OBJECTIVES Based on seven cardiovascular health factors and behaviors, the American Heart Association proposed the Cardiovascular Health Score (CHS). It has been widely used to estimate cardiovascular health status of individuals. The aim of this study was to investigate the impact of different CHS on year-to-year blood pressure variability.

METHODS Based on CHS, we defined three groups: first group, 0–4 points; second group, 5–9 points; and third group, 10–14 points. The impact of CHS on year-to-year blood pressure variability were analyzed.

RESULTS A total of 41 710 individuals met the inclusion criteria (no history of stroke, transient ischemic attack, myocardial infarction, malignant tumor, or atrial fibrillation) and had complete blood pressure data. The standard deviation of systolic blood pressure (SSD) was >10.87 mmHg in 41.90% of the total population, and in 55.90%, 45.00%, and 36.90% of the first, second, and third groups (P < 0.05). The coefficient of the variation of systolic blood pressure (SCV) was ≥ 32% in 44.40% of the total population and in 50.70%, 44.30%, and 44.30% of the first, second, and third groups respectively (P < 0.05). Multivariate logistic regression analysis revealed that higher CHS was a protective factor against increasing year-to-year BPV, which persisted after adjusted for baseline systolic blood pressure and other risk factors.

CONCLUSIONS In summary, CHS was negatively related to year-to-year BPV, which further supported that healthier lifestyle might contribute to better blood pressure management.

OBJECTIVES Essential hypertension (HTN) is the most common cardiovascular disease that can lead to the left ventricular hypertrophy (LVH). The end stage LVH is a major cause of heart failure in elderly patients. QT prolongation is an independent risk factor for sudden cardiac death and all-cause mortality. In this study we aimed to investigate the prevalence of acquired long QT syndrome and gender effects in patients with HTN-LVH.

METHODS A pilot study of retrospective medical records review was conducted for inpatients diagnosed with HTN-LVH. ECGs were retrieved from an institutional-wide MUSE system. ECG parameters including heart rate, rhythm, QRS duration/amplitude and QT interval (QTC by Bazett’s) were evaluated. All study subjects met the ECG LVH criteria defined by Sokolow-Lyon Voltage, Cornell Voltage or Cornell Voltage Products. Patients with atrial fibrillation/flutter, complete LBBB, RBBB or ventricular pacing that affect accurate QT measurement were excluded from analysis.

RESULTS In a total of 240 subjects (age 68 ± 13 years, 61% M) met the inclusion criteria, 60% of HTN-LVH patients presented with a prolonged QT interval including markedly prolonged QTC (>495 ms) seen in 15% (37/240), moderately prolonged QTC (465-494 ms) in 20%, and borderline prolongation of QTC (445-464 ms) in 25%, respectively. In general male have bigger ventricular mass showing as higher QRS amplitude and wider QRS. Nevertheless, female have longer QT interval. In HTN-LVH cohort, however, 58% of those showing a prolonged QT interval were male though female remained to show a narrower QRS (M: F, 97.11 ms vs. 89.11 ms, p < 0.001).

CONCLUSIONS The prevalence of QT prolongation is high in patients with HTN-LVH, indicating HTN-LVH is likely the most common cause of ALQTS in general population. Male is dominant in ALQTS associated with HTN-LVH. Those findings have important clinical implications.
CONCLUSIONS The prevalence of hypertension in Tibet is higher than average of China. More attention should be paid in diet, altitude of dwelling, resident place, and education in order to reduce the risk of hypertension in Tibet.

GW26-e3818 The prevalence of risk factors and status of pre-hospital treatments among hospitalized patients with stroke in China
Mellian Tang, Jiayi Sun, Wei Wang, Jing Liu, Jun Liu, Yue Qi, Ying Wang, Dong Zhao Department of Epidemiology, Beijing Institute of Heart, Lung and Blood Vessel Disease, Beijing An Zhen Hospital, Capital Medical University

OBJECTIVES To analyze the distribution of multiple risk factors for hospitalized patients with stroke and explore the status of prehospital treatment and control of the risk factors.

METHODS This study is a multi-center cross-sectional study; we continuously collected information of hospitalized patients with acute stroke from 31 hospitals located in 25 provinces of China during January to May in 2018.

RESULTS Totally 20570 patients meet the inclusion criteria were analyzed in this study. The average age of all recruited stroke patients was 63.0±12.9 years old, 13062 of them were male, 15329 were first-ever stroke patients, and 17052 were ischemic stroke. (1) There were 75.5% of patients with hypertension, 53.5% with elevated low density lipoprotein cholesterol, 37.3% with diabetes, and 5.6% with atrial fibrillation (AF). And 75.2% patients had two or more risk factors and 43.0% patients had three or more risk factors. (2) “Hypertension plus elevated LDL-C” and “hypertension plus diabetes mellitus” and “hypertension plus smoking” and “hypertension plus high LDL-C plus diabetes mellitus” were most common combinations of risk factors. (3) Among first-ever stroke patients, 53.3% was classified as high risk according their pre-hospital risk factor status and 25.9% was classified as low risk group; But 42.1% of the first-ever stroke patients lower than 45 years old came from the low stroke risk according their pre-hospital risk factor status and current definition of risk classification. (4) Among the first-ever stroke patients, the awareness rate of hypertension was 70.3%, but only 20.1% of those under treatment reached the target of BP control. The awareness rate of diabetes was 54.4%, and the awareness rate of elevated LDL was only 9.1%; There were relatively higher awareness rate of hypertension (83.0%) and diabetes (70.2%) among recurrent stroke patients, but the treatment rates (56.0% for hypertension and 46.3% for diabetes) and control rates (37.7% for hypertension and 21.4% for diabetes) of these risk factors were low. The awareness rate (16.1%), treatment rate (8.6%) and control rate (2.4%) of elevated LDL-LC were the lowest compared with other risk factors.

CONCLUSIONS Most stroke patients had multiple risk factors of stroke in pre-hospitalization. And the pre-hospital treatment rates and control rates of these risk factors were very low for both first ever and recurrent stroke patients. Among stroke patients aged under 65, 42.1% of them was classifed as low risk group according their pre-hospital risk factor status and current algorithm of stroke risk classification. The primary prevention and secondary prevention of stroke need to be improved in China. And the definition of risk classification for stroke may need modified for people under 65 years old.

GW26-e4689 Cardiovascular Health Score and the Risk of Cardiovascular Diseases
Minghui Bao, Xinchun Yang Department of Cardiology, Chaoyang Hospital, Capital Medical University

OBJECTIVES The American Heart Association (AHA) proposed a definition of ideal cardiovascular health behaviors and risk factors to estimate cardiovascular health status in 2010. Huffman created the AHA cardiovascular health score (CVH score) to estimate cardiovascular health status in individual-level. We performed a prospective cohort study among employees of the Kailuan Group Corporation who participated in the physical examination in 2006-2007, aimed to investigate the relationship between cardiovascular health score (CVH score) and the risk of cardiovascular diseases (CVDs).

METHODS 91698 individuals free of stroke and myocardial infarction at baseline were included in the final statistical analysis. We calculated baseline CVH score for all 7 metrics (poor, 0 points; intermediate, 1 point; ideal, 2 points; total scale: 0-14 points) and categorized them as three cardiovascular health groups: inadequate, average and optimum. Cox proportional hazards model was used to analyze incidence of total CVD events, myocardial infarction, and stroke among three groups and per one higher point of CVH score.

RESULTS During an average of 6.81-year follow-up, there were 3276 CVD events, 2579 stroke and 747 myocardial infarction occurred. After adjusting for several confounding factors, each better health category of the CVH score was associated with reduced odds of 44% for total CVD events. Each point higher CVH score was associated with reduced odds of 17% for total CVD events. Similar trends were also detected in the risk of myocardial infarction and stroke separately.

CONCLUSIONS Higher CVH score is a protective factor of CVDs, myocardial infarction and stroke. Maintaining a better cardiovascular health behaviors and factors is essential to decrease the incidence of CVD.

GW26-e3898 A Body Shape Index and Body Roundness Index: Two new body indices to identify left atrial enlargement among rural populations in northeast China
Ye Chang1, Xiaofan Guo1, Tan Li1, Shasha Yu1, Zhao Li1, Liang Guo1, Shiwen Li1, Jie Guo1, Xu Wang1, Hongmei Yang1, Guozhe Sun1, Jun Yang1, Yingxian Sun1 1Department of Cardiology, the First Hospital of China Medical University; 2Department of Cardiac Ultrasound, the First Hospital of China Medical University

OBJECTIVES Left atrial (LA) enlargement played an essential role in the occurrence of adverse cardiovascular outcomes. The body mass index (BMI), waist circumference (WC) and waist-to-height ratio (WHtR) were well-used anthropometric predictors for cardiovascular diseases (CVD), including LA enlargement, but their validities of discerning between fat and lean mass were questioned. Recently, two new anthropometric indices, A Body Shape Index (ABSI) and Body Roundness Index (BRI) have been developed as a possible improvement over BMI and WC. Our study assessed the predictive ability of ABSI and BRI in identifying LA enlargement and determined whether they were superior to BMI, WC and WHtR.

METHODS This cross-sectional study was conducted among the rural population in northeast China from January 2012 to August 2013, and finally included 3757 participants. ABSI, BMI, BRI and WHtR were calculated according to respective formula. According to left atrial volume index (LAVI), LA enlargement was classified as two categories: mild and severe.

RESULTS Linear Regression showed that BRI had the highest correlations (r=0.136, p<0.001) and ABSI had the lowest correlations (r=0.060, p<0.001) for LAVI compared to other anthropometric measures. The results of ROC curve and multiple regression analysis showed that BRI was the best predictor of mild LA enlargement (AUC: 0.638, 95%CI: 0.603-0.673; OR: 4.316, 95%CI: 2.672-6.972, p<0.001), and ABSI showed the lowest predictive power for severe LA enlargement.

CONCLUSIONS We indicated that BRI was a superior measure compared to BMI, WC and WHtR to determine the presence of mild LA enlargement. ABSI showed the weakest predictive ability. All of the anthropometric indices did not have predictive ability for severe LA enlargement.

GW26-e1809 Electrocardiographic Features in Patients with Hypertensive Left Ventricular Hypertrophy
Yanli Zhang1, Ying Liu1, Yuyu Sun1, Yifan Tie1, Yinong Jiang1, Li Zhang1 1Department of Cardiology, First Affiliated Hospital of Dalian Medical University, Dalian, China; 2Center for Clinical Cardiology, Lankenu Institute for Medical Research, Sydney Kimmel Medical College of Thomas Jefferson Univ., Philadelphia, PA, US

OBJECTIVES We have recognized that hypertensive left ventricular hypertrophy (HTN-LVH) is a major cause of acquired long QT syndrome (ALQTS) in patients with cardiovascular disease. This study aims to elucidate the electrocardiographic features in ALQTS associated with HTN-LVH.

METHODS Resting 12-lead ECGs of 144 HTN-LVH patients with ALQTS (QTc ≥ 445 ms, age 68±13 years, 42% F) and 96 HTN-LVH patients with normal QT intervals (QTc ≤ 444 ms, age 67±13 yrs, 36% F) were analyzed. All HTN subjects met the ECG LVH criteria defined by