**SUPPLEMENTARY TABLES**

Supplementary Table 1. Variables used to construct the frailty index.

| Variables                                      | Data Type       | Cut-off point                                                                 |
|------------------------------------------------|-----------------|-------------------------------------------------------------------------------|
| 1 Self-reported health                         | Ordinal         | V: good = 0, good = 0.25; so so = 0.5, bad = 0.75, very bad = 1                |
| 2 Feel fearful or anxious                      | Ordinal         | Always = 1, often = 0.75, sometimes = 0.5, seldom = 0.25, rarely or never = 0 |
| 3 Feel useless with age                        | Ordinal         | Always = 1, often = 0.75, sometimes = 0.5, seldom = 0.25, rarely or never = 0 |
| 4 Bathing                                      | Ordinal         | Without assistance = 0, one part assistance = 0.5, more than one part assistance = 1 |
| 5 Dressing                                     | Ordinal         | Without assistance = 0, one part assistance = 0.5, more than one part assistance = 1 |
| 6 Toileting                                    | Ordinal         | Without assistance = 0, one part assistance = 0.5, more than one part assistance = 1 |
| 7 Transferring                                 | Ordinal         | Without assistance = 0, one part assistance = 0.5, more than one part assistance = 1 |
| 8 Continence                                   | Ordinal         | Without assistance = 0, one part assistance = 0.5, more than one part assistance = 1 |
| 9 Feeding                                      | Ordinal         | Without assistance = 0, one part assistance = 0.5, more than one part assistance = 1 |
| 10 Visual function                             | Ordinal         | Can see and distinguish = 0, can see only = 0.5, can’t see = 1, blind = 1      |
| 11 Rhythm of heart                             | Binary          | > = 80bpm = 1; <80bpm = 0                                                     |
| 12 Hand behind neck                            | Ordinal         | Both hands = 0, left hand = 0.5, right hand = 0.5, neither hand = 1          |
| 13 Hand behind lower back                      | Ordinal         | Both hands = 0, left hand = 0.5, right hand = 0.5, neither hand = 1          |
| 14 Able to stand up from sitting               | Ordinal         | Yes, without using hands = 0, Yes, using hands = 0.5, no = 1                 |
| 15 Able to pick up a book from the floor       | Ordinal         | Yes, standing = 0, Yes, sitting = 0.5, no = 1                               |
| 16 Number of times suffering from serious illness in the past two years | Ordinal         | Yes = 2, no = 0                                                              |
| 17 Hypertension                                | Binary          | Yes = 1, no = 0                                                              |
| 18 Diabetes                                    | Binary          | Yes = 1, no = 0                                                              |
| 19 Heart disease                               | Binary          | Yes = 1, no = 0                                                              |
| 20 Stroke or CVD                               | Binary          | Yes = 1, no = 0                                                              |
| 21 Bronchitis, emphysema, pneumonia, asthma    | Binary          | Yes = 1, no = 0                                                              |
| 22 Tuberculosis                                | Binary          | Yes = 1, no = 0                                                              |
| 23 Cancer                                      | Binary          | Yes = 1, no = 0                                                              |
| 24 Gastric or duodenal ulcer                   | Binary          | Yes = 1, no = 0                                                              |
| 25 Parkinson                                   | Binary          | Yes = 1, no = 0                                                              |
| 26 Bedsore                                     | Binary          | Yes = 1, no = 0                                                              |
| 27 Able to hear                                | Binary          | Yes = 1, no = 0                                                              |
| 28 Interview rated health                     | Ordinal         | Surprisingly healthy = 0, relatively healthy = 0, moderately ill = 0.5, very ill = 1 |
| 29 Look on the bright side of things          | Ordinal         | Always = 0, often = 0.25, sometimes = 0.5, seldom = 0.75, rarely or never = 1 |
| 30 Keep my belongings neat and clean          | Ordinal         | Always = 0, often = 0.25, sometimes = 0.5, seldom = 0.75, rarely or never = 1 |
| 31 Make own decisions                          | Ordinal         | Always = 0, often = 0.25, sometimes = 0.5, seldom = 0.75, rarely or never = 1 |
| 32 Housework at present                        | Ordinal         | Almost everyday = 0, not daily, but once for a week = 0.25, not weekly, but at least once for a month = 0.5, not monthly, but sometimes = 0.75, never = 1 |
| 33 Able to use chopsticks to eat               | Ordinal         | Yes = 1, no = 0                                                              |
| 34 Number of steps used to turn around a 360 degree turn without help | Interval        | > = 6 steps = 1, <6 steps = 0                                               |
| 35 Cataract                                    | Binary          | Yes = 1, no = 0                                                              |
| 36 Glaucoma                                    | Binary          | Yes = 1, no = 0                                                              |
| 37 Other chronic disease                       | Categorical     | Yes = 1, no = 0                                                              |
| 38 Prostate Tumor                              | Binary          | Yes = 1, no = 0                                                              |
Supplementary Table 2. Characteristics of CLHLS (Chinese Longitudinal Healthy Longevity Survey) participants ≥ 80 years of age by systolic blood pressure.

| Characteristic                                                                 | <110 (n = 316) | 110–119 (n = 557) | 120–129 (n = 1,133) | 130–139 (n = 1,510) | ≥140 (n = 3,079) |
|--------------------------------------------------------------------------------|----------------|-------------------|---------------------|---------------------|------------------|
| ***Age, years, mean (SD)                                                        | 93.0 (7.7)     | 91.4 (7.4)        | 91.3 (7.5)          | 90.3 (7.4)         | 90.8 (7.5)       |
| ***Female, [n (%)]                                                              | 179 (56.6)     | 297 (53.3)        | 616 (54.4)          | 799 (52.9)         | 1,810 (58.8)     |
| 'Marital status Currently married and living with spouse, [n (%)]                | 73 (23.1)      | 148 (26.6)        | 272 (24.0)          | 439 (29.1)         | 767 (24.9)       |
| **Education years, <11 years, [n (%)]                                           | 253 (80.1)     | 448 (80.4)        | 917 (80.9)          | 1,237 (81.9)       | 2,395 (77.8)     |
| ***Current smoker, [n (%)]                                                      | 60 (19.0)      | 90 (16.2)         | 157 (13.9)          | 211 (14.0)         | 366 (11.9)       |
| 'Current drinker, [n (%)]                                                       | 42 (13.3)      | 76 (13.6)         | 144 (12.7)          | 239 (15.8)         | 369 (12.0)       |
| ***SBP, mmHg, mean (SD)                                                         | 101.1 (7.2)    | 114.5 (3.1)       | 124.4 (3.1)         | 134.1 (3.1)        | 158.1 (16.6)     |
| ***DBP, mmHg, mean (SD)                                                         | 64.0 (7.9)     | 70.2 (7.8)        | 74.5 (7.9)          | 77.7 (8.6)         | 84.1 (11.6)      |
| ***BMI categories, [n (%)]                                                      |                |                   |                     |                     |                  |
| Underweight                                                                     | 138 (43.7)     | 170 (30.5)        | 294 (25.9)          | 317 (21.0)         | 605 (19.6)       |
| Normal                                                                          | 152 (48.1)     | 324 (58.2)        | 655 (57.8)          | 917 (60.7)         | 1,836 (59.6)     |
| Overweight                                                                      | 16 (5.1)       | 47 (8.4)          | 141 (12.4)          | 198 (13.1)         | 521 (16.9)       |
| Obesity                                                                         | 10 (3.2)       | 16 (2.9)          | 43 (3.8)            | 78 (5.2)           | 117 (3.8)        |
| Frailty index, mean (SD)                                                        | 0.2 (0.1)      | 0.2 (0.1)         | 0.2 (0.1)           | 0.2 (0.1)          | 0.2 (0.1)        |
| History of Falls, [n (%)]                                                       | 73 (23.1)      | 141 (25.3)        | 261 (23.0)          | 370 (24.5)         | 748 (24.3)       |
| History of Severe falls, [n (%)]                                                | 31 (9.8)       | 42 (7.5)          | 99 (8.7)            | 130 (8.6)          | 249 (8.1)        |

Abbreviations: SD: Standard Deviation; SBP: Systolic Blood Pressure; DBP: Diastolic Blood Pressure; BMI: Body mass index.

*P < 0.05; **P < 0.01; ***P < 0.001
### Supplementary Table 3. Characteristics of CLHLS (Chinese Longitudinal Healthy Longevity Survey) participants ≥ 80 years of age by diastolic blood pressure.

| Characteristic                                      | Diastolic Blood Pressure, mmHg |
|----------------------------------------------------|--------------------------------|
|                                                    | <60  | 60–69 | 70–79 | 80–89 | ≥90  |
|                                                    | (n = 196) | (n = 909) | (n = 2,040) | (n = 2,207) | (n = 1,243) |
| ***Age, years, mean (SD)                           | 93.3 (7.7) | 91.9 (7.4) | 90.6 (7.3) | 90.9 (7.6) | 90.6 (7.5) |
| ***Female, [n (%)]                                 | 108 (55.1) | 514 (56.5) | 1100 (53.9) | 1229 (55.7) | 750 (60.3) |
| ***Marital status                                  | 35 (17.9) | 229 (25.2) | 575 (28.2) | 562 (25.5) | 299 (24.1) |
| Currently married and living with spouse, [n (%)]  | 158 (80.6) | 733 (80.6) | 1,613 (79.1) | 1,775 (80.4) | 972 (78.2) |
| ***Education years, < 11 years, [n (%)]           | 40 (20.4) | 138 (15.2) | 270 (13.2) | 280 (12.7) | 156 (12.6) |
| Current smoker, [n (%)]                            | 25 (12.8) | 122 (13.4) | 265 (13.0) | 310 (14.0) | 149 (12.0) |
| ***SBP, mmHg, mean (SD)                            | 119.8 (21.9) | 126.2 (18.6) | 134.7 (17.4) | 141.9 (17.0) | 160.6 (21.2) |
| ***DBP, mmHg, mean (SD)                            | 54.1 (4.4) | 64.0 (2.8) | 73.5 (3.0) | 82.6 (2.8) | 95.5 (7.5) |
| ***BMI categories, [n (%)]                          | 83 (42.3) | 246 (27.1) | 459 (22.5) | 493 (22.3) | 243 (19.5) |
| Underweight                                        | 87 (44.4) | 534 (58.7) | 1,246 (61.1) | 1,288 (58.4) | 729 (58.7) |
| Normal                                             | 17 (8.7) | 100 (11.0) | 264 (12.9) | 328 (14.9) | 214 (17.2) |
| Overweight                                         | 9 (4.6) | 29 (3.2) | 71 (3.5) | 98 (4.4) | 57 (4.6) |
| Obesity                                            | 0.2 (0.1) | 0.2 (0.1) | 0.2 (0.1) | 0.2 (0.1) | 0.2 (0.1) |
| Frailty index, mean (SD)                           | 50 (25.5) | 252 (27.7) | 480 (23.5) | 525 (23.8) | 286 (23.0) |

Abbreviations: SD: Standard Deviation; SBP: Systolic Blood Pressure; DBP: Diastolic Blood Pressure; BMI: Body mass index.

*P < 0.05; **P < 0.01; ***P < 0.001

### Supplementary Table 4. Characteristics of included and excluded participants of CLHLS (Chinese Longitudinal Healthy Longevity Survey) ≥ 80 years of age.

| Characteristic                                      | Included participants (n = 6,595) | Excluded participants (n = 3,824) |
|----------------------------------------------------|-----------------------------------|----------------------------------|
| ***Age, years, mean (SD)                           | 91.0 (7.5)                        | 94.7 (7.6)                       |
| Female, [n (%)]                                    | 3,701 (56.1)                      | 2,210 (57.8)                     |
| Marital status                                     |                                   |                                  |
| Currently married and living with spouse, [n (%)]  | 1,700 (25.8)                      | 1,006 (26.3)                     |
| Education years, < 11 years, [n (%)]               | 5,269 (79.9)                      | 3,136 (82.0)                     |
| Current smoker, [n (%)]                            | 884 (13.4)                        | 558 (14.6)                       |
| Current drinker, [n (%)]                           | 871 (13.2)                        | 493 (12.9)                       |
| SBP, mmHg, mean (SD)                               | 140.5 (21.8)                      | 138.1 (22.5)                     |
| DBP, mmHg, mean (SD)                               | 78.8 (11.6)                       | 77.8 (12.1)                      |
| ***BMI categories, [n (%)]                          |                                   |                                  |
| Underweight                                        | 1,524 (23.1)                      | 812 (21.2)                       |
| Normal                                             | 3,884 (58.9)                      | 2279 (59.6)                      |
| Overweight                                         | 923 (14.0)                        | 507 (13.3)                       |
| Obesity                                            | 264 (4.0)                         | 226 (5.9)                        |

Abbreviations: SD: standard deviation; SBP: systolic blood pressure; DBP: diastolic blood pressure; BMI: body mass index.

***P < 0.001
Supplementary Table 5. Odds ratios for falls associated with systolic blood pressure and diastolic blood pressure, stratified by frail status.

| Frail status* | Systolic blood pressure, mmHg |  |  |  |  |  |  |  |  |
|----------------|-----------------------------|---|---|---|---|---|---|---|---|
|                | <110 | 110–119 | 120–129 | 130–139 | ≥140 | p-trend | linear | quadratic |
| Non–frail | 1.17 (0.78–1.75) | 1.14 (0.82–1.57) | 1.00 (ref) | 0.96 (0.74–1.24) | 0.98 (0.78–1.24) | 1.00 | 0.38 |
| Frail | 1.17 (0.69–1.99) | 1.37 (0.89–2.11) | 1.00 (ref) | 1.56 (1.13–2.13) | 1.62 (1.22–2.16) | 0.01 | 0.75 |

| Diastolic blood pressure, mmHg |  |  |  |  |  |  |  |  |  |
|-----------------------------|---|---|---|---|---|---|---|---|---|
| <60 | 1.34 (0.84–2.13) | 1.30 (1.01–1.67) | 1.00 (ref) | 1.05 (0.85–1.28) | 1.00 (0.78–1.27) | 0.09 | 0.28 |
| Frail | 0.82 (0.45–1.49) | 1.03 (0.75–1.40) | 1.00 (ref) | 1.05 (0.82–1.33) | 0.97 (0.72–1.30) | 0.89 | 0.49 |

*Non-frail: FI < 0.25; Frail: FI ≥ 0.25. **Adjusted for age, sex, education status, current smoking and drinking status, marriage status, education years and body mass index. Abbreviations: OR: Odds ratio; CI: Confidence interval.

Supplementary Table 6. Odds ratios for severe falls associated with systolic blood pressure and diastolic blood pressure, stratified by frail status.

| Frail status* | Systolic blood pressure, mmHg |  |  |  |  |  |  |  |  |
|----------------|-----------------------------|---|---|---|---|---|---|---|---|
|                | <110 | 110–119 | 120–129 | 130–139 | ≥140 | p-trend | linear | quadratic |
| Non–frail | 1.06 (0.58–1.93) | 0.65 (0.37–1.14) | 1.00 (ref) | 0.79 (0.53–1.18) | 0.81 (0.57–1.14) | 0.55 | 0.86 |
| Frail | 1.45 (0.69–3.07) | 1.20 (0.62–2.33) | 1.00 (ref) | 1.54 (0.95–2.50) | 1.51 (0.97–2.35) | 0.25 | 0.66 |

| Diastolic blood pressure, mmHg |  |  |  |  |  |  |  |  |  |
|-----------------------------|---|---|---|---|---|---|---|---|---|
| <60 | 1.32 (0.66–2.66) | 1.07 (0.71–1.60) | 1.00 (ref) | 0.89 (0.64–1.24) | 1.17 (0.81–1.68) | 0.93 | 0.14 |
| Frail | 0.80 (0.33–1.96) | 0.81 (0.50–1.31) | 1.00 (ref) | 1.05 (0.73–1.50) | 0.89 (0.57–1.39) | 0.64 | 0.30 |

*Non-frail: FI < 0.25; Frail: FI ≥ 0.25 **Adjusted for age, sex, education status, current smoking and drinking status, marriage status, education years and body mass index. Abbreviations: OR: Odds ratio; CI: Confidence interval.