patients admitted with HF (improved coding, patient identification, increased use of disease modifying medications in HFREF and better outpatient follow up and support in the community). It is also encouraging to observe a reduction in re-admission rates and 30 day mortality. This is interesting in that we now code a significant number of additional patients with severe valvar heart disease as having HFPEF and these patients are at considerable risk of early readmission and death. Over the next year we plan to continue to develop the IHFS particularly with improved education and self-management of HFPEF patients, cardiac rehabilitation programmes, and validation of GP HF registers.

## 7 VENOUS CONGESTION AS MEASURED BY ECHOCARDIOGRAPHY PREDICTS SEVERITY OF RENAL DYSFUNCTION AND SURVIVAL IN PATIENTS WITH HEART FAILURE

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10.1136/heartjnl-2016-309890.7

**Introduction** Renal dysfunction in patients with heart failure (HF) has traditionally been attributed to poor cardiac output. There is currently a growing body of evidence to suggest that renal venous congestion (VC) plays a more important role than hypo-perfusion. However, a vast majority of them have been invasive studies measuring pulmonary artery and central venous pressures as markers of venous congestion. We, therefore, aimed to determine if VC as determined by inferior vena cava (IVC) dilatation using echocardiography was associated with worsening renal function, HF hospitalisation and all-cause mortality.
**Methods** We designed a population-based, longitudinal cohort study of 1034 unselected (acute/chronic) HF patients. All patients were symptomatic and required the use of loop diuretic therapy. VC was defined as IVC diameter >2.1 cm as determined by echocardiography performed nearest to the time of recruitment into study. Renal function was determined by estimated glomerular filtration rate (eGFR) using the abbreviated MDRD equation. Logistic regression models were used to examine the association between VC and eGFR. Cox proportional hazard models were applied to examine the influence of VC on all-cause mortality and CHF hospitalisations.
**Results** Logistic regression models showed that those with severe renal impairment (eGFR<30) were more likely to have VC compared to those with an eGFR >60 (Odds Ratio=7.7; 95% CI(1.6–10.5), p = 0.012). Multivariate analysis showed that those with VC had significantly worse survival than those without VC after adjusting for age, sex, eGFR and furosemide daily dose (hazard ratio [HR]: 1.6, 95% CI: 1.15–1.96; p = 0.002). There was also a nonsignificant trend towards shorter time to first hospitalisation for HF in the VC group compared to those without VC (hazard ratio [HR]: 1.22, 95% CI: 0.96–1.56; p = 0.103).
**Conclusions** VC as determined by dilated IVC on echocardiography is associated with worsening renal function in an unselected group of HF patients. This readily available and non-invasive test can also be used to predict HF hospitalisation and all-cause death in this patient group.

## 8 HEPATIC FUNCTION PREDICTS HOSPITALISATION AND ALL CAUSE DEATH IN PATIENTS WITH HEART FAILURE

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10.1136/heartjnl-2016-309890.8

**Introduction** Hepatic dysfunction has always been considered as a sequel of chronic heart failure (CHF), however there has been recent interest in it being used as a marker of disease severity instead. Previous studies have demonstrated this among patients in clinical trial settings but no population based studies have been conducted thus far. We aim to determine the impact of hepatic dysfunction on a composite of all cause mortality and heart failure hospitalisation in patients treated for CHF.
**Methods** We analysed data from the Systems BIOlogy Study to Tailored Treatment in Chronic Heart Failure (BIOSTAT-CHF) database which prospectively tracks treatment, comorbidity, blood investigations, hospitalisation and death information of patients with heart failure from Tayside and Fife. Cox proportional hazard models were used to assess the prognostic impact of liver dysfunction on heart failure outcomes, while controlling for covariates like treatment regime, previous history of myocardial infarctions, atrial fibrillation, renal disease and CHF duration.
**Results** Out of a total 1805 patients, there were 1200 (66.5%) males, with a mean age of 73.6 (±10.7) years, and mean duration of HF 39.9 months with a total of 414 all cause death or heart failure hospitalisation. We found low serum albumin levels (less than 35 g/L) to be an independent predictor of CV death or hospitalisation with a hazard ratio of 2.05 (95% CI 1.51–2.79, p < 0.001). Similarly, elevated bilirubin (more than 20 μmol/L) and alanine aminotransaminase (ALT) (more than 35 U/L) increased the risk of outcomes with hazards of 1.97 (95% CI 1.56–2.50, p < 0.001) and 1.31 (95% CI 1.04–1.66, p = 0.024) respectively.
**Conclusions** Our findings demonstrate lower serum albumin, elevated total bilirubin and ALT were independent predictors of all cause death or hospitalisation among an unselected group of HF patients. These markers can be easily used to risk stratify ambulatory CHF patients in the clinic.

## 9 ARE WE READY FOR OUTPATIENT ACUTE HEART FAILURE MANAGEMENT (FRUSEMIDE LOUNGES AND BEYOND)?-A NATIONWIDE SURVEY OF UK ACUTE HEART FAILURE PRACTICE

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10.1136/heartjnl-2016-309890.9

**Purpose** Heart failure (HF) has a prevalence of over 750,000 people in the UK and over 23 million worldwide. In response to the burden of hospital readmissions and post hospitalisation needs of HF patients, recent health policies stress the need to develop services that will cater for patients' requirements and deliver these closer to their home. One such service is out of hospital parenteral diuretic treatment, which is supported by data from observation studies although there may be observation bias. We aimed at carrying out an online survey to evaluate use of outpatient acute HF management in the UK and assessing the feasibility of setting up a randomised control trial