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Heart Failure

We have delivered original data on the epidemiology of heart failure, its impact on patients, and on new interventions that improve prognosis and quality of life. The ECHOES (Echocardiographic Community Heart of England Screening) study (Roalfe), remains one of the world's largest, intensively phenotyped and well cited cohorts of heart failure (HF) and left ventricular systolic dysfunction (LVSD). The ECHOES programme recently extended to document the prevalence of HF amongst South Asians (BHF) and African–Caribbean communities in the 5,000 cohort E-ECHOES (Gill) study.

A re-phenotyping of the original ECHOES cohort to explore incidence and progression of heart failure commenced in 2009 (ECHOES-X, NIHR) and is linked to two new trials on the utility of natriuretic peptide testing in heart failure screening and in heart failure diagnosis (NIHR & Roche Diagnostics). A pilot trial of natriuretic peptide guided management of HF, funded by the MRC, completed in collaboration with the University of Oxford, and a full trial is planned.

We led the design and analysis of the landmark CARE-HF trial (NEJM), and its extension study (EHJ) establishing the effect on mortality and major morbidity of cardiac resynchronisation therapy in patients with moderate to severe heart failure due to LVSD and cardiac dyssynchrony (Calvert). In addition we conducted a within trial cost effectiveness and a lifetime simulation model, which also considered the incremental cost effectiveness of adding an implantable cardiac defibrillator, based upon individual patient data from CARE-HF (Yao, Calvert). Further CARE-HF studies have included study of neurohormonal effects (EHJ), procedure success rate and predictors (Europace), in conjunction with diabetes (Diabetes Care) or atrial fibrillation (Circulation).

The REFER (REFer for EchocaRdiogram) Study programme (Tait) comprises 2 funded studies (NIHR RfPB, EME) designed to develop and evaluate clinical algorithms to improve the diagnostic pathways for heart failure.

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