



Nurse-led care model in Swiss nursing homes: Improving INTERprofessional CARE for better resident outcomes (INTERCARE)

Abstract

Background: The increasing complexity of medical care in nursing homes and the lack of coordination between settings jeopardize nursing home (NH) care quality. One particularly disturbing issue are avoidable hospitalizations, associated with potential negative clinical and psychosocial outcomes and excess cost. This calls for new models of care to support NH care quality by enhancing care coordination, improving care workers' geriatric expertise (including the use of advanced practice nurses (ANP) and expert nurses), and investing in effective (clinical) leadership in NH. One promising solution, well-established in other countries, but still to be implemented and tested in Switzerland, are nurse-led interprofessional NH care models. These models have shown to improve resident satisfaction, to empower NH staff, as well as clinical outcomes including a reduction in avoidable hospitalizations. Moreover, they are typically led by APN or expert nurses and focus on residents' needs assessment, care coordination (also in view of transitions between settings), provide geriatric clinical leadership and support data-driven quality improvement. **The main goal of the INTERCARE study – as part of the NRP74 "Smarter Health Care" – is therefore to develop and evaluate a Swiss nurse-led interprofessional care NH model to improve care coordination and quality of care in NHs with a special focus on the reduction of avoidable hospitalizations.**

Methods: This implementation science study will be guided by two frameworks: (1) the PEPPA+ framework, developed to support the introduction and evaluation of APN role, and (2) the Consolidated Framework for Implementation Research (CFIR), which provide a structured approach for the development, and implementation of the nurse-led NH model. The project will have two stages: *STAGE A focuses on the development of the model, based on a literature review of available international evidence enriched by contextual information from non-evaluated existing local Swiss models.* According to the principles of Public Patient Involvement, stakeholders will be involved throughout the project and the RAND/UCLA methodology will be used in Stage A to assess the appropriateness of the literature-based model and to adapt it to the Swiss context. *STAGE B includes the implementation and evaluation of the model.* We will use a quasi-experimental stepped-wedged design. The model will be implemented and tested in a convenience sample of 12 NHs across Switzerland's German- and French-speaking regions. We aim to assess the effectiveness of the nurse-led care model on unplanned hospitalizations as primary outcome, and resident and staff outcomes as secondary outcomes, hypothesizing that NH with a nurse-led care model have lower rates of unplanned hospitalizations and show improvement in residents and staff outcomes. In addition, we will also assess service and implementation outcomes to evaluate the uptake and the degree to which the 'Swiss nurse-led interprofessional NH care model' will actually have been implemented during the course of the intervention period in the participating nursing homes.

Analyses: To test the main hypothesis in view of reduction of unplanned hospitalizations, a generalized linear mixed effects model with binomial error distribution and logistics link function will be applied, using NHs as random effect and intervention as fixed effect. A sensitivity analysis will be performed adding time as fixed factor to the model. We will perform intention-to-treat analyses and do sensitivity analyses based on whether the intervention was actually in place. The same approach will be used for secondary outcomes. As this is an implementation science project, qualitative data will be used to supplement the analyses of client outcomes by indicating the degree to which the nurse-led model was actually implemented, what barriers and facilitators were encountered and how the service offered was perceived by NH staff and residents. Qualitative data will be analyzed according to the thematic analysis described by Braun & Clarke.

Significance of this study: The study will allow first evidence-based statements on the use of highly qualified geriatric nurses in interprofessional teams in Swiss nursing homes. It addresses the lack of access to geriatric expertise in Swiss nursing institutions and develops sustainable solutions. The study will produce three publicly available reports in the three national languages German, French, and Italian: 1) examples of nurse-led care models, 2) description of a care-based care model with core and variable elements adapted to Switzerland as well as an implementation checklist, and 3) evaluation report from the pilot study. This will serve stakeholders from residential institutions as well as politicians as a tool for the further implementation of the model.