I-TRANSFER

Improving TRansitions ANd outcomeS oF sEpsis suRvivors:

A Type 1 Hybrid Implementation Study

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I-TRANSFER Team

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Overview

- Sepsis survivors are twice as likely as non-sepsis patients to be readmitted by 30 days, often with a new or recurrent infection with 32% of these 30-day readmission occurring within 7 days

- It is during the first few weeks of HHC that sepsis survivors are most at risk for rehospitalization, indicating the need for timely attention to symptom management HHC services

- Vigilance for signs and symptoms of infection along with sepsis sequelae is important for quality care.

Study Design

Implementation Science

- Incorporates a research team and clinical/leadership teams working together for proper implementation
- Final products are:
  - improved processes of care
  - improved patient outcomes
  - a road map of strategies for others to follow
- Our study is a Type 1 hybrid where effectiveness and implementation aims are equally important.

Previous Research

- Two NIH funded studies showed that timely home health nursing visits AND outpatient follow-up within 7 days after hospital discharge, significantly reduced readmissions
  - 8 percentage point reduction in heart failure (40% relative reduction)[1]
  - 7 percentage point reduction in sepsis (41% relative reduction)[2]

[1] Murtaugh, C., Deb, P., Zhu, C., Peng, T., Barron, Y., Shah, S., Moore, S., Bowles, K.H., Kalman, J., Feldman, P., & Siu, A. (2017). Reducing Readmissions Among Heart Failure Patients Discharged to Home Health Care: Effectiveness of Early and Intensive Nursing Services and Early Physician Follow-Up. *Health Services Research*, *52*(4):1445-1472. PMID: 27468707. PMCID: PMC5517672. DOI:10.1111/1475-6773.12537.

[2]Deb, P., Murtaugh, C., **Bowles, K.**, Mikkelsen, M., Khajavi, H., Moore, S., Barron, Y., Feldman, P. (2019) Does Early Follow-Up Improve the Outcomes of Sepsis Survivors Discharged to Home Health Care? *Medical Care, 57*(8):633-640. PMID: 31295191. DOI: 10.1097/MLR.0000000000001152.

I-TRANSFER Overview

ACUTE CARE

- Identify the sepsis survivor in acute care
- Refer sepsis survivor to home health care
- Notify HHC that it is a sepsis survivor
- Make the outpatient follow-up appointment
- Educate the patient and caregiver

HOME CARE

- Complete start of care visit within 48 hrs. of hospital discharge
- Document sepsis on the OASIS diagnosis list
- Nursing visit at least once more that first week
- Encourage and assist patient to attend outpatient visit

Specific Aims

- Aim 1: Test the effectiveness of the I-TRANSFER intervention compared to usual care on 30-day rehospitalization and emergency department use among sepsis survivors receiving HHC

- Compared to usual care, sepsis survivors who receive the I-TRANSFER intervention will have significantly fewer:
  - a) all-cause 30-day rehospitalizations;
  - b) inpatient days if rehospitalized;
  - c) emergency department visits within 30 days.

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Specific Aims

- Aim 2) Produce insights and generalizable knowledge regarding the context, processes, strategies, and determinants of I-TRANSFER implementation.
- Implementation of I-TRANSFER will result in:

a. identification of sepsis as a HHC diagnosis on the OASIS significantly more often;

b. a significantly higher proportion of timely first week HHC nursing visits (within two days of hospital discharge +1 more that week) and community provider visits by 7-days.

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Timeline

5 year Implementation Science Study

- Feb 2021 – Distribute ORIC Survey
- July 2021 – 6 months of the needs assessment phase (interviews)
- Jan 2022 – 6 months of the planning phase
- June 2022- 1 year of implementing phase
- June 2023 – 6 months of the maintenance phase
- Followed by 2 years of data analysis
- Study ends Nov 30th, 2025

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Methods

Data collection

1. Organizational Readiness for Implementing Change survey (ORIC)
2. Interview guided by the Consolidated Framework for Implementation Research (CFIR)
3. Patient CMS Data, provider of service files, and OASIS data

Methods

Data collection (qualitative interviews)

- Implementation mapping- 5 steps
  - Step I calls for an implementation needs assessment to identify barriers and enablers, adopters and implementers
  - Next determine who has to do what and how will success be measured
  - Selected implementation strategies for each component of I-TRANSFER
  - Fourth produce implementation protocols
  - Fifth step monitor progress and fidelity during the 12-month implementation phase

Implementation Sites

5 Health systems (16 hospitals and 5 affiliated home health agencies)

- University of Pennsylvania Health System and Penn Medicine at Home, PA
- Main Line Health and Main Line Home Care and Hospice, PA
- New York Langone Medical Center & Visiting Nurse Service of New York, NY
- Marian Regional Medical Center and Dignity Home Health, CA
- University of Colorado Anschutz Medical Center and Berkely Home Health, CO

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Findings

Barriers

- Health information technology, interoperability
- Care coordination
- Staffing
- Information transfer
- Inadequate patient education
- Scheduling challenges

Findings

Facilitators

- Alerts to identify sepsis in acute care
- If acute and home care utilize the same EHR
- Alerts and referral requests come to HHC electronically
- Having a sepsis coordinator on staff

Role

- Participated in planning the analysis and presenting the findings of the data collected from the ORIC survey
- Working on the site characteristics table,
- Working alongside the post docs and primary investigator on abstracts
- Currently working on a research paper with Dr. Bowles reporting the findings of Aim 2
- Literature Review

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Skills Learned

- Proficiency in Microsoft Excel, utilizing ORIC data and creating graphs
- Scientific Writing
- Familiarity with ORIC and RedCap
- Observed how a research team functions
- How to craft abstracts for conference presentations

Acknowledgements

- Dr. Kathryn Bowles
- Joanne H. Levy,
- Chinwe Nwadiogbu
- I-TRANSFER Team
- SUMR Cohort

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Thank you!

- Questions or comments?
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