Results Amongst 467 patients with CHF [67% male, median (IQR) age 76 (69–82) years, NTproBNP 1156 (469–2463) ng/L], 291 patients had HF with reduced ejection fraction (HFrEF, LVEF <40%), and 176 had HF with preserved ejection fraction (HFpEF, LVEF ≥40%). Frailty was more common in HFpEF vs HFrEF (51 vs 40%). 64% of patients had ≥5 comorbidities (36% 5–6, 21% 7–9 and 7% >9 comorbidities). Frail patients were more likely to have multiple comorbidities than non-frail patients (85% vs 48% with ≥5 comorbidities, p<0.001). The number of comorbidities increased with worsening frailty severity (Figure 1). Those with HFpEF were more likely to have neuropsychiatric, metabolic and degenerative comorbidities, whereas those with HFrEF were more likely to suffer from cancer. During a median follow up of 554 days, 82 (18%) patients died. Increasing number of comorbidities was associated with increasing mortality. Patients who were frail with ≥5 comorbidities had a 6-fold increased risk of mortality compared to those who were neither frail nor had multiple comorbidities (figure 2).

Conclusion Frail patients with CHF have a high comorbidity burden. The co-existence of frailty and multiple comorbidities predisposes to higher risk of mortality. Future studies should investigate whether treatment focusing on comorbidities improve outcomes.

Conflict of Interest none

Introduction Left ventricular thrombus (LVT) is a frequent complication of left ventricular systolic dysfunction(1). Incidence following acute myocardial infarction is estimated at 13–20% and up to 15% in non-ischaemic cardiomyopathy(2, 3). Once diagnosed, guidelines recommend anticoagulation with vitamin K antagonists (VKA) to reduce the risk of stroke and systemic embolic events (Class IIa, Level of evidence C)(4). However, these recommendations are not predicated on randomised control trial (RCT) evidence but represent a consensus view based on observational data published 30 years ago(5). There have been no RCTs comparing anticoagulation therapy versus no anticoagulation. Additionally, off-label use of direct oral anticoagulants (DOACs) for LVT has steadily increased. Several fundamental questions remain unanswered; does anticoagulation reduce embolic events, how long should treatment be continued, which agent should be used and how should the diagnosis be established.

Methods This population-based, cross-sectional study utilised an electronic survey using the online platform Google Forms. Questions were designed to establish how many cardiologists believe that anticoagulation is mandatory despite the lack of evidence, how often cardiac magnetic resonance imaging (CMR) is used and how frequently DOACs are prescribed. The survey was distributed via email to members of the British Society for Heart Failure, as well as to hospital email groups in multiple large centres. Completion of the survey was voluntary with no remuneration for participating. The study was exempt from formal research and ethics committee approval as no individually identifiable data was collected.

Results In total 74 responses were received over a six-week period. 81% of respondents reported having routine access to CMR on site. When asked what proportion of LVT found on echo would be verified on CMR, 51% stated <50%, 20% 50–75% and 29% >75%. Regarding frequency of cases seen annually, 41% reported seeing <20 cases and 8% >60 cases. For treatment, 66% preferred VKA whilst 30% used a
DOAC (Figure 1). The majority (72%) used repeat imaging to decide on anticoagulation duration, whilst 20% reported advising indefinite treatment. When two RCT designs were presented, 77% reported they would not recruit to a trial involving a ‘no anticoagulation’ arm (Figure 2). 89% reported they would recruit to a trial comparing VKA with Apixaban.

Conclusions
LVT is a commonly encountered problem but current practice in the UK and within international guidelines are entirely non evidence based. Our study has demonstrated that many Cardiologists have strong views regarding the need for anticoagulation in this cohort; a robust trial including a no anticoagulation arm may never be possible. We have also identified nearly a third of patients with LVT are now treated with a direct oral anticoagulant (DOAC). The question of whether DOACs are an equally safe and efficacious treatment as compared to VKA remains to be answered. A multi-centre UK based RCT funding application is underway.

Conflict of Interest
Nil