**SUPPLEMENTARY TABLES – to publish online only**

|  |
| --- |
| **Supplemental Table S1.** Medical Home Characteristics by Size |
| **Care in Medical Home\*** | **Large**  | **Medium** | **Small**  |
| **N** | **%** | **N** | **%** | **N** | **%** |
| **No. Medical Homes** | 5 | 100.0 | 6 | 100.0 | 5 | 100.0 |
| **No. Physicians,** median (range) | 6.0 | (4, 9) | 5.5 | (4, 8) | 3.0 | (3, 6) |
| **Location** |   |   |   |   |   |   |
| Mountain  | 0 | 0.0 | 4 | 66.7 | 5 | 100.0 |
| Hill | 3 | 60.0 | 1 | 16.7 | 0 | 0.0 |
| Plain  | 2 | 40.0 | 1 | 16.7 | 0 | 0.0 |
| **Year of establishment** |   |   |   |   |   |   |
| 2011 | 1 | 20.0 | 2 | 33.3 | 1 | 20.0 |
| 2012 | 2 | 40.0 | 2 | 33.3 | 3 | 60.0 |
| 2013 | 1 | 20.0 | 1 | 16.7 | 0 | 0.0 |
| 2014 | 1 | 20.0 | 1 | 16.7 | 1 | 20.0 |
| **On-Site Specialists** |  |  |  |  |  |  |
| Any | 5 | 100.0 | 4 | 66.7 | 1 | 20.0 |
| Cardiologist | 5 | 100.0 | 4 | 66.7 | 0 | 0.0 |
| Diabetologist | 5 | 100.0 | 3 | 50.0 | 1 | 20.0 |
| Pulmonologist | 2 | 40.0 | 0 | 0.0 | 0 | 0.0 |
| Pediatrician | 3 | 60.0 | 6 | 100.0 | 1 | 20.0 |
| **Nursing/Social Services** |  |  |  |  |  |  |
| Family Counseling | 3 | 60.0 | 4 | 66.7 | 0 | 0.0 |
| Home care services | 3 | 60.0 | 6 | 100.0 | 0 | 0.0 |
| Nursing Care Service | 5 | 100.0 | 6 | 100.0 | 2 | 40.0 |
| Social Worker | 0 | 0.0 | 3 | 50.0 | 1 | 20.0 |
| **Structural Services** |  |  |  |  |  |  |
| Major Diagnostics\*\* | 5 | 100.0 | 0 | 0.0 | 0 | 0.0 |
| Community Hospital Beds | 1 | 20.0 | 0 | 0.0 | 0 | 0.0 |
| Centralized Point of Service | 4 | 80.0 | 5 | 83.3 | 0 | 0.0 |
| H12 | 4 | 80.0 | 3 | 50.0 | 0 | 0.0 |
| Emergency medical services | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| \*Individuals attributed to a primary care physician who practiced in a medical home were considered to be exposed to care in a medical home. Medical home size was defined based on the availability of specialist, imaging, nursing, and social services at the medical home site, with more comprehensive services corresponding to larger size.\*\*includes: x-ray, echography, endoscopy |

|  |
| --- |
| **Supplemental Table S2.** Prevalence of Chronic Conditions among Individuals Cared for within and outside of Medical Homes |
| **Care in Medical Home\*** | **No** | **Yes** |
| **Number of CCDGs,1 median (min, max)** | 1 (0,15) | 1 (0,13) |
| **CCDG, %** |  |  |
| Alzheimer's disease | 0.1  | 0.1  |
| Anemia | 2.5  | 2.4  |
| Benign prostatic hyperplasia | 3.5  | 3.6  |
| Cardiovascular diseases | 33.3  | 34.6  |
| Chronic hepatitis/selective malignancies | 0.1  | 0.1  |
| Chronic renal disease | 0.2  | 0.3  |
| Chronic respiratory illnesses | 12.2  | 12.1  |
| Cirrhosis/nephrotic syndrome | 0.1  | 0.1  |
| Crohn's/ulcerative colitis | 1.5  | 1.3  |
| Cystic fibrosis | 0.0  | 0.0  |
| Diabetes | 5.6  | 5.8  |
| Diabetes insipidus | 0.0  | 0.0  |
| Epilepsy | 3.1  | 3.3  |
| Erectile dysfunction | 0.0  | 0.0  |
| Gastrointestinal diseases | 20.5  | 19.2  |
| Glaucoma | 2.0  | 1.9  |
| Gout | 3.3  | 3.7  |
| Growth hormone deficiency | 0.0  | 0.0  |
| HIV/AIDS | 0.2  | 0.1  |
| Hyperlipidemia | 12.5  | 13.1  |
| Inflammation/rheumatologic conditions | 13.3  | 11.7  |
| Malignancies | 1.7  | 1.8  |
| Migraine | 0.8  | 0.8  |
| Paget's disease/other osteoporosis chronic conditions | 3.4  | 3.3  |
| Pain | 5.8  | 5.9  |
| Parkinson's disease | 0.8  | 0.8  |
| Psoriasis | 0.7  | 0.7  |
| Psychiatric diseases | 10.1  | 10.6  |
| Thyroid disorders | 7.6  | 7.4  |
| Transplantation | 0.4  | 0.4  |
| Tuberculosis | 0.1  | 0.1  |
| \*Individuals attributed to a primary care physician who practiced in a medical home were considered to be exposed to care in a medical home. Medical home size was defined based on the availability of specialist, imaging, nursing, and social services at the medical home site, with more comprehensive services corresponding to larger size.Abbreviations: chronic condition disease categories (CCDG)  |

|  |
| --- |
| Supplemental Table S3. Characteristics of Individuals Cared for in Small, Medium, and Large Medical Homes |
| **Cared for in Medical Home\*** | **No** | **Large**  | **Medium** | **Small**  |
| **Patients, N** | 250,561 | 46,581 | 47,801 | 23,974 |
| **Sex, (%)** |   |   |   |   |
| Male  | 47.6 | 47.5 | 47.6 | 48.4 |
| **Age, (%)** |   |   |   |   |
| 14 -- 29 | 16.1 | 16.0 | 15.6 | 14.5 |
| 30 -- 44 | 24.3 | 23.8 | 23.0 | 23.1 |
| 45 -- 64 | 32.5 | 32.7 | 32.8 | 31.8 |
| 65 -- 74 | 12.4 | 12.6 | 13.0 | 14.0 |
| 75 -- 84 | 10.0 | 9.8 | 10.3 | 10.9 |
| >84  | 4.8 | 5.1 | 5.3 | 5.6 |
| **Geography of Residence, (%)** |   |   |   |   |
| Mountain | 5.8 | 0.6 | 9.1 | 24.4 |
| Hill  | 28.7 | 15.4 | 54.6 | 39.9 |
| Plain  | 62.1 | 84.0 | 36.3 | 35.7 |
| **Driving Time** (minutes)**, (%)** |   |   |   |   |
| <15  | 53.9 | 65.9 | 20.5 | 35.5 |
| 15-<30 | 36.1 | 32.7 | 75.5 | 22.6 |
| 30+  | 10.0 | 1.4 | 4.0 | 41.8 |
| **Median Income** (in euros)**, mean (SD)** | 16,504 (2,299) | 16,495 (2,270) | 15,416 (2,269) | 15,469 (2,066) |
| **Physician Sex, (%)** |   |   |   |   |
| Male  | 77.9 | 86.5 | 76.0 | 77.4 |
| **Physician Age, (%)** |   |   |   |   |
| 30 -- 44 | 2.2 | 2.0 | 0 | 2.6 |
| 45 -- 59 | 38.4 | 30.2 | 47.2 | 59.8 |
| 60 -- 74 | 59.4 | 67.7 | 52.8 | 37.6 |
| \*Individuals attributed to a primary care physician who practiced in a medical home were considered to be exposed to care in a medical home. Medical home size was defined based on the availability of specialist, imaging, nursing, and social services at the medical home site, with more comprehensive services corresponding to larger size. |

|  |
| --- |
| Supplemental Table S4. Crude healthcare utilization rates by Medical Home Size |
| **Cared for in Medical Home\*** | **No**(n=250,561) | **Large**(n=46,581) | **Medium**(n=47,801) | **Small**(n=23,974) |
| **Hospital Use per 1000 patients** |
| Admissions | 174.58 | 176.23 | 171.29 | 172.14 |
| Ordinary Admissions | 136.30 | 137.33 | 134.26 | 134.35 |
| Day Hospital Admissions | 38.28 | 38.90 | 37.03 | 37.79 |
| ACSC Hospitalizations | 9.24 | 8.87 | 8.79 | 9.22 |
| ACSC: Chronic | 6.10 | 5.37 | 5.77 | 6.05 |
| ACSC: Diabetes | 0.49 | 0.47 | 0.63 | 0.46 |
| ACSC: COPD | 1.21 | 0.90 | 0.96 | 1.13 |
| ACSC: Hypertension | 0.26 | 0.43 | 0.15 | 0.42 |
| ACSC: Heart failure | 3.65 | 3.07 | 3.41 | 3.63 |
| ACSC: Angina | 0.42 | 0.45 | 0.59 | 0.42 |
| ACSC: Asthma | 0.06 | 0.04 | 0.04 | 0.00 |
| ACSC: Acute | 3.14 | 3.50 | 3.01 | 3.17 |
| ACSC: Bacterial pneumonia | 1.61 | 1.44 | 1.49 | 1.84 |
| ACSC: Urinary tract infection | 1.26 | 1.61 | 1.11 | 0.96 |
| ACSC: Dehydration | 0.28 | 0.45 | 0.42 | 0.38 |
| Readmissions |  |  |  |  |
| 30-day, Heart failure | 0.79 | 0.52 | 0.63 | 1.00 |
| 90-day, Heart failure | 1.36 | 0.88 | 1.21 | 1.50 |
| 30-day, COPD | 0.14 | 0.13 | 0.10 | 0.13 |
| 90-day, COPD | 0.32 | 0.34 | 0.21 | 0.29 |
| **Emergency Visits per 1000 patients** |
| Emergency visits | 297.46 | 253.73 | 269.45 | 260.07 |
| Potentially avoidable ED visits (during hours of MH operation) | 81.86 | 62.43 | 67.72 | 66.95 |
| Potentially avoidable ED visits (24/7) | 148.71 | 116.01 | 125.37 | 119.92 |
| **Specialty Use per 1000 patients** |
| Specialty Visits | 1,527.65 | 1,547.05 | 1,486.58 | 1,552.22 |
| Diagnostic Tests | 1,592.49 | 1,628.90 | 1,537.60 | 1,550.89 |
| Diagnostic Tests: MRI | 80.57 | 78.53 | 82.03 | 77.96 |
| Diagnostic Tests: CT | 70.37 | 72.24 | 74.25 | 71.95 |
| Diagnostic Tests: X-Ray | 350.37 | 379.85 | 333.19 | 349.34 |
| **Pharmacy Use (in DDD) per 1000 patients** |
| All prescriptions | 421,774.57 | 402,166.83 | 447,547.88 | 460,209.60 |
| Antibiotics | 6,357.60 | 5,994.15 | 6,332.59 | 6,438.14 |
| \*Individuals attributed to a primary care physician who practiced in a medical home were considered exposed to care in a medical home. Medical home size was defined based on the availability of specialist, imaging, nursing, and social services at the medical home site, with more comprehensive services corresponding to larger size.Abbreviations: incidence rate ratio (IRR); defined daily doses (DDD); magnetic resonance imaging (MRI); computed tomography (CT); chronic obstructive pulmonary disease (COPD); ambulatory care sensitive conditions (ACSC); emergency department (ED); medical home (MH) |

|  |
| --- |
| Supplemental Table S5. Processes of Care among Individuals Receiving Care outside of Medical Homes and those Receiving Care in Small, Medium, or Large Medical Homes |
| **Care in Medical Home\*** | **No** | **Large** | **Medium** | **Small** |
| **Diabetes Management** |  |  |  |  |
| No. Eligible Diabetic Patients, N | 16,980 | 3,132 | 3,315 | 1,816 |
| w/ ≥ 2 HbA1c, % | 41.9 | 45.4 | 46.7 | 47.9 |
| w/ ≥ 1 Eye Exam, %  | 67.4 | 69.0 | 69.1 | 70.6 |
| w/ ≥ 1 Lipid Panel, %  | 67.1 | 67.9 | 68.7 | 69.2 |
| w/ ≥ 1 Microalbumin, %  | 21.4 | 20.2 | 33.3 | 28.9 |
| w/ ≥ 1 Electrocardiogram, %  | 54.8 | 57.8 | 57.8 | 55.2 |
| w/ ≥ 1 Creatinine, %  | 69.8 | 71.2 | 73.3 | 74.2 |
| **Potentially Inappropriate Prescribing** |  |  |  |  |
| No. elderly with ≥ 1 prescription, N | 63,102 | 11,712 | 12,731 | 6,857 |
| w/ ≥ 1 PIP, % | 23.3 | 22.7 | 22.1 | 20.1 |
| w/ ≥ 1 PIP to always be avoided, % | 7.9 | 7.5 | 6.9 | 5.6 |
| \*Individuals attributed to a primary care physician who practiced in a medical home were considered exposed to care in a medical home. Medical home size was defined based on the availability of specialist, imaging, nursing, and social services at the medical home site, with more comprehensive services corresponding to larger size.Abbreviations: potentially inappropriate prescription (PIP) |

|  |
| --- |
| Supplemental Table S6. Odds of Receiving Processes of Care among Individuals Receiving Care in Small, Medium, or Large Medical Homes versus those Receiving Care Outside of Medical Homes |
| **Care in Medical Home\*** | **Large** | **Medium** | **Small** |
|  | **OR**† | **95% CI** | **OR**† | **95% CI** | **OR**† | **95% CI** |
| **Diabetes Management** |  |  |  |  |  |  |  |  |  |
| HbA1c  | 1.18 | 1.03 | 1.34 | 1.22 | 1.10 | 1.35 | 1.15 | 0.97 | 1.37 |
| Eye Exam  | 1.08 | 0.94 | 1.24 | 1.11 | 0.99 | 1.25 | 1.10 | 0.91 | 1.31 |
| Lipid Panel  | 1.04 | 0.92 | 1.19 | 1.09 | 0.98 | 1.21 | 1.09 | 0.93 | 1.28 |
| Microalbumin  | 0.96 | 0.75 | 1.22 | 1.53 | 1.25 | 1.88 | 1.38 | 1.00 | 1.90 |
| ECG  | 1.07 | 0.91 | 1.25 | 1.24 | 1.11 | 1.39 | 1.13 | 0.91 | 1.39 |
| Creatinine  | 1.07 | 0.93 | 1.24 | 1.18 | 1.03 | 1.34 | 1.20 | 1.05 | 1.37 |
| **Potentially Inappropriate Prescribing (in elderly with ≥ 1 prescription)** |
| PIP | 0.93 | 0.84 | 1.04 | 0.96 | 0.89 | 1.02 | 0.87 | 0.76 | 1.00 |
| PIP-A | 0.90 | 0.75 | 1.07 | 0.95 | 0.84 | 1.07 | 0.76 | 0.59 | 0.99 |
| \*Individuals attributed to a primary care physician who practiced in a medical home were considered exposed to care in a medical home. Medical home size was defined based on the availability of specialist, imaging, nursing, and social services at the medical home site, with more comprehensive services corresponding to larger size.†adjusted for patient age, patient sex, patient geographic location of residence, median income of commune (from 2011 census), driving time from nearest hospital, physician age, physician sex.Abbreviations: potentially inappropriate prescription (PIP) |

|  |
| --- |
| **Supplemental Table S7. Incidence Rate Ratios comparing Individuals Receiving Care in Medical Homes to those not Receiving Care in Medical Homes, by Timing of Implementation** |
|  | **Early (2011-2012)** | **Late (2013-2014)** |
| **Outcome** | **RR** | **95% CI** | **RR** | **95% CI** |
| All Admissions | 0.98 | 0.95, 1.01 | 0.98 | 0.94, 1.01 |
| Ordinary Admissions | 0.97 | 0.94, 1.01 | 0.97 | 0.93, 1.01 |
| Day Admissions | 0.99 | 0.94, 1.05 | 1.00 | 0.95, 1.05 |
| ACSC, Total | 0.96 | 0.86, 1.07 | 0.87 | 0.76, 1.00 |
| ACSC, Chronic | 0.89 | 0.78, 1.03 | 0.84 | 0.71, 0.99 |
| ACSC: Diabetes | 0.96 | 0.62, 1.50 | 1.27 | 0.78, 2.08 |
| ACSC: COPD | 0.80 | 0.58, 1.10 | 0.66 | 0.45, 0.96 |
| ACSC: Hypertension | 1.27 | 0.70, 2.28 | 1.15 | 0.62, 2.11 |
| ACSC: CHF | 0.89 | 0.74, 1.07 | 0.77 | 0.63, 0.94 |
| ACSC: Angina | 1.08 | 0.74, 1.60 | 1.07 | 0.68, 1.70 |
| ACSC: Asthma | 0.16 | NE | 1.57 | NE |
| ACSC, Acute | 1.09 | 0.94, 1.27 | 0.93 | 0.77, 1.13 |
| ACSC: Bacterial Pneumonia | 0.98 | 0.77, 1.24 | 0.85 | 0.64, 1.14 |
| ACSC: UTI | 1.07 | 0.84, 1.35 | 0.98 | 0.71, 1.34 |
| ACSC: Dehydration | 2.14 | 1.35, 3.40 | 1.15 | 0.74, 1.78 |
| Readmissions, CHF 30 days | 0.94 | 0.64, 1.38 | 0.80 | 0.54, 1.18 |
| Readmissions, CHF 90 days | 0.88 | 0.68, 1.15 | 0.90 | 0.62, 1.32 |
| Readmissions, COPD 30 days | 0.85 | 0.39, 1.85 | 1.07 | 0.51, 2.24 |
| Readmissions, COPD 90 days | 1.09 | 0.65, 1.85 | 0.93 | 0.58, 1.49 |
| Emergency visits | 0.83 | 0.79, 0.88 | 0.91 | 0.85, 0.97 |
| Potentially avoidable emergency visits (during hours of MH operation) | 0.76 | 0.70, 0.82 | 0.81 | 0.72, 0.91 |
| Potentially avoidable visits (24/7) | 0.77 | 0.72, 0.83 | 0.84 | 0.76, 0.92 |
| \*Individuals attributed to a primary care physician who practiced in a medical home were considered exposed to care in a medical home.Abbreviations: Not estimable (NE); ambulatory care sensitive conditions (ACSCs); incidence rate ratio (IRR); chronic obstructive pulmonary disease (COPD); medical home (MH) |