

Supplementary Table S1. Comparison of Older Adults With vs. Without Any Caregiver-Provider Communication

|  |                    | No caregiver talk to providers<br>(1025 older adults, 1763 caregivers) |                 |                    | Have caregiver talk to providers<br>(1414 older adults, 1910 caregivers) |     |                 |                    | Comparisons                             |                      |
|--|--------------------|--|-----------------|--------------------|--|-----|-----------------|--------------------|---|----------------------|
|  |                    | N  | %<br>(weighted) | Mean<br>(weighted) | SE<br>(weighted)   | N   | %<br>(weighted) | Mean<br>(weighted) |   |                      |
| Age  | 79 or younger      | 407  | 39.75%          |                    |  | 576 | 58.72%          |                    | Pearson chi2(2) =<br>43.3930 Pr = 0.000 |                      |
|  | 80-89              | 402  | 39.25%          |                    |  | 554 | 30.37%          |                    |   |                      |
|  | 90 or older        | 215  | 21.00%          |                    |  | 284 | 10.91%          |                    |   |                      |
| Sex (female)                                   |                    | 697  | 68.01%          |                    |  | 889 | 57.76%          |                    | Pearson chi2(1) =<br>4.7806 Pr = 0.029  |                      |
| Race and ethnicity                             | Non-Hispanic White | 524  | 51.16%          |                    |  | 728 | 70.52%          |                    | Pearson chi2(3) =<br>15.6037 Pr = 0.001 |                      |
|  | Non-Hispanic Black | 262  | 25.58%          |                    |  | 346 | 11.88%          |                    |   |                      |
|  | Hispanic           | 193  | 18.87%          |                    |  | 279 | 12.47%          |                    |   |                      |
|  | Other              | 45   | 4.39%           |                    |  | 61  | 5.13%           |                    |   |                      |
| Marital status (married)                       |                    | 429  | 41.82%          |                    |  | 603 | 52.95%          |                    | Pearson chi2(1) =<br>9.1867 Pr = 0.002  |                      |
| Annual household income                        | < 30K USD          | 395  | 38.51%          |                    |  | 577 | 32.92%          |                    | Pearson chi2(2) =<br>11.4019 Pr = 0.003 |                      |
|  | 30-70K USD         | 381  | 37.20%          |                    |  | 432 | 33.17%          |                    |   |                      |
|  | > 70K USD          | 249  | 24.29%          |                    |  | 404 | 33.91%          |                    |   |                      |
| Self-rated health (good or better)             |                    | 590  | 57.58%          |                    |  | 703 | 50.63%          |                    | Pearson chi2(1) =<br>13.0459 Pr = 0.000 |                      |
| Number of functional limitations [range: 0-12] |                    |  |                 | 5.01               | 0.11   |     |                 | 6.24               | 0.12                                    | t = 9.64, Pr = 0.000 |
| Dementia status (yes)                          |                    | 120  | 11.73%          |                    |  | 377 | 22.34%          |                    | Pearson chi2(1) =<br>72.7972 Pr = 0.000 |                      |
| Unmet care needs                               | 0                  | 649  | 63.27%          |                    |  | 728 | 50.52%          |                    | Pearson chi2(2) =<br>31.3387 Pr = 0.000 |                      |
|  | 1                  | 204  | 19.91%          |                    |  | 347 | 23.53%          |                    |   |                      |
|  | 2 or more          | 172  | 16.82%          |                    |  | 339 | 25.95%          |                    |   |                      |

Supplementary Table S2. Caregiver-provider communication within care networks by network size.

| Caregiver network size | Total | How many caregiver talk to provider |     |    |   | % caregivers talked to providers |
|------------------------|-------|-------------------------------------|-----|----|---|----------------------------------|
|                        |       | 1                                   | 2   | 3  | 4 |                                  |
| 1                      | 877   | 877                                 |     |    |   | 100                              |
| 2                      | 408   | 226                                 | 182 |    |   | 72.3                             |
| 3                      | 96    | 37                                  | 46  | 13 |   | 58.3                             |
| 4                      | 27    | 8                                   | 11  | 6  | 2 | 51.9                             |
| 5                      | 6     | 3                                   | 1   | 2  |   | 36.7                             |

Supplementary Table S3. Ordinal logistic regression interaction models of caregiver–provider communication quality and unmet care needs among older adults

| Variable                                     | Category           | Model 1: X<br>Income    | Model 2: X Relationship<br>type | Model 3: X Caregiving<br>hours |
|--|--------------------|-------------------------|---------------------------------|--------------------------------|
| Caregiver–provider communication quality     | Continuous (3–12)  | 0.88 (0.83,<br>0.94)*** | 1.01 (0.93, 1.09)               | 0.88 (0.81, 0.96)**            |
| Income (ref: < \$30K)                        | \$30–70K           | 0.47 (0.14, 1.54)       | —                               | —                              |
|  | > \$70K            | 0.19 (0.04, 0.97)*      | —                               | —                              |
| Interaction: Communication × Income          | \$30–70K           | 1.17 (1.01, 1.35)*      | —                               | —                              |
|  | > \$70K            | 1.24 (1.04, 1.48)*      | —                               | —                              |
| Caregiver relationship (ref: Spouse)         | Adult child        | —                       | 2.01 (0.74, 5.46)               | —                              |
|  | Other              | —                       | 4.35 (1.01, 18.81)*             | —                              |
| Interaction: Communication × Relationship    | Adult child        | —                       | 0.90 (0.82, 0.99)*              | —                              |
|  | Other              | —                       | 0.85 (0.72, 0.99)*              | —                              |
| Caregiving hours (ref: <20 hrs/mo)           | 20–40 hrs          | —                       | —                               | 0.35 (0.11, 1.05)              |
|  | >40 hrs            | —                       | —                               | 0.81 (0.31, 2.13)              |
| Interaction: Communication × Hours           | 20–40 hrs          | —                       | —                               | 1.15 (1.02, 1.31)*             |
|  | >40 hrs            | —                       | —                               | 1.03 (0.93, 1.15)              |
| Older adult age (ref ≤79):                   | 80–89              | 0.71 (0.54, 0.94)*      | 0.70 (0.53, 0.93)*              | 0.70 (0.53, 0.93)*             |
|  | 90+                | 0.62 (0.43, 0.90)*      | 0.63 (0.43, 0.91)*              | 0.62 (0.42, 0.90)*             |
| Female (vs. male)                            |                    | 1.31 (1.01, 1.71)*      | 1.30 (1.00, 1.69)*              | 1.30 (1.00, 1.69)*             |
| Race and ethnicity (ref: Non-Hispanic White) | Non-Hispanic Black | 0.76 (0.57, 1.01)       | 0.74 (0.55, 0.98)*              | 0.74 (0.55, 0.98)*             |
|  | Hispanic           | 1.11 (0.80, 1.55)       | 1.09 (0.79, 1.52)               | 1.08 (0.78, 1.50)              |
|  | Other              | 0.81 (0.50, 1.34)       | 0.80 (0.49, 1.31)               | 0.81 (0.49, 1.33)              |
| Self-rated health (good or better)           |                    | 0.70 (0.56,<br>0.89)**  | 0.71 (0.56, 0.89)**             | 0.71 (0.56, 0.89)**            |
| Functional limitations                       |                    | 1.46 (1.40,<br>1.53)*** | 1.46 (1.40, 1.53)***            | 1.46 (1.40, 1.53)***           |
| Dementia (yes)                               |                    | 0.82 (0.62, 1.08)       | 0.81 (0.62, 1.07)               | 0.79 (0.60, 1.03)              |
| Caregiver age (ref 18–54)                    | 55–64              | 0.88 (0.65, 1.21)       | 0.88 (0.65, 1.21)               | 0.90 (0.66, 1.23)              |
|  | 65–74              | 0.81 (0.56, 1.17)       | 0.80 (0.56, 1.15)               | 0.82 (0.57, 1.18)              |
|  | 75+                | 0.67 (0.42, 1.06)       | 0.67 (0.42, 1.07)               | 0.66 (0.41, 1.06)              |
| Caregiver female                             |                    | 0.84 (0.66, 1.08)       | 0.84 (0.66, 1.08)               | 0.82 (0.64, 1.05)              |
| Coresident caregiver                         |                    | 0.63 (0.48,<br>0.83)**  | 0.64 (0.49, 0.84)**             | 0.60 (0.45, 0.79)***           |