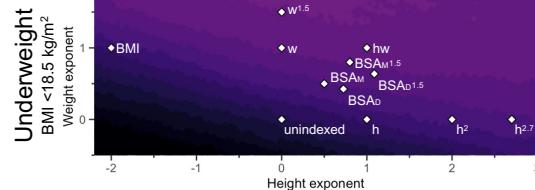


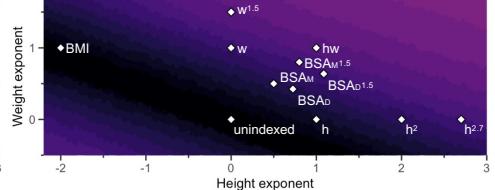
## Males

n = 412

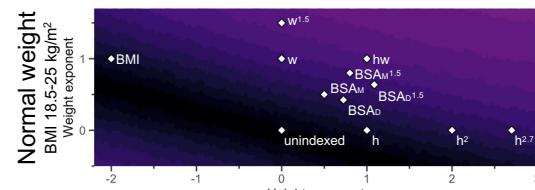


## Females

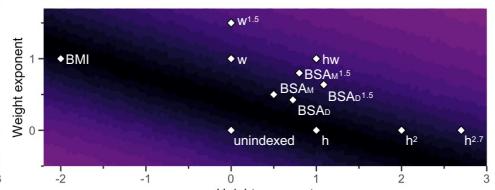
n = 922



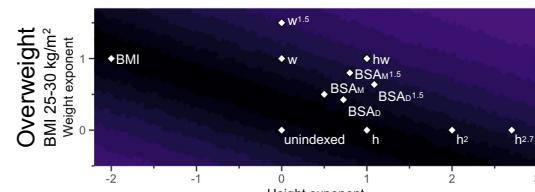
n = 9431



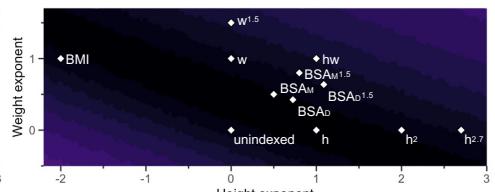
n = 9073



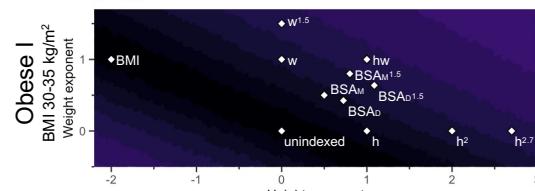
n = 13824



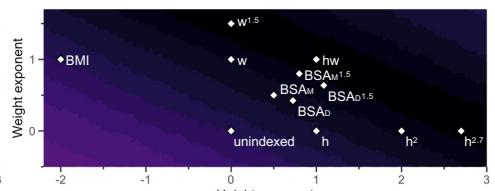
n = 7551



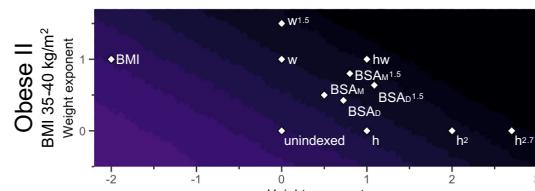
n = 7267



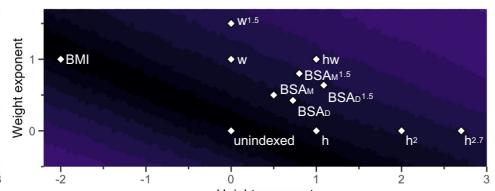
n = 4963



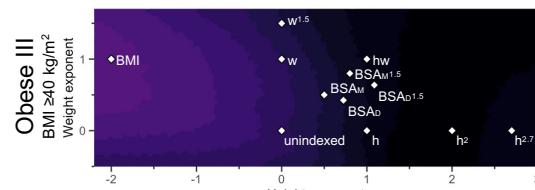
n = 2345



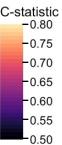
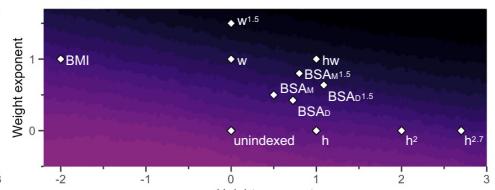
n = 2228



n = 1115



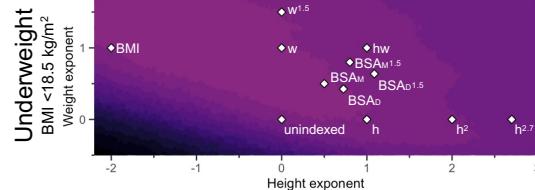
n = 1482



**Supplementary Figure 1.** Average prognostic strength of indexing for body size in aorta at sinotubular diameter.

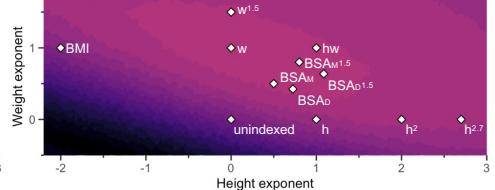
## Males

n = 607



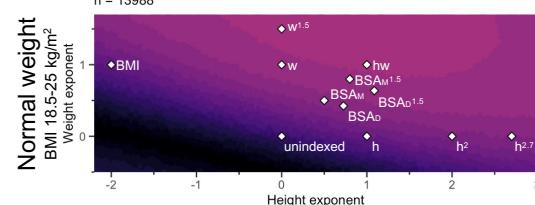
## Females

n = 1551



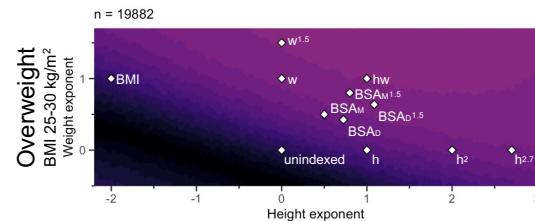
## Normal weight

n = 13988



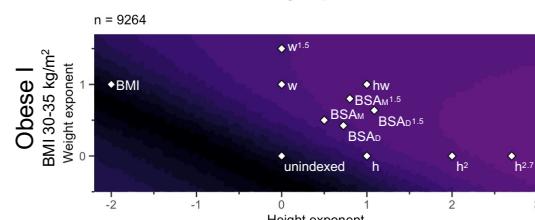
## Overweight

n = 16253



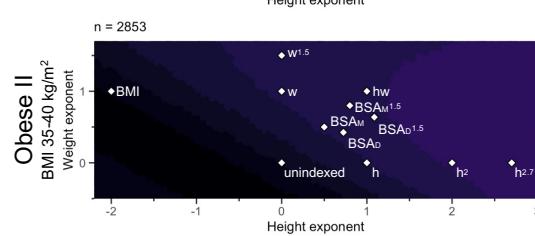
## Obese I

n = 12410



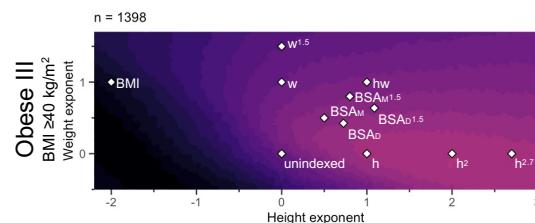
## Obese II

n = 7364



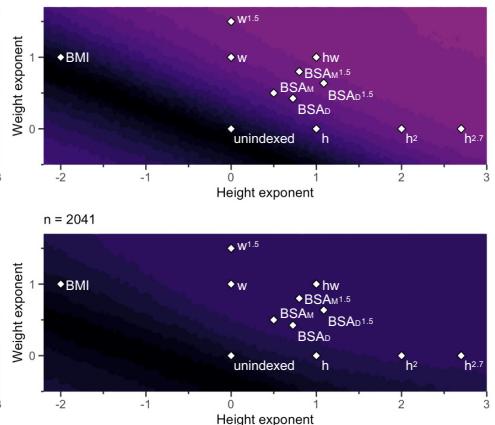
## Obese III

n = 2853



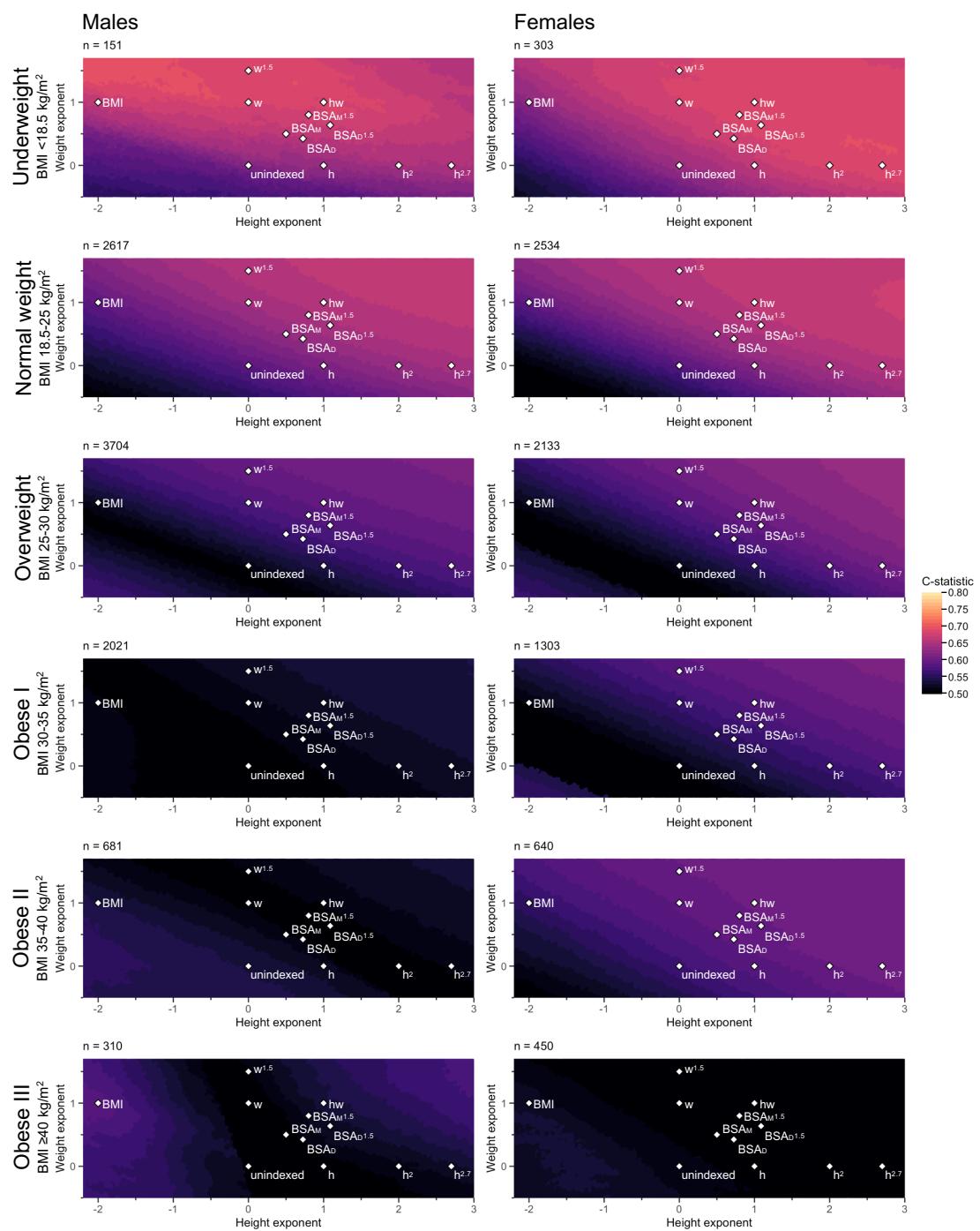
## Females

n = 3194

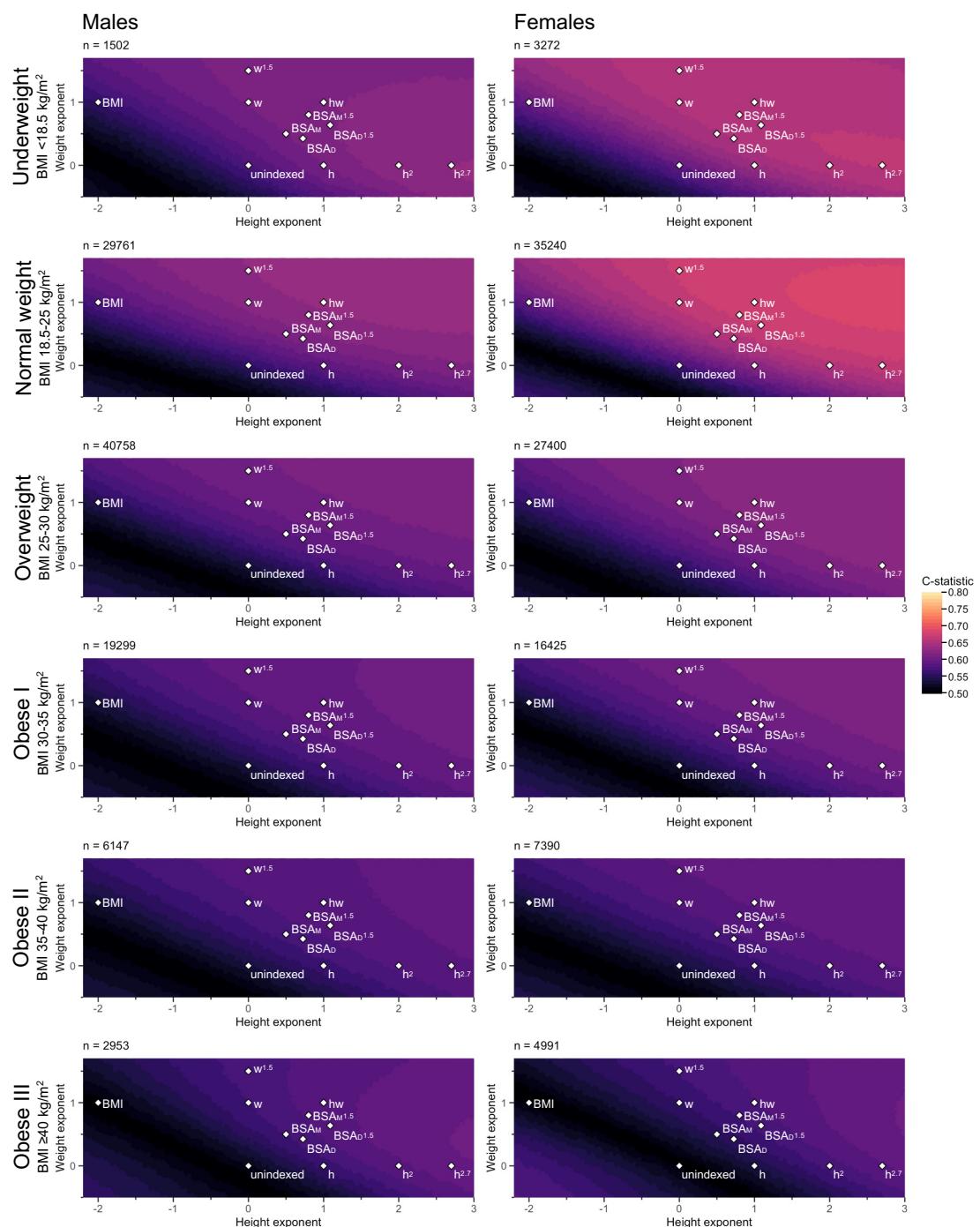


C-statistic  
0.80  
0.75  
0.70  
0.60  
0.55  
0.50

**Supplementary Figure 2.** Average prognostic strength of indexing for body size in aortic sinus diameter.



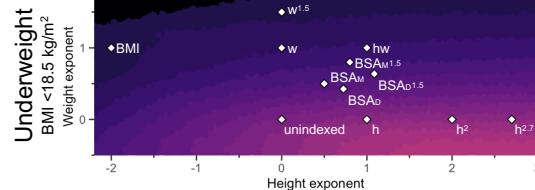
**Supplementary Figure 3.** Average prognostic strength of indexing for body size in aortic arch diameter.



**Supplementary Figure 4.** Average prognostic strength of indexing for body size in aortic root diameter.

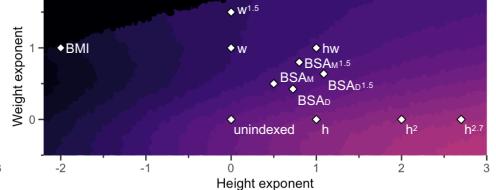
### Males

n = 923



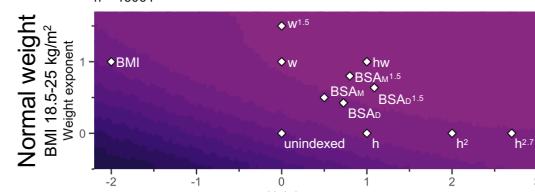
### Females

n = 1770

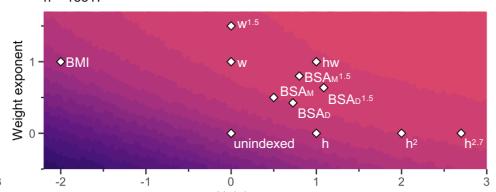


### Normal weight

n = 15064

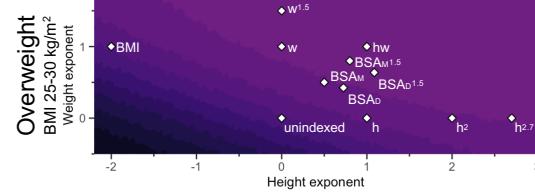


n = 15317

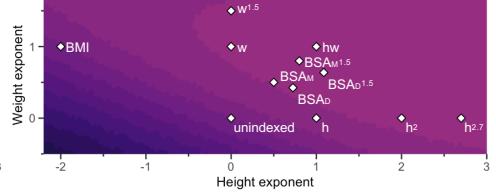


### Overweight

n = 21252

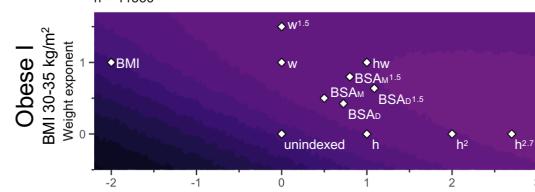


n = 13449

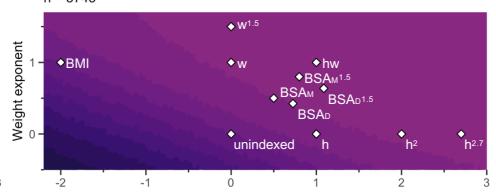


### Obese I

n = 11536

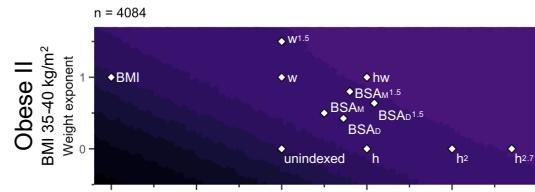


n = 8743

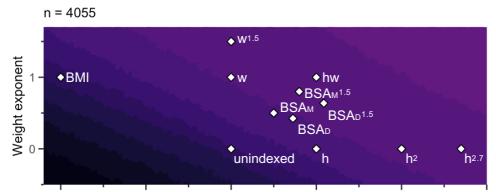


### Obese II

n = 4084

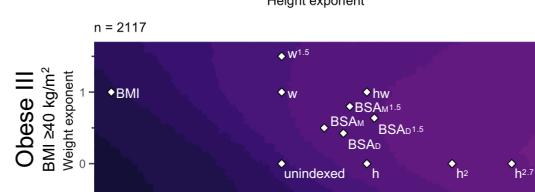


n = 4055



### Obese III

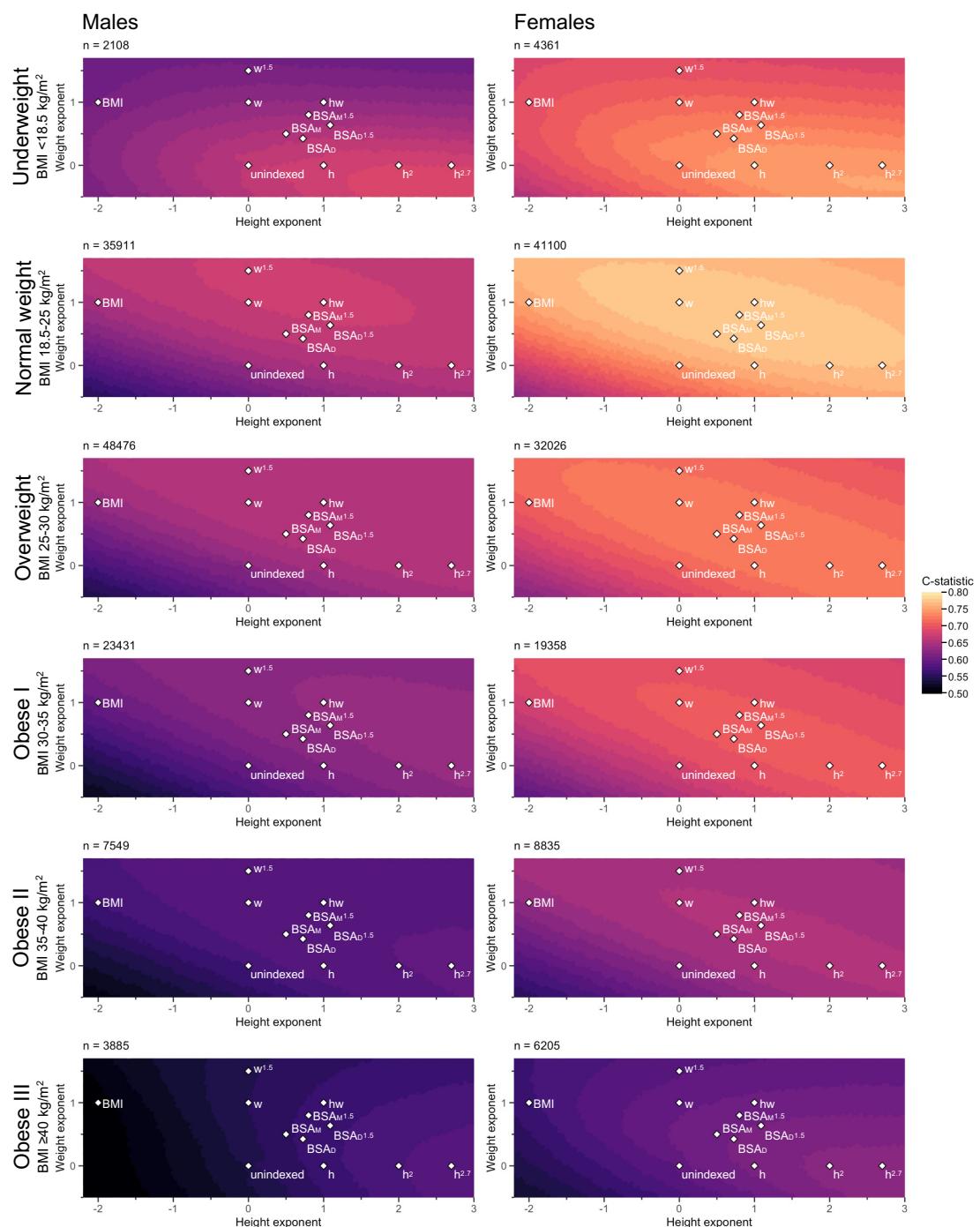
n = 2217



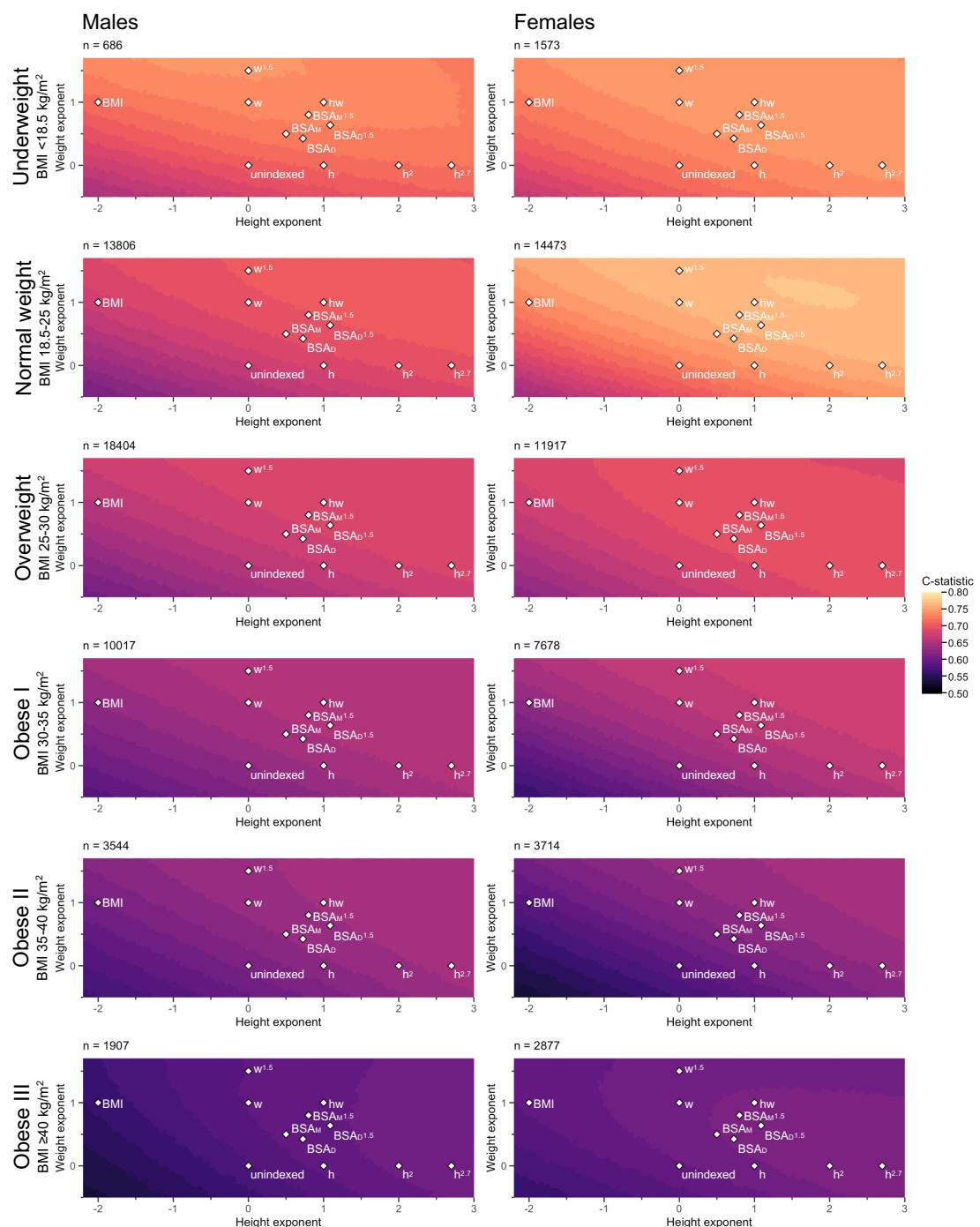
n = 3079



**Supplementary Figure 5.** Average prognostic strength of indexing for body size in ascending aorta diameter.



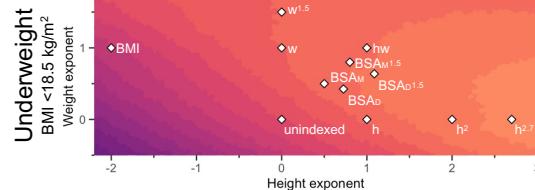
**Supplementary Figure 6.** Average prognostic strength of indexing for body size in IVS thickness.



**Supplementary Figure 7.** Average prognostic strength of indexing for body size in LA area.

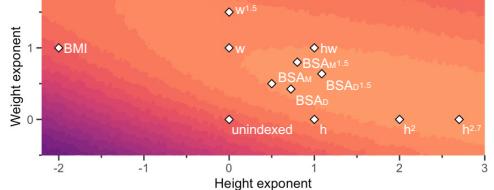
## Males

n = 743



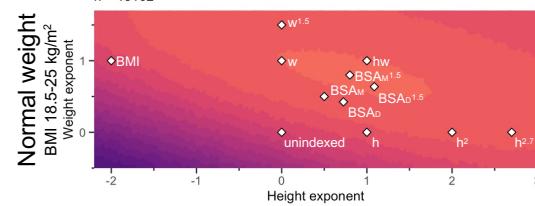
## Females

n = 1572



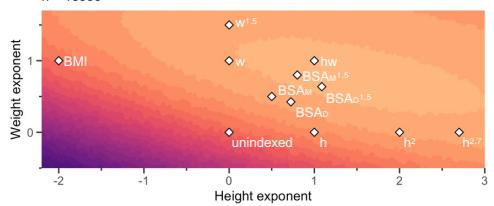
## Normal weight

BMI 18.5-25 kg/m<sup>2</sup>



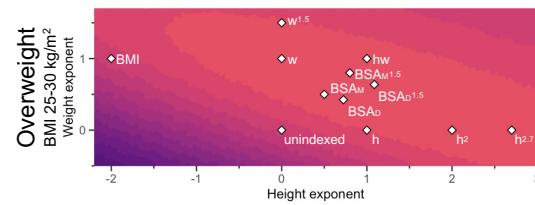
## Normal weight

BMI 18.5-25 kg/m<sup>2</sup>



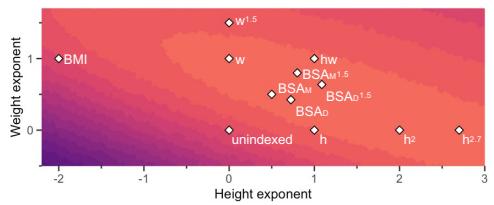
## Overweight

BMI 25-30 kg/m<sup>2</sup>



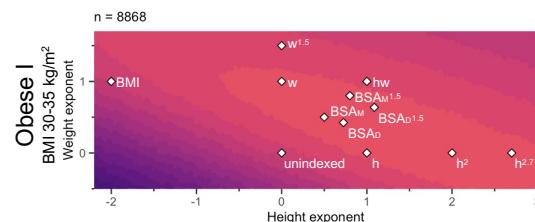
## Overweight

BMI 25-30 kg/m<sup>2</sup>



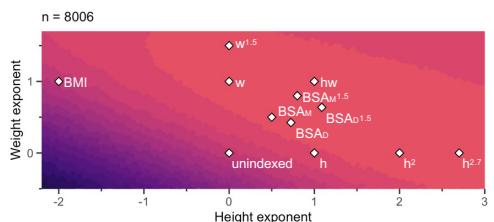
## Obese I

BMI 30-35 kg/m<sup>2</sup>



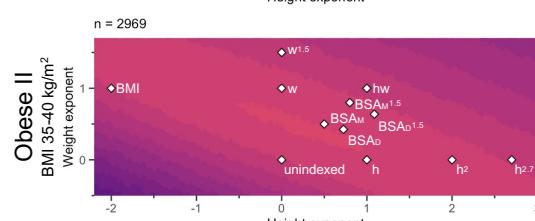
## Obese I

BMI 30-35 kg/m<sup>2</sup>



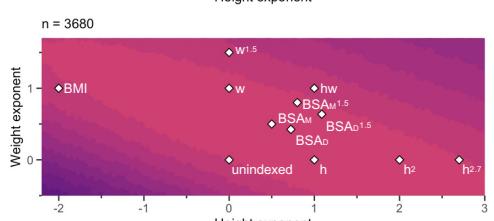
## Obese II

BMI 35-40 kg/m<sup>2</sup>



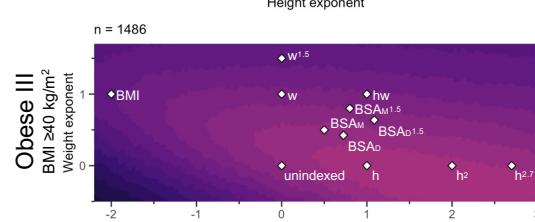
## Obese II

BMI 35-40 kg/m<sup>2</sup>



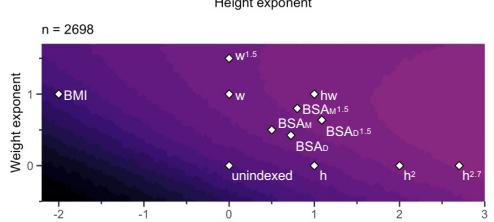
## Obese III

BMI ≥ 40 kg/m<sup>2</sup>

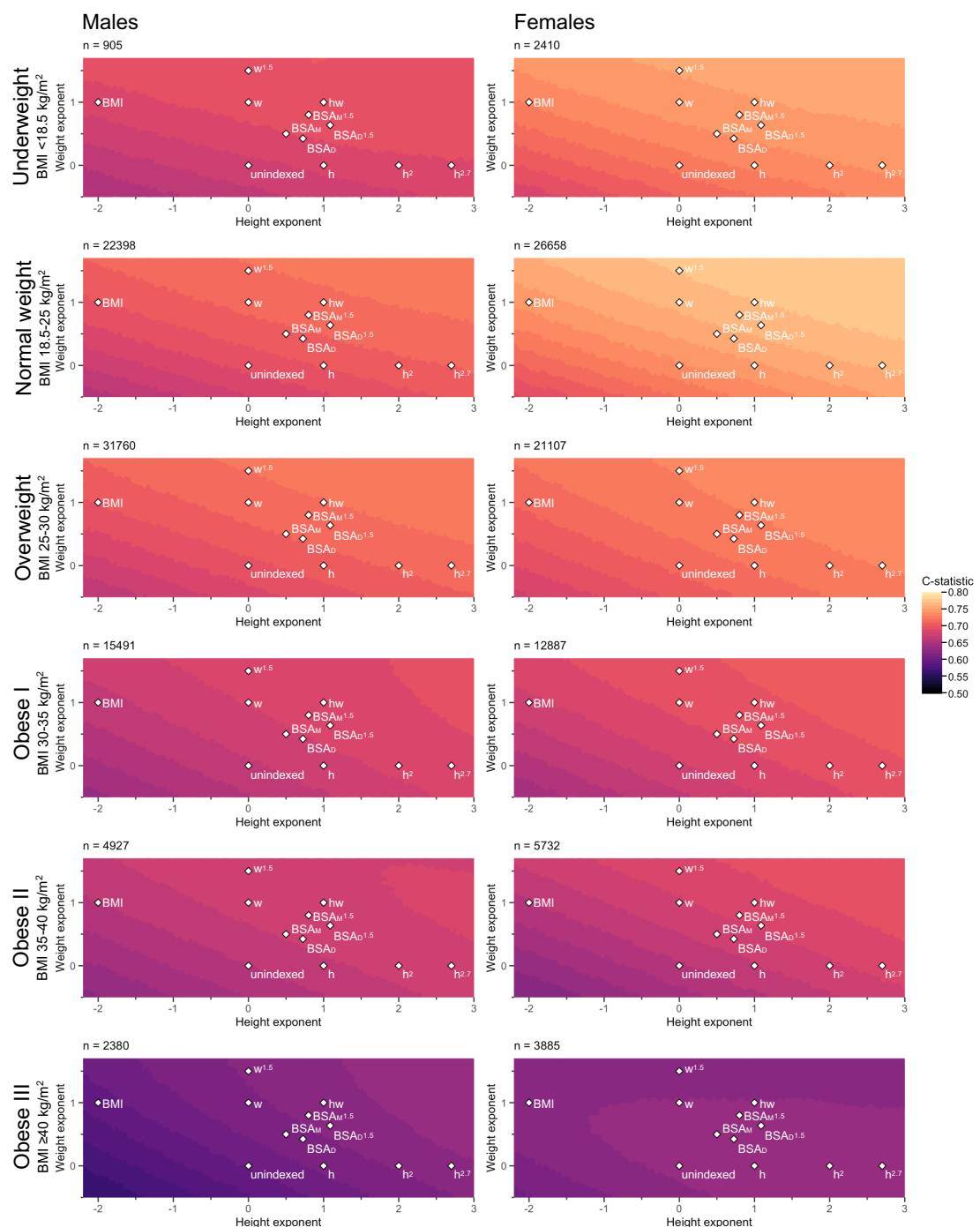


## Obese III

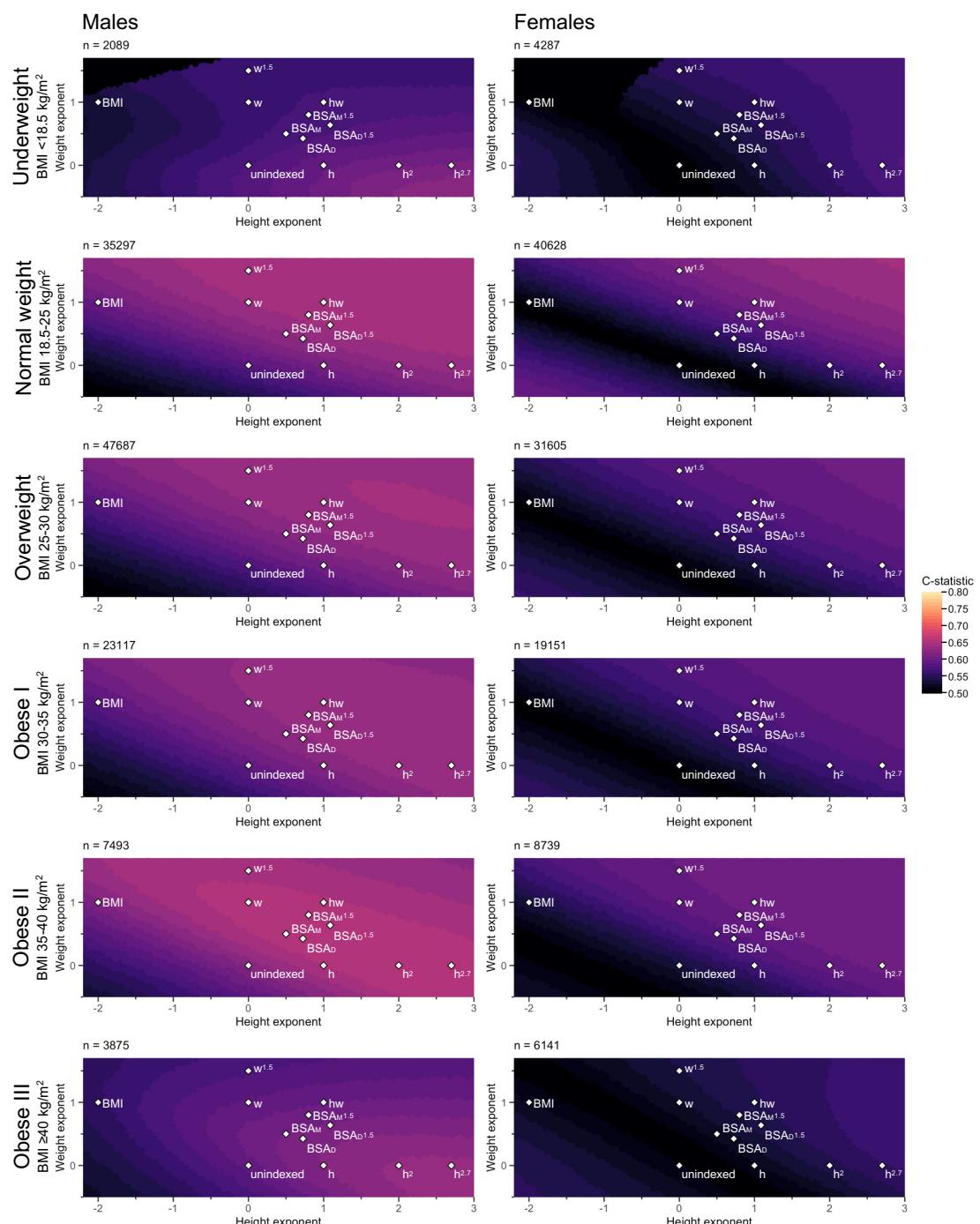
BMI ≥ 40 kg/m<sup>2</sup>



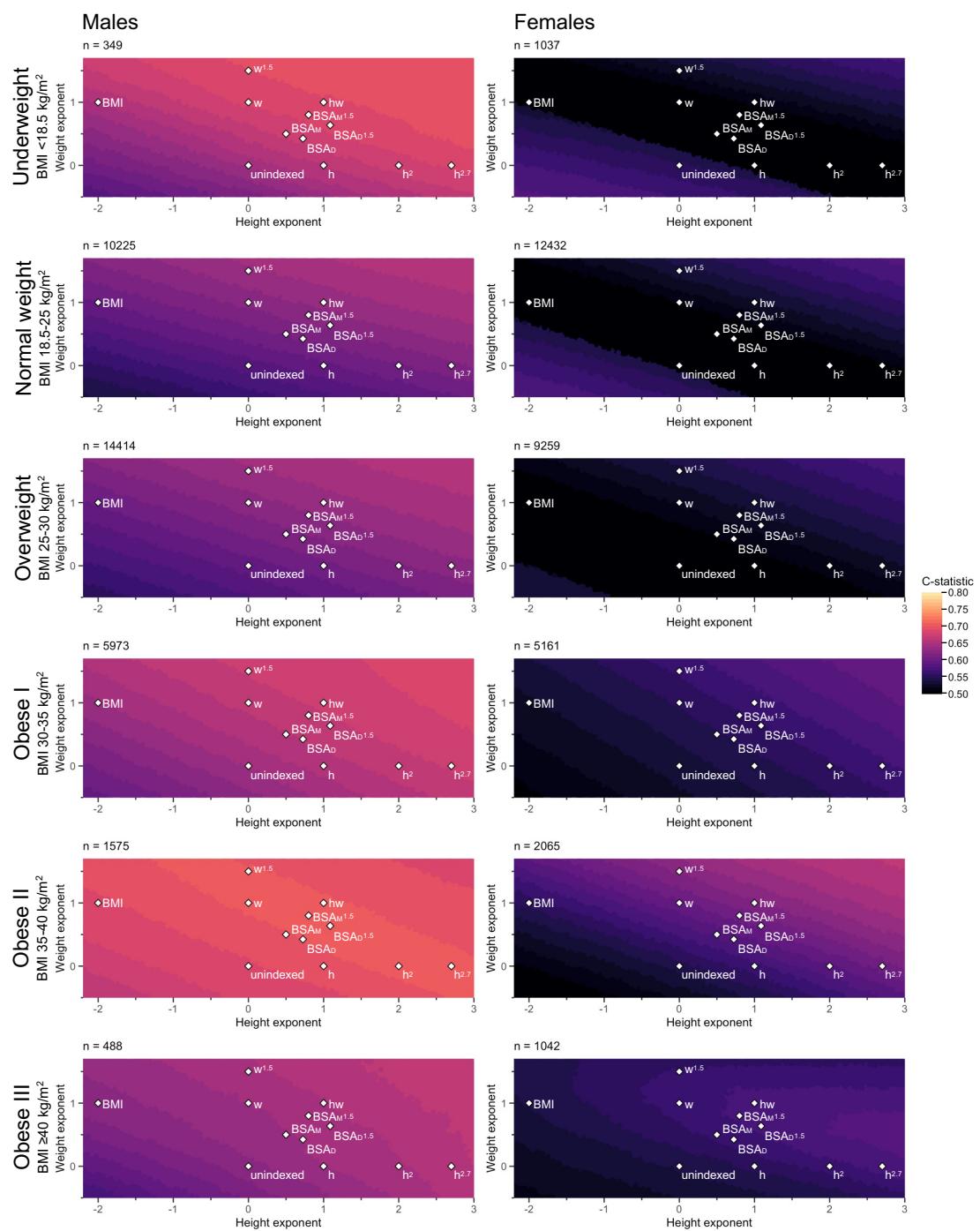
**Supplementary Figure 8.** Average prognostic strength of indexing for body size in LA diameter.



**Supplementary Figure 9.** Average prognostic strength of indexing for body size in LA volume.



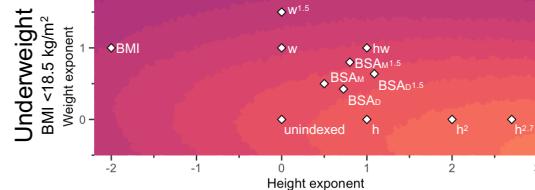
**Supplementary Figure 10.** Average prognostic strength of indexing for body size in LV end-diastolic diameter.



**Supplementary Figure 11.** Average prognostic strength of indexing for body size in LV end-diastolic volume.

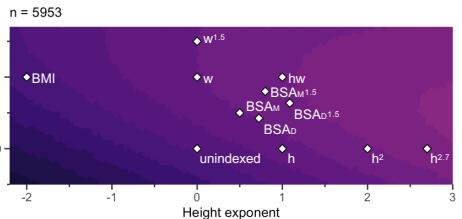
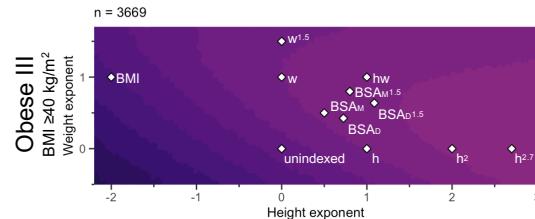
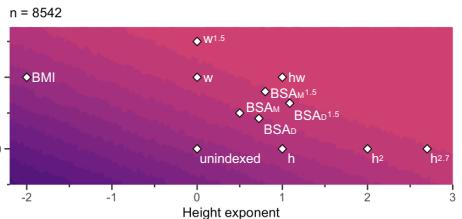
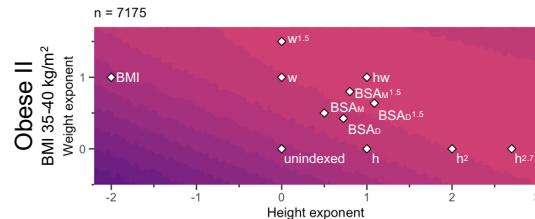
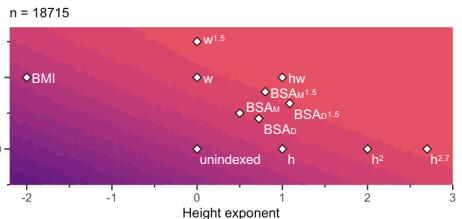
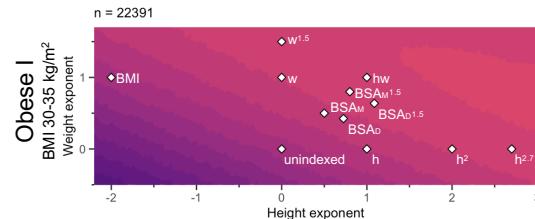
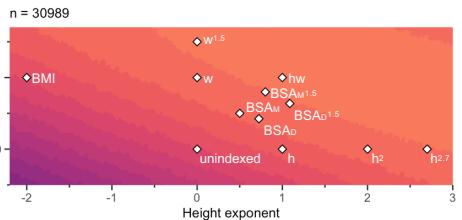
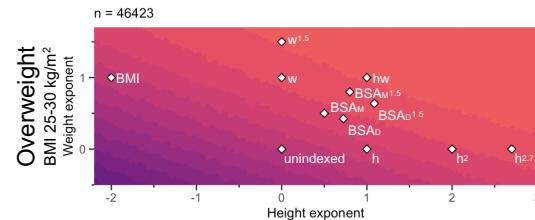
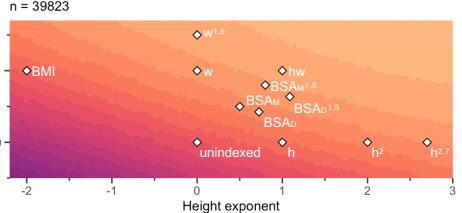
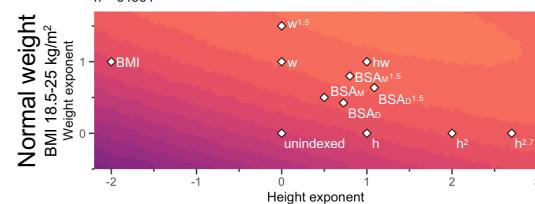
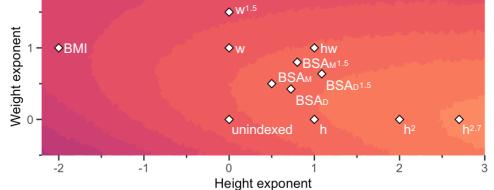
## Males

n = 2025



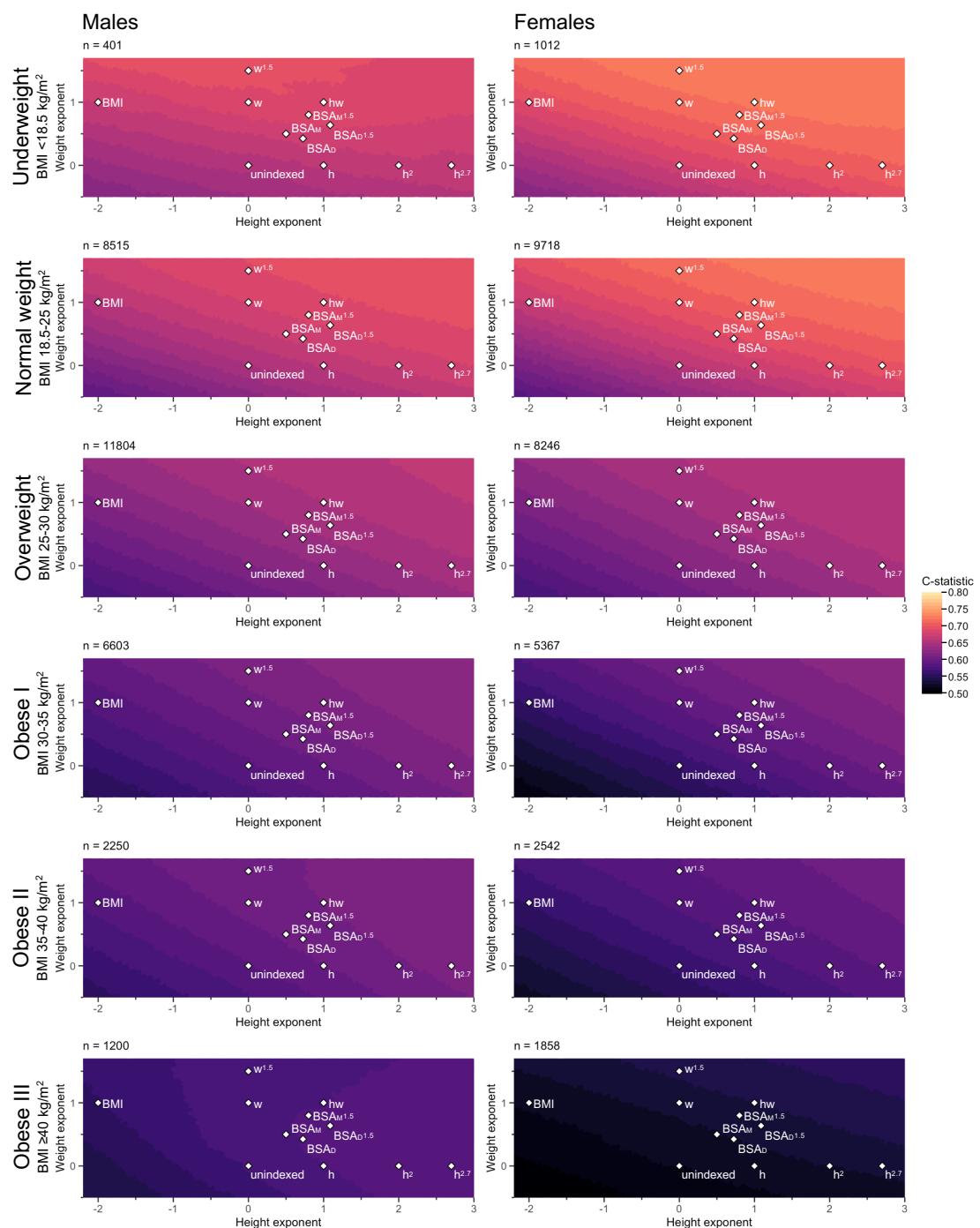
## Females

n = 4205

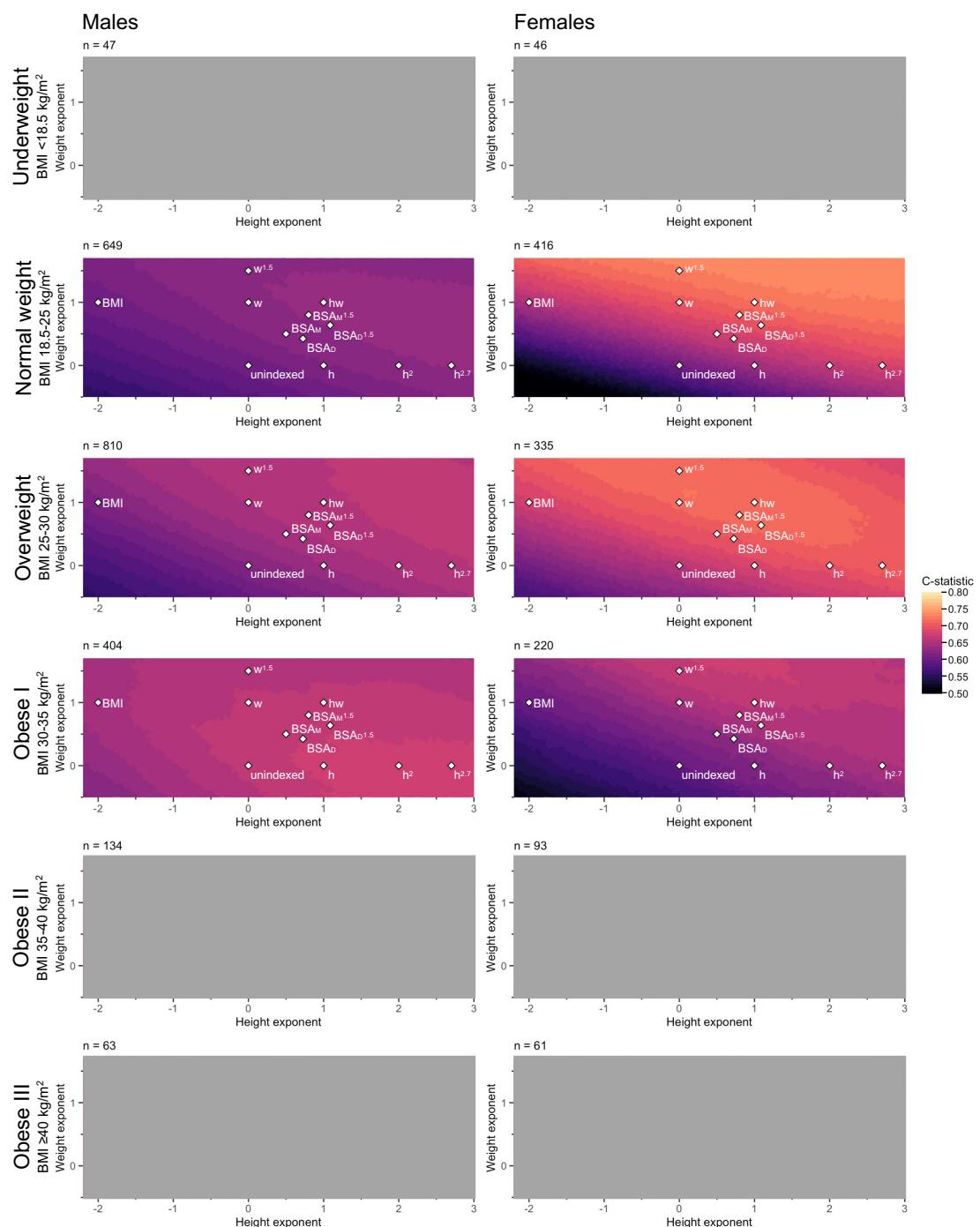


C-statistic  
0.80  
0.75  
0.70  
0.65  
0.60  
0.55  
0.50

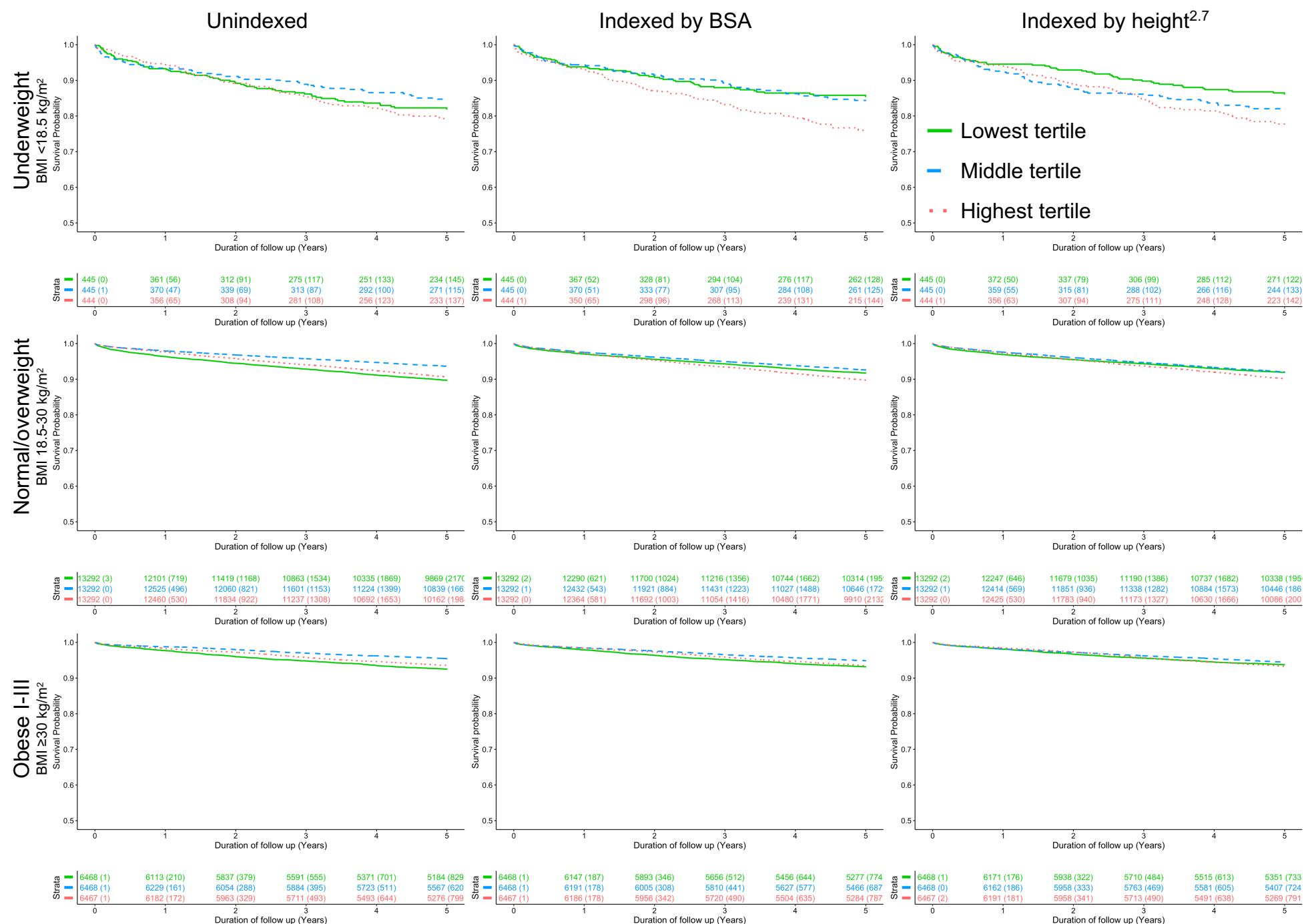
**Supplementary Figure 12.** Average prognostic strength of indexing for body size in LV mass.



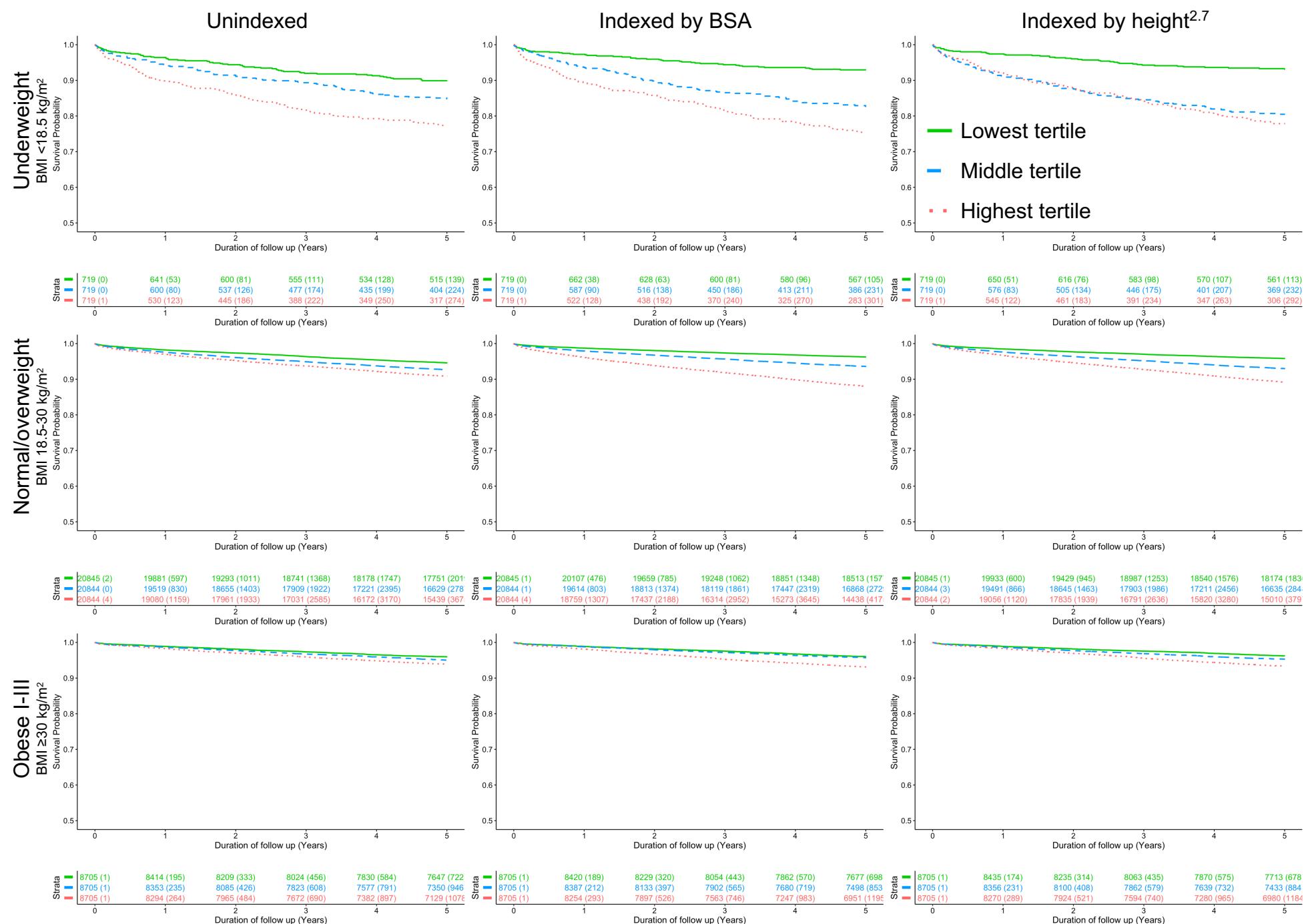
**Supplementary Figure 13.** Average prognostic strength of indexing for body size in RA area.



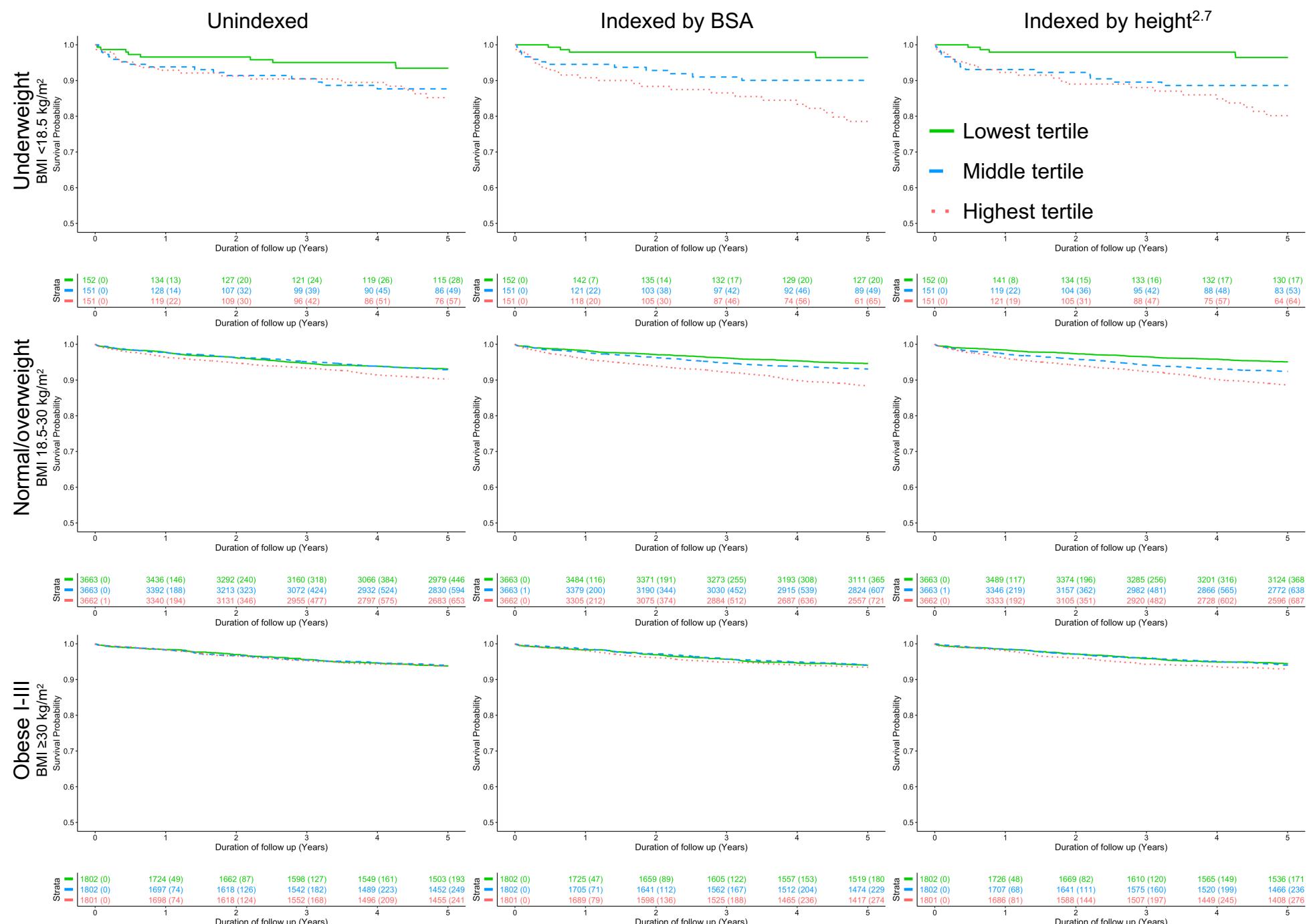
**Supplementary Figure 14.** Average prognostic strength of indexing for body size in RV diameter. Data for BMI < 18.5 and  $\geq 30 \text{ kg/m}^2$  are not shown due to insufficient sample sizes.



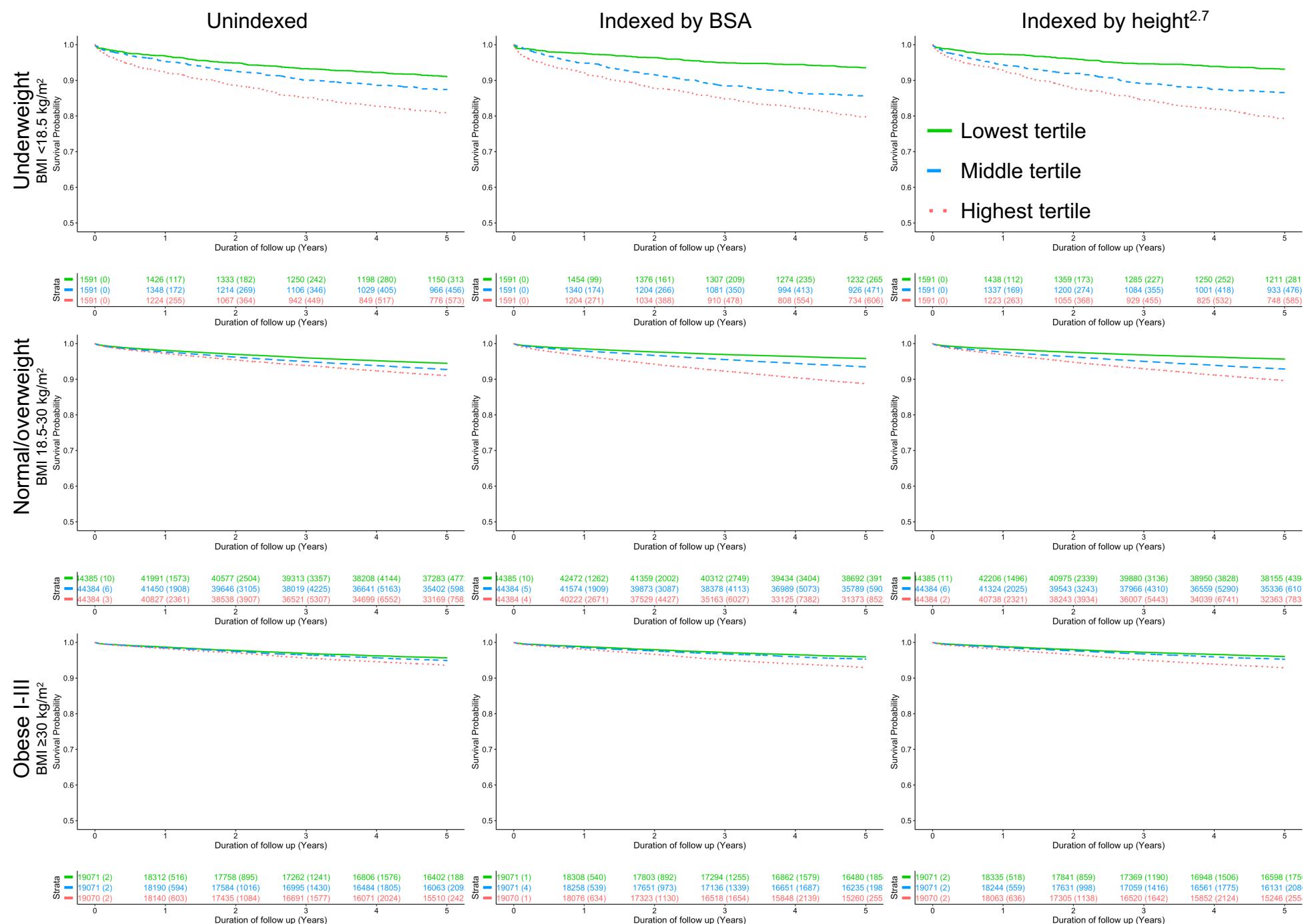
Supplementary Figure 15. Kaplan-Meier curves for 5-year cardiovascular mortality for aorta at sinotubular diameter unindexed, indexed by BSA and indexed by height<sup>2,7</sup>.



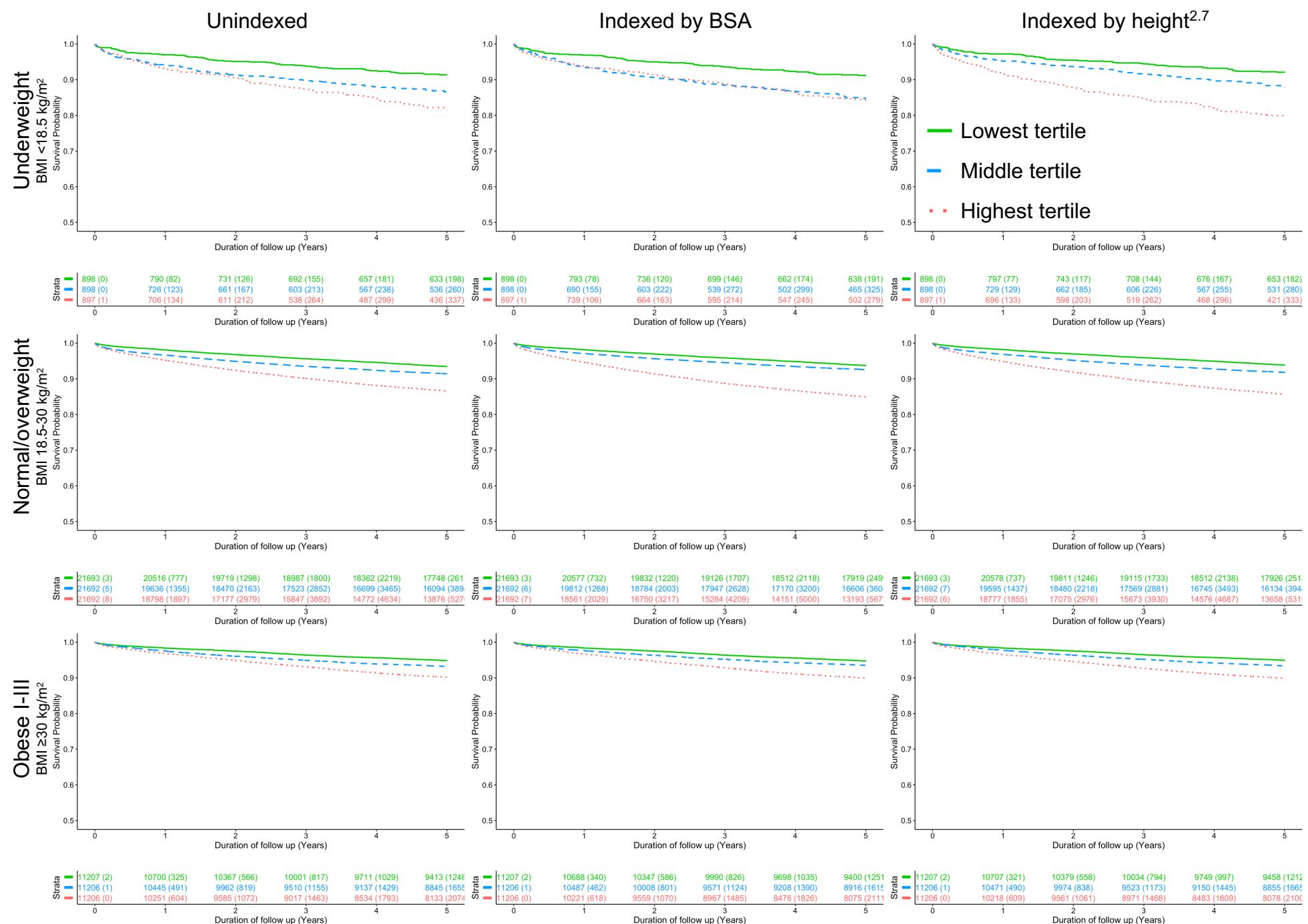
Supplementary Figure 16. Kaplan-Meier curves for 5-year cardiovascular mortality for aortic sinus diameter unindexed, indexed by BSA and indexed by height<sup>2,7</sup>.



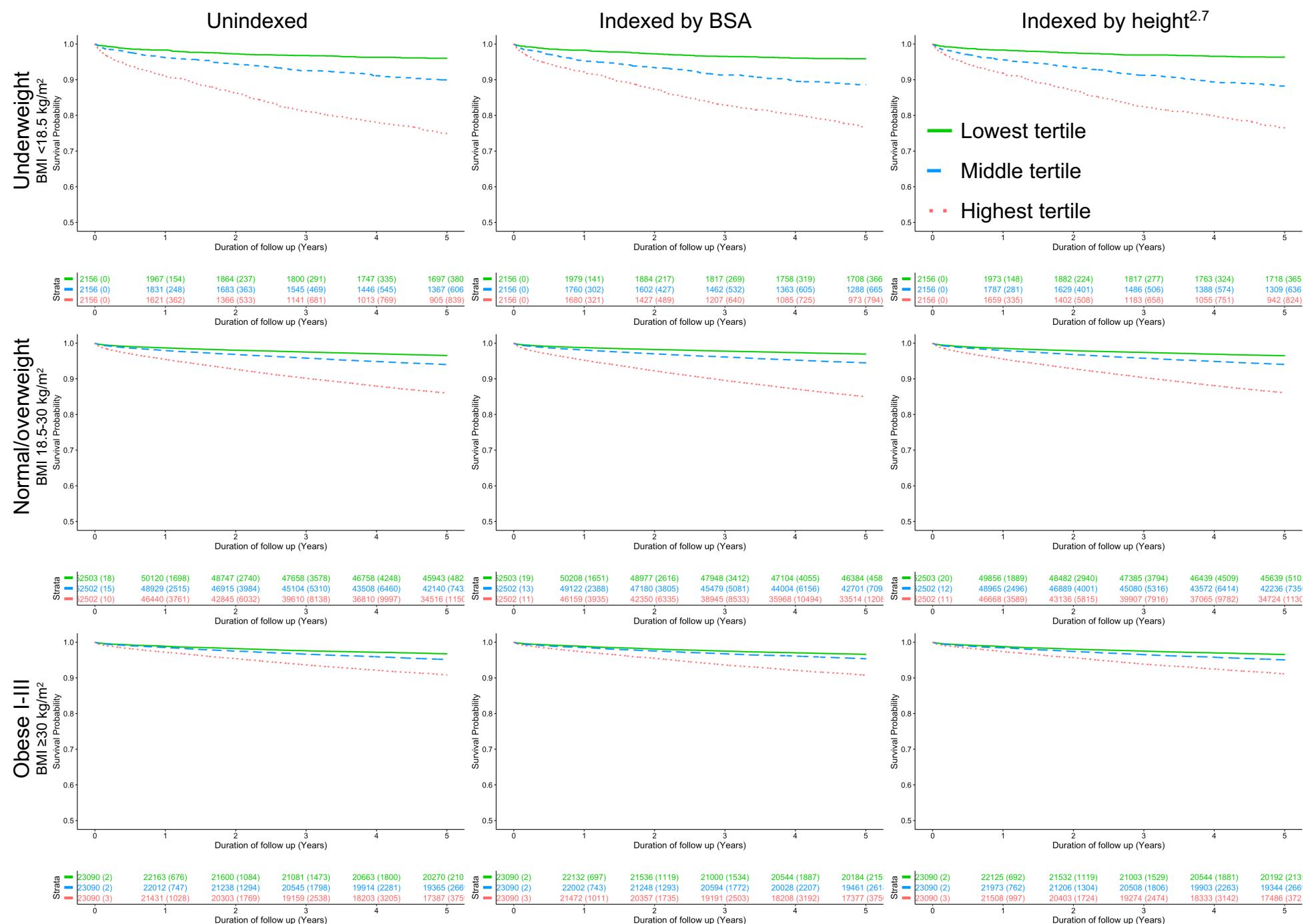
Supplementary Figure 17. Kaplan-Meier curves for 5-year cardiovascular mortality for aortic arch diameter unindexed, indexed by BSA and indexed by height<sup>2,7</sup>.



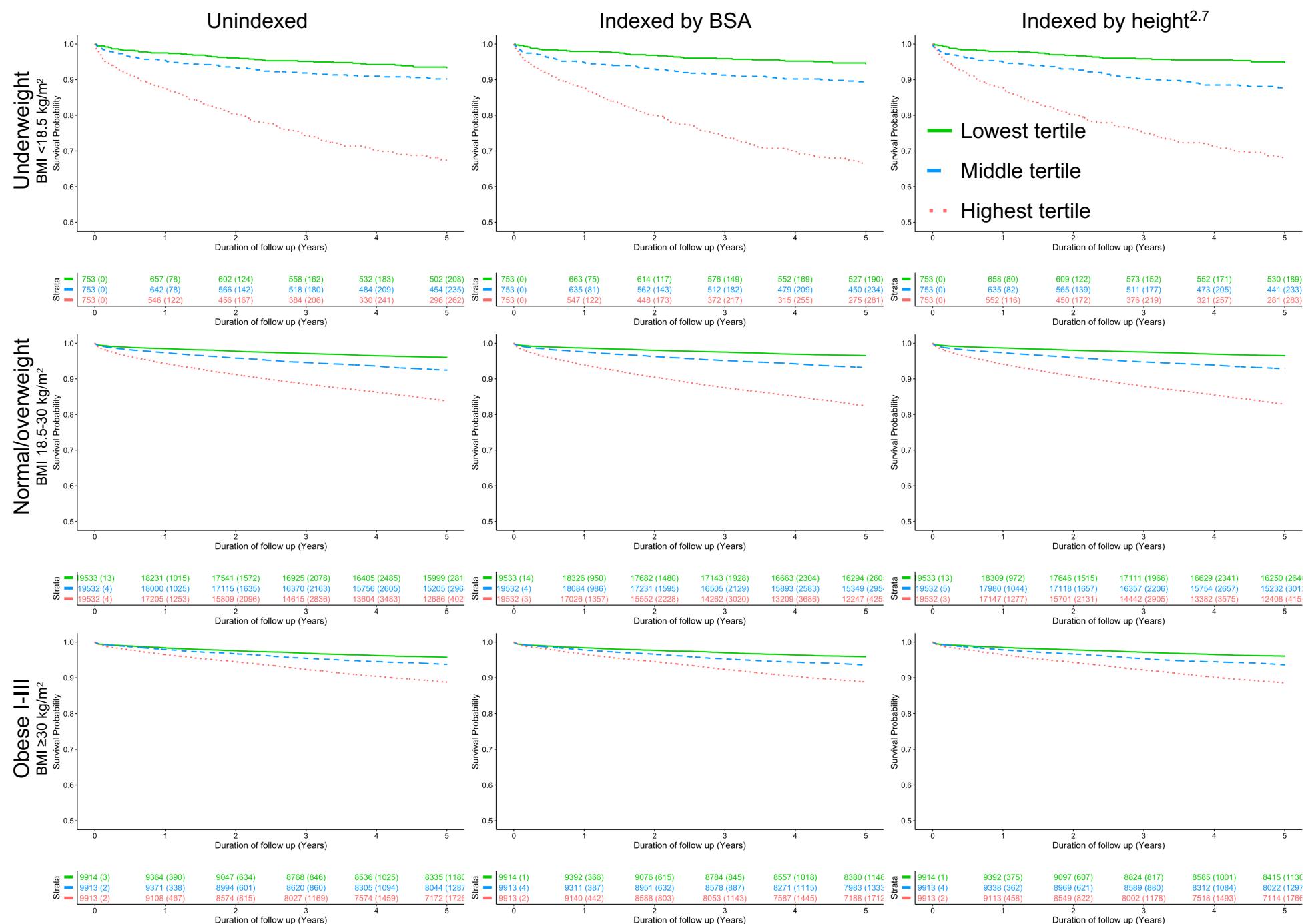
Supplementary Figure 18. Kaplan-Meier curves for 5-year cardiovascular mortality for aortic root diameter unindexed, indexed by BSA and indexed by height<sup>2,7</sup>.



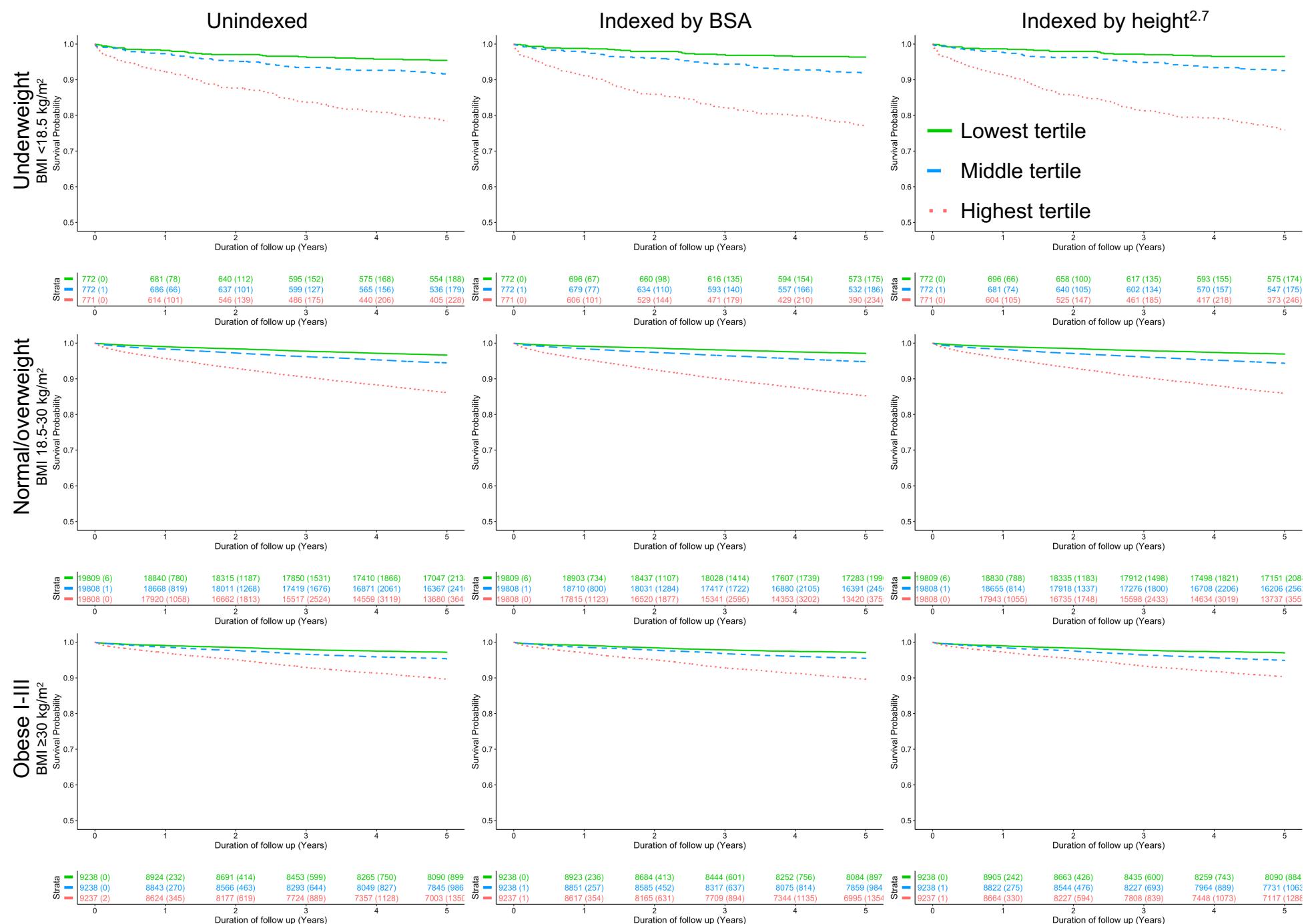
Supplementary Figure 19. Kaplan-Meier curves for 5-year cardiovascular mortality for ascending aorta diameter unindexed, indexed by BSA and indexed by height<sup>2,7</sup>.



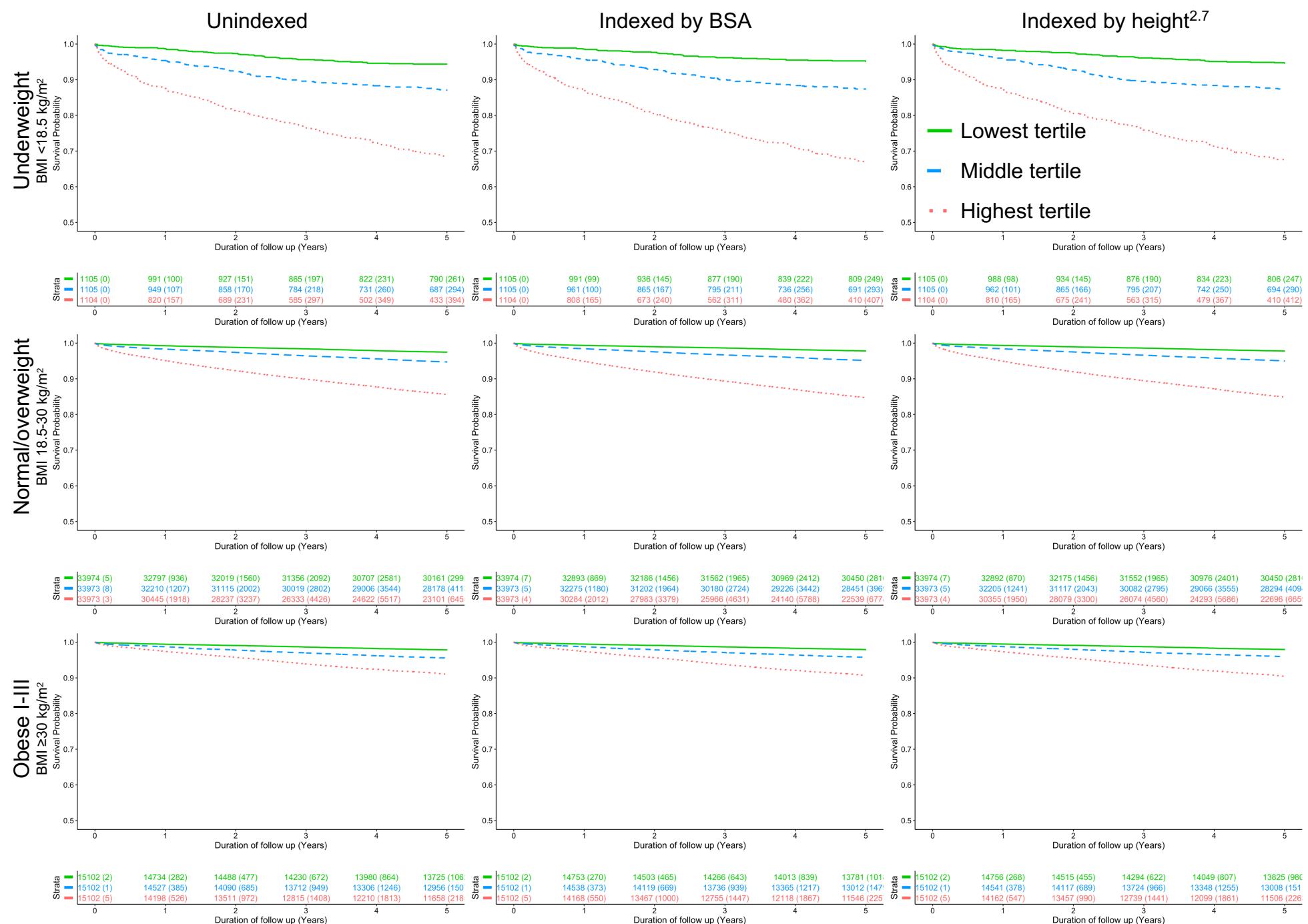
Supplementary Figure 20. Kaplan-Meier curves for 5-year cardiovascular mortality for IVS thickness unindexed, indexed by BSA and indexed by height<sup>2,7</sup>.



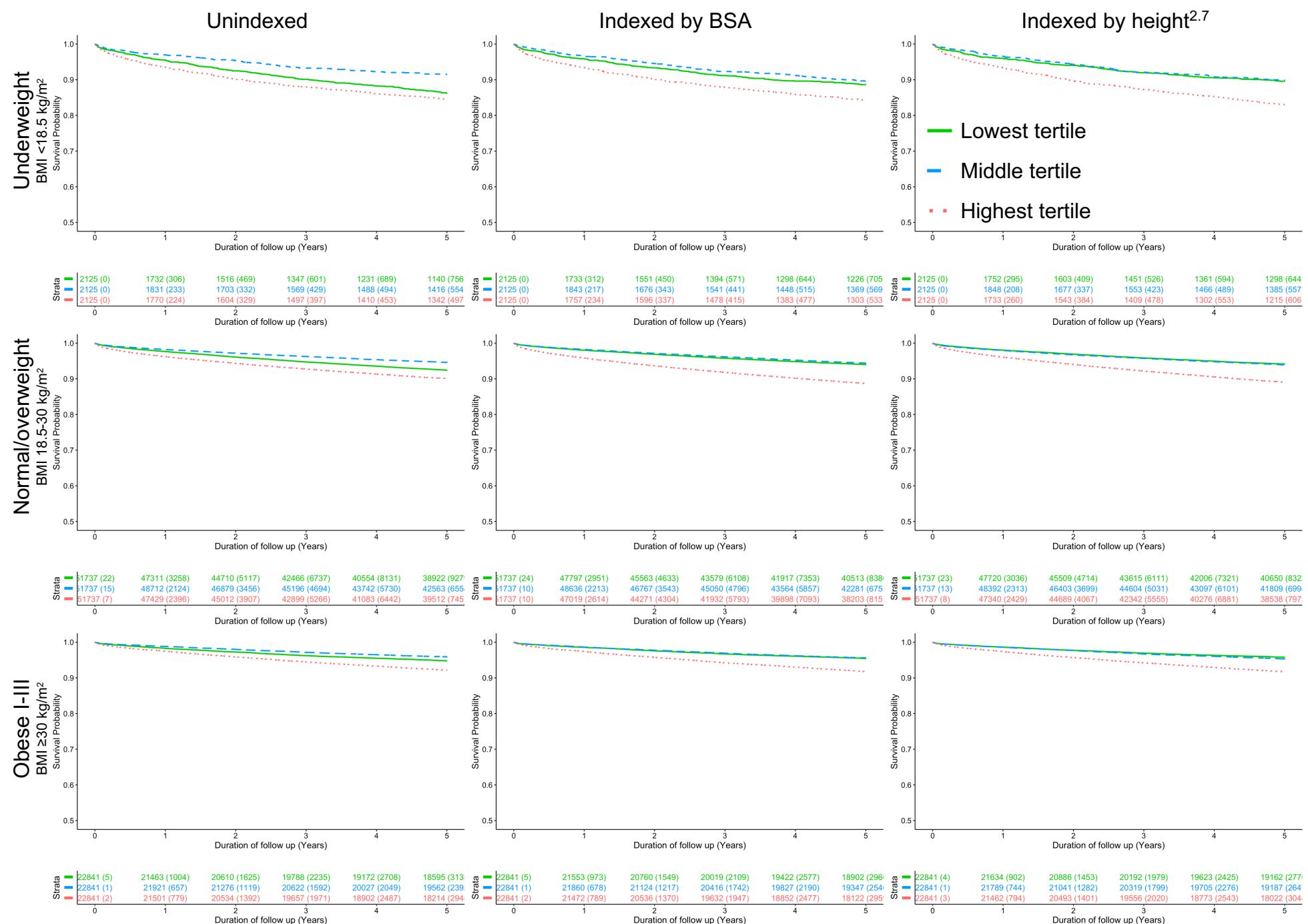
Supplementary Figure 21. Kaplan-Meier curves for 5-year cardiovascular mortality for LA area unindexed, indexed by BSA and indexed by height<sup>2,7</sup>.



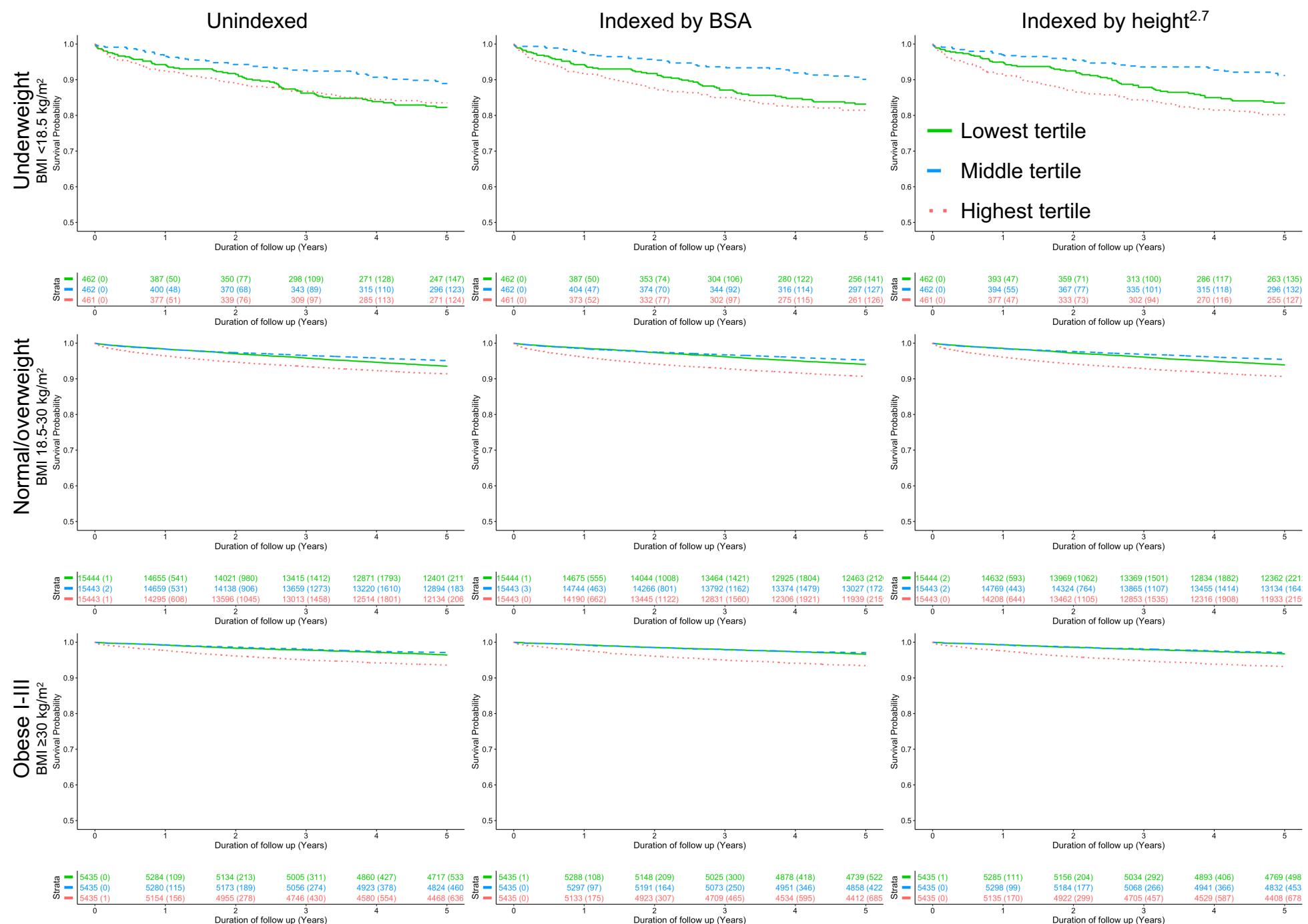
Supplementary Figure 22. Kaplan-Meier curves for 5-year cardiovascular mortality for LA diameter unindexed, indexed by BSA and indexed by height<sup>2,7</sup>.



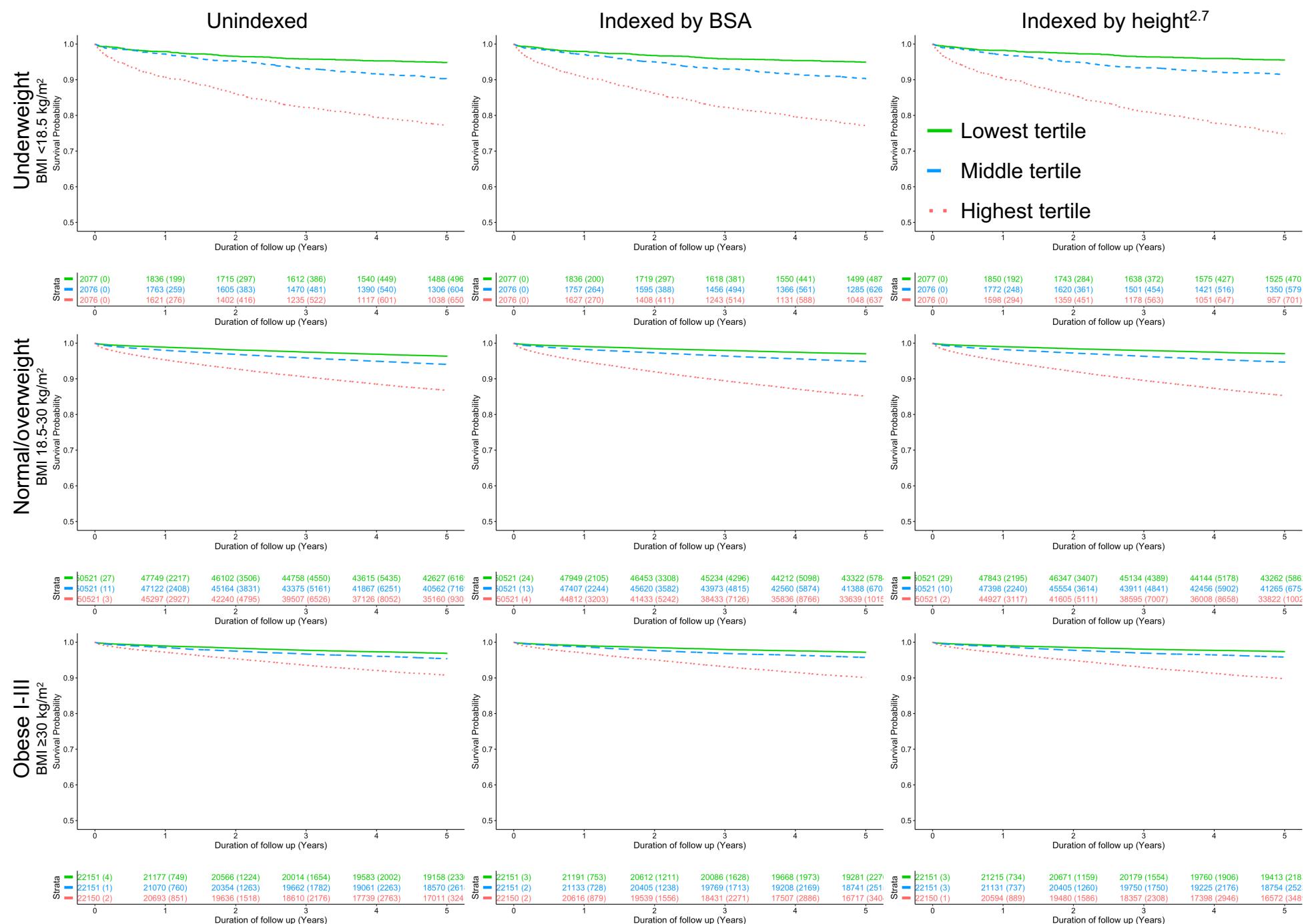
**Supplementary Figure 23.** Kaplan-Meier curves for 5-year cardiovascular mortality for LA volume unindexed, indexed by BSA and indexed by height<sup>2.7</sup>.



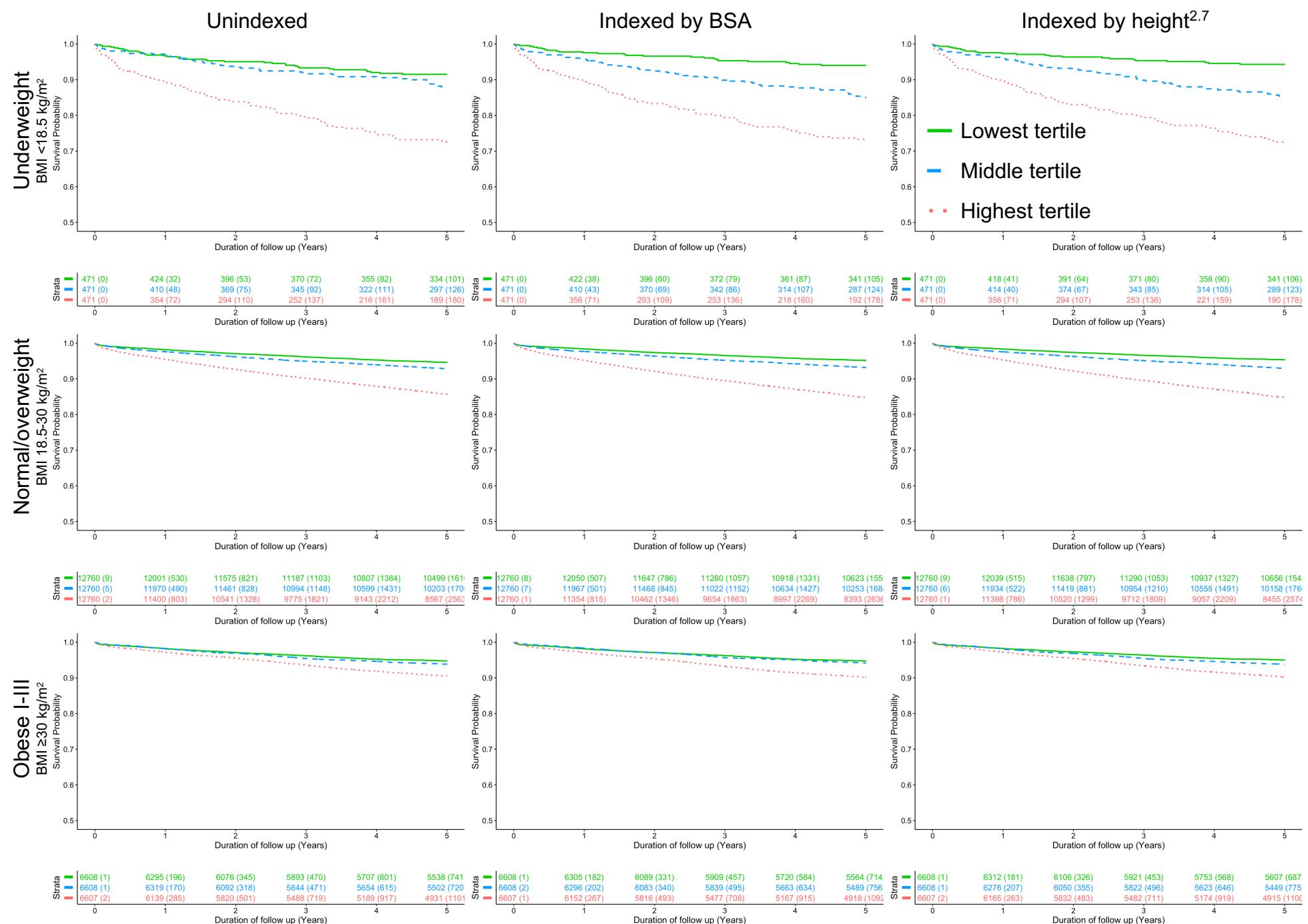
**Supplementary Figure 24.** Kaplan-Meier curves for 5-year cardiovascular mortality for LV end-diastolic diameter unindexed, indexed by BSA and indexed by height<sup>2,7</sup>.



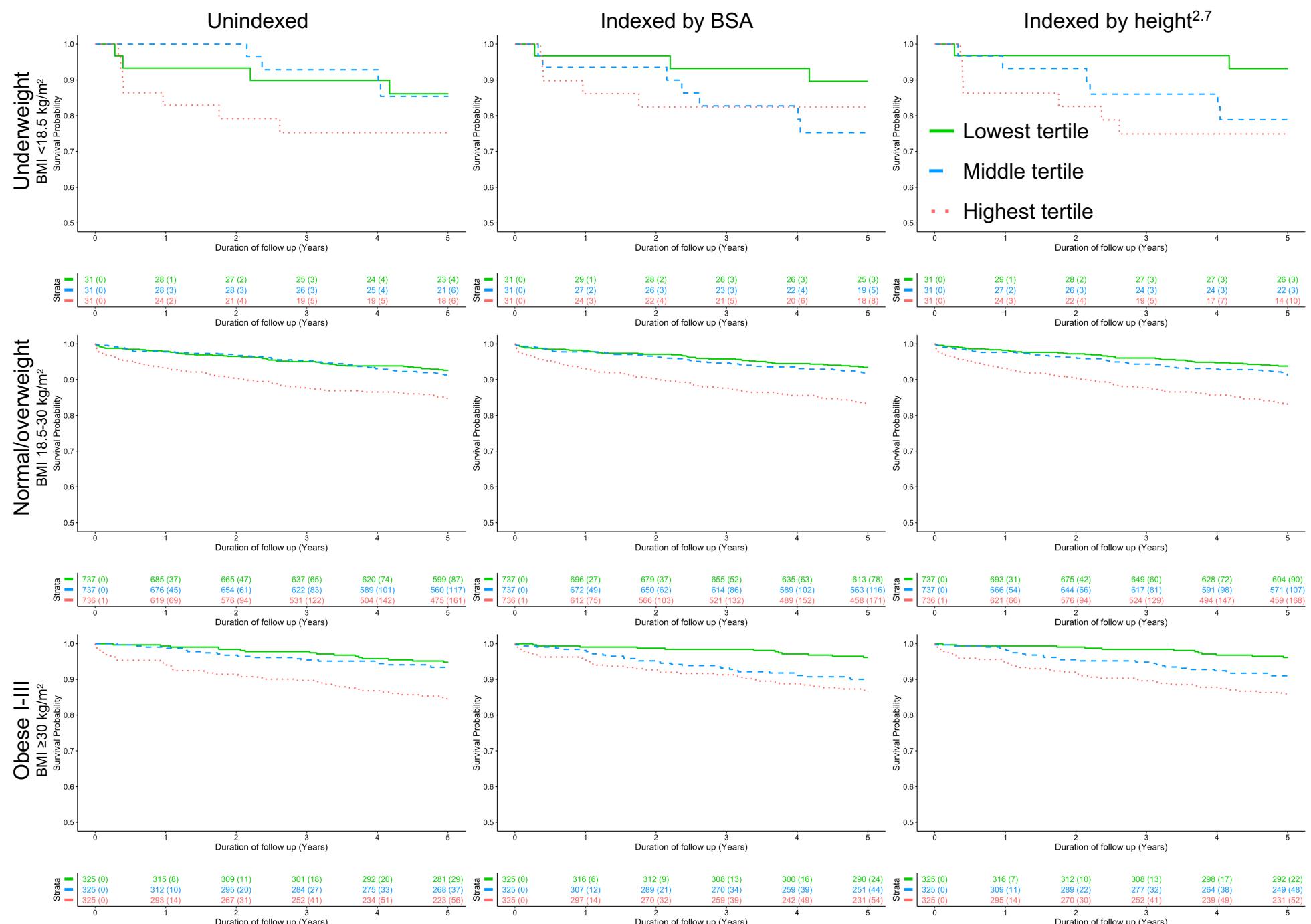
**Supplementary Figure 25.** Kaplan-Meier curves for 5-year cardiovascular mortality for LV end-diastolic volume unindexed, indexed by BSA and indexed by height<sup>2.7</sup>.



**Supplementary Figure 26.** Kaplan-Meier curves for 5-year cardiovascular mortality for LV mass unindexed, indexed by BSA and indexed by height<sup>2,7</sup>.



Supplementary Figure 27. Kaplan-Meier curves for 5-year cardiovascular mortality for RA area unindexed, indexed by BSA and indexed by height<sup>2,7</sup>.



**Supplementary Figure 28.** Kaplan-Meier curves for 5-year cardiovascular mortality for RV diameter unindexed, indexed by BSA and indexed by height<sup>2,7</sup>.