

Disability Transitions and Health Expectancies among Elderly People Aged 65 Years and Over in China: A Nationwide Longitudinal Study

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SUPPLEMENTARY DATA

Supplementary Table 1. Total life expectancy and life expectancy free from and with disability, and proportion of remaining life without or with disability at age 65-95, by gender and region, based on initial disability state.

| Age | Initial state-Urban male | | | Initial state-Urban female | | | Initial state-Rural male | | | Initial state-Rural female | | |
|-----|--------------------------|---------------|---------------|----------------------------|---------------|---------------|--------------------------|---------------|---------------|----------------------------|---------------|---------------|
| | No | Mild | Severe | No | Mild | Severe | No | Mild | Severe | No | Mild | Severe |
| 65 | | | | | | | | | | | | |
| TL | 15.07 | 14.58 | 12.63 | 17.08 | 16.55 | 14.75 | 14.72 | 14.22 | 12.09 | 16.55 | 16.02 | 14.10 |
| E | (14.66,15.46) | (14.21,14.95) | (11.78,13.40) | (16.72,17.51) | (16.18,16.99) | (13.96,15.73) | (14.35,15.08) | (13.87,14.57) | (11.44,12.68) | (16.19,16.89) | (15.64,16.38) | (13.42,14.75) |
| ND | 11.14 | 9.66 | 6.88 | 10.72 | 8.95 | 6.78 | 10.9 | 9.5 | 6.66 | 10.15 | 8.53 | 6.29 |
| | (10.79,11.5) | (9.16,10.7) | (5.74,7.9) | (10.41,11.04) | (8.5,9.43) | (5.66,8.2) | (10.58,11.17) | (9.12,9.85) | (5.97,7.2) | (9.87,10.44) | (8.16,8.92) | (5.62,7.05) |
| PN | 73.95 | 66.25 | 54.5 | 62.77 | 54.08 | 45.96 | 74.06 | 66.81 | 55.07 | 61.36 | 53.21 | 44.60 |
| D | (72.64,75.18) | (63.79,68.59) | (48.21,59.89) | (61.47,64.01) | (51.77,56.45) | (39.90,52.60) | (73.03,75.06) | (64.85,68.44) | (51.14,57.99) | (60.14,62.53) | (51.44,54.96) | (41.31,48.43) |
| M | 2.50 | 3.37 | 2.33 | 4.42 | 5.48 | 4.01 | 2.88 | 3.68 | 2.83 | 5.02 | 6.00 | 4.77 |
| D | (2.35,2.67) | (3.1,3.65) | (2.11,2.5) | (4.21,4.6) | (5.12,5.8) | (3.71,4.3) | (2.73,3.0) | (3.44,3.9) | (2.59,3.1) | (4.8,5.24) | (5.72,6.2) | (4.42,5.2) |
| PM | 16.56 | 23.10 | 18.44 | 25.89 | 33.1 | 27.17 | 19.53 | 25.88 | 23.40 | 30.36 | 37.43 | 33.85 |
| D | (15.63,17.50) | (21.25,25.16) | (17.1,20.4) | (24.83,27.14) | (31.00,35.24) | (25.57,29.78) | (18.69,20.36) | (24.36,27.55) | (21.7,25.32) | (29.37,31.49) | (35.76,39.04) | (31.74,36.13) |
| SD | 1.43 | 1.55 | 3.42 | 1.94 | 2.12 | 3.96 | 0.94 | 1.04 | 2.6 | 1.37 | 1.50 | 3.04 |
| | (1.26,1.59) | (1.38,1.7) | (2.84,3.9) | (1.78,2.1) | (1.94,2.2) | (3.21,4.6) | (0.85,1.0) | (0.95,1.1) | (2.31,2.9) | (1.28,1.4) | (1.38,1.6) | (2.65,3.4) |
| PS | 9.48 | 10.65 | 27.06 | 11.34 | 12.82 | 26.87 | 6.41 | 7.30 | 21.53 | 8.27 | 9.35 | 21.56 |
| D | (8.32,10.57) | (9.48,11.80) | (21.87,32.73) | (10.42,12.25) | (11.63,13.82) | (20.66,32.23) | (5.79,7.1) | (6.68,8.0) | (18.71,25.23) | (7.73,8.9) | (8.64,10.14) | (18.38,24.86) |
| 75 | | | | | | | | | | | | |
| TL | 9.04 | 8.19 | 6.47 | 10.46 | 9.61 | 7.89 | 8.70 | 7.85 | 6.06 | 9.99 | 9.19 | 7.44 |
| E | (8.82,9.28) | (7.96,8.43) | (6.1,6.86) | (10.23,10.74) | (9.35,9.88) | (7.51,8.33) | (8.51,8.91) | (7.64,8.08) | (5.73,6.37) | (9.77,10.21) | (8.96,9.43) | (7.07,7.76) |
| ND | 5.72 | 3.60 | 1.87 | 5.19 | 3.03 | 1.77 | 5.44 | 3.48 | 1.82 | 4.74 | 2.83 | 1.63 |
| | (5.53,5.93) | (3.35,3.85) | (1.52,2.2) | (5.02,5.37) | (2.83,3.24) | (1.43,2.09) | (5.28,5.61) | (3.29,3.66) | (1.6,2.02) | (4.59,4.89) | (2.68,2.99) | (1.43,1.8) |
| PN | 63.26 | 43.92 | 28.82 | 49.57 | 31.60 | 22.47 | 62.58 | 44.40 | 30.01 | 47.44 | 30.84 | 21.91 |
| D | (61.70,64.71) | (41.32,46.33) | (24.40,32.93) | (48.08,50.88) | (29.73,33.47) | (18.68,25.69) | (61.41,63.75) | (42.42,46.22) | (27.19,32.75) | (46.21,48.72) | (29.49,32.10) | (19.75,23.77) |
| M | 2.15 | 3.18 | 1.51 | 3.59 | 4.58 | 2.43 | 2.46 | 3.40 | 1.94 | 4.05 | 4.95 | 3.06 |
| D | (2.04,2.30) | (2.99,3.37) | (1.36,1.69) | (3.43,3.77) | (4.36,4.81) | (2.21,2.7) | (2.36,2.59) | (3.25,3.55) | (1.75,2.14) | (3.90,4.2) | (4.78,5.13) | (2.80,3.36) |
| PM | 23.80 | 38.88 | 23.38 | 34.28 | 47.65 | 30.76 | 28.31 | 43.36 | 31.99 | 40.50 | 53.88 | 41.10 |
| D | (22.65,25.16) | (36.78,41.02) | (21.45,25.61) | (33.03,35.65) | (45.72,49.59) | (28.46,33.66) | (27.26,29.43) | (41.73,45.09) | (29.61,34.50) | (39.32,41.69) | (52.55,55.28) | (38.50,43.87) |
| SD | 1.17 | 1.41 | 3.09 | 1.69 | 1.99 | 3.69 | 0.79 | 0.96 | 2.30 | 1.20 | 1.40 | 2.75 |
| | (1.05,1.28) | (1.28,1.52) | (2.84,3.3) | (1.57,1.81) | (1.85,2.14) | (3.42,3.9) | (0.73,0.8) | (0.88,1.05) | (2.11,2.52) | (1.13,1.29) | (1.30,1.51) | (2.56,3.0) |
| PS | 12.94 | 17.20 | 47.79 | 16.14 | 20.76 | 46.77 | 9.11 | 12.24 | 38.00 | 12.06 | 15.28 | 36.99 |
| D | (11.64,14.13) | (15.64,18.69) | (43.45,52.38) | (15.14,17.22) | (19.18,22.22) | (43.1,50.45) | (8.42,9.7) | (11.27,13.29) | (34.8,41.58) | (11.38,12.85) | (14.34,16.34) | (33.91,40.42) |
| 85 | | | | | | | | | | | | |
| TL | 4.95 | 4.15 | 3.16 | 5.89 | 5.14 | 4.01 | 4.66 | 3.88 | 2.83 | 5.52 | 4.84 | 3.65 |
| E | (4.81,5.11) | (3.99,4.29) | (2.97,3.38) | (5.72,6.06) | (4.97,5.33) | (3.8,4.21) | (4.54,4.8) | (3.76,4.0) | (2.67,2.98) | (5.39,5.66) | (4.72,4.97) | (3.48,3.79) |
| ND | 2.60 | 0.88 | 0.32 | 2.22 | 0.69 | 0.31 | 2.37 | 0.83 | 0.30 | 1.94 | 0.63 | 0.27 |
| | (2.49,2.73) | (0.8,0.96) | (0.24,0.43) | (2.1,2.34) | (0.63,0.75) | (0.23,0.36) | (2.27,2.47) | (0.76,0.89) | (0.26,0.38) | (1.84,2.05) | (0.58,0.68) | (0.23,0.3) |
| | 52.56 | 21.11 | 10.22 | 37.7 | 13.48 | 7.63 | 50.93 | 21.31 | 10.74 | 35.1 | 13.06 | 7.40 |

SUPPLEMENTARY DATA

| | | | | | | | | | | | | |
|----|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| PN | (50.69,54.34) | (19.44,23.02) | (7.84,13.26) | (35.87,39.34) | (12.40,14.62) | (5.86,9.04) | (49.27,52.52) | (19.79,22.9) | (9.26,13.46) | (33.44,36.79) | (12.09,14.01) | (6.29,8.29) |
| D | 1.54 | 2.24 | 0.67 | 2.44 | 2.97 | 1.04 | 1.72 | 2.34 | 0.90 | 2.69 | 3.16 | 1.38 |
| M | (1.45,1.64) | (2.12,2.36) | (0.58,0.77) | (2.30,2.56) | (2.82,3.13) | (0.92,1.17) | (1.64,1.82) | (2.24,2.43) | (0.78,1.01) | (2.59,2.80) | (3.05,3.26) | (1.25,1.49) |
| D | 31.14 | 54.04 | 21.10 | 41.38 | 57.65 | 25.85 | 37.03 | 60.26 | 31.75 | 48.83 | 65.26 | 37.93 |
| PM | (29.25,33.1) | (51.79,56.02) | (18.61,23.82) | (39.6,43.15) | (55.92,59.35) | (23.41,28.68) | (35.62,38.70) | (58.52,61.83) | (28.08,35.40) | (47.28,50.40) | (63.98,66.54) | (35.16,40.19) |
| D | 0.81 | 1.03 | 2.17 | 1.23 | 1.48 | 2.67 | 0.56 | 0.71 | 1.63 | 0.89 | 1.05 | 2.00 |
| SD | (0.73,0.89) | (0.94,1.12) | (2.02,2.33) | (1.15,1.32) | (1.40,1.59) | (2.51,2.84) | (0.52,0.60) | (0.65,0.77) | (1.50,1.76) | (0.83,0.95) | (0.98,1.11) | (1.89,2.13) |
| D | 16.30 | 24.85 | 68.68 | 20.92 | 28.86 | 66.52 | 12.04 | 18.43 | 57.51 | 16.07 | 21.68 | 54.67 |
| PS | (14.91,17.82) | (22.99,26.79) | (65.23,71.60) | (19.65,22.34) | (27.22,30.58) | (63.84,69.45) | (11.16,12.95) | (17.13,19.77) | (53.53,61.01) | (15.12,17.05) | (20.52,22.86) | (52.37,57.81) |
| D | 2.50 | 2.01 | 1.53 | 3.09 | 2.64 | 2.00 | 2.31 | 1.83 | 1.30 | 2.84 | 2.43 | 1.73 |
| TL | (2.39,2.63) | (1.90,2.12) | (1.40,1.67) | (2.96,3.23) | (2.51,2.79) | (1.87,2.15) | (2.20,2.42) | (1.73,1.91) | (1.19,1.40) | (2.73,2.96) | (2.32,2.54) | (1.62,1.84) |
| E | 1.10 | 0.16 | 0.04 | 0.89 | 0.12 | 0.04 | 0.96 | 0.14 | 0.04 | 0.74 | 0.11 | 0.03 |
| ND | (1.00,1.19) | (0.14,0.18) | (0.03,0.08) | (0.8,0.98) | (0.11,0.14) | (0.03,0.06) | (0.87,1.05) | (0.13,0.16) | (0.03,0.07) | (0.65,0.83) | (0.10,0.12) | (0.02,0.04) |
| D | 43.97 | 7.74 | 2.70 | 28.76 | 4.58 | 2.02 | 41.65 | 7.77 | 2.74 | 25.98 | 4.42 | 1.89 |
| PN | (40.91,46.72) | (6.93,8.81) | (1.79,5.16) | (26.05,31.39) | (4.06,5.22) | (1.34,2.78) | (38.72,44.68) | (6.86,8.80) | (2.14,5.24) | (23.41,28.89) | (3.91,5.00) | (1.46,2.35) |
| D | 0.94 | 1.25 | 0.22 | 1.45 | 1.62 | 0.35 | 1.02 | 1.26 | 0.31 | 1.56 | 1.69 | 0.49 |
| M | (0.86,1.01) | (1.16,1.34) | (0.18,0.28) | (1.34,1.56) | (1.51,1.74) | (0.29,0.40) | (0.94,1.09) | (1.18,1.33) | (0.25,0.38) | (1.47,1.65) | (1.60,1.79) | (0.42,0.54) |
| D | 37.42 | 62.14 | 14.46 | 46.92 | 61.44 | 17.46 | 44.09 | 69.16 | 23.72 | 54.86 | 69.42 | 28.07 |
| PM | (34.77,40.24) | (59.03,64.93) | (11.95,17.96) | (44.19,49.62) | (58.79,63.92) | (15.09,20.14) | (41.48,47.7) | (66.79,71.15) | (19.28,23.53) | (52.23,57.43) | (67.49,71.49) | (24.84,29.90) |
| D | 0.47 | 0.60 | 1.27 | 0.75 | 0.90 | 1.61 | 0.33 | 0.42 | 0.95 | 0.54 | 0.64 | 1.21 |
| SD | (0.41,0.53) | (0.54,0.68) | (1.14,1.39) | (0.68,0.83) | (0.82,0.99) | (1.49,1.76) | (0.29,0.37) | (0.38,0.47) | (0.85,1.05) | (0.49,0.60) | (0.58,0.69) | (1.12,1.31) |
| D | 18.61 | 30.12 | 82.83 | 24.32 | 33.98 | 80.52 | 14.26 | 23.07 | 73.54 | 19.16 | 26.16 | 70.04 |
| PS | (16.76,20.9) | (27.26,33.48) | (79.67,85.17) | (22.06,26.80) | (31.52,36.72) | (77.93,82.98) | (12.80,15.81) | (20.81,25.37) | (68.39,74.49) | (17.33,20.88) | (23.97,28.22) | (67.18,73.30) |
| D | | | | | | | | | | | | |

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Note: Data come from the Chinese Longitudinal Healthy Longevity Survey (CLHLS).

Data are n (95%CI). TLE=total life expectancy; ND=years with no disability; MD=years with mild disability; SD=years with severe disability; AD=years with any disability (MD+SD); PND=proportion of life with no disability; PMD=proportion of life with mild disability; PSD=proportion of life with severe disability; PAD=proportion of life with any disability (PMD+PSD). None=no disability; Mild=mild disability; Severe=severe disability.

SUPPLEMENTARY DATA

Supplementary Table 2. Demographic characteristics and health status of participants and comparison between genders, urban-rural residences.

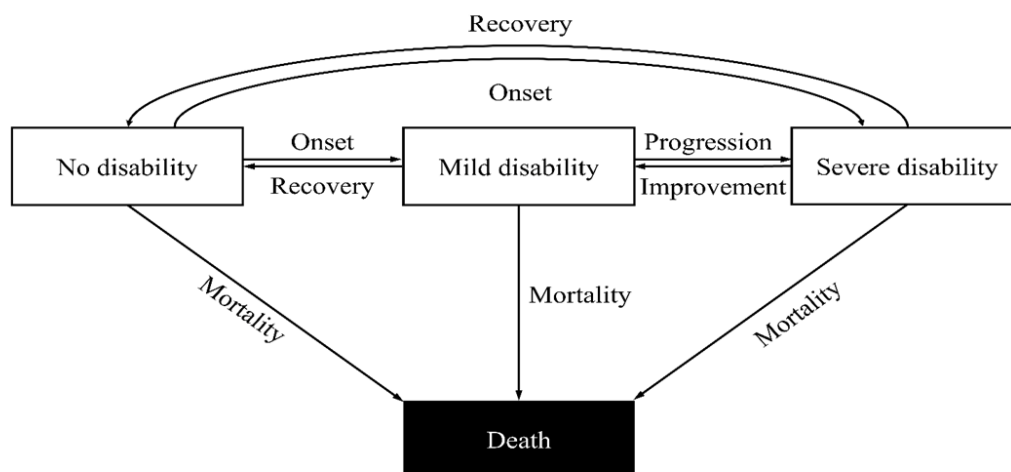
| Variables | Men (N=9704) | Women(N=9915) | χ^2 | P | Urban (N=7756) | Rural (N=11863) | χ^2 | P |
|---------------------------------|-----------------|---------------|-------------|------------|-------------------|--------------------|-------------|------------|
| Educational attainment, N (%) | | | 3917.8 2 | <0.00 1 | | | 761.01 | <0.00 1 |
| 0 year | 3401 (30.3) | 7820 (69.7) | | | 3743 (33.4) | 7478 (66.6) | | |
| 1-6 years | 4592 (73.7) | 1635 (26.3) | | | 2647 (42.5) | 3580 (57.5) | | |
| 7-9 years | 837 (79.2) | 220 (20.8) | | | 588 (55.6) | 469 (44.4) | | |
| 9 + years | 849 (81.6) | 192 (18.4) | | | 744 (71.5) | 297 (28.5) | | |
| Currently married, N (%) | 5074 (67.4) | 2450 (32.6) | 1578.5 5 | <0.00 1 | 3088 (41.0) | 4436 (59.0) | 11.56 | 0.001 |
| Currently smoking, N (%) | 3611 (82.9) | 743 (17.1) | 2508.0 3 | <0.00 1 | 1585 (36.4) | 2769 (63.6) | 22.90 | <0.00 1 |
| Currently drinking, N (%) | 3270 (77.5) | 952 (22.5) | 1684.4 9 | <0.00 1 | 1524 (36.1) | 2698 (63.9) | 26.55 | <0.00 1 |
| Enough living expenses, N (%) | 7807 (50.5) | 7649 (49.5) | 31.78 | <0.00 1 | 6386 (41.3) | 9070 (58.7) | 96.75 | <0.00 1 |
| Adequate medical service, N (%) | 8875 (50.0) | 8874 (50.0) | 21.41 | <0.00 1 | 7231 (40.7) | 10518 (59.3) | 113.18 | <0.00 1 |
| Physical exercise, N (%) | 3628 (58.1) | 2614 (41.9) | 274.59 | <0.00 1 | 3518 (56.4) | 2724 (43.6) | 1083.1 3 | <0.00 1 |
| Diabetes, N (%) | 228 (46.7) | 260 (53.3) | 1.50 | 0.221 | 314 (64.3) | 174 (35.7) | 128.74 | <0.00 1 |
| Stroke, N (%) | 603 (54.0) | 513 (46.0) | 9.90 | 0.002 | 558 (50.0) | 558 (50.0) | 54.12 | <0.00 1 |
| Cardiovascular disease, N (%) | 764 (44.5) | 954 (55.5) | 18.73 | <0.00 1 | 1016 (59.1) | 702 (40.9) | 302.49 | <0.00 1 |
| Disability at entry, N (%) | | | 516.21 | <0.00 1 | | | 152.08 | <0.00 1 |
| No impaired | 5314 (58.1) | 3834 (41.9) | | | 3719 (40.7) | 5429 (59.3) | | |
| Mild impaired | 3106 (42.7) | 4166 (57.3) | | | 2528 (34.8) | 4744 (65.2) | | |
| Severe impaired | 1284 (40.1) | 1915 (59.9) | | | 1509 (47.2) | 1690 (52.8) | | |

Note: Data come from the Chinese Longitudinal Healthy Longevity Survey (CLHLS).

Numbers calculated as a percentage of the nonmissing values.

The number of participants with missing values at entry was 73 for education, 2 for marital status, 14 for currently smoking, 14 for currently drinking, 4 for living expense, and 4 for medical service, 30 for physical activity, 6 for diabetes, 4 for cardiovascular disease, 5 for stroke.

SUPPLEMENTARY DATA



Supplementary Figure 1. Structure of the multi-state model of disability transitions.