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Transitional care & unplanned readmissions in frail older adults

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Background

- The transition from hospital to home following discharge has been associated with an increased risk of adverse health outcomes in frail older adults. [1,2]
- Transitional care interventions (TCIs) reduce readmission rates and improve quality of life. [3]
- The AdvantAGE project aims to reduce readmission rates by implementing a newly developed transitional care intervention.
- **This doctoral research is embedded in the AdvantAGE project and has three aims: 1. to assess the transitional care intervention`s effect on time to readmission; 2. to evaluate the cost-effectiveness of the transitional care intervention, and 3. to explore mechanisms leading to rehospitalisation.**

AdvantAGE Development

Method

AdvantAGE Protocol

AdvantAGE

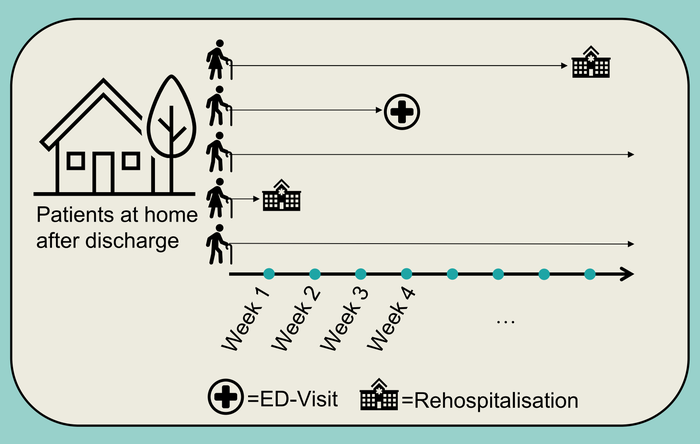
Design: Cohort study with prospective intervention and retrospective control group
Population: Frail older adults (aged 65+) discharged from hospital to home
Intervention: Transitional care intervention led by Advanced Practice Nurses (APN) delivered through home visits up to 90 days after discharge
Primary outcome: 90 days-rehospitalisation rate

PhD Aims

1. To evaluate the effect of the transitional care on the time to rehospitalisation and ED-visits

Rationale: Systematic reviews have predominantly assessed readmission rates at fixed intervals. However, studies using time-to-event outcomes are needed to understand how intervention effects unfold over time [4].

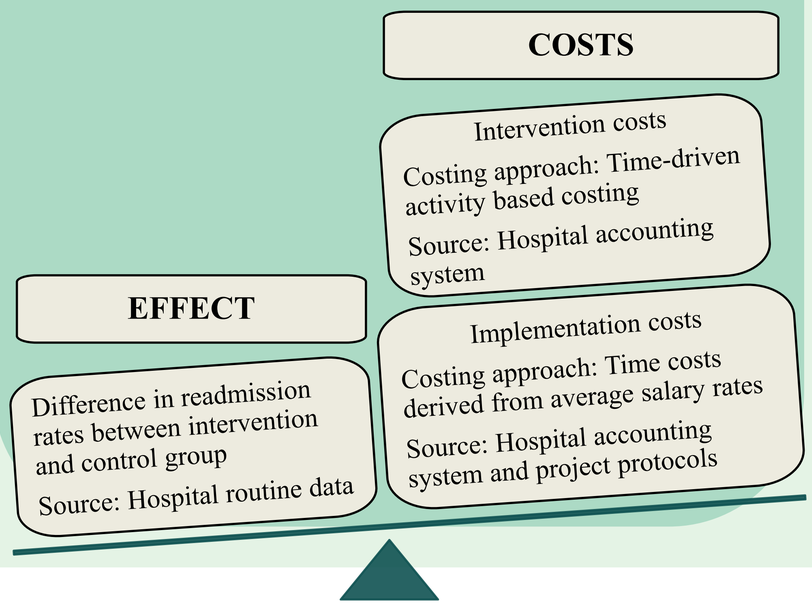
Method: A quantitative statistical approach (survival analysis) will be used to anwer the research question.
- Sample: AdvantAGE intervention and control group
- Datasource: Hospital routine data



2. To assess the cost-effectiveness of the AdvantAGE Transitional Care Intervention

Rationale: Transitional care interventions have been shown to reduce overall healthcare costs [5]. Yet, existing cost-effectiveness evaluations remain low in quality and focus mainly on provider-related costs.

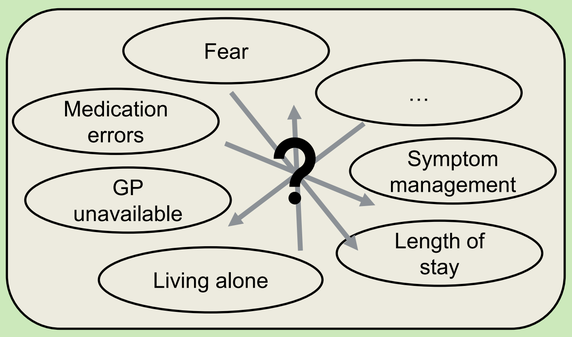
Method: A hybrid model- and trial-based approach will be used to calculate the incremental cost effectiveness ratio (ICER). The ICER is defined as the incremental cost of the AdvantAGE TCI per rehospitalization avoided.



3. To explore mechanisms of unplanned readmissions

Rationale: Although current research has identified various factors related to rehospitalisation, there remains limited insight into how these factors interact to contribute to or prevent rehospitalisation.

Method: A qualitative exploratory approach will be used including content analysis after Kuckartz and the qualitative comparative approach after Ragin.
- Sample: AdvantAGE intervention group
- Data source: AdvantAGE-APNs home visit documentation, hospital records, interviews with various healthcare providers and AdvantAGE participants



Impact

- The results will provide further evidence on the effects of transitional care interventions, contributing to their adaptation and development.
- The assessed cost-effectiveness will support healthcare leaders in making decisions about introducing transitional care models into routine health care.
- The findings on the mechanisms of unplanned readmissions and how to prevent them will generate new insights into the needs of frail older adults, and could lead to the identification of new preventive measures to reduce rehospitalisation.

References: [1] Jencks, S. F., Williams, M. V., & Coleman, E. A. (2009). Rehospitalizations among patients in the Medicare fee-for-service program. *N Engl J Med*, *360*(14), 1418-1428. https://doi.org/10.1056/NEJMsa080356 [2] Loyd, C., Markland, A. D., Zhang, Y., Fowler, M., Harper, S., Wright, N. C., Carter, C. S., Buford, T. W., Smith, C. H., Kennedy, R., & Brown, C. J. (2020). Prevalence of Hospital-Associated Disability in Older Adults: A Meta-analysis. *Journal of the American Medical Directors Association*, *21*(4), 455-461.e455. https://doi.org/https://doi.org/10.1016/j.jamda.2019.09.015 [3] Zou, D., Wang, L., Li, J., Li, L., Wei, X., & Huang, L. (2022). The benefits of transitional care in older patients with chronic diseases: a systematic review and meta-analysis. *Aging Clinical and Experimental Research*, *34*(4), 741-750. https://doi.org/10.1007/s40520-021-01973-1; [4] Rasmussen, L., Grode, L., Lange, J., Barat, I., & Gregersen, M. (2021). Impact of transitional care interventions on hospital readmissions in older medical patients: a systematic review. BMJ Open, 11. https://doi.org/10.1136/bmjopen-2020-040057. [5] Landi, S., Panella, M. M., & Leardini, C. (2024). Disentangling organizational levers and economic benefits in transitional care programs: a systematic review and configurational analysis. BMC Health Services Research, 24(1), 46. https://doi.org/10.1186/s12913-023-10461-3