Poster Session 1 (P1) Sunday, June 24, 2018

Table 1- Baseline and procedural characteristics of subjects undergoing TAVR			
	Overall (n= 676)	TEE (n=368)	TTE (n=308)
Age (years)*	81.0±9.5	81.8±8.8	79.9±10.1
Male	370 (54.9)	199 (54.1)	171 (55.9)
Non-white*	88 (13.0)	37 (10.1)	51 (16.6)
Obese	217 (32.1)	114 (31.0)	103 (33.4)
Underweight	21 (3.1)	13 (3.5)	8 (2.6)
NYHA III*	431 (63.8)	219 (59.5)	212 (68.8)
NYHA IV**	100 (14.8)	91 (24.7)	9 (2.9)
STS score**	7.3±4.4	8.6±4.7	5.7±3.5
Transfemoral access**	566 (83.7)	260 (70.7)	306 (99.4)
Balloon Expandable valve*	553 (81.8)	292 (79.3)	261 (84.7)
Third generation valve**	319 (47.2)	71 (19.3)	248 (80.5)
Pre-LVEF (%)**	55.5±13.7	52.9±14.1	58.5±12.6
Aortic Valve Peak Velocity (m/s)	4.4±2.2	4.3±2.1	4.4±2.3
Aortic Valve Peak Gradient (mmHg)	73.6±23.6	72.4±22.3	75.5±24.6
Aortic Valve Mean Gradient (mmHg)	43.2±14.6	42.2±13.7	44.1±15.3
Aortic Valve Area (cm^2)**	0.74±0.26	0.70±0.25	0.78±0.27
History of CAD**	540 (79.9)	321 (87.2)	219 (71.1)
History of A fib/Flutter	271 (40.1)	153 (41.6)	118 (38.3)
History of peripheral arterial disease**	178 (26.3)	123 (33.4)	55 (17.9)
History of CKD	242 (35.8)	139 (37.8)	103 (33.4)
Device Success**	585 (86.5)	301 (81.8)	284 (92.2)
Intra-procedure echo with ≥ moderate paravalvular or valvular AR**	50 (7.4)	41 (11.1)	9 (2.9)
Day 30 echo with ≥ moderate paravalvular or valvular AR**	49 (7.2)	38 (10.3)	11 (3.6)

Table 2- Unadjusted and Adjusted Endpoints of TTE vs TEE-guided TAVR		
	Unadjusted Odds Ratio	Adjusted Odds Ratio
30 Day Mortality	0.83 (0.41-1.67)	0.73 (0.23-2.84)
365 Day Mortality	0.37 (0.23-0.59)**	0.71 (0.37-1.35)
Delirium	0.23 (0.13-0.40)**	0.38 (0.18-0.81)*
Post procedure respiratory failure	0.29 (0.13-0.69)**	0.48 (0.16-1.5)

Adjusted for STS score, mean gradient, AVA, alternative access, valve generation and procedure success
**p<0.001
*p<0.05

P1-114

Mortality from Aortic Stenosis Across the Spectrum of Severity: Analysis of Big Data from the National Echo Database of Australia (NEDA)

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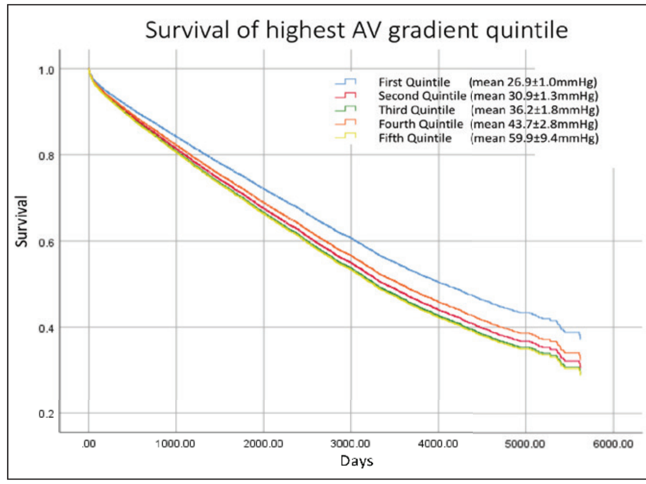
Background: Echocardiography (echo) is pivotal in evaluation of aortic valve gradients. We evaluated prognostic implications of the full spectrum of aortic stenosis severity in a large patient cohort, matched with mortality data. **Methods:** NEDA is a vendor-agnostic cloud-based database, containing echo measurement data (1997 -2017) from laboratories (N=10) across Australia (currently >530,000 Echos). Data linkage to the National Death Index (NDI) provided survival status on each induvial from the last recorded echo to a census date in October 2017. Data were available from 352,844 individuals comprising 186,820 men (60.8±18.0 yrs) and 166,024 women (60.9±19.2 yrs) with a mean follow up of 5.4 years per person and 63,142 fatal events. **Results:** Overall, a peak aortic valve velocity (AVvel) was recorded in 278,955 patients, demonstrating a J-shaped mortality pattern with highest age- and sex-adjusted risk profile in those individuals (n=52,010) in the upper quintile (> 1.8 m/s and mean aortic gradient of 13mmHg); HR=1.29 (95% CI 1.25-1.32, p<0.001) relative to the lowest quintile. 1- and 5-year mortality was 5.0% and 14.9% in the lowest vs 9.2 and 28.1% in the highest (p<0.0001) quintile, respectively. Those cases in the upper quintile were then further examined for survival against increasing gradients (n=44,340). After adjusting for age, gender and ejection fraction, the mortality risk plateaued at a threshold of a mean gradient ≥30.9±1.3mmHg (AVvel > 3.71±0.26m/s), with an adjusted HR=0.94(95% CI 0.82-1.08, p=0.4) compared with those in the upper quintile of that group (mean gradient 59.9±9.4mmHg, AVvel 4.96±0.47m/s). 1- and 5-year mortality profiles were equivalent for those with mean aortic pressure gradients 20-30mmHg (10.9%, 32.6% respectively), 30-40mmHg (11.8%, 33.0%) and >40mmHg (13.7%, 34.5%). **Conclusion:** Aortic stenosis is associated with significant mortality across the spectrum of severity, including mild disease. There is no discernible difference in survival between "moderate" and "severe" aortic stenosis.



P1-115

The Association of Echocardiographic Surveillance of Valvular Heart Disease with Different Sociodemographic Groups

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Background: Clinical outcomes of patients with valvular heart disease vary across sociodemographic groups. Differences in frequency of trans-thoracic echocardiogram (TTE) surveillance may contribute to differences in clinical outcomes. We hypothesized that sociodemographic factors were associated with appropriately timed surveillance imaging for aortic stenosis (AS), mitral regurgitation (MR), and aortic insufficiency (AI). **Methods:** We linked records of all TTEs from 2001-2016 ordered at a large echocardiographic laboratory to demographic patient data and selected patients who were likely to have had TTEs performed for surveillance of AS, AI, or MR. Time intervals were calculated between sequential TTEs for a given patient, and the binary outcome variable was defined as receipt of a TTE within the guideline-recommended interval for the most severe valve disease noted in the index TTE. Logistic regression was used to determine the association of race/ethnicity, gender, and insurance status with the likelihood of receiving a TTE within the appropriate interval. **Results:** Our study cohort comprised 130,725 TTEs, representing 42,289 unique patients. Non-Hispanic black patients were significantly less likely to receive appropriate TTE surveillance than white patients, with an odds ratio (OR) of 0.74 (95% CI 0.66-0.83; p <0.0001), as were women OR 0.90 (95% CI 0.86-0.95; p <0.0001) when compared to men. Medicaid patients were also less likely to receive appropriate TTE surveillance than Medicare patients (OR 0.85; 0.75-0.96; p = 0.0095). In addition, older patients were also significantly less likely to receive appropriate TTE surveillance when compared to younger patients with OR 0.45 (95% CI 0.31-0.66; p <0.0001) for those 61-70 years old, OR 0.39 (95% CI 0.26-0.57; p < 0.0001) for those 71-80 years old, and OR 0.31 (95% CI 0.21-31; p<0.0001) for those 81-90 years old when compared to those 18-20 years old. **Conclusions:** Older, black, female patients, as well as patients on Medicaid, are less likely to receive appropriate TTE surveillance for valvular disease. These results provide targets for care improvement strategies and suggest the need for further investigation into the clinical consequences of delayed surveillance for specific sociodemographic groups.

P1-116

Flow Reversal in the Aorta in the Absence of Aortic Regurgitation in Patients Undergoing TAVR

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Background: Flow reversal in the descending thoracic aorta (DTA) is incorporated into both American Society of Echocardiography (ASE) and European Association of Echocardiography (EAE) guidelines for the echocardiographic assessment of native valve aortic regurgitation (AR). Prominent holodiastolic reversal (ASE) or holodiastolic flow reversal with an end-diastolic velocity ≥ 20 cm/s (EAE) support the diagnosis of severe AR as does flow reversal in the abdominal aorta (AAo). These approaches have been extrapolated to the assessment of AR in elderly patients undergoing transcatheter aortic valve replacement (TAVR) although guidelines recognize that reduced aortic compliance may limit the specificity of these findings. We hypothesized that aortic flow reversal may be false positively present in patients undergoing TAVR in the absence of AR, impacting its use in assessing post TAVR AR. **Methods:** We prospectively evaluated the prevalence and degree of flow reversal in the DTA and AAo in 101 consecutive pts (71 following exclusions for inadequate DTA flow signal) with severe aortic stenosis and no more than