

Author, year	Population	Intervention	Comparator	Primary outcome	Duration
Boyne <i>et al.</i> 2010 (TEHAF) ^{135,192,205,269}	Adults with confirmed HF diagnosis, NYHA class II–IV symptoms	STS. Monitoring of HF symptoms, knowledge of HF and self-care behaviour; delivered via telephone-based interactive response system (<i>n</i> = 197)	Usual care (follow-up from HF nurse specialist and cardiologist) (<i>n</i> = 185)	Time to first HF admission	12 months
Tonkin <i>et al.</i> 2009 (Abstract) (CHAT) ⁹³	Adults with HF diagnosed in last 5 years, confirmed LVEF <40%, confirmed by echocardiography, NYHA class II–IV symptoms	STS. Monitored parameters NR; delivered via interactive voice response system (<i>n</i> = 188)	Usual care (follow-up from GP) (<i>n</i> = 217)	Packer clinical composite score	12 months
DeWalt <i>et al.</i> 2006 ⁸⁹	Confirmed HF patients (aged 30–80 years) with NYHA class II–IV symptoms and LVEF <40%	STS. Weight and self-monitoring education; delivered via HH (<i>n</i> = 62)	Usual care (follow-up from GP) (<i>n</i> = 65)	Composite of mortality and hospitalisation and HF-related QoL	12 months
Galbreath <i>et al.</i> 2004 ⁸⁷	Patients (aged ≥ 18 years) with symptoms of CHF and documented systolic (LVEF 35%) or diastolic dysfunction (echocardiographically confirmed)	STS. Education and monitoring; delivered via HH (<i>n</i> = 710)	Usual care (follow-up from GP) (<i>n</i> = 359)	All-cause mortality	18 months
Gattis <i>et al.</i> 1999 (PHARM) ⁹⁰	Adults with HF (based on signs and symptoms) and LVEF <45%	STS. Pharmacist-led medication review and education; delivered via HH (<i>n</i> = 90)	Usual care (follow-up from attending physician, physician assistant or HF nurse specialist) (<i>n</i> = 91)	All-cause mortality and HF-related clinical events	6 months
GESICA investigators 2005 (DIAL) ⁹¹	Adult outpatients with stable CHF (defined as no admissions in previous 2 months)	STS. Monitored adherence to diet and treatment, symptoms, control of fluid retention and daily physical activity; delivered via HH (<i>n</i> = 760)	Usual care (follow-up from attending cardiologist) (<i>n</i> = 758)	All-cause mortality and HF-related hospitalisation	16 months
Mortara <i>et al.</i> 2009 (HHH) ^{88a}	HF patients (aged 18–85 years) with NYHA class II–IV symptoms and LVEF ≤40%	STS. Education and clinical status monitoring; delivered via HH (<i>n</i> = 106) TM. Measurement of weight, BP and symptoms, reviewed by medical staff, support available during office hours (<i>n</i> = 195)	Usual care (not described) (<i>n</i> = 160)	Bed-days for HF and composite of cardiac death and HF-related hospitalisation	12 months

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Ramachandran <i>et al.</i> 2007 ¹⁰⁶	Adult outpatients (aged 16–65 years) with HF and LVEF <40%	STS. Education, monitoring and medication management; delivered via HH (<i>n</i> = 25)	Usual care (follow-up in HF specialist clinic) (<i>n</i> = 25)	QoL	6 months
Sisk <i>et al.</i> 2006 ⁹²	Hispanic and non-Hispanic patients (aged ≥18 years) with documented systolic dysfunction	STS. Clinical status monitoring and self-monitoring advice; delivered via HH (<i>n</i> = 203)	Usual care (patients received guidelines for managing systolic dysfunction) (<i>n</i> = 203)	All-cause hospitalisation and QoL	12 months
Balk <i>et al.</i> 2008 ⁹⁴	Stable adult outpatients with HF and NYHA class I–IV symptoms	TM. Measurement/transmission of BP and weight, with education provision; data reviewed by HF specialist nurses available during office hours (<i>n</i> = 101)	Usual care (follow-up from cardiologists and HF nurse specialists) (<i>n</i> = 113)	Hospital-days and days alive outside hospital	10 months
Blum <i>et al.</i> 2007 (Abstract) (MCCD) ⁹⁵	Patients with hospitalisation for HF within previous year	TM. Measurement/transmission of weight, BP, heart rate and heart rhythm; data reviewed by HF specialist nurses available during office hours (<i>n</i> = 102)	Usual care (patients not contacted until 6-month assessment follow-up) (<i>n</i> = 102)	Hospitalisations, QoL, mortality and BNP	12 months
de Lusignan <i>et al.</i> 2001 ⁹⁶	Adult patients with HF confirmed by cardiologist, identified from the database of an academic general practice	TM. Measurement/transmission of pulse, BP and weight and video consultations with HF nurses; data reviewed by HF nurses on weekdays (<i>n</i> = 10)	Usual care (follow-up from GP) (<i>n</i> = 10)	Mortality, satisfaction, adherence and QoL	12 months
Giordano <i>et al.</i> 2009 ⁹⁷	Adult HF patients (clinically stable with optimised pharmacotherapy) with LVEF <40% and at least one hospitalisation for acute HF in the last year	TM. Measurement/transmission of one-lead ECG; reviewed by clinical staff who were available 24/7 for teleconsultations (<i>n</i> = 230)	Usual care (follow-up from GP and cardiologist) (<i>n</i> = 230)	Hospital readmission for cardiovascular reasons	12 months
Koehler <i>et al.</i> 2011 (TIM-HF) ⁵⁰	Stable adult HF outpatients (NYHA II or III symptoms, LVEF ≤35%) and cardiac decompensation with hospitalisation for HF within 24 months or LVEF ≤25%, measured twice within last 6 months	TM. Measurement/transmission of BP, weight and three-lead ECG; reviewed by staff at telemedical centre with physician-led medical support available 24/7 (<i>n</i> = 354)	Usual care (follow-up from GP) (<i>n</i> = 356)	All-cause mortality	22 months
Soran <i>et al.</i> 2008 (HFHC) ⁹⁸	Stable patients (aged ≥65 years) with HF diagnosis secondary to systolic dysfunction (LVEF ≤40%)	TM. Measurement/transmission of weight and HF symptoms; reviewed by nurses 7 days a week, daytime only, and concerns reported to physician (<i>n</i> = 160)	Usual care (enhanced patient education from clinicians and follow-up) (<i>n</i> = 155)	Composite of cardiovascular death or HF-related rehospitalisation (including length of stay)	6 months

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Villani <i>et al.</i> 2007 (Abstract) (ICAROS) ⁹⁹	Stable adult HF patients (LVEF ≤40%, NYHA II or III symptoms)	TM. Measurement/transmission of weight, urine output, fluid intake, BP and heart rate; reviewed by medical staff during office hours (n = 33)	Usual care (content NR) (n = 44)	Mortality, hospitalisations, emergency room visits and hospital-days per patient	12 months
Wade <i>et al.</i> 2011 ¹⁰¹	Medicare Advantage patients with HF (inpatient admission or two or more emergency department visits for any cause in past 6 months; medical claims for CHF in past 3 years; resident in NJ, NY or PA, USA)	TM. Measurement/transmission of weight and BP; reviewed by HF case management team during office hours, with automatic warnings if measurements outside preset parameters (n = 1477)	Usual care (follow-up from nurse case managers) (n = 723)	Composite of all-cause hospitalisation, A&E visit and death	6 months
Zugck <i>et al.</i> 2008 (Abstract) (HITEL) ¹⁰²	Adult HF patients with NYHA II–IV symptoms on optimum therapy	TM. Measurement/transmission of weight, BP and 12-lead ECG; medical advice from physicians available 24/7 (n = 58)	Usual care (content NR) (n = 30)	Mortality, hospitalisations and length of stay	12 months
Abraham <i>et al.</i> 2011 (CHAMPION) ¹⁰³	HF patients with NYHA class III symptoms (for at least 3 months), irrespective of LVEF or cause and previous HF-related hospitalisation in past 12 months	Home TM via cardiovascular implanted monitoring device; daily continuous measurement, automatic transmission of pulmonary artery pressure to a secure patient database with clinician access (n = 270)	Home TM via cardiovascular implanted monitoring device; daily continuous measurement, automatic transmission of pulmonary artery pressure to a secure patient database with no clinician access (n = 280)	Rate of HF-related hospitalisations	6 months

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Adamson <i>et al.</i> 2011 (REDUCEHf) ¹⁰⁴	HF patients with NYHA class II or III symptoms, an indication for an implantable cardioverter defibrillator and HF hospitalisation in the past 12 months	Home TM via cardiovascular implanted monitoring device; daily continuous measurement, weekly manual transmission of intercardiac pressures to secure internet-based information system (<i>n</i> = 202)	Home TM via cardiovascular implanted monitoring device; daily continuous measurement of intercardiac pressures; however, haemodynamic data not used to guide management (<i>n</i> = 198)	Composite of HF-related events (hospitalisations >24 hours or <24 hours requiring intravenous HF therapy, emergency department visits and urgent clinic visits requiring intravenous therapy)	12 months
Bourge <i>et al.</i> 2008 (COMPASS-HF) ¹⁰⁵	HF patients receiving optimised pharmacological therapy with NYHA class II or III symptoms and HF hospitalisation in the past 6 months	Home TM via cardiovascular implanted monitoring device; daily continuous measurement, weekly manual transmission of intercardiac pressures to secure server with clinician access (<i>n</i> = 134)	Home TM via cardiovascular implanted monitoring device; daily continuous measurement; weekly manual transmission of intercardiac pressures to secure server with no clinician access (<i>n</i> = 140)	Composite of HF-related events (hospitalisations, emergency department visits and urgent clinic visits requiring intravenous therapy)	6 months

BNP, B-type natriuretic peptide; BP, blood pressure; CHAMPION, CardioMEMS Heart Sensor Allows Monitoring of Pressure to Improve Outcomes in NYHA Class III Patients; CHAT, Chronic Heart-failure Assistance by Telephone; COMPASS-HF, Chronicle Offers Management to Patients with Advanced Signs and Symptoms of Heart Failure; DIAL, Randomized Trial of Telephone Intervention in Chronic Heart Failure; ECG, electrocardiogram; HFHC, Heart Failure Home Care; HHH, Home or Hospital in Heart Failure; ICAROS, Integrated Care vs Conventional Intervention in Cardiac Failure Patients: Randomized Open Label Study; MCCD, Medicare Coordinated Care Demonstration; NR, not reported; PHARM, Pharmacist in Heart Failure Assessment Recommendation and Monitoring; REDUCEHf, Reducing Decompensation Events Utilizing Intracardiac Pressures in Patients With Chronic Heart Failure; TEHAF, Tailored Telemonitoring in Patients with Heart Failure.

a Three-arm trial comparing TM, STS and usual care.