**Supplemental table 5: Joint risk model of the risk of incident diabetes mellitus by time-updated BMI and BUN (in quintiles) category**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Underweight**  Hazard Ratio  (95% confidence interval) | **Normal**  Hazard Ratio  (95% confidence interval) | **Overweight**  Hazard Ratio  (95% confidence interval) | **Obesity**  Hazard Ratio  (95% confidence interval) |
| **BUN quintile 1** | 1.09  (1.00, 1.20) | 1.00 | 1.61  (1.56, 1.67) | 3.59  (3.49, 3.70) |
| **BUN quintile2** | 1.26  (1.11, 1.43) | 1.11  (1.06, 1.16) | 1.70  (1.64, 1.76) | 3.65  (3.54, 3.76) |
| **BUN quintile 3** | 1.40  (1.23, 1.60) | 1.11  (1.07, 1.16) | 1.71  (1.65, 1.77) | 3.63  (3.52, 3.75) |
| **BUN quintile 4** | 1.46  (1.30, 1.65) | 1.24  (1.19, 1.29) | 1.82  (1.76, 1.88) | 3.61  (3.50, 3.72) |
| **BUN quintile 5** | 1.78  (1.62, 1.95) | 1.59  (1.53, 1.65) | 2.10  (2.03, 2.17) | 3.73  (3.61, 3.85) |
| Underweight: BMI<18.5 kg/m2; Normal: 18.5 kg/m2 ≤BMI<25 kg/m2; Overweight: 25 kg/m2 ≤BMI<30 kg/m2; Obesity: BMI≥30 kg/m2. BUN quintile was based on ranking within participants at risk at each time point. The primary predictor was time-varying combination of BMI and BUN categories. Normal BMI and BUN quintile 1 served as the reference category.  Survival model controlled for time independent variables age, race and gender and time-varying variables carbon dioxide, eGFR, albuminuria, frequency of outpatient encounters, frequency of hospitalizations, chronic lung disease, peripheral artery disease, cardiovascular disease, cerebrovascular disease, dementia, hyperlipidemia, hepatitis C, HIV, cancer and use of medications that increase risk of diabetes mellitus | | | | |