Introduction A greater focus on prevention is needed to manage the epidemic of heart failure (HF). The 2022 AHA/ACC HF guidelines revised the definition of Stage B (pre-HF) to now include previously identified Stage A (at-risk) patients with an elevated BNP (35 pg/mL). Whether this newly identified Stage B population is equivalent to the original has yet to be examined.

Methods We retrospectively analysed clinical characteristics, serial echocardiographic, brain natriuretic peptide (BNP) and outcome data of 1,425 patients who returned for two visits in the St Vincent’s Screening To Prevent HF (STOP-HF) Programme. Patients were categorised as Stage A or Stage B at baseline using original and revised guideline definitions.

Results Baseline Data A population of 1,425 was analysed. On average, visit 2 was completed 5.3 years after visit 1. The average age at visit 1 was 64 years with females accounting for 54% (n=776). At visit 1, 72% (n=1,026) were classified as Stage A and 28% Stage B. Average BNP of a Stage A patient was 29 pg/ml versus 64 pg/ml for Stage B. Stage B patients had higher comorbidity rates, especially atrial fibrillation (19% vs 5%), hypertension (79% vs 68%) and ischemic heart disease (20% vs 8%). Progression/Regression Amongst Stage A patients between visit 1 and visit 2, 74% (n=757) remained in Stage A, 25% (n=252) progressed to Stage B and 2% (n=7) progressed to Stage C. Amongst Stage B patients, 65% (n=259) remained in Stage B, 11% (n=44) progressed to Stage C, and 24% (n=95) regressed to Stage A. Multivariate analysis showed the key drivers of progression were age (p=0.001), vascular disease (p=0.025), triglycerides (p=0.02) and BNP (p=0.007). Events A Stage B patient at visit 1 was twice as likely to develop any type of cardiovascular (CV) event versus a Stage A patient (IRR = 2.279) and 53% more likely to develop HF (p=0.0003). Reflecting the new AHA/ACC definition of Stage B we compared the event rates of Stage A patients with a BNP >=35 pg/ml to the original Stage A and B populations. The addition of BNP was a poor predictor of CV events. CV rates amongst Stage B were higher versus Stage A with a BNP >=35 pg/ml (IRR=2.39). BNP was a useful predictor of CV within Stage B. Incorporation of a BNP >=35 pg/ml revealed a Stage B population more likely to experience any CV events (IRR = 1.31) or HF events (IRR = 1.41). A Stage B patient with a BNP of >=35 pg/ml versus a Stage A patient with a BNP >=35 pg/ml, was three times more likely to have a CV event (IRR = 3.135).

Conclusions/Implications We reviewed a large sample of pre-clinical HF community patients. We found significant progression/regression and identified predictors of progression. We found Stage A patients with a BNP >=35 pg/ml are not equivalent to Stage B patients as suggested by the new AHA/ACC guidelines. This suggests additional analysis is needed to further define the Stage B (pre-HF) population. Finally, we identified that BNP plays a significant role in differentiating risk in a patient with an abnormal TTE.