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POSTER ABSTRACT

HerzMobil Tirol – A telemedical, integrated disease management program for patients with heart failure

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Heart failure (HF) is a global health problem with an increasing an increasing incidence and prevalence and thus a major impact on healthcare systems. The 1-year mortality is 23.6% in patients with acute HF. Hospitalization for acute HF is associated with higher mortality and recurrent hospitalization. The majority of readmissions occurs early after hospital discharge: about 25% of patients are readmitted within the first month with a 50% proportion of HF-related causes of readmissions.

Therefore, in 2012 the Austrian province of Tyrol launched the HerzMobil Tirol (HMT) program, which is a multidisciplinary post-discharge disease management program for HF patients. It is supported by a telemedical monitoring system and embedded in a network of specialized nurses, resident physicians, and secondary/tertiary referral centers. After initial project phases, HMT reached its adolescence in 2017 and was adopted as regular service. This ensures reimbursement of the program by the social security system.

HMT is based on: (1) patient education to improve patient empowerment, (2) nurse-led care for early detection of imminent decompensation, (3) patient-held mobile phone for daily data acquisition and transmission of blood pressure, heart rate, body weight, well-being and drug intake, including nurse and physician-controlled telemonitoring, (4) continuous optimization of guideline-based HF therapy for long-term stabilization, and (5) network communication to assure comprehensive HF management across venues;

Patients enter HMT at the end of hospitalization for acute HF. Patient education is delivered by specialized HF nurses. On discharge, each patient is assigned to a resident network physician near his/her home. Network physicians supervise the management of the patient and optimize individualized guideline-directed medical therapy. Discharge information including a detailed treatment plan from the hospital is communicated to the HMT network. Within HMT, patients are supervised for 3 months. Telemedically transmitted patient data are reviewed daily by HF nurses and weekly by network physicians. Out-of-limit data are automatically signaled so that interventions, for example, adjustment of diuretics, can follow immediately. Face-to-face visits of the patient with the network physician are scheduled 1, 4, and 12 weeks after discharge. HF nurses monitor patients' compliance with medication, maintain telephone contact with patients if

necessary and adjust HF medication according to the network physicians' instructions. Additionally, a home visit by the HF nurse is scheduled immediately after discharge to complete disease- and equipment-related education and to ensure that prescribed medication is available. At the end of the managed care program, structured transfer of patients to regular care is organized. Regular HF network meetings of physicians and nurses are scheduled every 3 months.

A recently publication demonstrated the effectiveness of the program as indicated by a significant reduction of HF readmission and all-cause mortality within 6 months for patients in the HMT program compared to usual-care patients.

HerzMobil was adopted in other provinces of Austria following the Tyrolean model. It is continuously further developed. In a next step, the coronary heart disease will be included in the HMT model. An extension of the program with physical activity aspects is planned.