

## Abstract

About 5–10% of critically ill patients require a long-term stay of more than seven days in Intensive care units (ICU) because of the severity of their illness (1,2). They require long-term nursing, medical, therapeutic, psychological, social, and/or technical support (3), leading to substantial healthcare costs for weeks, months, or even years (4). The experiences of critically ill and chronically critically ill patients are grouped under the term post-intensive care syndrome (PICS) and manifest as physical, cognitive, psychological, and social impairments (5). The effects on the families of PICS patients are termed post-intensive care syndrome – family (PICS-F) and comprise mainly psychological and social impairments (6). In Switzerland, chronically critically ill patients are often supported by their families, home care nurses (Spitex), and general practitioners. These healthcare professionals may find such patients challenging because they may have insufficient knowledge about chronic critical illness and inpatient and/or outpatient post-ICU follow-up. The incidence of PICS and PICS-F in Switzerland is unknown, and the knowledge and/or establishment of inpatient and/or outpatient post-ICU follow-up services are inadequate. Thus, stress disorders and symptoms remain largely undetected, underdiagnosed, and often untreated and can have a serious impact not only on the lives of those affected but on society as a whole (7). This study aims to provide a foundation for investigating and developing an innovative, interdisciplinary and interprofessional home-based care service for chronically critically ill patients and their families. Initially this study will be a single-centre project based on implementation science methodology. The project will be divided into two phases. The first phase aims to determine the current needs and practices regarding home-based inpatient and/or outpatient post-ICU follow-up in the Swiss setting. To achieve this aim, we will perform a contextual analysis to identify the needs of inpatient and/or outpatient post-ICU home-based follow-up for chronically critically ill patients and their families. Further, we will develop a new care model for post-ICU home-based follow-up care and identify contextually relevant implementation strategies. We will develop the care model using intervention mapping – a comprehensive approach for the planning and development of health interventions in six steps (8). In the second phase, a qualitative observational pilot study will provide the basis for an innovative home-based care model for chronically critically ill patients and their families. This study focuses on the feasibility of the measurements and data collection processes and feasibility of a home-based outpatient post-ICU follow-up care.