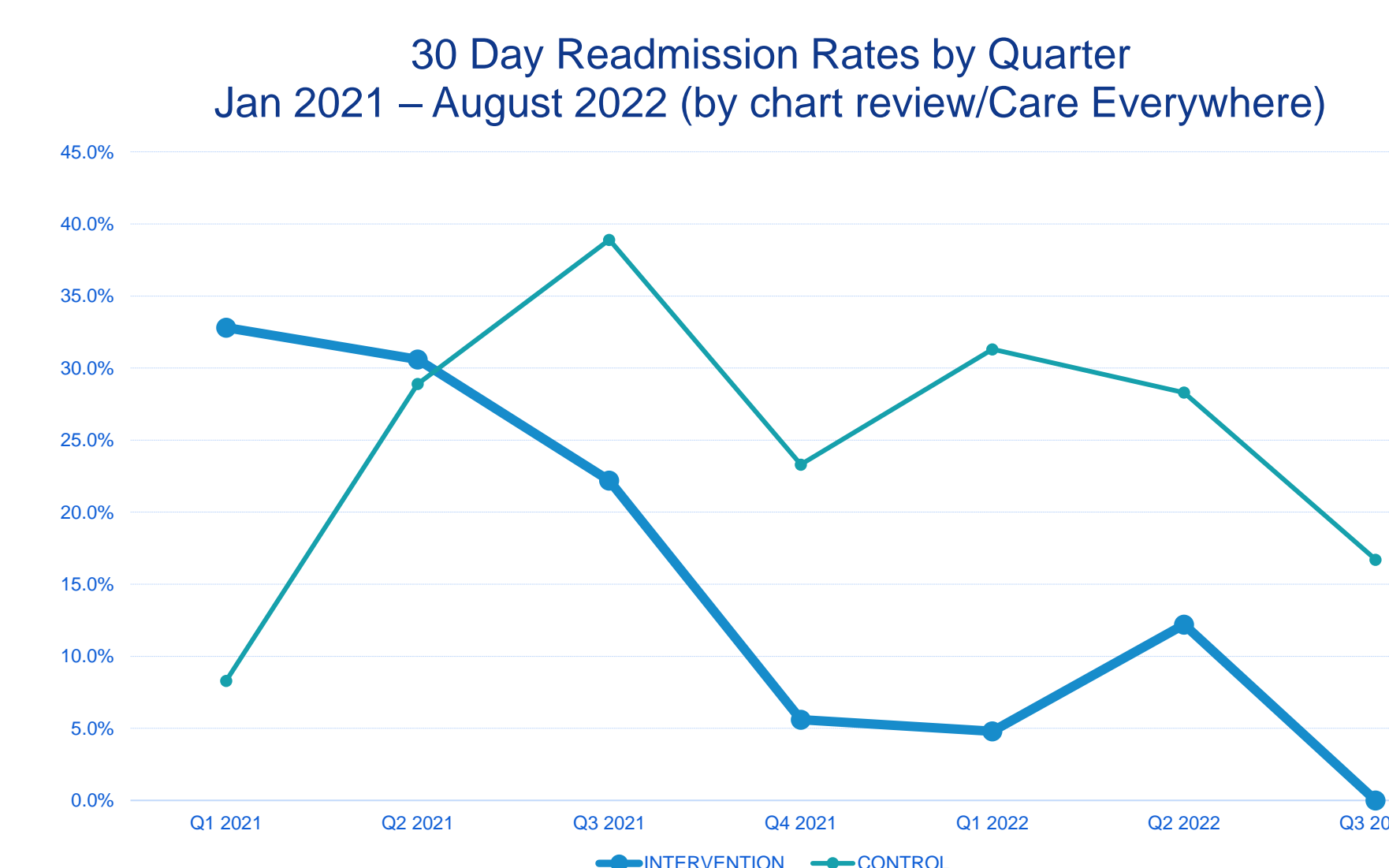
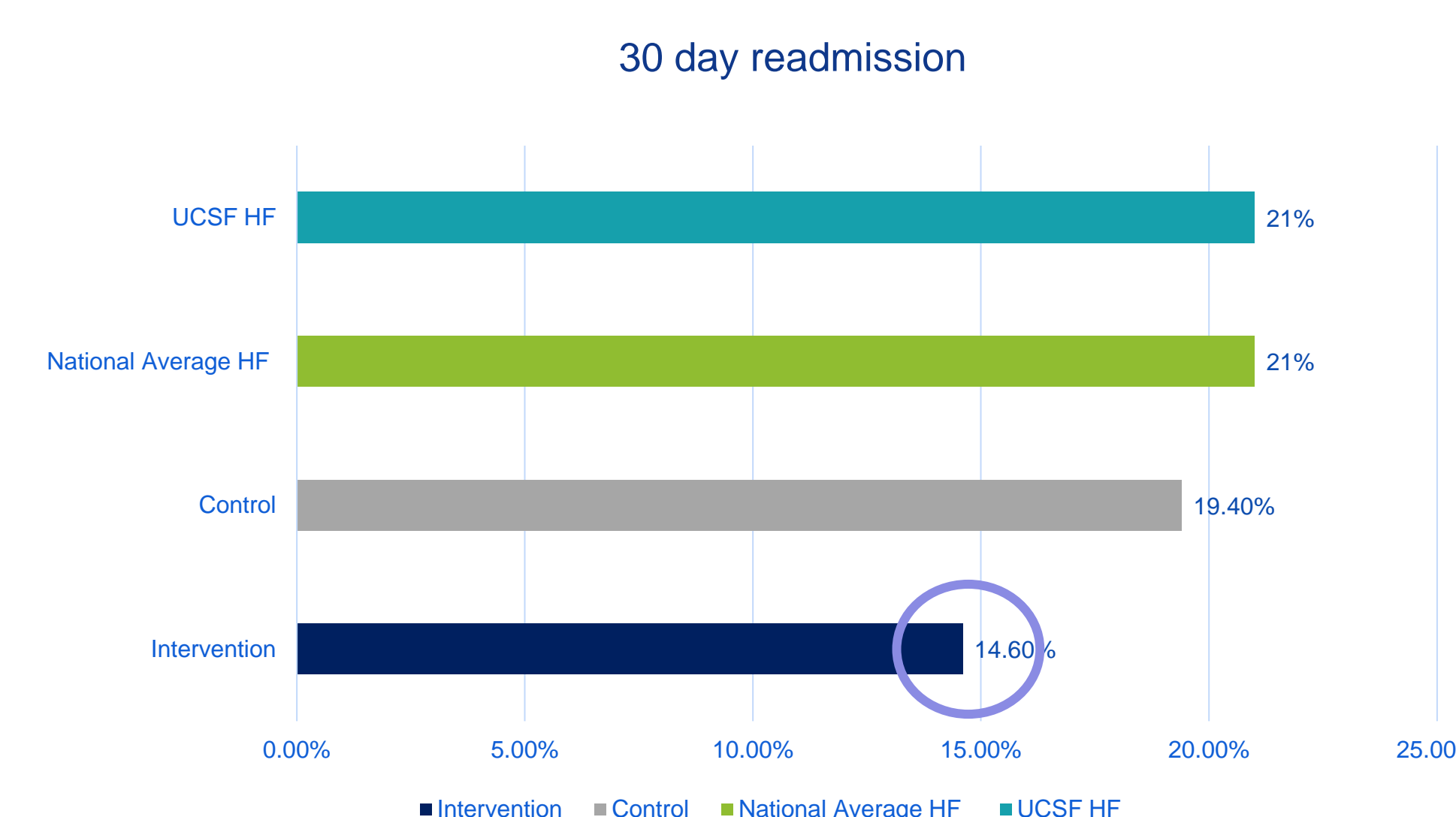
Acknowledgments

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References

Available upon request

Preliminary Results



What are the Priority Needs and Issues Experienced by Patients and Caregivers throughout Transitions? (Identified by UCSFs APRNs)

