## Supplementary Appendix

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| Number of cardiometabolic disorders | HOMA-IR quintiles |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quintile 1 | Quintile 2 | Quintile 3 | Quintile 4 | Quintile 5 |
| 0 |  |  |  |  |  |
| Number of participants | 6127 | 5666 | 4816 | 3703 | 1885 |
| Proportion (95\% CI) | 34.9 (34.0-35.9) | 33.3 (32.4-34.3) | 29.3 (28.4-30.2) | 23.9 (23.1-24.8) | 13.0 (12.3-13.7) |
| 1 |  |  |  |  |  |
| Number of participants | 8165 | 7581 | 6983 | 6038 | 4362 |
| Proportion (95\% CI) | 43.7 (42.8-44.7) | 41.0 (40.1-42.0) | 39.2 (38.3-40.2) | 35.2 (34.2-36.1) | 26.0 (25.2-26.9) |
|  |  |  |  |  |  |
| Number of participants | 3540 | 4009 | 4618 | 5333 | 5776 |
| Proportion (95\% CI) | 17.2 (16.5-17.9) | 19.1 (18.4-19.9) | 21.5 (20.8-22.2) | 25.3 (24.5-26.1) | 30.4 (29.5-31.3) |
|  |  |  |  |  |  |
| Number of participants | 850 | 1361 | 2131 | 3197 | 4953 |
| Proportion (95\% CI) | 3.8 (3.5-4.1) | 6.0 (5.6-6.4) | 9.2 (8.7-9.7) | 13.7 (13.1-14.3) | 22.9 (22.2-23.7) |
| 4 |  |  |  |  |  |
| Number of participants | 55 | 121 | 192 | 468 | 1760 |
| Proportion (95\% CI) | 0.3 (0.2-0.4) | 0.5 (0.4-0.6) | 0.8 (0.6-0.9) | 1.9 (1.7-2.1) | 7.7 (7.2-8.1) |

Prevalences ( $95 \%$ CIs) were weighted to represent the overall Chinese adult population aged 18 years or older.
The number of cardiometabolic disorders for each participant was the presence number of obesity or central obesity, diabetes, dyslipidemia, and hypertension. For each cardiometabolic disorder, the participants received 1 if this disorder presented, and 0 otherwise.

| Supplementary Table 2. Numbers and proportions of participants with multiple cardiometabolic disorders according to HOMA-B <br> quintiles |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Number of cardiometabolic <br> disorders |  |  |  |  |  |
| 0 | Quintile 1 | Quintile 2 | HOMA-B quintiles | Quintile 3 | Quintile 4 | Quintile 5

Prevalences ( $95 \%$ CIs) were weighted to represent the overall Chinese adult population aged 18 years or older.
The number of cardiometabolic disorders for each participant was the presence number of obesity or central obesity, diabetes, dyslipidemia, and hypertension. For each cardiometabolic disorder, the participants received 1 if this disorder presented, and 0 otherwise.

Supplementary Table 3. Prevalences of cardiometabolic disorders according to joint categories of HOMA-IR and HOMA-B

| Cardiometabolic disorders | HOMA-IR/HOMA-B levels |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Low/ <br> High | Low/ Median | Low/ <br> Low | Median/ <br> High | Median/ Median | Median/ Low | $\begin{aligned} & \text { High/ } \\ & \text { High } \\ & \hline \end{aligned}$ | High/ Median | $\begin{aligned} & \text { High/ } \\ & \text { Low } \\ & \hline \end{aligned}$ |
| Number of participants | 6897 | 16291 | 14287 | 16459 | 17753 | 3267 | 14119 | 3434 | 1183 |
| Obesity or central obesity | $\begin{aligned} & 20.9 \\ & (19.7-22.2) \end{aligned}$ | $\begin{aligned} & 17.6 \\ & (16.9-18.3) \end{aligned}$ | $\begin{aligned} & 15.4 \\ & (14.7-16.2) \end{aligned}$ | $\begin{aligned} & 33.7 \\ & (32.8-34.6) \end{aligned}$ | $\begin{aligned} & 32.3 \\ & (31.4-33.2) \end{aligned}$ | $\begin{aligned} & 35.3 \\ & (33.2-37.3) \end{aligned}$ | $\begin{aligned} & 55.5 \\ & (54.4-56.6) \end{aligned}$ | $\begin{aligned} & 60.8 \\ & (58.6-63.0) \end{aligned}$ | $\begin{aligned} & 61.4 \\ & (57.6-65.2) \end{aligned}$ |
| Diabetes | $\begin{aligned} & 1.4 \\ & (1.1-1.7) \end{aligned}$ | $\begin{aligned} & 2.0 \\ & (1.7-2.3) \end{aligned}$ | $\begin{aligned} & 7.7 \\ & (7.1-8.3) \end{aligned}$ | $\begin{aligned} & 1.9 \\ & (1.6-2.1) \end{aligned}$ | $\begin{aligned} & 4.9 \\ & (4.5-5.3) \end{aligned}$ | $\begin{aligned} & 43.5 \\ & (41.3-45.6) \end{aligned}$ | $\begin{aligned} & 10.7 \\ & (10.0-11.3) \end{aligned}$ | $\begin{aligned} & 46.2 \\ & (44.0-48.4) \end{aligned}$ | $\begin{aligned} & 97.6 \\ & (96.4-98.8) \end{aligned}$ |
| Dyslipidemia | $\begin{aligned} & 45.5 \\ & (43.8-47.1) \end{aligned}$ | $\begin{aligned} & 45.2 \\ & (44.2-46.2) \end{aligned}$ | $\begin{aligned} & 43.6 \\ & (42.5-44.7) \end{aligned}$ | $\begin{aligned} & 52.2 \\ & (51.2-53.3) \end{aligned}$ | $\begin{aligned} & 51.6 \\ & (50.7-52.6) \end{aligned}$ | $\begin{aligned} & 52.3 \\ & (50.1-54.5) \end{aligned}$ | $\begin{aligned} & 64.4 \\ & (63.3-65.5) \end{aligned}$ | $\begin{aligned} & 65.5 \\ & (63.4-67.6) \end{aligned}$ | $\begin{aligned} & 72.9 \\ & (69.4-76.3) \end{aligned}$ |
| Hypertension | $\begin{aligned} & 21.9 \\ & (20.7-23.2) \end{aligned}$ | $\begin{aligned} & 26.5 \\ & (25.7-27.4) \end{aligned}$ | $\begin{aligned} & 36.0 \\ & (35.0-37.0) \end{aligned}$ | $\begin{aligned} & 26.4 \\ & (25.5-27.2) \end{aligned}$ | $\begin{aligned} & 35.5 \\ & (34.6-36.4) \end{aligned}$ | $\begin{aligned} & 46.8 \\ & (44.6-48.9) \end{aligned}$ | $\begin{aligned} & 39.5 \\ & (38.4-40.5) \end{aligned}$ | $\begin{aligned} & 55.1 \\ & (52.8-57.3) \\ & \hline \end{aligned}$ | $\begin{aligned} & 59.5 \\ & (55.6-63.3) \\ & \hline \end{aligned}$ |

Prevalences (95\% CIs) were weighted to represent the overall Chinese adult population aged 18 years or older.
HOMA-IR and HOMA-B levels were divided by the respective quintiles: for HOMA-IR levels, low refers to quintile 1 and 2 , median refers to quintile 3 and 4, and high refers to quintile 5; for HOMA-B levels, low refers to quintile 1 ; median refers to quintile 2 and 3 ; and high refers to quintile 4 and 5.

