**Supplementary Table 1. Baseline characteristics between included population vs. excluded population**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Exclusion | Inclusion | Standardized differencesb | *p* |
| N | 1,634,734 | 1,111,345 |  |
| Age groups |  |  |  | < 0.001 |
| <40 | 123,224 (7.5) | 84,605 (7.6) | 0.003 |  |
| 40-64 | 99,9823 (61.2) | 694,269 (62.5) | 0.027 |  |
| ≥65 | 511,687 (31.3) | 332,471 (29.9) | 0.030 |  |
| Sex |  |  |  | < 0.001 |
| Male | 921,078 (56.3) | 736,005 (66.2) | 0.204 |  |
| Female | 713,656 (43.7) | 375,340 (33.8) | 0.204 |  |
| Income |  |  |  | < 0.001 |
| Lowest Q1 | 364,715 (23.3) | 195,947 (17.6) | 0.117 |  |
| Q2 | 321,055 (20.6) | 190,201 (17.1) | 0.065 |  |
| Q3 | 386,055 (24.7) | 300,224 (27.0) | 0.078 |  |
| Q4 | 490,800 (31.4) | 424,973 (38.2) | 0.174 |  |
| Smoking |  |  |  | < 0.001 |
| Non | 931,200 (57.2) | 585,750 (52.7) | 0.086 |  |
| Ex | 271,125 (16.7) | 239,467 (21.6) | 0.127 |  |
| Current | 425,358 (26.1) | 286,128 (25.8) | 0.006 |  |
| Alcohol consumption |  |  |  | < 0.001 |
| Non | 967,644 (59.9) | 594,707 (53.5) | 0.115 |  |
| Mild | 485,076 (30.0) | 405,359 (36.5) | 0.145 |  |
| Heavy | 162,111 (10.0) | 111,279 (10.0) | 0.003 |  |
| Regular exercise | 311,220 (19.0) | 252,228 (22.7) | 0.090 | < 0.001 |
| Comorbidities |  |  |  |  |
| Hypertension | 943,763 (57.8) | 622,341 (56.0) | 0.035 | < 0.001 |
| Dyslipidemia | 707,272 (43.3) | 451,487 (40.6) | 0.054 | < 0.001 |
| CKD | 205,457 (12.6) | 116,866 (10.5) | 0.064 | < 0.001 |
| DM Duration |  |  |  | 0.001 |
| New onset | 609,911 (37.3) | 412,250 (37.1) | 0.004 |  |
| 1-4 years | 508,727 (31.1) | 346,585 (31.2) | 0.001 |  |
| ≥5 years | 516,096 (31.6) | 352,510 (31.7) | 0.003 |  |
| Use of insulin | 168,001 (10.3) | 83,607 (7.5) | 0.097 | < 0.001 |
| Number of antidiabetic medications, ≥3 | 242,367 (14.8) | 158,699 (14.3) | 0.016 | < 0.001 |
| BMI, kg/m2 | 25.1±3.9 | 25.0±3.3 | 0.011 | < 0.001 |
| Waist Circumference, cm | 85.4±8.9 | 85.5±8.4 | 0.016 | < 0.001 |
| Systolic BP, mmHg | 129.2±16.2 | 128.8±15.3 | 0.024 | < 0.001 |
| Diastolic BP, mmHg | 79.1±10.5 | 79.0±10.0 | 0.005 | < 0.001 |
| Fasting glucose, mg/dL | 146.1±49.6 | 142.9±43.8 | 0.068 | < 0.001 |
| Total cholesterol, mg/dL | 197.2±44.4 | 195.3±41.6 | 0.043 | < 0.001 |
| HDL -C, mg/dL | 52.2±26.4 | 51.7±22.3 | 0.021 | < 0.001 |
| LDL -C, mg/dL | 111.0±41.7 | 110.6±40.2 | 0.011 | < 0.001 |
| Triglyceride, mg/dL a | 150.3 (150.16-150.44) | 145.0 (144.79-145.1) | 0.060 | < 0.001 |

CKD, chronic kidney disease; DM, diabetes mellitus; BMI, body mass index; BP, blood pressure, HDL-C, high-density lipoprotein-cholesterol; LDL-C, low-density lipoprotein-cholesterol

a Geometric mean with 95% confidence interval

b The effect size was defined as small (0.2), medium (0.5) and large (0.8).

Values are presented as mean ± standard deviation for continuous variables and numbers (%) for categorical variables.

**Supplementary Table 2. Beta coefficients (95% confidence interval) for depression incidence based on changes in** **body weight change as a continuous variable**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Weight Change | Beta (95% C.I) | | | |
| Crude | Model 1 | Model 2 | Model 3 |
| Difference Weight (kg), per 1SD | 0.92 (0.91 - 0.92) | 0.97 (0.97 - 0.97) | 0.97 (0.97 - 0.97) | 0.97 (0.97 - 0.98) |
| Absolute Difference weight (kg), per 1 SD | 1.01 (1.01 - 1.02) | 1.05 (1.04 - 1.05) | 1.04 (1.04 - 1.05) | 1.04 (1.03 - 1.04) |
| Weight change (%), per 1 SD | 0.91 (0.91 - 0.91) | 0.97 (0.97 - 0.98) | 0.97 (0.97 - 0.98) | 0.98 (0.97 - 0.98) |
| Absolute Weight change (%), per 1 SD | 1.06 (1.06 - 1.07) | 1.04 (1.04 - 1.05) | 1.04 (1.04 - 1.05) | 1.04 (1.03 - 1.04) |

SD, standard deviation; CI, confidence interval

Model 1 was adjusted for age and sex.

Model 2 was adjusted for income, smoking status, alcohol consumption, regular physical activity, and comorbidities (hypertension, dyslipidemia, chronic kidney disease) in addition to covariates in model 1.

Model 3 was adjusted for duration of type 2 diabetes mellitus, insulin use, and number of antidiabetic medications (≥ 3) in addition to covariates in model 2.

**Supplementary Table 3. Hazard ratios (95% confidence interval) for depression incidence according to categorical shift of body mass index**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| BMI  (1st exam) | BMI  (2nd exam) | N | Event | Duration | IR,  per 1000 PY | HR (95% CI) | |
| <18.5 | <18.5 | 6854 | 1546 | 42429.0 | 36.4 | 1.16 (1.10 - 1.22) | 1 (Ref.) |
| 18.5-25 | 5012 | 1090 | 32516.1 | 33.5 | 1.06 (1.00 - 1.13) | 0.92 (0.85 - 0.99) |
| ≥25 | 162 | 38 | 1077.8 | 35.3 | 0.99 (0.72 - 1.36) | 0.86 (0.62 - 1.18) |
| 18.5-25 | <18.5 | 7899 | 2150 | 45514.7 | 47.2 | 1.21 (1.16 -1.26) | 1.21 (1.16 - 1.26) |
| 18.5-25 | 461073 | 103542 | 3138678.1 | 33.0 | 1 (Ref.) | 1 (Ref.) |
| ≥25 | 70618 | 15098 | 488786.5 | 30.9 | 0.99 (0.98 - 1.01) | 0.99 (0.98 - 1.01) |
| ≥25 | <18.5 | 206 | 70 | 1110.8 | 63.0 | 1.34 (1.06 - 1.69) | 1.37 (1.09 - 1.74) |
| 18.5-25 | 93472 | 22170 | 629785.8 | 35.2 | 1.02 (1.00 - 1.03) | 1.04 (1.03 - 1.06) |
| ≥25 | 466049 | 98377 | 3239877.9 | 30.4 | 0.98 (0.97 - 0.98) | 1 (Ref.) |

BMI, body mass index; IR, incidence rate; PY, person-years; HR, hazard ratio; CI, confidence interval

HR was adjusted for age, sex, income, smoking status, alcohol consumption, regular physical activity, comorbidities (hypertension, dyslipidemia, chronic kidney disease), duration of type 2 diabetes mellitus, insulin use, and number of antidiabetic medications (≥ 3).

**Supplementary Table 4. Hazard ratios (95% confidence interval) for depression incidence according to weight change with time-lag**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Weight Change** | **N** | **Event** | **Duration** | **IR, per 1000 PY** | **HR (95% CI)** |
| 1-year lag period | ≥ -10% | 51,906 | 12,456 | 291833.3 | 42.7 | 1.14 (1.12 - 1.16) |
|  | -10% to -5% | 165,435 | 35,855 | 987237.3 | 36.3 | 1.06 (1.05 - 1.07) |
|  | -5% to 5% | 703,845 | 134,488 | 4335865.6 | 31.0 | 1 (Ref.) |
|  | 5% to 10% | 108,530 | 19,686 | 667950.0 | 29.5 | 1.03 (1.01 - 1.04) |
|  | ≥ 10% | 40,558 | 7,336 | 246061.4 | 29.8 | 1.07 (1.04 - 1.09) |
| 3-year lag period | ≥ -10% | 45,486 | 8,009 | 194669.8 | 41.1 | 1.11 (1.08 - 1.14) |
|  | -10% to -5% | 150,720 | 24,253 | 671149.9 | 36.1 | 1.06 (1.04 - 1.07) |
|  | -5% to 5% | 653,787 | 92,888 | 2977938.4 | 31.2 | 1 (Ref.) |
|  | 5% to 10% | 101,110 | 13,496 | 458335.6 | 29.4 | 1.03 (1.01 - 1.04) |
|  | ≥ 10% | 37,506 | 4,930 | 168002.0 | 29.3 | 1.06 (1.03 - 1.09) |
| 5-year lag period | ≥ -10% | 40,143 | 4,346 | 109237.8 | 39.8 | 1.07 (1.04 - 1.11) |
|  | -10% to -5% | 137,048 | 13,758 | 383672.1 | 35.9 | 1.04 (1.02 - 1.06) |
|  | -5% to 5% | 605,988 | 54,462 | 1718558.3 | 31.7 | 1 (Ref.) |
|  | 5% to 10% | 93,923 | 7,710 | 263343.0 | 29.3 | 1.00 (0.98 - 1.03) |
|  | ≥ 10% | 34,704 | 2,843 | 95779.1 | 29.7 | 1.05 (1.02 - 1.10) |

IR, incidence rate; PY, person-years; HR, hazard ratio; CI, confidence interval

HR was adjusted for age, sex, income, smoking status, alcohol consumption, regular physical activity, comorbidities (hypertension, dyslipidemia, chronic kidney disease), duration of type 2 diabetes mellitus, insulin use, and number of antidiabetic medications (≥ 3)

**Supplementary Table 5. Stratification analyses by covariates: hazard ratios (95% confidence interval) for depression incidence according to weight change**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Weight Change** | **N** | **Event** | **Duration** | **IR, per 1000 PY** | **HR (95% CI)** | ***P*int** |
| Age | < 65 years | ≥ -10% | 32,217 | 6,559 | 220007.0 | 29.8 | 1.23 (1.20 - 1.26) | < 0.001 |
|  |  | -10% to -5% | 112,589 | 20,917 | 799212.9 | 26.2 | 1.07 (1.06 - 1.09) |  |
|  |  | -5% to 5% | 517,565 | 86,292 | 3737742.8 | 23.1 | 1 (Ref.) |  |
|  |  | 5% to 10% | 84,675 | 13,387 | 609048.2 | 22.0 | 1.02 (1.00 - 1.04) |  |
|  |  | ≥ 10% | 31,831 | 4,945 | 227497.2 | 21.7 | 1.07 (1.04 - 1.10) |  |
|  | ≥ 65 years | ≥ -10% | 23,634 | 8,602 | 125679.5 | 68.4 | 1.12 (1.10 - 1.15) |  |
|  |  | -10% to -5% | 60,540 | 21,245 | 357246.6 | 59.5 | 1.07 (1.05 - 1.08) |  |
|  |  | -5% to 5% | 210,592 | 69,167 | 1314215.2 | 52.6 | 1 (Ref.) |  |
|  |  | 5% to 10% | 27,481 | 9,382 | 169268.5 | 55.4 | 1.03 (1.00 - 1.05) |  |
|  |  | ≥ 10% | 10,221 | 3,585 | 59859.0 | 59.9 | 1.05 (1.02 - 1.09) |  |
| Sex | Male | ≥ -10% | 30,565 | 6,619 | 194249.8 | 34.1 | 1.29 (1.26 - 1.32) | < 0.001 |
|  |  | -10% to -5% | 105,462 | 20,581 | 725023.4 | 28.4 | 1.10 (1.08 - 1.12) |  |
|  |  | -5% to 5% | 495,968 | 86,382 | 3519742.0 | 24.5 | 1 (Ref.) |  |
|  |  | 5% to 10% | 76,655 | 12,538 | 543363.2 | 23.1 | 1.03 (1.01 - 1.05) |  |
|  |  | ≥ 10% | 27,358 | 4,446 | 190838.4 | 23.3 | 1.09 (1.05 - 1.12) |  |
|  | Female | ≥ -10% | 25,286 | 8,542 | 151436.7 | 56.4 | 1.08 (1.06 - 1.10) |  |
|  |  | -10% to -5% | 67,667 | 21,581 | 431436.1 | 50.0 | 1.04 (1.02 - 1.06) |  |
|  |  | -5% to 5% | 232,189 | 69,077 | 1532216.0 | 45.1 | 1 (Ref.) |  |
|  |  | 5% to 10% | 35,501 | 10,231 | 234953.5 | 43.5 | 1.02 (0.99 - 1.04) |  |
|  |  | ≥ 10% | 14,694 | 4,084 | 96517.7 | 42.3 | 1.03 (0.99 - 1.06) |  |
| Income | Q1 | ≥ -10% | 11077 | 3040 | 67719.5 | 44.9 | 1.16 (1.12 - 1.21) | 0.164 |
|  |  | -10% to -5% | 32219 | 8077 | 212010.2 | 38.1 | 1.07 (1.04 - 1.09) |  |
|  |  | -5% to 5% | 125452 | 28625 | 854531.4 | 33.5 | 1 (Ref.) |  |
|  |  | 5% to 10% | 19568 | 4408 | 132921.0 | 33.2 | 1.04 (1.00 - 1.07) |  |
|  |  | ≥ 10% | 7631 | 1676 | 51045.9 | 32.8 | 1.05 (0.99 - 1.10) |  |
|  | Q2 | ≥ -10% | 9984 | 2702 | 61655.5 | 43.8 | 1.19 (1.14 - 1.23) |  |
|  |  | -10% to -5% | 30120 | 7160 | 200207.3 | 35.8 | 1.05 (1.02 - 1.08) |  |
|  |  | -5% to 5% | 121392 | 26519 | 834278.7 | 31.8 | 1 (Ref.) |  |
|  |  | 5% to 10% | 20119 | 4058 | 138659.9 | 29.3 | 1.00 (0.97 - 1.03) |  |
|  |  | ≥ 10% | 8586 | 1700 | 58404.5 | 29.1 | 1.08 (1.03 - 1.13) |  |
|  | Q3 | ≥ -10% | 15006 | 3897 | 94725.1 | 41.1 | 1.15 (1.12 - 1.19) |  |
|  |  | -10% to -5% | 45785 | 10868 | 308932.0 | 35.2 | 1.05 (1.03 - 1.08) |  |
|  |  | -5% to 5% | 194337 | 40674 | 1354578.3 | 30.0 | 1 (Ref.) |  |
|  |  | 5% to 10% | 32229 | 6240 | 224802.6 | 27.8 | 1.04 (1.01 - 1.06) |  |
|  |  | ≥ 10% | 12866 | 2394 | 89267.1 | 26.8 | 1.05 (1.01 - 1.10) |  |
|  | Q4 | ≥ -10% | 19783 | 5522 | 121578.9 | 45.4 | 1.16 (1.13 - 1.20) |  |
|  |  | -10% to -5% | 65005 | 16057 | 435310.1 | 36.9 | 1.09 (1.07 - 1.11) |  |
|  |  | -5% to 5% | 286976 | 59641 | 2008569.7 | 29.7 | 1 (Ref.) |  |
|  |  | 5% to 10% | 40240 | 8063 | 281933.1 | 28.6 | 1.01 (0.99 - 1.04) |  |
|  |  | ≥ 10% | 12970 | 2760 | 88645.9 | 31.1 | 1.05 (1.01 - 1.09) |  |
| Macro/Microvascular complicationa | No | ≥ -10% | 51,145 | 13,477 | 321770.4 | 41.9 | 1.16 (1.14 - 1.19) | 0.100 |
|  |  | -10% to -5% | 162,348 | 38,562 | 1094990.1 | 35.2 | 1.07 (1.06 - 1.08) |  |
|  |  | -5% to 5% | 690,256 | 143,803 | 4819143.1 | 29.8 | 1 (Ref.) |  |
|  |  | 5% to 10% | 105,604 | 20,759 | 738151.4 | 28.1 | 1.02 (1.01 - 1.04) |  |
|  |  | ≥ 10% | 38,803 | 7,556 | 268092.2 | 28.2 | 1.06 (1.04 - 1.09) |  |
|  | Incidence before 1st exam | ≥ -10% | 1,901 | 663 | 9663.0 | 68.6 | 1.18 (1.09 - 1.28) |  |
|  |  | -10% to -5% | 4,772 | 1,583 | 27247.2 | 58.1 | 1.09 (1.03 - 1.16) |  |
|  |  | -5% to 5% | 17,592 | 5,277 | 107678.6 | 49.0 | 1 (Ref.) |  |
|  |  | 5% to 10% | 2,789 | 818 | 17037.7 | 48.0 | 0.97 (0.90 - 1.04) |  |
|  |  | ≥ 10% | 1,264 | 405 | 7211.4 | 56.2 | 1.08 (0.98 - 1.20) |  |
|  | Incidence between 1st and 2nd exam | ≥ -10% | 2,804 | 1,021 | 14241.7 | 71.7 | 1.12 (1.05 - 1.20) |  |
|  |  | -10% to -5% | 6,009 | 2,017 | 34222.3 | 58.9 | 1.05 (1.00 - 1.11) |  |
|  |  | -5% to 5% | 20,309 | 6,379 | 125136.9 | 51.0 | 1 (Ref.) |  |
|  |  | 5% to 10% | 3,763 | 1,192 | 23127.6 | 51.5 | 1.05 (0.99 - 1.12) |  |
|  |  | ≥ 10% | 1,986 | 569 | 12059.7 | 47.2 | 0.94 (0.86 - 1.02) |  |
| T2DM duration | Newly diagnosed | ≥ -10% | 13,330 | 2,525 | 88715.4 | 28.5 | 1.21 (1.16 - 1.26) | < 0.001 |
|  |  | -10% to -5% | 47,913 | 8,088 | 337181.2 | 24.0 | 1.09 (1.06 - 1.11) |  |
|  |  | -5% to 5% | 278,104 | 41,188 | 1995923.8 | 20.6 | 1 (Ref.) |  |
|  |  | 5% to 10% | 52,701 | 7,208 | 378483.9 | 19.0 | 1.02 (0.99 - 1.05) |  |
|  |  | ≥ 10% | 20,203 | 2,698 | 143926.1 | 18.7 | 1.10 (1.05 - 1.14) |  |
|  | 1-4 years | ≥ -10% | 21,331 | 5,743 | 133462.0 | 43.0 | 1.12 (1.09 - 1.15) |  |
|  |  | -10% to -5% | 59,072 | 14,654 | 395140.9 | 37.1 | 1.03 (1.01 - 1.05) |  |
|  |  | -5% to 5% | 222,570 | 53,054 | 1534770.2 | 34.6 | 1 (Ref.) |  |
|  |  | 5% to 10% | 32,018 | 7,785 | 219184.3 | 35.5 | 1.04 (1.01 - 1.06) |  |
|  |  | ≥ 10% | 11,594 | 2,799 | 78280.6 | 35.8 | 1.05 (1.01 - 1.09) |  |
|  | ≥ 5 years | ≥ -10% | 21,189 | 6,893 | 123501.6 | 55.8 | 1.17 (1.14 - 1.20) |  |
|  |  | -10% to -5% | 66,144 | 19,420 | 424137.4 | 45.8 | 1.07 (1.06 - 1.09) |  |
|  |  | -5% to 5% | 227,483 | 61,217 | 1521264.0 | 40.2 | 1 (Ref.) |  |
|  |  | 5% to 10% | 27,437 | 7,776 | 180648.4 | 43.1 | 1.03 (1.01 - 1.06) |  |
|  |  | ≥ 10% | 10,256 | 3,033 | 65156.8 | 46.6 | 1.06 (1.02 - 1.10) |  |
| Other psychiatric disorders | No | ≥ -10% | 42449 | 9072 | 281471.9 | 32.2 | 1.16 (1.14 - 1.19) | < 0.001 |
|  |  | -10% to -5% | 139787 | 27456 | 978191.6 | 28.1 | 1.07 (1.06 - 1.09) |  |
|  |  | -5% to 5% | 609089 | 105792 | 4377707.7 | 24.2 | 1 (Ref.) |  |
|  |  | 5% to 10% | 94329 | 15387 | 677787.6 | 22.7 | 1.02 (0.99 - 1.03) |  |
|  |  | ≥ 10% | 35223 | 5611 | 250381.1 | 22.4 | 1.04 (1.01 - 1.06) |  |
|  | Yes | ≥ -10% | 13401 | 6089 | 64207.0 | 94.8 | 1.07 (1.04 - 1.09) |  |
|  |  | -10% to -5% | 33342 | 14706 | 178268.0 | 82.5 | 1.03 (1.01 - 1.05) |  |
|  |  | -5% to 5% | 119068 | 49667 | 674250.4 | 73.7 | 1 (Ref.) |  |
|  |  | 5% to 10% | 17827 | 7382 | 100529.1 | 73.4 | 1.02 (0.99 - 1.05) |  |
|  |  | ≥ 10% | 6830 | 2919 | 36982.3 | 78.9 | 1.08 (1.04 - 1.12) |  |

IR, incidence rate; PY, person-years; HR, hazard ratio; CI, confidence interval; T2DM, type 2 diabetes mellitus

HR was adjusted for age, sex, income, smoking status, alcohol consumption, regular physical activity, comorbidities (hypertension, dyslipidemia, chronic kidney disease), duration of type 2 diabetes mellitus, insulin use, and number of antidiabetic medications (≥ 3)

aMacrovascular complications include incident myocardial infarction, stroke, and heart failure, and microvascular complications include end-stage renal disease and proliferative diabetic retinopathy.

**Supplementary Table 6. Stratification analyses by baseline body mass index: Hazard ratios (95% confidence interval) for depression incidence according to weight change**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Weight Change** | **N** | **Event** | **Duration** | **IR, per 1000 PY** | **HR (95% CI)** | ***P*int** |
| BMI (kg/m2) | < 18.5 | ≥ -10% | 4,313 | 1,305 | 22353.3 | 58.4 | 1.15 (1.06 - 1.24) | 0.833 |
|  |  | -10% to -5% | 3,563 | 936 | 21198.4 | 44.2 | 1.08 (0.99 - 1.17) |  |
|  |  | -5% to 5% | 6,415 | 1,368 | 41333.6 | 33.1 | 1 (Ref.) |  |
|  |  | 5% to 10% | 503 | 116 | 3197.0 | 36.3 | 1.08 (0.89 - 1.30) |  |
|  |  | ≥ 10% | 165 | 41 | 972.3 | 42.2 | 1.08 (0.79 - 1.47) |  |
|  | 18.5 – 25 | ≥ -10% | 39,919 | 11,010 | 246701.5 | 44.6 | 1.16 (1.13 - 1.18) |  |
|  |  | -10% to -5% | 109,982 | 27,363 | 730032.2 | 37.5 | 1.07 (1.05 - 1.08) |  |
|  |  | -5% to 5% | 351,426 | 76,392 | 2425104.1 | 31.5 | 1 (Ref.) |  |
|  |  | 5% to 10% | 43,624 | 9,050 | 300432.2 | 30.1 | 1.03 (1.00 - 1.05) |  |
|  |  | ≥ 10% | 14,606 | 2,987 | 98710.0 | 30.3 | 1.04 (1.00 - 1.08) |  |
|  | ≥ 25 | ≥ -10% | 11,618 | 2,846 | 76624.1 | 37.1 | 1.13 (1.09 - 1.17) |  |
|  |  | -10% to -5% | 59,584 | 13,863 | 405229.0 | 34.2 | 1.07 (1.05 - 1.09) |  |
|  |  | -5% to 5% | 370,316 | 77,699 | 2585520.4 | 30.1 | 1 (Ref.) |  |
|  |  | 5% to 10% | 68,029 | 13,603 | 474687.5 | 28.7 | 1.02 (1.01 - 1.04) |  |
|  |  | ≥ 10% | 27,282 | 5,502 | 187681.1 | 29.3 | 1.08 (1.05 - 1.11) |  |

IR, incidence rate; PY, person-years; HR, hazard ratio; CI, confidence interval

HR was adjusted for age, sex, income, smoking status, alcohol consumption, regular physical activity, comorbidities (hypertension, dyslipidemia, chronic kidney disease), duration of type 2 diabetes mellitus, insulin use, and number of antidiabetic medications (≥ 3)