

Table S1. Subgroup analysis for the association between the change of multiple chronic conditions and total medical cost

| | Change of multiple chronic conditions | | | | | | | |
|-------------------------|---------------------------------------|---------|----------|---------|----------|---------|-----------|--------|
| | Bad→Bad | | Bad→Good | | Good→Bad | | Good→Good | P* |
| | β | P-value | β | P-value | β | P-value | β | |
| Sex | | | | | | | | 0.7972 |
| Men | 0.8810 | <.0001 | 0.0606 | 0.5243 | 0.7242 | <.0001 | ref. | |
| Women | 0.6936 | <.0001 | 0.0136 | 0.9004 | 0.5093 | <.0001 | ref. | |
| Age | | | | | | | | 0.0883 |
| 60-69 | 0.7226 | <.0001 | -0.0785 | 0.4651 | 0.4764 | <.0001 | ref. | |
| 70-79 | 0.8602 | <.0001 | 0.0592 | 0.5626 | 0.7527 | <.0001 | ref. | |
| 80+ | 0.6774 | <.0001 | 0.3787 | 0.0177 | 0.7730 | 0.0047 | ref. | |
| Education | | | | | | | | 0.5931 |
| Less than middle school | 0.7857 | <.0001 | -0.0279 | 0.7622 | 0.6205 | <.0001 | ref. | |
| High school or more | 0.7715 | <.0001 | 0.1147 | 0.3069 | 0.7334 | <.0001 | ref. | |
| Region | | | | | | | | 0.3784 |
| Rural | 0.6400 | <.0001 | -0.0218 | 0.8871 | 0.6975 | <.0001 | ref. | |
| City | 0.8332 | <.0001 | 0.0518 | 0.5175 | 0.6307 | <.0001 | ref. | |
| Employment status | | | | | | | | 0.7453 |
| Unemployment | 0.8153 | <.0001 | 0.0410 | 0.5890 | 0.6330 | <.0001 | ref. | |
| Employment | 0.7439 | <.0001 | 0.0605 | 0.6322 | 0.7493 | <.0001 | ref. | |
| Household income | | | | | | | | |
| 1Q | 0.9096 | <.0001 | -0.0743 | 0.5622 | 0.5221 | 0.0001 | ref. | 0.4928 |
| 2Q | 0.9467 | <.0001 | 0.1775 | 0.1971 | 0.6630 | <.0001 | ref. | |
| 3Q | 0.7634 | <.0001 | 0.0970 | 0.5290 | 0.8791 | <.0001 | ref. | |
| 4Q | 0.6430 | <.0001 | -0.0546 | 0.6150 | 0.4917 | 0.0003 | ref. | |
| Marital status | | | | | | | | 0.6316 |
| Unmarried | 0.8243 | <.0001 | 0.0936 | 0.5200 | 0.7511 | <.0001 | ref. | |
| Married | 0.7567 | <.0001 | 0.0202 | 0.8117 | 0.5798 | <.0001 | ref. | |
| BMI | | | | | | | | 0.1567 |
| Underweight | 1.0224 | 0.0034 | 0.1703 | 0.5801 | 0.8384 | 0.0020 | ref. | |
| Normal | 0.8489 | <.0001 | 0.0257 | 0.7711 | 0.7602 | <.0001 | ref. | |
| Obesity | 0.6609 | <.0001 | 0.0618 | 0.6256 | 0.4150 | <.0001 | ref. | |

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|---------------------------------------|---------|---------|----------|---------|----------|---------|-----------|--------|
| | Bad→Bad | | Bad→Good | | Good→Bad | | Good→Good | P* |
| | β | P-value | β | P-value | β | P-value | β | |
| Self-rated health | | | | | | | | 0.0699 |
| Good | 0.8647 | <.0001 | 0.0429 | 0.6556 | 0.9993 | <.0001 | ref. | |
| Bad | 0.7388 | <.0001 | 0.0547 | 0.5745 | 0.5572 | <.0001 | ref. | |
| Current smoking status | | | | | | | | 0.9451 |
| Yes | 0.6156 | <.0001 | 0.1260 | 0.6227 | 0.6393 | <.0001 | ref. | |
| No | 0.8040 | <.0001 | 0.0284 | 0.7003 | 0.6539 | <.0001 | ref. | |
| Current alcohol consumption | | | | | | | | 0.3484 |
| Yes | 0.6764 | <.0001 | 0.0481 | 0.6861 | 0.7175 | <.0001 | ref. | |
| No | 0.8278 | <.0001 | 0.0594 | 0.4943 | 0.6385 | <.0001 | ref. | |
| Regular physical activity | | | | | | | | 0.8995 |
| Yes | 0.8601 | <.0001 | 0.0957 | 0.3491 | 0.7390 | <.0001 | ref. | |
| No | 0.7449 | <.0001 | 0.0064 | 0.9505 | 0.5853 | <.0001 | ref. | |
| ADL/IADL | | | | | | | | 0.9508 |
| None | 0.7966 | <.0001 | 0.0275 | 0.7145 | 0.6143 | <.0001 | ref. | |
| Mild | 0.8901 | 0.0026 | 0.2420 | 0.5353 | 0.8829 | 0.0039 | ref. | |
| Severe | 0.1456 | 0.7142 | -0.0662 | 0.8954 | 0.0669 | 0.8513 | ref. | |

*P-interaction