Background: Heart failure (HF) affects an increasing number of individuals, with strong links to complex health care needs, morbidity and premature mortality. As self-care is recognized as an important modifiable factor influencing morbidity and mortality, baseline data, i.e., on patients' healthcare support needs, as well as their ability to reflect on, select and perform self-care, are essential to patient-specific education interventions. Still, while international research has shown that sub-optimal self-care is common in HF populations, related data are rare in Switzerland. Additionally, little is currently known of the relationships between patient needs and self-care, or of whether either complex needs or self-care relates differentially to HF patients' socio-demographic and/or clinical profiles. Therefore, in addition to describing the prevalence of common HF symptoms, complex needs, self-care practices, vulnerable profiles and past unplanned healthcare utilization, this study aims to explore the relationships between these variables.

Methods: Employing a cross-sectional analytical design, the proposed study will include a convenience sample of 150 adult HF patients recruited from 4 sites of one Swiss acute care hospital. Complex needs data will relate to both symptoms and needs as measured via the M.D. Anderson Symptom Inventory–HF instrument and the Heart Failure Needs Assessment Questionnaire. Self-care will be measured using the Self-Care of Heart Failure Index and the European Heart Failure Self-care Behavior Scale. Where necessary, before the instruments are used, they will be translated from English into French and German and their content and construct validity investigated. Vulnerable individuals' profiles will be investigated regarding socio-demographic and clinical variables. Unplanned healthcare utilization will reflect the number of emergency department admissions, non-selective all-cause hospitalizations and re-hospitalizations over the past year.

Analyses: Using structural equation modelling, we will demarcate the latent construct, i.e., the unobserved variable, of complex needs, then correlate this with the observed variables of self-care. Next, we will use latent class analysis to examine various HF profiles, from which we will isolate those of vulnerable individuals. Using ANOVA analysis, we will examine whether the profiles of vulnerable individuals differ from those of others on the latent construct of complex needs. Using MANOVA analysis, we will then examine how individuals' HF profiles correlate with self-care. Lastly, via Multiple Regression Analysis, we will explore relationships between complex needs (as a latent construct), self-care and unplanned healthcare utilization.

Significance of this study: This study is among the first in Switzerland to examine the levels of complex needs and self-care in HF patients. Its results will increase our understanding of the interrelations between HF patients' profiles, their levels of self-care and their healthcare needs. This will guide clinicians' choices of interventions, e.g., aimed at symptom management and patient education, to address complex needs and support self-care.