Titres	Développement et Evaluation d'une **C**onsultation **IN**firmière pour des **A**dultes avec une Insuffisance **CARD**iaque **(CINACARD) (projet-père)** Development and Evaluation of a Nurse-delivered Service for Adults with Heart Failure. Entwicklung und Evaluation einer Pflegesprechstunde für Erwachsene mit Herzinsuffizienz **CINACARD I:** Development of a nurse-delivered intervention in heart failure **(projet-fils)**. Subproject of CINACARD I: The prevalence of and relationships between complex needs, self-care, healthcare utilization and vulnerable profiles in individuals with heart failure: a cross-sectional study
Acronyme	CINACARD et CINACARD I
Statut (dates début-fin)	En cours : mars 2014 – 2018
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Source de financement (partenaire financier)	• Stiftung Pflegewissenschaft Schweiz • HFR (Academic Practice Partnership between HEdS-FR and HFR) • HEdS-FR/HES-SO
Résumé	**CINACARD I** **Background** A number of individuals live with heart failure (HF) and HF mortality and morbidity remains high. HF mortality and morbidity can be decreased by nurse-led models in which HF patients are proactively managed and intensively monitored after hospital discharge. Nurse-led HF models however have not yet been established in routine clinical environment in Switzerland, possibly due to a lack of the models' specific fit, acceptance, and feasibility within Swiss contexts. **Aims** To develop a nurse-delivered follow-up for patients with HF that is based on international research and fits well into our local clinical routine. **Methods** This multi-site of a single hospital study will contain four phases using both qualitative and quantitative research methods. We will triangulate results from three sub-studies that are designed to acquire information about intervention components. First, we will conduct a systematic Cochrane review (SR) including meta-analytical techniques to describe the characteristics and effectiveness of nurse-led interventions in HF. Multiple-regression analysis will determine intervention characteristics predicting better patient outcomes. Second, we will conduct three focus group discussions with health care professionals (HCP) to assess perceived challenges in HF care in our context. A convenience sample of 12 to 24 HCPs (nurses, physicians and teachers) from 4 sites of the cantonal hospital, the primary care setting and the school of health sciences Fribourg will be included. Group discussions will focus on perceived challenges in current care for patients with HF. Responses will be tape recorded, verbatim transcribed and analysed with thematic analysis. Those perceived challenges that are appropriate for a nurse-delivered service will be identified as eligible intervention components. Third, we will use a cross-sectional descriptive design to determine complex needs of patients with HF. A convenience sample of approx. 100 adult HF patients will be included and recruited from 4 sites of a Swiss hospital. Complex needs will be assessed by the M.D. Anderson Symptom Inventory-Heart Failure (MDASI-FH) as well as by the Heart Failure Needs Assessment Questionnaire (HFNAQ). Before their use, both instruments will be translated from English into French and German and culturally adapted according to recommended procedures. We will determine the highest needs using descriptive analyses of the MDASI-HF and HFNAQ and by ANOVA with the type of need as a within factor and post-hoc comparisons. Again, those prevalent symptoms as well as identified highest needs that are appropriate for a nurse-delivered intervention will be identified as eligible intervention components. The composition of the nurse-delivered intervention will be the fourth phase and will result from a triangulation of the identified themes in the three sub-studies. More specifically, we will first list all significant predictors as identified in the SR, as well as identified challenges in HF care, highest needs and prevalent symptoms

	of patients with HF (i.e., these will be themes for the nurse-led intervention) . Then, we will assess HCPs' likely acceptability of listed themes by assessing their agreement to: "how appropriate do you consider the following components to be for a nurse-delivered intervention for patients with HF?" ("not appropriate" to "highly appropriate"). Interrater agreement will be assessed by calculating the content validity index; themes with either high agreement for appropriateness or non-appropriateness will be considered appropriate or non-appropriate for the composition of the intervention, and items with low agreement will be discussed until agreement for either appropriateness or non-appropriateness is achieved. The resulting nurse-delivered intervention will be tested for feasibility in a subsequent phase II trial (CINACARD II)
Résumé sous-projet de CINACARD I (23 juillet 2015-31 janvier 2017)	**The prevalence of and relationships between complex needs, self-care, healthcare utilization and vulnerable profiles in individuals with heart failure: a cross-sectional study** <u>Background:</u> 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. <u>Methods:</u> 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. <u>Analyses:</u> 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.
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Valorisation (publications, conférences, congrès)	CINACARD: • **Santos, G.**, **Schäfer-Keller, P.**, Vasserot, K., Villeneuve, H., Raccanello, O., Graf, D., Aubort, N., Vona, M., **Moses Passini, C.**, Richards, D., & Strömberg, A. (2015). *Development of a Nurse-led Clinic for individuals with Heart Failure (CINACARD)*. Researching Complex Interventions in Health: The State of the Art, 14-15 October (accepted for poster presentation), University of Exeter, UK. CINACARD I: • **Schäfer-Keller, P.**, **Santos, G.**, Vasserot, K., Augereau, C., Villeneuve, H., Raccanello, O., Graf, D., Aubort, N., Vona, M., Moses Passini, C., Richards, D., & Strömberg, A. (2016). *The prevalence of and relationships between complex needs, self-care, healthcare utilization and vulnerable profiles in individuals with heart failure: preliminary results of an ongoing cross-sectional study*. Présentation orale à l'Assemblée Annuelle commune 2016: Société Suisse de Cardiologie (SSC), Société Suisse de Chirurgie Cardiaque et Vasculaire Thoracique (SSCC), Société Suisse de Pneumologie (SSP), 15-17 juin, SwissTech Convention Center Lausanne, Quartier Nord de l'EPFL, Ecublens, Suisse.