**Article title:** Long-term Care Insurance and Health and Perceived Satisfaction of Older Chinese: Comparisons Between Urban/Rural Areas, Chronic Conditions, and Their Intersectionality

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**Supplementary file 2**

**Table S3.** Descriptive Statistics of Variables and Bivariate Analyses across Attrition Groups.

| | Attrition | | |
|---|---|---|---|
| Variables | Yes (*n*= 1,267) | No (*n*= 7,986) | $t/\chi^2$ |
| Age | 70.08 (7.51) | 67.73 (6.40) | $t$=–11.69*** |
| Male | 55.87% | 48.64% | $\chi^2$=22.78*** |
| Above secondary school | 9.88% | 6.93% | $\chi^2$=13.90*** |
| Marital status | | | |
| Married | 68.27% | 77.75% | $\chi^2$=54.55*** |
| Partnered | 5.21% | 3.09% | $\chi^2$=14.98*** |
| Financial wealth | 10.70 (2.45) | 10.79 (2.03) | $t$=1.09 |
| Baseline Self-rated health | 2.02 (0.93) | 2.10 (0.92) | $t$=2.94** |
| Baseline depressive symptoms | 8.75 (6.77) | 8.33 (6.50) | $t$=–2.06* |
| Baseline satisfaction with health services | 3.34 (1.17) | 3.38 (1.13) | $t$=–1.22 |

*Note:* Wealth was log-transformed. Means are out of the parentheses, standard deviations are in the parentheses.
*$p \leqslant .05$; **$p \leqslant .01$; ***$p \leqslant .001$

**Table S4.** The Comparison between Fixed and Random Effects (*N*=9,253).

| Model | Self-rated health | | Depressive symptoms | | Satisfaction with health services | |
|---|---|---|---|---|---|---|
| | M3 | M3b | M6 | M6b | M9 | M9b |
| | *b* | *b* | *b* | *b* | *b* | *b* |
| **Health care system**[1] | | | | | | |
| Whether have LTCI policy | 0.102*** | 0.103** | –0.154 | –0.154 | 0.109* | 0.109* |
| | (0.032) | (0.032) | (0.218) | (0.218) | (0.052) | (0.052) |
| **Environmental characteristics**[1] | | | | | | |
| GDP | 0.054 | 0.054 | –0.377* | –0.377* | –0.071 | –0.071 |
| | (0.028) | (0.028) | (0.177) | (0.177) | (0.041) | (0.041) |
| Low-income population rate | –0.821** | –0.821** | 5.547** | 5.546** | –0.169 | –0.169 |
| | (0.278) | (0.278) | (1.746) | (1.745) | (0.352) | (0.352) |
| Urban | 0.024 | 0.024 | –0.133 | –0.133 | –0.040 | –0.040 |
| | (0.028) | (0.028) | (0.173) | (0.173) | (0.036) | (0.036) |
| Green spaces | –0.009*** | –0.009*** | 0.044* | 0.044* | 0.005 | 0.005 |
| | (0.003) | (0.003) | (0.019) | (0.019) | (0.005) | (0.005) |
| Number of health care clinics | –0.001 | –0.001 | 0.017 | 0.017 | 0.012* | 0.012* |
| | (0.004) | (0.004) | (0.026) | (0.026) | (0.006) | (0.006) |
| **Population characteristics**[2] | | | | | | |
| Predisposing characteristics | | | | | | |
| Age | –0.002 | –0.002 | –0.016 | –0.016 | 0.005* | 0.005* |
| | (0.002) | (0.002) | (0.013) | (0.013) | (0.003) | (0.003) |
| Male | 0.014 | 0.014 | –1.201*** | –1.201*** | –0.110** | –0.110** |
| | (0.032) | (0.032) | (0.213) | (0.213) | (0.038) | (0.038) |
| Above secondary school | 0.003 | 0.003 | –0.828** | –0.828** | 0.002 | 0.002 |
| | (0.043) | (0.043) | (0.273) | (0.273) | (0.053) | (0.053) |
| Urban *hukou* | 0.034 | 0.034 | –0.020 | –0.020 | –0.167*** | –0.167*** |
| | (0.030) | (0.030) | (0.204) | (0.204) | (0.040) | (0.040) |
| Marital status[3] | | | | | | |
| Married | –0.033 | –0.033 | –0.117 | –0.117 | 0.004 | 0.004 |
| | (0.028) | (0.028) | (0.178) | (0.178) | (0.033) | (0.033) |
| Partnered | –0.018 | –0.018 | 0.035 | 0.035 | –0.007 | –0.007 |
| | (0.061) | (0.061) | (0.412) | (0.412) | (0.075) | (0.075) |
| Working | 0.089*** | 0.089*** | 0.148 | 0.148 | 0.036 | 0.036 |
| | (0.028) | (0.028) | (0.162) | (0.162) | (0.032) | (0.032) |
| Enabling resources | | | | | | |
| Income | –0.002 | –0.002 | –0.032 | –0.032 | –0.001 | –0.001 |
| | (0.004) | (0.004) | (0.023) | (0.023) | (0.005) | (0.005) |
| Financial wealth | 0.001 | 0.001 | –0.134* | –0.134* | –0.008 | –0.008 |
| | (0.009) | (0.009) | (0.054) | (0.054) | (0.010) | (0.010) |
| Need | | | | | | |
| Baseline chronic disease | –0.206*** | –0.206*** | 0.575** | 0.575** | –0.031 | –0.031 |

| Model | Self-rated health | | Depressive symptoms | | Satisfaction with health services | |
|---|---|---|---|---|---|---|
| | M3 | M3b | M6 | M6b | M9 | M9b |
| | *b* | *b* | *b* | *b* | *b* | *b* |
| | (0.030) | (0.030) | (0.182) | (0.182) | (0.036) | (0.036) |
| Baseline self-rated health | 0.353*** | 0.353*** | –0.553*** | –0.553*** | 0.093*** | 0.093*** |
| | (0.013) | (0.013) | (0.082) | (0.082) | (0.015) | (0.015) |
| Baseline depressive symptoms | –0.019*** | –0.019*** | 0.410*** | 0.410*** | –0.009*** | –0.009*** |
| | (0.002) | (0.002) | (0.012) | (0.012) | (0.003) | (0.003) |
| Baseline satisfaction | 0.042*** | 0.042*** | –0.221*** | –0.221*** | 0.258*** | 0.258*** |
| | (0.009) | (0.009) | (0.059) | (0.059) | (0.012) | (0.012) |
| Baseline ADL | 0.071*** | 0.071*** | –0.226** | –0.226** | 0.023 | 0.023 |
| | (0.012) | (0.012) | (0.080) | (0.080) | (0.015) | (0.015) |
| Baseline IADL | 0.032** | 0.032** | –0.261** | –0.261** | –0.016 | –0.016 |
| | (0.013) | (0.013) | (0.086) | (0.086) | (0.015) | (0.015) |
| **Health behavior**[2] | | | | | | |
| Personal health practices | | | | | | |
| Drinking | 0.057* | 0.057* | –0.113 | –0.113 | 0.015 | 0.015 |
| | (0.024) | (0.024) | (0.147) | (0.147) | (0.029) | (0.029) |
| Smoking | –0.025 | –0.025 | 0.148 | 0.148 | –0.041 | –0.041 |
| | (0.029) | (0.029) | (0.183) | (0.183) | (0.038) | (0.038) |
| Physical activity | –0.032 | –0.032 | 0.588* | 0.588* | –0.065 | –0.065 |
| | (0.040) | (0.040) | (0.240) | (0.240) | (0.045) | (0.045) |
| Caregiving | 0.039 | 0.039 | –0.249 | –0.249 | 0.028 | 0.028 |
| | (0.031) | (0.031) | (0.195) | (0.195) | (0.040) | (0.040) |
| Social engagement | –0.008 | –0.008 | –0.192 | –0.192 | –0.037 | –0.037 |
| | (0.022) | (0.022) | (0.135) | (0.135) | (0.026) | (0.026) |
| Use of health services | | | | | | |
| Medical expenditures | –0.014** | –0.014** | 0.055 | 0.055 | –0.017* | –0.017* |
| | (0.006) | (0.006) | (0.036) | (0.036) | (0.007) | (0.007) |
| Hospital utilization | –0.038 | –0.038 | 0.050 | 0.050 | –0.063 | –0.063 |
| | (0.024) | (0.024) | (0.166) | (0.166) | (0.032) | (0.032) |
| Attrition | 0.007 | 0.007 | –0.040 | –0.040 | 0.022 | 0.022 |
| | (0.037) | (0.037) | (0.222) | (0.222) | (0.038) | (0.038) |
| Random Effect | | | | | | |
| Above secondary school | | 0.001 | | 0.001 | | 0.001 |
| Income | | 0.001 | | 0.001 | | 0.001 |
| Model statistics | | | | | | |
| –2 Log Likelihood | 23528.55 | 23528.35 | 57789.61 | 57782.35 | 27192.60 | 27200.80 |
| AIC | 23592.55 | 23593.55 | 57846.36 | 57843.96 | 27256.59 | 27265.03 |
| BIC | 23820.80 | 23826.08 | 58074.61 | 58063.64 | 27484.84 | 27494.12 |

*Note:* According to Chiavegatto Filho (2017), education and income varied across city levels, we allow education level and income as random slopes. Abbreviation: M, model. Standard errors are in the parentheses. M3, M6, and M9 (random intercept models) were extracted from Table 2, and M3a, M6a, and M9a were random

slope models. Results were combined using 20 imputed data sets. AIC = Akaike information criterion; BIC = Bayesian information criterion; Income, wealth, and GDP were log-transformed.
[1] City-level variables ($n$=125).
[2] Individual-level variables ($n$=9,253).
[3] Ref: not married and not partnered.
*$p \leqslant .05$; **$p \leqslant .01$; ***$p \leqslant .001$

**Table S5**. LTCI Pilots of the Study.

| CityID | Cities | Whether surveyed in CHARLS | Whether included in this study period (2015-2018) |
|---|---|---|---|
| Implemented LTCI in 2016 | | | |
| 13 | Chengdu | Yes | Yes |
| 25 | Chengde | Yes | Yes |
| 29 | Shangrao | Yes | Yes |
| 40 | Suzhou | Yes | Yes |
| 47 | Chongqing | Yes | Yes |
| 53 | Qiqihaer | Yes | Yes |
| 59 | Guangzhou | Yes | Yes |
| 72 | Shanghai | Yes | Yes |
| 75 | Ningbo | Yes | Yes |
| 81 | Jilin | Yes | Yes |
| 89 | Anqing | Yes | Yes |
| 96 | Jingmen | Yes | Yes |
| 101 | Binzhou | Yes | Yes |
| 102 | Qingdao | Yes | Yes |
| 103 | Jinan | Yes | Yes |
| 104 | Zaozhuang | Yes | Yes |
| 105 | Linyi | Yes | Yes |
| 106 | Liaocheng | Yes | Yes |
| 107 | Weihai | Yes | Yes |
| 108 | Weifang | Yes | Yes |
| 109 | Dezhou | Yes | Yes |
| N/A | Changchun | No | No |
| N/A | Dongying | No | No |
| N/A | Heze | No | No |
| N/A | Hunchun | No | No |
| N/A | Jining | No | No |
| N/A | Meihekou | No | No |
| N/A | Nantong | No | No |
| N/A | Rizhao | No | No |
| N/A | Shihezi | No | No |
| N/A | Songyuan | No | No |
| N/A | Taian | No | No |
| N/A | Tonghua | No | No |
| N/A | Yantai | No | No |
| N/A | Zibo | No | No |
| Implemented LTCI in 2020 | | | |
| 4 | Kunming | Yes | No |
| 9 | Fuzhou | Yes | No |
| 36 | Huhehaote | Yes | No |
| 73 | Tianjin | Yes | No |
| 84 | Nanning | Yes | No |
| 100 | Hanzhong | Yes | No |
| N/A | Gannan | No | No |
| N/A | Jincheng | No | No |
| N/A | Kaifeng | No | No |
| N/A | Panjin | No | No |
| N/A | Qianxinan | No | No |
| N/A | Shijingshan District | No | No |
| N/A | Urumqi | No | No |
| N/A | Xiangtan | No | No |
| Total number of eligible pilots | | | 21 |

*Note:* Data source: http://www.gov.cn/zhengce/zhengceku/2020-11/05/5557630/files/ea1e0e04a6e349a9ae488622f69b3bc7.pdf

**Table S6.** Health conditions by the combination of locality and LTCI status (*N*=9,253).

| | Urban with LTCI (*n*= 734) | Urban without LTCI (*n*= 2,920) | Rural with LTCI (*n*= 751) | Rural without LTCI (*n*= 4,848) | *F* |
|---|---|---|---|---|---|
| Baseline self-rated health | 2.23 (0.92) | 2.16 (0.90) | 2.17 (1.00) | 2.01 (0.90) | 25.49*** |
| Baseline depressive symptoms | 6.89 (6.01) | 7.24 (6.04) | 8.50 (6.57) | 9.27 (6.74) | 75.65*** |
| Baseline satisfaction | 3.38 (1.08) | 3.20 (1.09) | 3.69 (1.09) | 3.41 (1.15) | 45.50*** |
| Self-rated health | 3.12 (1.02) | 2.96 (0.97) | 3.03 (1.08) | 2.79 (0.99) | 30.11*** |
| Depressive symptoms | 7.17 (6.34) | 7.73 (6.26) | 8.56 (6.39) | 9.64 (6.75) | 54.18*** |
| Satisfaction with health services | 3.35 (1.11) | 3.26 (1.06) | 3.64 (1.13) | 3.41 (1.15) | 22.77*** |

*Note:* Means are out of the parentheses, standard deviations are in the parentheses.
*$p \leqslant .05$; **$p \leqslant .01$; ***$p \leqslant .001$.

**Table S7.** LTCI status margins (*N*=9,253).

| | Self-rated health | Depressive symptoms | Satisfaction with health services |
|---|---|---|---|
| **LTCI status*chronic conditions** (no LTCI vs. announced) | | | |
| No LTCI*without conditions | 3.044*** | 8.308*** | 3.393*** |
| | (0.028) | (0.176) | (0.037) |
| No LTCI*with conditions | 2.837*** | 8.921*** | 3.363*** |
| | (0.012) | (0.082) | (0.020) |
| Announced*without conditions | 3.316*** | 9.025*** | 3.764*** |
| | (0.151) | (1.042) | (0.196) |
| Announced*with conditions | 3.119*** | 8.314*** | 3.634*** |
| | (0.081) | (0.544) | (0.118) |
| **LTCI status*chronic conditions** (not implemented vs. implemented) | | | |
| Not implemented* without conditions | 3.039*** | 8.315*** | 3.398*** |
| | (0.029) | (0.185) | (0.039) |
| Not implemented* with conditions | 2.834*** | 8.928*** | 3.359*** |
| | (0.013) | (0.089) | (0.022) |
| Implemented*without conditions | 3.120*** | 8.384*** | 3.421*** |
| | (0.068) | (0.439) | (0.090) |
| Implemented*with conditions | 2.903*** | 8.777*** | 3.437*** |
| | (0.033) | (0.225) | (0.054) |

*Note.* LTCI status margins are from Model 3a, 6a, and 9a. Margins are out of the parentheses, standard errors are in the parentheses. *$p \leqslant .05$; **$p \leqslant .01$; ***$p \leqslant .001$

**Table S8.** Effects of LTCI Policy on Health Outcomes, by Locality and Chronic Conditions (*N*=9,253).

| | Locality | | Chronic conditions | |
|---|---|---|---|---|
| | Urban (*n*= 3,654) | Rural (*n*= 5,599) | With 1+ chronic disease (*n*= 7,904) | Without chronic disease (*n*= 1,349) |
| Self-rated health | 0.055 | 0.150*** | 0.091** | 0.154 |
| | (0.044) | (0.045) | (0.034) | (0.086) |
| Depressive symptoms | –0.063 | –0.290 | –0.247 | 0.444 |
| | (0.283) | (0.310) | (0.242) | (0.458) |
| Satisfaction with health services | 0.019 | 0.233** | 0.111* | 0.074 |
| | (0.067) | (0.075) | (0.054) | (0.096) |

*Note:* All models were adjusted for the city- and individual-level variables. Regression coefficients are out of the parentheses, standard errors are in the parentheses.
*$p \leqslant .05$; **$p \leqslant .01$; ***$p \leqslant .001$.

**Table S9.** Intersectionality analysis of LTCI Policy on Health Outcomes (*N*=9,253).

| | Urban with 1+ chronic disease (*n*= 3,178) | Urban without chronic disease (*n*= 476) | Rural with 1+ chronic disease (*n*= 873) | Rural without chronic disease (*n*= 4,726) |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Self-rated health | 0.056 | 0.059 | 0.124** | 0.267* |
| | (0.046) | (0.122) | (0.046) | (0.117) |
| Depressive symptoms | –0.161 | 0.431 | –0.379 | 0.333 |
| | (0.304) | (0.658) | (0.346) | (0.657) |
| Satisfaction with health | 0.026 | –0.012 | 0.225** | 0.146 |
| services | (0.074) | (0.134) | (0.076) | (0.141) |

*Note:* All models were adjusted for the city- and individual-level variables. Regression coefficients are out of the parentheses, standard errors are in the parentheses.
*$p \leqslant .05$; **$p \leqslant .01$; ***$p \leqslant .001$.

**Table S10.** Effects of LTCI Policy on Health Outcomes, by Age (*N*=18,645).

| | Age | |
|---|---|---|
| | 45-59 (*n*= 9,392) | 60+ (*n*= 9,253) |
| Self-rated health | 0.004 | 0.102*** |
| | (0.034) | (0.032) |
| Depressive symptoms | –0.256 | –0.154 |
| | (0.233) | (0.218) |
| Satisfaction with health services | 0.085* | 0.109* |
| | (0.042) | (0.052) |

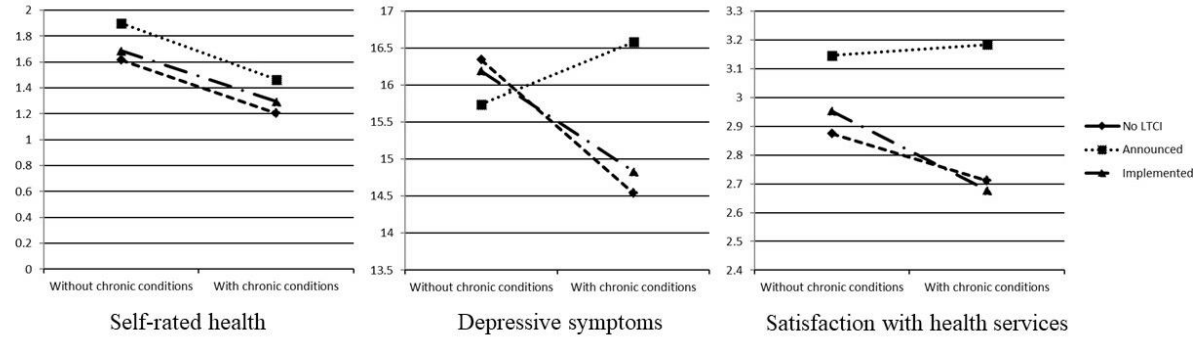
*Note:* All models were adjusted for the city- and individual-level variables. Regression coefficients are out of the parentheses, standard errors are in the parentheses.
*$p \leqslant .05$; **$p \leqslant .01$; ***$p \leqslant .001$.

**Table S11.** Effects of LTCI Policy on Health Outcomes, by Multimorbidity (*N*=9,253).

| | Multimorbidity | |
|---|---|---|
| | With multimorbidity (*n*= 5,827) | Without multimorbidity (*n*= 3,426) |
| Self-rated health | 0.083* | 0.130** |
| | (0.038) | (0.051) |
| Depressive symptoms | –0.243 | –0.046 |
| | (0.264) | (0.309) |
| Satisfaction with health services | 0.125* | 0.071 |
| | (0.059) | (0.070) |

*Note:* All models were adjusted for the city- and individual-level variables. Regression coefficients are out of the parentheses, standard errors are in the parentheses.
*$p \leqslant .05$; **$p \leqslant .01$; ***$p \leqslant .001$

**Figure S1.** The Comparison of LTCI Announcement and Implementation Effects on Health Outcomes (*N*=9,253).




*Note:* All models were adjusted for the city- and individual-level variables. The value of the vertical coordinate shows the value of health outcomes.

**Figure S2.** The Comparison of LTCI Effects on Health Outcomes, Stratified by Locality and *Hukou* (*N*=9,253).


*Note:* All models were adjusted for the city- and individual-level variables. The value of the vertical coordinate shows the coefficient of policy impacts.
*$p \leqslant .05$; **$p \leqslant .01$; ***$p \leqslant .001$