

Hospital-to-Community Integrated Pathways for Heart Failure: critical aspects and future perspectives

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Chronic care for cardiovascular disease (CVD) poses an ever increasing challenge for the future of economic and social sustainability. Caring for patients with heart failure (HF) requires a shift from fragmentation to harmonization and integration of services along the hospital to territory inpatient-outpatient pathways.

Methods and Results: Since 2009, the Province of Trieste (population app. 250,000) has been developing integrated Hospital-to-Territory pathways. Clinical and instrumental data were retrieved from the Cardionet® electronic registry of Trieste Cardiovascular Center. From November 2009 to October 2013, 2,217 patients with HF were registered in the Cardiovascular Registry of the Province of Trieste (10.4% of total patients; aged 75.5, males 56%, NYHA 3-4 25%, hypertensive heart disease 49%, ischemic 47% and valvular 45%). 93% of the patients were evaluated through echocardiogram upon enrolment. LVEF was 40% (27% of patients), 41-49% (14% of patients), 50% (59% of patients). The age and Charlson index >5 within the three groups was 73, 74 and 76 years respectively ($p<0.001$) and 38%, 33% and 26% ($p<0.001$). The 3 groups of patients underwent the treatment with ACE/inhibitors/sartans and betablockers in 78%, 73% and 72%, and in 54%, 62% and 48%, respectively. Nursing interventions for the continuity of healthcare services were activated for 24% and 36% of patients in NYHA 1-2 and 3-4, respectively. Domiciliary or intermediate residential care cardiologic services (as per shared GP-cardiologist healthcare intervention plan) did not show substantial changes throughout the years amounting to 8-10% of the total care interventions. Hospitalizations due to HF within the Province of Trieste continued to decrease from 1225 in

2010 to 1095 in 2013 (-10.6%), as against an overall increase of hospital admissions in the Cardiovascular Department (from 12.9% to 18.8% of the total admissions). All of the patients discharged from the Cardiovascular Department were enrolled within three months by the Community Cardiovascular Center. The implementation of Hospital-to-Community Pathways has resulted in a gradual increase of patient referrals from other departments (from 65 and 17% to 14% and 29% respectively, within 30 or 90 days from the discharge).

Until 2012 all of the patients were enrolled by the Chronic Patient Heart Clinic. Since January 2013, 173 patients (7.8%; 479 visits, 2.8/pt) with advanced HF, frailty and/or multiple comorbidities (68% males; mean age 76±9; 68% NYHA 3-4; 59% LVEF<40%; 53% in atrial fibrillation; 92% undergoing therapy with at least 5 drugs; 45% with Charlson Index >5; 36% with at least one missing BADL, 77% with at least one IADL) were enrolled in the Advanced HF Clinic, an inter-disciplinary, supportive and palliative care team which works in close collaboration with the Social Care / Health Care Districts. 39.3% of the patients were seen at home or within an intermediate residential facility. 69.3% received at least one nursing intervention, 27% at least a psycho-social assessment carried out by a psychologist.

Conclusions: An integrated Hospital-to-Community network for HF allowing for Integrated Pathways between hospital, Intermediate Facilities, Social/Healthcare Districts, outpatient cardiology clinics for chronic patients and for patients with advanced HF requiring supportive and palliative care, can actually reduce hospital admissions and allow for effectively care for a fairly large amount of elderly/frail patients discharged from the internal medicine/geriatric departments with advanced HF, multiple comorbidities and specific polytherapy needs.

KEYWORDS: integrated healthcare, continuity of care, multidisciplinary care, multidimensional evaluation, heart failure

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