



State of New Mexico Human Services Department,  
Medical Assistance Division

# **Medicaid 1115 Demonstration and Substance Use Disorder Waiver— Centennial Care 2.0**

Interim Evaluation Report, Appendices

*April 2023*



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## Appendix A. Additional Results and Methodologies

Appendix A contains additional results and methodologies used for the Centennial Care 2.0 Demonstration Waiver evaluation.

Table A-1 contains demographic information on the changes in age and gender distribution between 2013 and 2021.

**Table A-1—Change in Age and Gender Distribution Among Beneficiaries**

| Age     | 2013    |         | 2021    |         | Percent Change |        |
|---------|---------|---------|---------|---------|----------------|--------|
|         | Male    | Female  | Male    | Female  | Male           | Female |
| 0 - 12  | 132,127 | 127,503 | 113,941 | 109,436 | -14%           | -14%   |
| 13 - 18 | 48,718  | 47,319  | 55,476  | 53,599  | 14%            | 13%    |
| 19 - 34 | 27,156  | 66,736  | 93,840  | 121,778 | 246%           | 82%    |
| 35 - 49 | 16,675  | 29,753  | 61,674  | 74,553  | 270%           | 151%   |
| 50 - 64 | 16,140  | 23,087  | 47,824  | 53,807  | 196%           | 133%   |
| 65+     | 8,976   | 16,404  | 11,833  | 19,003  | 32%            | 16%    |

Table A-2 provides the percentage of Centennial Care members enrolled in a Health Home (Measure 2)

**Table A-2—Percentage of Centennial Care Members Enrolled in a Health Home, 2019-2021 (Measure 2)**

| Year | Month     | Number of Members Enrolled in a Health Home | Number of Members Enrolled in Centennial Care | Percentage of Centennial Care Members Enrolled in a Health Home |
|------|-----------|---|---|---|
| 2019 | January   | --  | 658,657                                       | --  |
|      | February  | --  | 658,515                                       | --  |
|      | March     | --  | 658,419                                       | --  |
|      | April     | 2,358                                       | 660,584                                       | 0.36%   |
|      | May       | --  | 660,067                                       | --  |
|      | June      | 2,577                                       | 659,042                                       | 0.39%   |
|      | July      | 2,606                                       | 660,231                                       | 0.39%   |
|      | August    | 2,746                                       | 661,332                                       | 0.42%   |
|      | September | 2,855                                       | 663,569                                       | 0.43%   |
|      | October   | 3,066                                       | 664,645                                       | 0.46%   |
|      | November  | 3,186                                       | 665,834                                       | 0.48%   |
|      | December  | 3,284                                       | 668,814                                       | 0.49%   |
| 2020 | January   | 3,287                                       | 671,153                                       | 0.49%   |
|      | February  | 3,436                                       | 671,462                                       | 0.51%   |
|      | March     | 3,463                                       | 673,347                                       | 0.51%   |
|      | April     | --  | 684,525                                       | --  |
|      | May       | --  | 694,211                                       | --  |
|      | June      | 3,528                                       | 701,119                                       | 0.50%   |

| Year      | Month     | Number of Members Enrolled in a Health Home | Number of Members Enrolled in Centennial Care | Percentage of Centennial Care Members Enrolled in a Health Home |
|-----------|-----------|---|---|---|
| 2021      | July      | 3,458                                       | 708,959                                       | 0.49%   |
|           | August    | 3,468                                       | 716,473                                       | 0.48%   |
|           | September | 3,527                                       | 722,142                                       | 0.49%   |
|           | October   | 3,575                                       | 727,239                                       | 0.49%   |
|           | November  | 3,601                                       | 733,950                                       | 0.49%   |
|           | December  | 3,676                                       | 741,045                                       | 0.50%   |
|           | January   | 3,570                                       | 745,425                                       | 0.48%   |
|           | February  | 3,706                                       | 749,295                                       | 0.49%   |
|           | March     | 3,736                                       | 753,272                                       | 0.50%   |
|           | April     | 3,771                                       | 757,002                                       | 0.50%   |
|           | May       | 3,751                                       | 759,847                                       | 0.49%   |
|           | June      | 3,882                                       | 763,056                                       | 0.51%   |
| July      | 3,931     | 767,073                                     | 0.51%   |   |
| August    | 3,943     | 771,564                                     | 0.51%   |   |
| September | 3,951     | 775,003                                     | 0.51%   |   |
| October   | 4,007     | 778,184                                     | 0.51%   |   |
| November  | 4,047     | 780,986                                     | 0.52%   |   |
| December  | 4,057     | 783,257                                     | 0.52%   |   |

Tables A-3 through A-8 provide regression results from interrupted time series analysis for measures calculated annually (Measures 4a, 5a, and 6).

**Table A-3—Adults’ Access to Preventative/Ambulatory Health Services (AAP) (Measure 4a)**

| Variable  | Estimate <sup>1</sup>   | p-value    |
|---|-------------------------|------------|
| Intercept                                       | 77.72%<br>(0.84%)       | <0.001 *** |
| Pre-Centennial Care (CC) 2.0 annual trend       | -0.61p.p.<br>(0.45p.p.) | 0.307      |
| Level Change                                    | 2.99p.p.<br>(1.79p.p.)  | 0.236      |
| Change in annual trend                          | -1.09p.p.<br>(0.84p.p.) | 0.323      |
| Peak coronavirus disease 2019 (COVID-19) (2020) | -1.57p.p.<br>(1.22p.p.) | 0.328      |

\*p< 0.1, \*\*p < 0.05, \*\*\*p<0.001

<sup>1</sup>Standard errors in parentheses. p.p. = percentage point

**Table A-4—Children and Adolescents’ Access to Primary Care Practitioners (CAP)—Age 12–24 months (Measure 5a)**

| Variable                | Estimate <sup>1</sup>   | p-value   |
|-------------------------|-------------------------|-----------|
| Intercept               | 94.78%<br>(0.44%)       | <0.001*** |
| Pre-CC 2.0 annual trend | 0.65p.p.<br>(0.24p.p.)  | 0.111     |
| Level Change            | 1.90p.p.<br>(0.95p.p.)  | 0.184     |
| Change in annual trend  | -2.33p.p.<br>(0.44p.p.) | 0.034**   |
| Peak COVID-19 (2020)    | -1.36p.p.<br>(0.65p.p.) | 0.172     |

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.001

<sup>1</sup>Standard errors in parentheses. p.p. = percentage point

**Table A-5—Children and Adolescents’ Access to Primary Care Practitioners (CAP)—Age 25 months–6 years (Measure 5a)**

| Variable                | Estimate <sup>1</sup>   | p-value   |
|-------------------------|-------------------------|-----------|
| Intercept               | 85.61%<br>(1.06%)       | <0.001*** |
| Pre-CC 2.0 annual trend | 0.55p.p.<br>(0.56p.p.)  | 0.433     |
| Level Change            | 5.07p.p.<br>(2.26p.p.)  | 0.154     |
| Change in annual trend  | -3.92p.p.<br>(1.06p.p.) | 0.066*    |
| Peak COVID-19 (2020)    | -4.88p.p.<br>(1.55p.p.) | 0.087*    |

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.001

<sup>1</sup>Standard errors in parentheses. p.p. = percentage point

**Table A-6—Children and Adolescents’ Access to Primary Care Practitioners (CAP)—Age 7–11 years (Measure 5a)**

| Variable                | Estimate <sup>1</sup>   | p-value   |
|-------------------------|-------------------------|-----------|
| Intercept               | 90.04%<br>(0.80%)       | <0.001*** |
| Pre-CC 2.0 annual trend | 0.01p.p.<br>(0.43p.p.)  | 0.985     |
| Level Change            | 3.79p.p.<br>(1.72p.p.)  | 0.159     |
| Change in annual trend  | -2.45p.p.<br>(0.80p.p.) | 0.093*    |
| Peak COVID-19 (2020)    | 0.18p.p.<br>(1.18p.p.)  | 0.894     |

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.001

<sup>1</sup>Standard errors in parentheses. p.p. = percentage point

**Table A-7—Children and Adolescents' Access to Primary Care Practitioners (CAP)—Age 12–19 years (Measure 5)**

| Variable                | Estimate <sup>1</sup>   | p-value   |
|-------------------------|-------------------------|-----------|
| Intercept               | 89.79%<br>(0.67%)       | <0.001*** |
| Pre-CC 2.0 annual trend | -0.10p.p.<br>(0.36p.p.) | 0.811     |
| Level Change            | 3.38p.p.<br>(1.43p.p.)  | 0.141     |
| Change in annual trend  | -2.32p.p.<br>(0.67p.p.) | 0.074*    |
| Peak COVID-19 (2020)    | -0.03p.p.<br>(0.98p.p.) | 0.976     |

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.001

<sup>1</sup>Standard errors in parentheses. p.p. = percentage point

**Table A-8—Well-Child Visits in The Third, Fourth, Fifth, and Sixth Years of Life (W34) (Measure 6)**

| Variable                | Estimate <sup>1</sup>   | p-value   |
|-------------------------|-------------------------|-----------|
| Intercept               | 59.12%<br>(1.13%)       | <0.001*** |
| Pre-CC 2.0 annual trend | 0.04p.p.<br>(0.61p.p.)  | 0.959     |
| Level Change            | 3.88p.p.<br>(2.42p.p.)  | 0.250     |
| Change in annual trend  | -1.28p.p.<br>(1.13p.p.) | 0.375     |
| Peak COVID-19 (2020)    | -8.31p.p.<br>(1.66p.p.) | 0.038**   |

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.001

<sup>1</sup>Standard errors in parentheses. p.p. = percentage point

Table A-9 through A-15 contain the regression results from Health Home measures calculated using the difference-in-differences analysis (Measure 4b, 5b, 7, 8, 9, 10, 11, 12).

**Table A-9—Adults’ Access to Preventative/Ambulatory Health Services (AAP) (Measure 4b)**

| Year | Variable                          | Estimate | Standard Error | Wald Chi-Square | Pr > Chi-Square |
|------|-----------------------------------|----------|----------------|-----------------|-----------------|
| 2019 | Intercept                         | 2.300    | 0.090          | 653.656         | <.0001          |
|      | Post Implementation Indicator     | -0.413   | 0.122          | 11.451          | 0.0007          |
|      | Health Home Indicator             | -0.108   | 0.125          | 0.741           | 0.3892          |
|      | Health Home x Post Implementation | 1.150    | 0.193          | 35.708          | <.0001          |
| 2020 | Intercept                         | 2.172    | 0.078          | 766.327         | <.0001          |
|      | Post Implementation Indicator     | -0.597   | 0.101          | 34.826          | <.0001          |
|      | Health Home Indicator             | -0.147   | 0.108          | 1.854           | 0.1733          |
|      | Health Home x Post Implementation | 0.961    | 0.151          | 40.297          | <.0001          |
| 2021 | Intercept                         | 2.151    | 0.079          | 750.449         | <.0001          |
|      | Post Implementation Indicator     | -0.585   | 0.100          | 34.479          | <.0001          |
|      | Health Home Indicator             | -0.025   | 0.110          | 0.051           | 0.8217          |
|      | Health Home x Post Implementation | 1.091    | 0.156          | 48.845          | <.0001          |

**Table A-10—Children and Adolescents’ Access to Primary Care Practitioners (CAP) (Measure 5b)**

| Year | Variable                          | Estimate | Standard Error | Wald Chi-Square | Pr > Chi-Square |
|------|-----------------------------------|----------|----------------|-----------------|-----------------|
| 2019 | Intercept                         | 2.730    | 0.159          | 293.863         | <.0001          |
|      | Post Implementation Indicator     | -0.014   | 0.236          | 0.004           | 0.9514          |
|      | Health Home Indicator             | 0.291    | 0.239          | 1.483           | 0.2233          |
|      | Health Home x Post Implementation | 0.322    | 0.367          | 0.771           | 0.3800          |
| 2020 | Intercept                         | 2.918    | 0.140          | 436.147         | <.0001          |
|      | Post Implementation Indicator     | -0.604   | 0.182          | 11.031          | 0.0009          |
|      | Health Home Indicator             | 0.034    | 0.199          | 0.029           | 0.8657          |
|      | Health Home x Post Implementation | 1.486    | 0.323          | 21.140          | <.0001          |
| 2021 | Intercept                         | 2.718    | 0.114          | 568.158         | <.0001          |
|      | Post Implementation Indicator     | -0.606   | 0.151          | 16.086          | <.0001          |
|      | Health Home Indicator             | 0.329    | 0.175          | 3.523           | 0.0605          |
|      | Health Home x Post Implementation | 1.018    | 0.266          | 14.620          | 0.0001          |

**Table A-11—Diabetes Screening for Members with Schizophrenia or Bipolar Disorder who are Using Antipsychotic Medications (SSD) (Measure 7)**

| Year | Variable                          | Estimate | Standard Error | Wald Chi-Square | Pr > Chi-Square |
|------|-----------------------------------|----------|----------------|-----------------|-----------------|
| 2019 | Intercept                         | 1.379    | 0.195          | 50.104          | <.0001          |
|      | Post Implementation Indicator     | 0.199    | 0.318          | 0.389           | 0.5330          |
|      | Health Home Indicator             | -0.002   | 0.251          | 0.000           | 0.9922          |
|      | Health Home x Post Implementation | -0.390   | 0.381          | 1.046           | 0.3065          |
| 2020 | Intercept                         | 1.624    | 0.215          | 57.325          | <.0001          |
|      | Post Implementation Indicator     | -0.489   | 0.308          | 2.522           | 0.1123          |
|      | Health Home Indicator             | -0.151   | 0.264          | 0.326           | 0.5681          |
|      | Health Home x Post Implementation | 0.057    | 0.366          | 0.024           | 0.8759          |
| 2021 | Intercept                         | 1.567    | 0.204          | 58.930          | <.0001          |
|      | Post Implementation Indicator     | -0.057   | 0.325          | 0.031           | 0.8603          |
|      | Health Home Indicator             | -0.134   | 0.256          | 0.274           | 0.6008          |
|      | Health Home x Post Implementation | 0.120    | 0.383          | 0.098           | 0.7538          |

**Table A-12—Anti-Depressant Medication Management (AMM) Effective Acute Phase Treatment (Measure 8)**

| Year | Variable                          | Estimate | Standard Error | Wald Chi-Square | Pr > Chi-Square |
|------|-----------------------------------|----------|----------------|-----------------|-----------------|
| 2019 | Intercept                         | -0.192   | 0.166          | 1.338           | 0.2473          |
|      | Post Implementation Indicator     | -0.282   | 0.293          | 0.930           | 0.3349          |
|      | Health Home Indicator             | -0.157   | 0.242          | 0.420           | 0.5168          |
|      | Health Home x Post Implementation | 0.251    | 0.371          | 0.459           | 0.4981          |
| 2020 | Intercept                         | -0.340   | 0.152          | 5.008           | 0.0252          |
|      | Post Implementation Indicator     | 0.321    | 0.249          | 1.662           | 0.1974          |
|      | Health Home Indicator             | -0.022   | 0.217          | 0.010           | 0.9193          |
|      | Health Home x Post Implementation | -0.262   | 0.319          | 0.676           | 0.4111          |
| 2021 | Intercept                         | -0.072   | 0.155          | 0.217           | 0.6415          |
|      | Post Implementation Indicator     | 0.342    | 0.257          | 1.769           | 0.1835          |
|      | Health Home Indicator             | -0.284   | 0.220          | 1.670           | 0.1962          |
|      | Health Home x Post Implementation | 0.079    | 0.330          | 0.057           | 0.8115          |



**Table A-13— Anti-Depressant Medication Management (AMM) Effective Continuation Phase Treatment (Measure 9)**

| Year | Variable                          | Estimate | Standard Error | Wald Chi-Square | Pr > Chi-Square |
|------|-----------------------------------|----------|----------------|-----------------|-----------------|
| 2019 | Intercept                         | -0.873   | 0.182          | 23.145          | <.0001          |
|      | Post Implementation Indicator     | -0.479   | 0.342          | 1.962           | 0.1613          |
|      | Health Home Indicator             | -0.276   | 0.272          | 1.027           | 0.3108          |
|      | Health Home x Post Implementation | 0.353    | 0.433          | 0.662           | 0.4159          |
| 2020 | Intercept                         | -0.885   | 0.165          | 28.832          | <.0001          |
|      | Post Implementation Indicator     | -0.253   | 0.283          | 0.799           | 0.3714          |
|      | Health Home Indicator             | -0.252   | 0.242          | 1.088           | 0.2970          |
|      | Health Home x Post Implementation | 0.317    | 0.363          | 0.764           | 0.3821          |
| 2021 | Intercept                         | -1.115   | 0.180          | 38.364          | <.0001          |
|      | Post Implementation Indicator     | 0.311    | 0.284          | 1.201           | 0.2731          |
|      | Health Home Indicator             | 0.153    | 0.249          | 0.377           | 0.5391          |
|      | Health Home x Post Implementation | -0.147   | 0.362          | 0.164           | 0.6851          |

**Table A-14—7-Day Follow Up After Hospitalization for Mental Illness (FUH) (Measure 10)**

| Year | Variable                          | Estimate | Standard Error | Wald Chi-Square | Pr > Chi-Square |
|------|-----------------------------------|----------|----------------|-----------------|-----------------|
| 2019 | Intercept                         | -0.748   | 0.167          | 20.139          | <.0001          |
|      | Post Implementation Indicator     | -0.211   | 0.323          | 0.427           | 0.5135          |
|      | Health Home Indicator             | 0.402    | 0.218          | 3.406           | 0.0649          |
|      | Health Home x Post Implementation | 0.200    | 0.367          | 0.295           | 0.5868          |
| 2020 | Intercept                         | -0.957   | 0.162          | 35.068          | <.0001          |
|      | Post Implementation Indicator     | -0.414   | 0.323          | 1.637           | 0.2007          |
|      | Health Home Indicator             | 0.723    | 0.205          | 12.508          | 0.0004          |
|      | Health Home x Post Implementation | 0.229    | 0.361          | 0.404           | 0.5252          |
| 2021 | Intercept                         | -0.511   | 0.152          | 11.253          | 0.0008          |
|      | Post Implementation Indicator     | -0.159   | 0.303          | 0.276           | 0.5992          |
|      | Health Home Indicator             | 0.173    | 0.200          | 0.748           | 0.3871          |
|      | Health Home x Post Implementation | 0.189    | 0.342          | 0.305           | 0.5809          |

**Table A-15—30-Day Follow Up After Hospitalization for Mental Illness (FUH) (Measure 11)**

| Year | Variable                          | Estimate | Standard Error | Wald Chi-Square | Pr > Chi-Square |
|------|-----------------------------------|----------|----------------|-----------------|-----------------|
| 2019 | Intercept                         | 0.281    | 0.157          | 3.185           | 0.0743          |
|      | Post Implementation Indicator     | 0.125    | 0.298          | 0.175           | 0.6753          |
|      | Health Home Indicator             | 0.456    | 0.216          | 4.469           | 0.0345          |
|      | Health Home x Post Implementation | -0.306   | 0.349          | 0.767           | 0.3812          |
| 2020 | Intercept                         | -0.094   | 0.145          | 0.424           | 0.5151          |
|      | Post Implementation Indicator     | -0.450   | 0.275          | 2.687           | 0.1011          |
|      | Health Home Indicator             | 0.930    | 0.198          | 21.993          | <.0001          |
|      | Health Home x Post Implementation | 0.210    | 0.323          | 0.420           | 0.5168          |
| 2021 | Intercept                         | 0.419    | 0.151          | 7.734           | 0.0054          |
|      | Post Implementation Indicator     | -0.265   | 0.291          | 0.830           | 0.3624          |
|      | Health Home Indicator             | 0.399    | 0.205          | 3.802           | 0.0512          |
|      | Health Home x Post Implementation | 0.106    | 0.336          | 0.099           | 0.7528          |

Tables A-16 through Table A-21 contain specific financial results for the cost per member trend and cost per user trend (Measure 20 and 21).

**Table A-16—Per Member Per Month (PMPM) Cost (Measure 20)**

| Year | Actual Cost PMPM | Expected Cost PMPM | Capitation Cost PMPM |
|------|------------------|--------------------|----------------------|
| 2013 | \$347            | \$347              | \$338                |
| 2014 | \$374            | \$382              | \$474                |
| 2015 | \$402            | \$410              | \$497                |
| 2016 | \$409            | \$432              | \$459                |
| 2017 | \$396            | \$449              | \$421                |
| 2018 | \$427            | \$486              | \$432                |
| 2019 | \$465            | \$540              | \$472                |
| 2020 | \$475            | \$524              | \$502                |
| 2021 | \$514            | \$552              | \$500                |

**Table A-17—Total Costs (Measure 20)**

| Year | Actual Cost     | Expected Cost   | Capitation Cost |
|------|-----------------|-----------------|-----------------|
| 2013 | \$2,125,314,531 | \$2,125,314,531 | \$2,070,295,926 |
| 2014 | \$2,640,069,980 | \$2,699,162,574 | \$3,352,297,340 |
| 2015 | \$3,102,957,660 | \$3,163,945,940 | \$3,837,720,492 |
| 2016 | \$3,350,800,380 | \$3,536,460,247 | \$3,759,735,682 |
| 2017 | \$3,264,730,551 | \$3,708,041,234 | \$3,472,855,078 |
| 2018 | \$3,461,729,098 | \$3,941,635,070 | \$3,506,650,594 |
| 2019 | \$3,703,465,661 | \$4,303,932,265 | \$3,756,710,822 |
| 2020 | \$4,065,075,307 | \$4,486,360,288 | \$4,293,096,397 |
| 2021 | \$4,724,314,588 | \$5,076,531,630 | \$4,602,294,970 |

**Table A-18—Cost Per Member Trends – (Measure 20)**

| Year | Average Annual Trend | Expected Average Annual Trend |
|------|----------------------|-------------------------------|
| 2014 | 7.6%                 | 10.0%                         |
| 2015 | 7.6%                 | 8.7%                          |
| 2016 | 5.6%                 | 7.6%                          |
| 2017 | 3.3%                 | 6.7%                          |
| 2018 | 4.2%                 | 6.9%                          |
| 2019 | 5.0%                 | 7.6%                          |
| 2020 | 4.6%                 | 6.1%                          |
| 2021 | 5.0%                 | 6.0%                          |

**Table A-19—Per Utilizing Member Per Month (PUMPM) Cost (Measure 21)**

| Year | Actual Cost PUMPM | Expected Cost PUMPM | Capitation Cost PUMPM |
|------|-------------------|---------------------|-----------------------|
| 2013 | \$403             | \$403               | \$429                 |
| 2014 | \$452             | \$426               | \$545                 |
| 2015 | \$467             | \$447               | \$566                 |
| 2016 | \$490             | \$482               | \$535                 |
| 2017 | \$485             | \$513               | \$502                 |
| 2018 | \$520             | \$543               | \$506                 |
| 2019 | \$548             | \$595               | \$545                 |
| 2020 | \$588             | \$598               | \$598                 |
| 2021 | \$620             | \$608               | \$581                 |

**Table A-20—Total Cost (Measure 21)**

| Year | Actual Cost     | Expected Cost   | Capitation Cost |
|------|-----------------|-----------------|-----------------|
| 2013 | \$2,125,314,531 | \$2,125,314,531 | \$2,070,295,926 |
| 2014 | \$2,640,069,980 | \$2,488,980,519 | \$3,352,297,340 |
| 2015 | \$3,102,957,660 | \$2,969,289,035 | \$3,837,720,492 |
| 2016 | \$3,350,800,380 | \$3,290,582,979 | \$3,759,735,682 |
| 2017 | \$3,264,730,551 | \$3,451,705,199 | \$3,472,855,078 |
| 2018 | \$3,461,729,098 | \$3,616,928,228 | \$3,506,650,594 |
| 2019 | \$3,703,465,661 | \$4,022,535,130 | \$3,756,710,822 |
| 2020 | \$4,065,075,307 | \$4,139,719,934 | \$4,293,096,397 |
| 2021 | \$4,724,314,588 | \$4,635,005,775 | \$4,602,294,970 |







**Table A-21—Cost Per Utilizing Member Trends (Measure 21)**

| Year | Average Annual Trend | Expected Average Annual Trend |
|------|----------------------|-------------------------------|
| 2014 | 12.0%                | 5.6%                          |
| 2015 | 7.7%                 | 5.3%                          |
| 2016 | 6.7%                 | 6.1%                          |
| 2017 | 4.7%                 | 6.2%                          |
| 2018 | 5.2%                 | 6.1%                          |
| 2019 | 5.2%                 | 6.7%                          |
| 2020 | 5.5%                 | 5.8%                          |
| 2021 | 5.5%                 | 5.3%                          |

Tables A-22 and A-23 present manage care organization (MCO)-specific results for Consumer Assessment of Healthcare Providers and Systems (CAHPS<sup>®A-1</sup>) survey measures 25, 26, and 27, member rating of health care, health plan, and personal doctor, respectively.

<sup>A-1</sup> CAHPS<sup>®</sup> is a registered trademark of the Agency for Healthcare Quality and Research (AHRQ).

**Table A-22—BlueCross BlueShield Rates for CAHPS Survey Questions**







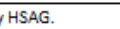
|  | 2014    | 2015    | 2016    | 2017    | 2018    |  | 2019    | 2019 Trend Model <sup>1</sup> |           |
|--|---------|---------|---------|---------|---------|--|---------|-------------------------------|-----------|
|  |         |         |         |         |         |  |         | Predicted                     | (P-value) |
| <b>Member rating of health care (measure 25)</b>     |         |         |         |         |         |  |         |                               |           |
| <b>Adult</b>   | 75.1%   | 78.2%   | 72.8%   | 78.4%   | 73.8%   |  | 78.8%   | 75.0%                         | (0.456)   |
|  | (N=213) | (N=174) | (N=217) | (N=204) | (N=191) |  | (N=118) |                               |           |
| <b>Child</b>   | 87.4%   | 86.9%   | 85.5%   | 90.6%   | 87.7%   |  | 86.0%   | 88.9%                         | (0.407)   |
|  | (N=223) | (N=206) | (N=248) | (N=245) | (N=236) |  | (N=143) |                               |           |
| <b>Member rating of health plan (measure 26)</b>     |         |         |         |         |         |  |         |                               |           |
| <b>Adult</b>   | 78.3%   | 79.0%   | 75.4%   | 74.6%   | 74.7%   |  | 79.0%   | 72.8%                         | (0.147)   |
|  | (N=304) | (N=238) | (N=280) | (N=280) | (N=245) |  | (N=181) |                               |           |
| <b>Child</b>   | 86.8%   | 86.1%   | 87.7%   | 89.1%   | 87.2%   |  | 88.9%   | 88.5%                         | (0.883)   |
|  | (N=333) | (N=287) | (N=317) | (N=320) | (N=305) |  | (N=234) |                               |           |
| <b>Member rating of personal doctor (measure 27)</b> |         |         |         |         |         |  |         |                               |           |
| <b>Adult</b>   | 82.6%   | 79.4%   | 82.7%   | 81.4%   | 83.8%   |  | 88.1%   | 83.2%                         | (0.221)   |
|  | (N=224) | (N=180) | (N=225) | (N=199) | (N=191) |  | (N=135) |                               |           |
| <b>Child</b>   | 86.5%   | 89.3%   | 90.2%   | 91.6%   | 92.9%   |  | 90.8%   | 94.0%                         | (0.185)   |
|  | (N=274) | (N=233) | (N=274) | (N=273) | (N=253) |  | (N=196) |                               |           |

Note: Rates are provided by the MCOs and have not been independently validated by HSAG.

To accurately evaluate changes in member experience following the implementation of CC 2.0, HSAG applied the results from each report to the previous year (e.g. 2019 member experience is reflected in the 2020 CAHPS report).

<sup>1</sup>Actual vs projected shows the difference between observed rates during the evaluation period compared to the projected rate had the baseline trend continued.

**Table A-23—Presbyterian Health Plan Rates for CAHPS Survey Questions**

|  | 2014             | 2015             | 2016             | 2017             | 2018             |  | 2019             | 2019 Trend Model <sup>1</sup><br>Predicted (P-value) |
|--|------------------|------------------|------------------|------------------|------------------|--|------------------|--|
| <b>Member rating of health care (measure 25)</b>     |                  |                  |                  |                  |                  |  |                  |  |
| <b>Adult</b>   | 71.4%<br>(N=269) | 77.5%<br>(N=227) | 72.3%<br>(N=271) | 71.8%<br>(N=248) | 69.4%<br>(N=216) |  | 78.7%<br>(N=183) | 69.8% (0.046)  |
| <b>Child</b>   | 85.7%<br>(N=237) | 84.5%<br>(N=206) | 87.1%<br>(N=224) | 82.0%<br>(N=261) | 83.5%<br>(N=272) |  | 87.8%<br>(N=181) | 82.3% (0.129)  |
| <b>Member rating of health plan (measure 26)</b>     |                  |                  |                  |                  |                  |  |                  |  |
| <b>Adult</b>   | 76.3%<br>(N=355) | 80.9%<br>(N=325) | 78.6%<br>(N=384) | 77.2%<br>(N=346) | 78.4%<br>(N=319) |  | 78.7%<br>(N=272) | 78.5% (0.948)  |
| <b>Child</b>   | 88.3%<br>(N=332) | 85.2%<br>(N=310) | 89.1%<br>(N=348) | 86.5%<br>(N=370) | 86.9%<br>(N=381) |  | 87.3%<br>(N=307) | 86.7% (0.826)  |
| <b>Member rating of personal doctor (measure 27)</b> |                  |                  |                  |                  |                  |  |                  |  |
| <b>Adult</b>   | 79.8%<br>(N=277) | 83.4%<br>(N=241) | 82.9%<br>(N=287) | 80.4%<br>(N=265) | 79.3%<br>(N=241) |  | 82.1%<br>(N=207) | 80.1% (0.599)  |
| <b>Child</b>   | 84.8%<br>(N=310) | 87.2%<br>(N=274) | 91.1%<br>(N=291) | 89.1%<br>(N=320) | 87.7%<br>(N=324) |  | 91.1%<br>(N=259) | 90.1% (0.671)  |

Note: Rates are provided by the MCOs and have not been independently validated by HSAG.

To accurately evaluate changes in member experience following the implementation of CC 2.0, HSAG applied the results from each report to the previous year (e.g. 2019 member experience is reflected in the 2020 CAHPS report).

<sup>1</sup>Actual vs projected shows the difference between observed rates during the evaluation period compared to the projected rate had the baseline trend continued.

Tables A-24 through A-26 provide regression results from difference-in-difference analysis for Peer Support measures (35–37).

**Table A-24— Engagement of AOD Abuse or Dependence Treatment (IET) (Measure 35)**

| Year | Variable                           | Estimate | Standard Error | Wald Chi-Square | Pr > Chi-Square |
|------|------------------------------------|----------|----------------|-----------------|-----------------|
| 2019 | Intercept                          | -1.553   | 0.024          | 4,098.832       | <.0001          |
|      | Post Implementation Indicator      | -0.133   | 0.026          | 25.806          | <.0001          |
|      | Peer Support Indicator             | 0.374    | 0.176          | 4.536           | 0.0332          |
|      | Peer Support x Post Implementation | 0.598    | 0.196          | 9.285           | 0.0023          |
|      | Weighted Risk Score                | -0.053   | 0.003          | 276.776         | <.0001          |
| 2020 | Intercept                          | -1.574   | 0.025          | 4,039.833       | <.0001          |
|      | Post Implementation Indicator      | -0.209   | 0.028          | 56.853          | <.0001          |
|      | Peer Support Indicator             | 0.368    | 0.176          | 4.381           | 0.0363          |
|      | Peer Support x Post Implementation | 0.435    | 0.194          | 4.993           | 0.0255          |
|      | Weighted Risk Score                | -0.049   | 0.003          | 220.516         | <.0001          |
| 2021 | Intercept                          | -1.558   | 0.025          | 3,873.492       | <.0001          |
|      | Post Implementation Indicator      | -0.302   | 0.028          | 116.839         | <.0001          |
|      | Peer Support Indicator             | 0.373    | 0.176          | 4.501           | 0.0339          |
|      | Peer Support x Post Implementation | 0.482    | 0.188          | 6.554           | 0.0105          |
|      | Weighted Risk Score                | -0.052   | 0.003          | 235.110         | <.0001          |

**Table A-25— Average Length of Stay (ALOS) (Measure 36)**

| Year | Variable                           | Estimate | Standard Error | Wald Chi-Square | Pr > Chi-Square |
|------|------------------------------------|----------|----------------|-----------------|-----------------|
| 2019 | Intercept                          | 94.202   | 1.343          | 70.169          | <.0001          |
|      | Post Implementation Indicator      | -9.533   | 1.574          | -6.058          | <.0001          |
|      | Peer Support Indicator             | 137.585  | 10.565         | 13.023          | <.0001          |
|      | Peer Support x Post Implementation | 119.016  | 12.053         | 9.874           | <.0001          |
|      | Weighted Risk Score                | -1.433   | 0.142          | -10.079         | <.0001          |
| 2020 | Intercept                          | 93.055   | 1.358          | 68.533          | <.0001          |
|      | Post Implementation Indicator      | -18.301  | 1.600          | -11.435         | <.0001          |
|      | Peer Support Indicator             | 137.256  | 10.518         | 13.050          | <.0001          |
|      | Peer Support x Post Implementation | 37.702   | 11.323         | 3.330           | 0.0009          |
|      | Weighted Risk Score                | -1.221   | 0.148          | -8.228          | <.0001          |
| 2021 | Intercept                          | 92.783   | 1.405          | 66.051          | <.0001          |
|      | Post Implementation Indicator      | -16.619  | 1.689          | -9.840          | <.0001          |
|      | Peer Support Indicator             | 137.178  | 10.727         | 12.788          | <.0001          |
|      | Peer Support x Post Implementation | 18.989   | 11.538         | 1.646           | 0.0998          |
|      | Weighted Risk Score                | -1.170   | 0.157          | -7.432          | <.0001          |

**Table A-26— Continuity of Pharmacotherapy for Opioid Use Disorder (OUD) (Measure 37)**

| Year | Variable                           | Estimate | Standard Error | Wald Chi-Square | Pr > Chi-Square |
|------|------------------------------------|----------|----------------|-----------------|-----------------|
| 2019 | Intercept                          | -0.979   | 0.027          | 1,300.205       | <.0001          |
|      | Post Implementation Indicator      | 0.015    | 0.030          | 0.235           | 0.6276          |
|      | Peer Support Indicator             | -0.353   | 0.354          | 0.993           | 0.3190          |
|      | Peer Support x Post Implementation | 0.852    | 0.373          | 5.228           | 0.0222          |
|      | Weighted Risk Score                | -0.007   | 0.003          | 4.409           | 0.0358          |
| 2020 | Intercept                          | -1.051   | 0.027          | 1,508.841       | <.0001          |
|      | Post Implementation Indicator      | -0.024   | 0.031          | 0.593           | 0.4412          |
|      | Peer Support Indicator             | -0.392   | 0.354          | 1.223           | 0.2687          |
|      | Peer Support x Post Implementation | 1.126    | 0.358          | 9.896           | 0.0017          |
|      | Weighted Risk Score                | 0.007    | 0.003          | 5.134           | 0.0235          |
| 2021 | Intercept                          | -1.065   | 0.027          | 1,535.033       | <.0001          |
|      | Post Implementation Indicator      | -0.021   | 0.032          | 0.432           | 0.5112          |
|      | Peer Support Indicator             | -0.400   | 0.354          | 1.272           | 0.2594          |
|      | Peer Support x Post Implementation | 1.006    | 0.357          | 7.946           | 0.0048          |
|      | Weighted Risk Score                | 0.009    | 0.003          | 9.568           | 0.0020          |

Tables A-27 through A-38 provide regression results from interrupted time series analysis for measures calculated quarterly (34, 40, 41, 43, and 52).

**Table A-27—Percentage of Individuals with a Substance Use Disorder (SUD) Diagnosis Who Received Peer Support (Measure 34)**

| Variable                               | Estimate <sup>1</sup>   | p-value |
|--|-------------------------|---------|
| Intercept                              | 0.75%<br>(0.71%)        | 0.317   |
| Pre-CC 2.0 quarterly trend             | 0.22p.p.<br>(0.16p.p.)  | 0.199   |
| Level Change                           | 2.79p.p.<br>(0.96p.p.)  | 0.014** |
| Change in quarterly trend              | 0.26p.p.<br>(0.18p.p.)  | 0.169   |
| COVID-19 Lockdown (Q2 2020)            | 1.55p.p.<br>(1.15p.p.)  | 0.204   |
| COVID-19 Reopening (Q3 2020 - Q1 2021) | 0.99p.p.<br>(0.71p.p.)  | 0.194   |
| Seasonality: Q2                        | -0.58p.p.<br>(0.69p.p.) | 0.418   |
| Seasonality: Q3                        | -0.71p.p.<br>(0.66p.p.) | 0.303   |
| Seasonality: Q4                        | -0.47p.p.<br>(0.69p.p.) | 0.505   |

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.001

<sup>1</sup>Standard errors in parentheses. p.p. = percentage point



**Table A-28— Percentage of Individuals with a Substance Use Disorder (SUD) Diagnosis Who Received Peer Support, Observed (Measure 34)**

| Quarter |    | Observed Rate | Projection of Trend | Difference |
|---------|----|---------------|---------------------|------------|
| 2017    | Q1 | 0.7%          | 0.7%                | 0.0%       |
|         | Q2 | 0.7%          | 0.4%                | 0.3%       |
|         | Q3 | 0.7%          | 0.5%                | 0.2%       |
|         | Q4 | 0.8%          | 0.9%                | -0.2%      |
| 2018    | Q1 | 1.1%          | 1.6%                | -0.6%      |
|         | Q2 | 1.1%          | 1.3%                | -0.2%      |
|         | Q3 | 1.5%          | 1.4%                | 0.2%       |
|         | Q4 | 2.1%          | 1.8%                | 0.3%       |
| 2019    | Q1 | 4.1%          | 2.5%                | 1.6%       |
|         | Q2 | 5.0%          | 2.2%                | 2.8%       |
|         | Q3 | 5.3%          | 2.3%                | 3.1%       |
|         | Q4 | 7.9%          | 2.7%                | 5.1%       |
| 2020    | Q1 | 9.6%          | 3.4%                | 6.2%       |
|         | Q2 | 9.0%          | 4.6%                | 4.4%       |
|         | Q3 | 9.2%          | 4.1%                | 5.0%       |
|         | Q4 | 9.2%          | 4.6%                | 4.6%       |
| 2021    | Q1 | 10.4%         | 5.3%                | 5.1%       |
|         | Q2 | 9.8%          | 4.0%                | 5.9%       |
|         | Q3 | 9.5%          | 4.0%                | 5.4%       |
|         | Q4 | 9.4%          | 4.5%                | 4.9%       |

**Table A-29—Percentage of Emergency Department (ED) Visits of Individuals with SUD Diagnoses (Measure 40)**

| Variable                               | Estimate <sup>1</sup>   | p-value   |
|--|-------------------------|-----------|
| Intercept                              | 20.73%<br>(0.51%)       | <0.001*** |
| Pre-CC 2.0 quarterly trend             | 0.01p.p.<br>(0.12p.p.)  | 0.928     |
| Level Change                           | -0.42p.p.<br>(0.68p.p.) | 0.553     |
| Change in quarterly trend              | 0.13p.p.<br>(0.13p.p.)  | 0.341     |
| COVID-19 Lockdown (Q2 2020)            | 5.69p.p.<br>(0.82p.p.)  | <0.001*** |
| COVID-19 Reopening (Q3 2020 - Q1 2021) | 4.68p.p.<br>(0.51p.p.)  | <0.001*** |
| Seasonality: Q2                        | 2.25p.p.<br>(0.49p.p.)  | <0.001*** |
| Seasonality: Q3                        | 2.01p.p.<br>(0.47p.p.)  | 0.001***  |
| Seasonality: Q4                        | 0.22p.p.<br>(0.49p.p.)  | 0.666     |

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.001

<sup>1</sup>Standard errors in parentheses. p.p. = percentage point

**Table A-30—Percentage of ED Visits of Individuals with SUD Diagnoses (Measure 40)**

| Quarter |    | Observed Rate | Projection of Trend | Difference |
|---------|----|---------------|---------------------|------------|
| 2017    | Q1 | 20.7%         | 20.7%               | -0.1%      |
|         | Q2 | 22.9%         | 23.0%               | -0.1%      |
|         | Q3 | 23.3%         | 22.8%               | 0.6%       |
|         | Q4 | 21.4%         | 21.0%               | 0.5%       |
| 2018    | Q1 | 19.8%         | 20.8%               | -0.9%      |
|         | Q2 | 22.5%         | 23.0%               | -0.5%      |
|         | Q3 | 23.1%         | 22.8%               | 0.3%       |
|         | Q4 | 21.4%         | 21.0%               | 0.3%       |
| 2019    | Q1 | 20.1%         | 20.8%               | -0.7%      |
|         | Q2 | 22.6%         | 23.1%               | -0.5%      |
|         | Q3 | 23.3%         | 22.8%               | 0.5%       |
|         | Q4 | 20.9%         | 21.1%               | -0.2%      |
| 2020    | Q1 | 21.8%         | 20.9%               | 0.9%       |
|         | Q2 | 29.2%         | 28.8%               | 0.3%       |
|         | Q3 | 27.7%         | 27.6%               | 0.2%       |
|         | Q4 | 26.0%         | 25.8%               | 0.2%       |
| 2021    | Q1 | 27.0%         | 25.6%               | 1.4%       |
|         | Q2 | 24.9%         | 23.2%               | 1.8%       |
|         | Q3 | 22.9%         | 22.9%               | 0.0%       |
|         | Q4 | 22.1%         | 21.2%               | 1.0%       |

**Table A-31—Percentage of Inpatient Admissions for SUD Related Treatment (Measure 41)**

| Variable                               | Estimate <sup>1</sup>   | p-value   |
|--|-------------------------|-----------|
| Intercept                              | 15.19%<br>(0.58%)       | <0.001*** |
| Pre-CC 2.0 quarterly trend             | 0.31p.p.<br>(0.13p.p.)  | 0.039**   |
| Level Change                           | -1.06p.p.<br>(0.78p.p.) | 0.201     |
| Change in quarterly trend              | 0.14p.p.<br>(0.15p.p.)  | 0.345     |
| COVID-19 Lockdown (Q2 2020)            | 0.83p.p.<br>(0.93p.p.)  | 0.391     |
| COVID-19 Reopening (Q3 2020 - Q1 2021) | 1.08p.p.<br>(0.58p.p.)  | 0.089*    |
| Seasonality: Q2                        | 1.45p.p.<br>(0.56p.p.)  | 0.026**   |
| Seasonality: Q3                        | 0.82p.p.<br>(0.53p.p.)  | 0.151     |
| Seasonality: Q4                        | -2.38p.p.<br>(0.56p.p.) | 0.001***  |

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.001

<sup>1</sup>Standard errors in parentheses. p.p. = percentage point

**Table A-32—Percentage of Inpatient Admission for SUD Related Treatment (Measure 41)**

| Quarter | Observed Rate | Projection of Trend | Difference |       |
|---------|---------------|---------------------|------------|-------|
| 2017    | Q1            | 15.0%               | 15.2%      | -0.2% |
|         | Q2            | 16.9%               | 16.9%      | -0.1% |
|         | Q3            | 16.7%               | 16.6%      | 0.1%  |
|         | Q4            | 14.4%               | 13.7%      | 0.6%  |
| 2018    | Q1            | 16.0%               | 16.4%      | -0.4% |
|         | Q2            | 18.3%               | 18.2%      | 0.1%  |
|         | Q3            | 17.4%               | 17.9%      | -0.4% |
|         | Q4            | 15.2%               | 15.0%      | 0.3%  |
| 2019    | Q1            | 17.3%               | 17.7%      | -0.4% |
|         | Q2            | 17.5%               | 19.4%      | -1.9% |
|         | Q3            | 18.7%               | 19.1%      | -0.4% |
|         | Q4            | 16.6%               | 16.2%      | 0.4%  |
| 2020    | Q1            | 17.9%               | 18.9%      | -1.0% |
|         | Q2            | 21.3%               | 21.5%      | -0.2% |
|         | Q3            | 21.7%               | 21.4%      | 0.2%  |
|         | Q4            | 17.6%               | 18.5%      | -0.9% |
| 2021    | Q1            | 22.2%               | 21.2%      | 1.0%  |
|         | Q2            | 23.4%               | 21.9%      | 1.5%  |
|         | Q3            | 22.0%               | 21.6%      | 0.4%  |
|         | Q4            | 18.6%               | 18.7%      | -0.1% |

**Table A-33—7-day Inpatient and Residential SUD Readmission Rates (Measure 43)**

| Variable                               | Estimate <sup>1</sup>   | p-value   |
|--|-------------------------|-----------|
| Intercept                              | 3.76%<br>(0.52%)        | <0.001*** |
| Pre-CC 2.0 quarterly trend             | 0.18p.p.<br>(0.12p.p.)  | 0.152     |
| Level Change                           | -0.72p.p.<br>(0.69p.p.) | 0.324     |
| Change in quarterly trend              | -0.20p.p.<br>(0.13p.p.) | 0.156     |
| COVID-19 Lockdown (Q2 2020)            | -1.30p.p.<br>(0.83p.p.) | 0.147     |
| COVID-19 Reopening (Q3 2020 - Q1 2021) | -0.14p.p.<br>(0.52p.p.) | 0.790     |
| Seasonality: Q2                        | 1.15p.p.<br>(0.50p.p.)  | 0.042**   |
| Seasonality: Q3                        | -0.74p.p.<br>(0.48p.p.) | 0.150     |
| Seasonality: Q4                        | -0.99p.p.<br>(0.50p.p.) | 0.073*    |

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.001

<sup>1</sup>Standard errors in parentheses. p.p. = percentage point

**Table A-34—7-day Inpatient and Residential SUD Readmission Rates (Measure 43)**

| Quarter | Observed Rate | Projection of Trend | Difference |       |
|---------|---------------|---------------------|------------|-------|
| 2017    | Q1            | 3.0%                | 3.8%       | -0.7% |
|         | Q2            | 5.6%                | 5.1%       | 0.5%  |
|         | Q3            | 3.5%                | 3.4%       | 0.1%  |
|         | Q4            | 3.0%                | 3.3%       | -0.3% |
| 2018    | Q1            | 5.7%                | 4.5%       | 1.2%  |
|         | Q2            | 5.7%                | 5.8%       | -0.1% |
|         | Q3            | 3.6%                | 4.1%       | -0.5% |
|         | Q4            | 3.9%                | 4.0%       | -0.1% |
| 2019    | Q1            | 4.0%                | 5.2%       | -1.2% |
|         | Q2            | 4.9%                | 6.6%       | -1.6% |
|         | Q3            | 4.7%                | 4.8%       | -0.1% |
|         | Q4            | 3.2%                | 4.8%       | -1.6% |
| 2020    | Q1            | 4.0%                | 5.9%       | -1.9% |
|         | Q2            | 4.1%                | 6.0%       | -1.9% |
|         | Q3            | 3.5%                | 5.4%       | -1.9% |
|         | Q4            | 2.8%                | 5.4%       | -2.5% |
| 2021    | Q1            | 4.0%                | 6.5%       | -2.5% |
|         | Q2            | 5.4%                | 8.0%       | -2.6% |
|         | Q3            | 2.5%                | 6.3%       | -3.8% |
|         | Q4            | 3.8%                | 6.2%       | -2.4% |

**Table A-35—30-day Inpatient and Residential SUD Readmission Rates (Measure 43)**

| Variable                               | Estimate <sup>1</sup>   | p-value   |
|--|-------------------------|-----------|
| Intercept                              | 13.74%<br>(0.77%)       | <0.001*** |
| Pre-CC 2.0 quarterly trend             | 0.47p.p.<br>(0.18p.p.)  | 0.022**   |
| Level Change                           | 1.24p.p.<br>(1.03p.p.)  | 0.254     |
| Change in quarterly trend              | -0.71p.p.<br>(0.19p.p.) | 0.004**   |
| COVID-19 Lockdown (Q2 2020)            | -2.21p.p.<br>(1.24p.p.) | 0.101     |
| COVID-19 Reopening (Q3 2020 - Q1 2021) | 0.39p.p.<br>(0.77p.p.)  | 0.620     |
| Seasonality: Q2                        | 0.71p.p.<br>(0.75p.p.)  | 0.364     |
| Seasonality: Q3                        | -1.81p.p.<br>(0.71p.p.) | 0.027**   |
| Seasonality: Q4                        | -1.61p.p.<br>(0.74p.p.) | 0.052*    |

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.001

<sup>1</sup>Standard errors in parentheses. p.p. = percentage point

**Table A-36—30-day Inpatient and Residential SUD Readmission Rates (Measure 43)**

| Quarter | Observed Rate | Projection of Trend | Difference |       |
|---------|---------------|---------------------|------------|-------|
| 2017    | Q1            | 13.5%               | 13.7%      | -0.2% |
|         | Q2            | 15.3%               | 14.9%      | 0.4%  |
|         | Q3            | 12.9%               | 12.9%      | 0.0%  |
|         | Q4            | 13.3%               | 13.5%      | -0.3% |
| 2018    | Q1            | 16.0%               | 15.6%      | 0.4%  |
|         | Q2            | 16.2%               | 16.8%      | -0.6% |
|         | Q3            | 15.1%               | 14.8%      | 0.3%  |
|         | Q4            | 15.4%               | 15.4%      | 0.0%  |
| 2019    | Q1            | 20.2%               | 17.5%      | 2.6%  |
|         | Q2            | 18.4%               | 18.7%      | -0.3% |
|         | Q3            | 14.8%               | 16.6%      | -1.9% |
|         | Q4            | 15.9%               | 17.3%      | -1.4% |
| 2020    | Q1            | 14.6%               | 19.4%      | -4.8% |
|         | Q2            | 15.3%               | 18.3%      | -3.0% |
|         | Q3            | 15.3%               | 18.9%      | -3.6% |
|         | Q4            | 14.9%               | 19.6%      | -4.7% |
| 2021    | Q1            | 16.6%               | 21.7%      | -5.1% |
|         | Q2            | 16.9%               | 22.4%      | -5.5% |
|         | Q3            | 14.3%               | 20.4%      | -6.1% |
|         | Q4            | 14.0%               | 21.1%      | -7.0% |

**Table A-37—Percentage of Individuals Diagnosed with SUD with MAT Claims (Measure 52)**

| Variable                               | Estimate <sup>1</sup>   | p-value   |
|--|-------------------------|-----------|
| Intercept                              | 21.62%<br>(0.38%)       | <0.001*** |
| Pre-CC 2.0 quarterly trend             | 0.69p.p.<br>(0.09p.p.)  | <0.001*** |
| Level Change                           | -0.25p.p.<br>(0.52p.p.) | 0.634     |
| Change in quarterly trend              | -0.63p.p.<br>(0.10p.p.) | <0.001*** |
| COVID-19 Lockdown (Q2 2020)            | 1.86p.p.<br>(0.62p.p.)  | 0.012**   |
| COVID-19 Reopening (Q3 2020 - Q1 2021) | 0.31p.p.<br>(0.39p.p.)  | 0.442     |
| Seasonality: Q2                        | -0.36p.p.<br>(0.37p.p.) | 0.359     |
| Seasonality: Q3                        | -0.05p.p.<br>(0.35p.p.) | 0.895     |
| Seasonality: Q4                        | 0.26p.p.<br>(0.37p.p.)  | 0.503     |

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.001

<sup>1</sup>Standard errors in parentheses. p.p. = percentage point

**Table A-38—Percentage of Individuals Diagnosed with SUD with MAT Claims (Measure 52)**

| Quarter | Observed Rate | Projection of Trend | Difference |       |
|---------|---------------|---------------------|------------|-------|
| 2017    | Q1            | 21.2%               | 21.6%      | -0.4% |
|         | Q2            | 21.8%               | 22.0%      | -0.2% |
|         | Q3            | 23.1%               | 23.0%      | 0.1%  |
|         | Q4            | 24.1%               | 23.9%      | 0.1%  |
| 2018    | Q1            | 24.9%               | 24.4%      | 0.5%  |
|         | Q2            | 25.3%               | 24.7%      | 0.6%  |
|         | Q3            | 25.7%               | 25.7%      | 0.0%  |
|         | Q4            | 25.9%               | 26.7%      | -0.8% |
| 2019    | Q1            | 25.8%               | 27.1%      | -1.4% |
|         | Q2            | 25.9%               | 27.5%      | -1.6% |
|         | Q3            | 26.2%               | 28.5%      | -2.3% |
|         | Q4            | 27.0%               | 29.5%      | -2.5% |
| 2020    | Q1            | 27.4%               | 29.9%      | -2.5% |
|         | Q2            | 28.1%               | 32.1%      | -4.0% |
|         | Q3            | 27.2%               | 31.5%      | -4.3% |
|         | Q4            | 27.3%               | 32.5%      | -5.2% |
| 2021    | Q1            | 26.7%               | 33.0%      | -6.3% |
|         | Q2            | 26.1%               | 33.0%      | -6.9% |
|         | Q3            | 26.6%               | 34.0%      | -7.4% |
|         | Q4            | 27.5%               | 35.0%      | -7.4% |

Tables A-39 – A-72 contain detailed results of the financial analyses (Measures 44, 45, 46, 47).

**Table A-39—PMPM Cost and Total Cost for Members with SUD Diagnosis (Measure 44)**

| Quarter | Actual Cost PMPM | Expected Cost PMPM | Actual Total Cost | Expected Total Cost |
|---------|------------------|--------------------|-------------------|---------------------|
| 2018Q1  | \$1,456          | \$1,456            | \$57,123,818      | \$57,123,818        |
| 2018Q2  | \$1,534          | \$1,629            | \$80,546,816      | \$85,547,012        |
| 2018Q3  | \$1,618          | \$1,719            | \$94,066,744      | \$99,895,228        |
| 2018Q4  | \$1,637          | \$1,769            | \$105,660,516     | \$114,143,822       |
| 2019Q1  | \$1,373          | \$1,523            | \$54,384,377      | \$60,326,487        |
| 2019Q2  | \$1,587          | \$1,757            | \$83,922,661      | \$92,910,299        |
| 2019Q3  | \$1,798          | \$1,861            | \$111,815,520     | \$115,730,541       |
| 2019Q4  | \$1,788          | \$1,892            | \$123,453,954     | \$130,614,248       |
| 2020Q1  | \$1,558          | \$1,571            | \$69,446,779      | \$70,020,379        |
| 2020Q2  | \$1,872          | \$1,787            | \$104,992,790     | \$100,221,485       |
| 2020Q3  | \$1,955          | \$1,891            | \$132,778,513     | \$128,411,246       |
| 2020Q4  | \$1,873          | \$1,926            | \$135,961,058     | \$139,777,470       |

| Quarter | Actual Cost PMPM | Expected Cost PMPM | Actual Total Cost | Expected Total Cost |
|---------|------------------|--------------------|-------------------|---------------------|
| 2021Q1  | \$1,814          | \$1,717            | \$82,633,195      | \$78,240,910        |
| 2021Q2  | \$2,201          | \$1,950            | \$133,441,649     | \$118,220,302       |
| 2021Q3  | \$1,946          | \$2,036            | \$134,541,455     | \$140,729,151       |
| 2021Q4  | \$2,068          | \$2,062            | \$154,300,501     | \$153,861,934       |

**Table A-40—Cost Per Member Trends for Members with SUD Diagnosis (Measure 44)**

| Quarter | Average Quarterly Trend | Expected Average Quarterly Trend |
|---------|-------------------------|----------------------------------|
| 2018Q2  | 5.3%                    | 11.9%                            |
| 2018Q3  | 5.4%                    | 8.6%                             |
| 2018Q4  | 4.0%                    | 6.7%                             |
| 2019Q1  | -1.5%                   | 1.1%                             |
| 2019Q2  | 1.7%                    | 3.8%                             |
| 2019Q3  | 3.6%                    | 4.2%                             |
| 2019Q4  | 3.0%                    | 3.8%                             |
| 2020Q1  | 0.8%                    | 0.9%                             |
| 2020Q2  | 2.8%                    | 2.3%                             |
| 2020Q3  | 3.0%                    | 2.6%                             |
| 2020Q4  | 2.3%                    | 2.6%                             |
| 2021Q1  | 1.8%                    | 1.4%                             |
| 2021Q2  | 3.2%                    | 2.3%                             |
| 2021Q3  | 2.1%                    | 2.4%                             |
| 2021Q4  | 2.4%                    | 2.3%                             |

**Table A-41—PMPM Cost for Members with SUD Diagnosis – Inpatient (Measure 45)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$363  | \$363    | \$0        |
| 2018Q2  | \$373  | \$401    | -\$28      |
| 2018Q3  | \$416  | \$417    | -\$1       |
| 2018Q4  | \$445  | \$427    | \$18       |
| 2019Q1  | \$341  | \$378    | -\$37      |
| 2019Q2  | \$459  | \$431    | \$28       |
| 2019Q3  | \$560  | \$454    | \$106      |
| 2019Q4  | \$513  | \$459    | \$54       |
| 2020Q1  | \$395  | \$389    | \$6        |
| 2020Q2  | \$577  | \$437    | \$140      |
| 2020Q3  | \$649  | \$459    | \$190      |
| 2020Q4  | \$604  | \$467    | \$138      |
| 2021Q1  | \$477  | \$425    | \$52       |

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2021Q2  | \$566  | \$477    | \$89       |
| 2021Q3  | \$569  | \$495    | \$74       |
| 2021Q4  | \$636  | \$499    | \$137      |

**Table A-42— PMPM Cost for Members with SUD Diagnosis – Long-Term Care (Measure 45)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$99   | \$99     | \$0        |
| 2018Q2  | \$109  | \$111    | -\$2       |
| 2018Q3  | \$123  | \$118    | \$4        |
| 2018Q4  | \$125  | \$122    | \$3        |
| 2019Q1  | \$69   | \$104    | -\$35      |
| 2019Q2  | \$87   | \$121    | -\$34      |
| 2019Q3  | \$100  | \$129    | -\$30      |
| 2019Q4  | \$100  | \$132    | -\$32      |
| 2020Q1  | \$75   | \$108    | -\$33      |
| 2020Q2  | \$100  | \$123    | -\$23      |
| 2020Q3  | \$94   | \$131    | -\$37      |
| 2020Q4  | \$96   | \$133    | -\$37      |
| 2021Q1  | \$70   | \$117    | -\$47      |
| 2021Q2  | \$85   | \$134    | -\$48      |
| 2021Q3  | \$90   | \$140    | -\$50      |
| 2021Q4  | \$95   | \$142    | -\$47      |



**Table A-43—PMPM Cost for Members with SUD Diagnosis – Outpatient (Measure 45)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$252  | \$252    | \$0        |
| 2018Q2  | \$290  | \$284    | \$7        |
| 2018Q3  | \$303  | \$302    | \$1        |
| 2018Q4  | \$298  | \$312    | -\$14      |
| 2019Q1  | \$254  | \$262    | -\$8       |
| 2019Q2  | \$289  | \$306    | -\$17      |
| 2019Q3  | \$331  | \$325    | \$6        |
| 2019Q4  | \$328  | \$332    | -\$4       |
| 2020Q1  | \$285  | \$270    | \$14       |
| 2020Q2  | \$303  | \$310    | -\$8       |
| 2020Q3  | \$338  | \$331    | \$7        |
| 2020Q4  | \$311  | \$339    | -\$28      |
| 2021Q1  | \$296  | \$296    | \$0        |
| 2021Q2  | \$340  | \$340    | \$0        |
| 2021Q3  | \$330  | \$357    | -\$27      |
| 2021Q4  | \$347  | \$363    | -\$15      |

**Table A-44—PMPM Cost for Members with SUD Diagnosis – Professional (Measure 45)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$501  | \$501    | \$0        |
| 2018Q2  | \$514  | \$565    | -\$51      |
| 2018Q3  | \$538  | \$601    | -\$63      |
| 2018Q4  | \$540  | \$621    | -\$81      |
| 2019Q1  | \$515  | \$528    | -\$13      |
| 2019Q2  | \$565  | \$613    | -\$47      |
| 2019Q3  | \$602  | \$651    | -\$49      |
| 2019Q4  | \$631  | \$664    | -\$34      |
| 2020Q1  | \$610  | \$543    | \$67       |
| 2020Q2  | \$679  | \$620    | \$58       |
| 2020Q3  | \$675  | \$659    | \$16       |
| 2020Q4  | \$662  | \$673    | -\$11      |
| 2021Q1  | \$784  | \$593    | \$191      |
| 2021Q2  | \$963  | \$678    | \$285      |
| 2021Q3  | \$717  | \$710    | \$7        |
| 2021Q4  | \$749  | \$722    | \$27       |

**Table A-45—PMPM Cost for Members with SUD Diagnosis – Pharmacy (Measure 45)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$241  | \$241    | \$0        |
| 2018Q2  | \$248  | \$268    | -\$20      |
| 2018Q3  | \$238  | \$280    | -\$42      |
| 2018Q4  | \$229  | \$287    | -\$58      |
| 2019Q1  | \$194  | \$252    | -\$58      |
| 2019Q2  | \$188  | \$287    | -\$99      |
| 2019Q3  | \$205  | \$301    | -\$96      |
| 2019Q4  | \$218  | \$305    | -\$88      |
| 2020Q1  | \$193  | \$261    | -\$68      |
| 2020Q2  | \$214  | \$296    | -\$82      |
| 2020Q3  | \$199  | \$310    | -\$111     |
| 2020Q4  | \$199  | \$314    | -\$115     |
| 2021Q1  | \$186  | \$287    | -\$100     |
| 2021Q2  | \$247  | \$322    | -\$74      |
| 2021Q3  | \$240  | \$333    | -\$94      |
| 2021Q4  | \$241  | \$337    | -\$96      |

**Table A-46—Total Cost (Millions) for Members with SUD Diagnosis – Inpatient (Measure 45)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$14.3 | \$14.3   | \$0.0      |
| 2018Q2  | \$19.6 | \$21.1   | -\$1.5     |
| 2018Q3  | \$24.2 | \$24.3   | -\$0.1     |
| 2018Q4  | \$28.7 | \$27.6   | \$1.2      |
| 2019Q1  | \$13.5 | \$15.0   | -\$1.5     |
| 2019Q2  | \$24.3 | \$22.8   | \$1.5      |
| 2019Q3  | \$34.8 | \$28.2   | \$6.6      |
| 2019Q4  | \$35.4 | \$31.7   | \$3.7      |
| 2020Q1  | \$17.6 | \$17.4   | \$0.3      |
| 2020Q2  | \$32.4 | \$24.5   | \$7.8      |
| 2020Q3  | \$44.1 | \$31.2   | \$12.9     |
| 2020Q4  | \$43.9 | \$33.9   | \$10.0     |
| 2021Q1  | \$21.7 | \$19.3   | \$2.4      |
| 2021Q2  | \$34.3 | \$28.9   | \$5.4      |
| 2021Q3  | \$39.3 | \$34.2   | \$5.1      |
| 2021Q4  | \$47.5 | \$37.2   | \$10.2     |

**Table A-47—Total Cost (Millions) for Members with SUD Diagnosis – Long-Term Care (Measure 45)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$3.9  | \$3.9    | \$0.0      |
| 2018Q2  | \$5.7  | \$5.8    | -\$0.1     |
| 2018Q3  | \$7.1  | \$6.9    | \$0.2      |
| 2018Q4  | \$8.0  | \$7.9    | \$0.2      |
| 2019Q1  | \$2.7  | \$4.1    | -\$1.4     |
| 2019Q2  | \$4.6  | \$6.4    | -\$1.8     |
| 2019Q3  | \$6.2  | \$8.0    | -\$1.8     |
| 2019Q4  | \$6.9  | \$9.1    | -\$2.2     |
| 2020Q1  | \$3.3  | \$4.8    | -\$1.5     |
| 2020Q2  | \$5.6  | \$6.9    | -\$1.3     |
| 2020Q3  | \$6.4  | \$8.9    | -\$2.5     |
| 2020Q4  | \$7.0  | \$9.6    | -\$2.7     |
| 2021Q1  | \$3.2  | \$5.3    | -\$2.1     |
| 2021Q2  | \$5.2  | \$8.1    | -\$2.9     |
| 2021Q3  | \$6.2  | \$9.7    | -\$3.5     |
| 2021Q4  | \$7.1  | \$10.6   | -\$3.5     |

**Table A-48—Total Cost (Millions) for Members with SUD Diagnosis – Outpatient (Measure 45)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$9.9  | \$9.9    | \$0.0      |
| 2018Q2  | \$15.3 | \$14.9   | \$0.3      |
| 2018Q3  | \$17.6 | \$17.5   | \$0.0      |
| 2018Q4  | \$19.2 | \$20.1   | -\$0.9     |
| 2019Q1  | \$10.1 | \$10.4   | -\$0.3     |
| 2019Q2  | \$15.3 | \$16.2   | -\$0.9     |
| 2019Q3  | \$20.6 | \$20.2   | \$0.4      |
| 2019Q4  | \$22.6 | \$22.9   | -\$0.3     |
| 2020Q1  | \$12.7 | \$12.1   | \$0.6      |
| 2020Q2  | \$17.0 | \$17.4   | -\$0.4     |
| 2020Q3  | \$23.0 | \$22.5   | \$0.5      |
| 2020Q4  | \$22.6 | \$24.6   | -\$2.0     |
| 2021Q1  | \$13.5 | \$13.5   | \$0.0      |
| 2021Q2  | \$20.6 | \$20.6   | \$0.0      |
| 2021Q3  | \$22.8 | \$24.7   | -\$1.8     |
| 2021Q4  | \$25.9 | \$27.0   | -\$1.2     |

**Table A-49—Total Cost (Millions) for Members with SUD Diagnosis – Professional (Measure 45)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$19.7 | \$19.7   | \$0.0      |
| 2018Q2  | \$27.0 | \$29.6   | -\$2.7     |
| 2018Q3  | \$31.3 | \$34.9   | -\$3.6     |
| 2018Q4  | \$34.9 | \$40.1   | -\$5.2     |
| 2019Q1  | \$20.4 | \$20.9   | -\$0.5     |
| 2019Q2  | \$29.9 | \$32.4   | -\$2.5     |
| 2019Q3  | \$37.4 | \$40.5   | -\$3.1     |
| 2019Q4  | \$43.5 | \$45.9   | -\$2.3     |
| 2020Q1  | \$27.2 | \$24.2   | \$3.0      |
| 2020Q2  | \$38.1 | \$34.8   | \$3.3      |
| 2020Q3  | \$45.9 | \$44.8   | \$1.1      |
| 2020Q4  | \$48.1 | \$48.9   | -\$0.8     |
| 2021Q1  | \$35.7 | \$27.0   | \$8.7      |
| 2021Q2  | \$58.4 | \$41.1   | \$17.3     |
| 2021Q3  | \$49.6 | \$49.1   | \$0.5      |
| 2021Q4  | \$55.9 | \$53.8   | \$2.0      |

**Table A-50—Total Cost (Millions) for Members with SUD Diagnosis – Pharmacy (Measure 45)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$9.4  | \$9.4    | \$0.0      |
| 2018Q2  | \$13.0 | \$14.1   | -\$1.1     |
| 2018Q3  | \$13.9 | \$16.3   | -\$2.4     |
| 2018Q4  | \$14.8 | \$18.5   | -\$3.7     |
| 2019Q1  | \$7.7  | \$10.0   | -\$2.3     |
| 2019Q2  | \$9.9  | \$15.2   | -\$5.2     |
| 2019Q3  | \$12.8 | \$18.7   | -\$6.0     |
| 2019Q4  | \$15.0 | \$21.1   | -\$6.0     |
| 2020Q1  | \$8.6  | \$11.6   | -\$3.0     |
| 2020Q2  | \$12.0 | \$16.6   | -\$4.6     |
| 2020Q3  | \$13.5 | \$21.1   | -\$7.6     |
| 2020Q4  | \$14.5 | \$22.8   | -\$8.4     |
| 2021Q1  | \$8.5  | \$13.1   | -\$4.6     |
| 2021Q2  | \$15.0 | \$19.5   | -\$4.5     |
| 2021Q3  | \$16.6 | \$23.0   | -\$6.5     |
| 2021Q4  | \$18.0 | \$25.1   | -\$7.1     |

**Table A-51—Cost Per Member Trends for Members with SUD Diagnosis – Inpatient (Measure 45)**

| Quarter | Actual | Expected |
|---------|--------|----------|
| 2018Q1  | --     | --       |
| 2018Q2  | 2.8%   | 10.5%    |
| 2018Q3  | 7.0%   | 7.2%     |
| 2018Q4  | 7.0%   | 5.5%     |
| 2019Q1  | -1.6%  | 1.0%     |
| 2019Q2  | 4.8%   | 3.5%     |
| 2019Q3  | 7.5%   | 3.8%     |
| 2019Q4  | 5.0%   | 3.4%     |
| 2020Q1  | 1.0%   | 0.9%     |
| 2020Q2  | 5.3%   | 2.1%     |
| 2020Q3  | 6.0%   | 2.4%     |
| 2020Q4  | 4.7%   | 2.3%     |
| 2021Q1  | 2.3%   | 1.3%     |
| 2021Q2  | 3.5%   | 2.1%     |
| 2021Q3  | 3.3%   | 2.2%     |
| 2021Q4  | 3.8%   | 2.1%     |

**Table A-52— Cost Per Member Trends for Members with SUD Diagnosis – Long-Term Care (Measure 45)**

| Quarter | Actual | Expected |
|---------|--------|----------|
| 2018Q1  | --     | --       |
| 2018Q2  | 10.2%  | 12.7%    |
| 2018Q3  | 11.5%  | 9.5%     |
| 2018Q4  | 8.1%   | 7.3%     |
| 2019Q1  | -8.6%  | 1.2%     |
| 2019Q2  | -2.5%  | 4.1%     |
| 2019Q3  | 0.2%   | 4.6%     |
| 2019Q4  | 0.1%   | 4.2%     |
| 2020Q1  | -3.4%  | 1.1%     |
| 2020Q2  | 0.1%   | 2.5%     |
| 2020Q3  | -0.5%  | 2.9%     |
| 2020Q4  | -0.2%  | 2.8%     |
| 2021Q1  | -2.8%  | 1.4%     |
| 2021Q2  | -1.1%  | 2.4%     |
| 2021Q3  | -0.6%  | 2.6%     |
| 2021Q4  | -0.2%  | 2.5%     |

**Table A-53—Cost Per Member Trends for Members with SUD Diagnosis – Outpatient (Measure 45)**

| Quarter | Actual | Expected |
|---------|--------|----------|
| 2018Q1  | --     | --       |
| 2018Q2  | 15.1%  | 12.5%    |
| 2018Q3  | 9.5%   | 9.4%     |
| 2018Q4  | 5.7%   | 7.3%     |
| 2019Q1  | 0.2%   | 1.0%     |
| 2019Q2  | 2.7%   | 3.9%     |
| 2019Q3  | 4.6%   | 4.3%     |
| 2019Q4  | 3.8%   | 4.0%     |
| 2020Q1  | 1.5%   | 0.9%     |
| 2020Q2  | 2.0%   | 2.3%     |
| 2020Q3  | 3.0%   | 2.8%     |
| 2020Q4  | 1.9%   | 2.7%     |
| 2021Q1  | 1.3%   | 1.3%     |
| 2021Q2  | 2.3%   | 2.3%     |
| 2021Q3  | 1.9%   | 2.5%     |
| 2021Q4  | 2.1%   | 2.4%     |

**Table A-54—Cost Per Member Trends for Members with SUD Diagnosis – Professional (Measure 45)**

| Quarter | Actual | Expected |
|---------|--------|----------|
| 2018Q1  | --     | --       |
| 2018Q2  | 2.5%   | 12.6%    |
| 2018Q3  | 3.6%   | 9.5%     |
| 2018Q4  | 2.5%   | 7.4%     |
| 2019Q1  | 0.7%   | 1.3%     |
| 2019Q2  | 2.4%   | 4.1%     |
| 2019Q3  | 3.1%   | 4.5%     |
| 2019Q4  | 3.3%   | 4.1%     |
| 2020Q1  | 2.5%   | 1.0%     |
| 2020Q2  | 3.4%   | 2.4%     |
| 2020Q3  | 3.0%   | 2.8%     |
| 2020Q4  | 2.6%   | 2.7%     |
| 2021Q1  | 3.8%   | 1.4%     |
| 2021Q2  | 5.2%   | 2.3%     |
| 2021Q3  | 2.6%   | 2.5%     |
| 2021Q4  | 2.7%   | 2.5%     |

**Table A-55—Cost Per Member Trends for Members with SUD Diagnosis – Pharmacy (Measure 45)**

| Quarter | Actual | Expected |
|---------|--------|----------|
| 2018Q1  | --     | --       |
| 2018Q2  | 2.9%   | 11.4%    |
| 2018Q3  | -0.5%  | 7.9%     |
| 2018Q4  | -1.6%  | 6.0%     |
| 2019Q1  | -5.2%  | 1.1%     |
| 2019Q2  | -4.9%  | 3.6%     |
| 2019Q3  | -2.6%  | 3.8%     |
| 2019Q4  | -1.4%  | 3.5%     |
| 2020Q1  | -2.7%  | 1.0%     |
| 2020Q2  | -1.3%  | 2.3%     |
| 2020Q3  | -1.9%  | 2.6%     |
| 2020Q4  | -1.7%  | 2.5%     |
| 2021Q1  | -2.1%  | 1.5%     |
| 2021Q2  | 0.2%   | 2.3%     |
| 2021Q3  | 0.0%   | 2.4%     |
| 2021Q4  | 0.0%   | 2.3%     |

**Table A-56—PMPM Cost and Total Cost for SUD Services for Members with SUD Diagnosis (Measure 46)**

| Quarter | Actual Cost PMPM | Expected Cost PMPM | Actual Cost  | Expected Cost |
|---------|------------------|--------------------|--------------|---------------|
| 2018Q1  | \$1,462          | \$1,462            | \$47,516,945 | \$47,516,945  |
| 2018Q2  | \$1,301          | \$1,469            | \$42,821,428 | \$48,345,938  |
| 2018Q3  | \$1,370          | \$1,500            | \$44,448,726 | \$48,660,379  |
| 2018Q4  | \$1,329          | \$1,469            | \$43,144,097 | \$47,696,638  |
| 2019Q1  | \$1,404          | \$1,533            | \$45,691,093 | \$49,868,209  |
| 2019Q2  | \$1,345          | \$1,588            | \$44,225,805 | \$52,215,789  |
| 2019Q3  | \$1,458          | \$1,566            | \$49,613,065 | \$53,287,936  |
| 2019Q4  | \$1,430          | \$1,565            | \$49,136,103 | \$53,766,717  |
| 2020Q1  | \$1,544          | \$1,578            | \$57,131,937 | \$58,391,897  |
| 2020Q2  | \$1,630          | \$1,604            | \$59,857,315 | \$58,884,198  |
| 2020Q3  | \$1,580          | \$1,645            | \$60,309,677 | \$62,761,290  |
| 2020Q4  | \$1,632          | \$1,617            | \$59,721,746 | \$59,180,548  |
| 2021Q1  | \$1,897          | \$1,719            | \$72,353,009 | \$65,586,736  |
| 2021Q2  | \$2,253          | \$1,750            | \$85,825,981 | \$66,662,962  |
| 2021Q3  | \$1,667          | \$1,739            | \$62,973,185 | \$65,690,332  |
| 2021Q4  | \$1,874          | \$1,700            | \$68,836,571 | \$62,438,039  |

**Table A-57—Cost Per Member Trends for SUD Services for Members with SUD Diagnosis (Measure 46)**

| Quarter | Average Quarterly Trend | Expected Quarterly Trend |
|---------|-------------------------|--------------------------|
| 2018Q2  | -11.0%                  | 0.5%                     |
| 2018Q3  | -3.2%                   | 1.3%                     |
| 2018Q4  | -3.1%                   | 0.2%                     |
| 2019Q1  | -1.0%                   | 1.2%                     |
| 2019Q2  | -1.7%                   | 1.7%                     |
| 2019Q3  | 0.0%                    | 1.2%                     |
| 2019Q4  | -0.3%                   | 1.0%                     |
| 2020Q1  | 0.7%                    | 1.0%                     |
| 2020Q2  | 1.2%                    | 1.0%                     |
| 2020Q3  | 0.8%                    | 1.2%                     |
| 2020Q4  | 1.0%                    | 0.9%                     |
| 2021Q1  | 2.2%                    | 1.4%                     |
| 2021Q2  | 3.4%                    | 1.4%                     |
| 2021Q3  | 0.9%                    | 1.2%                     |
| 2021Q4  | 1.7%                    | 1.0%                     |

**Table A-58—PMPM Cost for SUD Services for Members with SUD Diagnosis – Inpatient (Measure 47)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$318  | \$318    | \$0        |
| 2018Q2  | \$269  | \$320    | -\$51      |
| 2018Q3  | \$273  | \$323    | -\$49      |
| 2018Q4  | \$282  | \$317    | -\$35      |
| 2019Q1  | \$304  | \$332    | -\$28      |
| 2019Q2  | \$322  | \$345    | -\$23      |
| 2019Q3  | \$350  | \$340    | \$10       |
| 2019Q4  | \$326  | \$338    | -\$12      |
| 2020Q1  | \$360  | \$340    | \$20       |
| 2020Q2  | \$395  | \$346    | \$49       |
| 2020Q3  | \$445  | \$354    | \$91       |
| 2020Q4  | \$516  | \$350    | \$166      |
| 2021Q1  | \$418  | \$370    | \$47       |
| 2021Q2  | \$423  | \$378    | \$45       |
| 2021Q3  | \$412  | \$374    | \$38       |
| 2021Q4  | \$428  | \$365    | \$62       |



**Table A-59—PMPM Cost for SUD Services for Members with SUD Diagnosis – Long-Term Care (Measure 47)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$89   | \$89     | \$0        |
| 2018Q2  | \$81   | \$89     | -\$8       |
| 2018Q3  | \$91   | \$92     | -\$1       |
| 2018Q4  | \$96   | \$90     | \$7        |
| 2019Q1  | \$55   | \$94     | -\$39      |
| 2019Q2  | \$57   | \$97     | -\$40      |
| 2019Q3  | \$61   | \$96     | -\$35      |
| 2019Q4  | \$62   | \$97     | -\$34      |
| 2020Q1  | \$61   | \$97     | -\$36      |
| 2020Q2  | \$65   | \$98     | -\$34      |
| 2020Q3  | \$51   | \$101    | -\$50      |
| 2020Q4  | \$46   | \$99     | -\$53      |
| 2021Q1  | \$57   | \$106    | -\$49      |
| 2021Q2  | \$51   | \$108    | -\$57      |
| 2021Q3  | \$53   | \$107    | -\$54      |
| 2021Q4  | \$45   | \$105    | -\$59      |

**Table A-60—PMPM Cost for SUD Services for Members with SUD Diagnosis – Outpatient (Measure 47)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$232  | \$232    | \$0        |
| 2018Q2  | \$246  | \$232    | \$13       |
| 2018Q3  | \$247  | \$238    | \$9        |
| 2018Q4  | \$240  | \$232    | \$8        |
| 2019Q1  | \$231  | \$241    | -\$10      |
| 2019Q2  | \$240  | \$249    | -\$10      |
| 2019Q3  | \$258  | \$245    | \$13       |
| 2019Q4  | \$250  | \$246    | \$4        |
| 2020Q1  | \$259  | \$249    | \$11       |
| 2020Q2  | \$236  | \$252    | -\$16      |
| 2020Q3  | \$267  | \$260    | \$7        |
| 2020Q4  | \$243  | \$254    | -\$11      |
| 2021Q1  | \$263  | \$271    | -\$7       |
| 2021Q2  | \$280  | \$275    | \$4        |
| 2021Q3  | \$267  | \$274    | -\$7       |
| 2021Q4  | \$261  | \$267    | -\$6       |

**Table A-61—PMPM Cost for SUD Services for Members with SUD Diagnosis – Professional (Measure 47)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$484  | \$484    | \$0        |
| 2018Q2  | \$444  | \$487    | -\$43      |
| 2018Q3  | \$469  | \$501    | -\$32      |
| 2018Q4  | \$467  | \$491    | -\$25      |
| 2019Q1  | \$483  | \$512    | -\$28      |
| 2019Q2  | \$501  | \$529    | -\$28      |
| 2019Q3  | \$526  | \$521    | \$5        |
| 2019Q4  | \$561  | \$523    | \$39       |
| 2020Q1  | \$590  | \$526    | \$64       |
| 2020Q2  | \$642  | \$533    | \$109      |
| 2020Q3  | \$637  | \$548    | \$88       |
| 2020Q4  | \$628  | \$536    | \$91       |
| 2021Q1  | \$758  | \$573    | \$185      |
| 2021Q2  | \$917  | \$583    | \$334      |
| 2021Q3  | \$692  | \$579    | \$113      |
| 2021Q4  | \$723  | \$566    | \$157      |

**Table A-62—PMPM Cost for SUD Services for Members with SUD Diagnosis – Pharmacy (Measure 47)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$233  | \$233    | \$0        |
| 2018Q2  | \$225  | \$235    | -\$10      |
| 2018Q3  | \$215  | \$239    | -\$25      |
| 2018Q4  | \$202  | \$235    | -\$33      |
| 2019Q1  | \$184  | \$246    | -\$61      |
| 2019Q2  | \$161  | \$255    | -\$94      |
| 2019Q3  | \$174  | \$252    | -\$78      |
| 2019Q4  | \$193  | \$251    | -\$58      |
| 2020Q1  | \$180  | \$253    | -\$73      |
| 2020Q2  | \$186  | \$260    | -\$74      |
| 2020Q3  | \$169  | \$265    | -\$96      |
| 2020Q4  | \$173  | \$263    | -\$89      |
| 2021Q1  | \$171  | \$279    | -\$108     |
| 2021Q2  | \$210  | \$283    | -\$74      |
| 2021Q3  | \$210  | \$283    | -\$73      |
| 2021Q4  | \$210  | \$277    | -\$67      |

**Table A-63—Total Cost (Millions) for SUD Services for Members with SUD Diagnosis – Inpatient (Measure 47)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$10.3 | \$10.3   | \$0.0      |
| 2018Q2  | \$8.9  | \$10.5   | -\$1.7     |
| 2018Q3  | \$8.9  | \$10.5   | -\$1.6     |
| 2018Q4  | \$9.2  | \$10.3   | -\$1.1     |
| 2019Q1  | \$9.9  | \$10.8   | -\$0.9     |
| 2019Q2  | \$10.6 | \$11.3   | -\$0.8     |
| 2019Q3  | \$11.9 | \$11.6   | \$0.3      |
| 2019Q4  | \$11.2 | \$11.6   | -\$0.4     |
| 2020Q1  | \$13.3 | \$12.6   | \$0.7      |
| 2020Q2  | \$14.5 | \$12.7   | \$1.8      |
| 2020Q3  | \$17.0 | \$13.5   | \$3.5      |
| 2020Q4  | \$18.9 | \$12.8   | \$6.1      |
| 2021Q1  | \$15.9 | \$14.1   | \$1.8      |
| 2021Q2  | \$16.1 | \$14.4   | \$1.7      |
| 2021Q3  | \$15.6 | \$14.1   | \$1.4      |
| 2021Q4  | \$15.7 | \$13.4   | \$2.3      |

**Table A-64—Total Cost (Millions) for SUD Services for Members with SUD Diagnosis – Long-Term Care (Measure 47)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$2.9  | \$2.9    | \$0.0      |
| 2018Q2  | \$2.7  | \$2.9    | -\$0.3     |
| 2018Q3  | \$2.9  | \$3.0    | \$0.0      |
| 2018Q4  | \$3.1  | \$2.9    | \$0.2      |
| 2019Q1  | \$1.8  | \$3.0    | -\$1.3     |
| 2019Q2  | \$1.9  | \$3.2    | -\$1.3     |
| 2019Q3  | \$2.1  | \$3.3    | -\$1.2     |
| 2019Q4  | \$2.1  | \$3.3    | -\$1.2     |
| 2020Q1  | \$2.3  | \$3.6    | -\$1.3     |
| 2020Q2  | \$2.4  | \$3.6    | -\$1.2     |
| 2020Q3  | \$2.0  | \$3.9    | -\$1.9     |
| 2020Q4  | \$1.7  | \$3.6    | -\$1.9     |
| 2021Q1  | \$2.2  | \$4.0    | -\$1.9     |
| 2021Q2  | \$1.9  | \$4.1    | -\$2.2     |
| 2021Q3  | \$2.0  | \$4.0    | -\$2.0     |
| 2021Q4  | \$1.7  | \$3.8    | -\$2.2     |

**Table A-65—Total Cost (Millions) for SUD Services for Members with SUD Diagnosis – Outpatient (Measure 47)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$7.5  | \$7.5    | \$0.0      |
| 2018Q2  | \$8.1  | \$7.6    | \$0.4      |
| 2018Q3  | \$8.0  | \$7.7    | \$0.3      |
| 2018Q4  | \$7.8  | \$7.5    | \$0.2      |
| 2019Q1  | \$7.5  | \$7.8    | -\$0.3     |
| 2019Q2  | \$7.9  | \$8.2    | -\$0.3     |
| 2019Q3  | \$8.8  | \$8.4    | \$0.4      |
| 2019Q4  | \$8.6  | \$8.4    | \$0.1      |
| 2020Q1  | \$9.6  | \$9.2    | \$0.4      |
| 2020Q2  | \$8.7  | \$9.3    | -\$0.6     |
| 2020Q3  | \$10.2 | \$9.9    | \$0.3      |
| 2020Q4  | \$8.9  | \$9.3    | -\$0.4     |
| 2021Q1  | \$10.0 | \$10.3   | -\$0.3     |
| 2021Q2  | \$10.6 | \$10.5   | \$0.2      |
| 2021Q3  | \$10.1 | \$10.3   | -\$0.3     |
| 2021Q4  | \$9.6  | \$9.8    | -\$0.2     |

**Table A-66—Total Cost (Millions) for SUD Services for Members with SUD Diagnosis – Professional (Measure 47)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$15.7 | \$15.7   | \$0.0      |
| 2018Q2  | \$14.6 | \$16.0   | -\$1.4     |
| 2018Q3  | \$15.2 | \$16.3   | -\$1.0     |
| 2018Q4  | \$15.1 | \$15.9   | -\$0.8     |
| 2019Q1  | \$15.7 | \$16.6   | -\$0.9     |
| 2019Q2  | \$16.5 | \$17.4   | -\$0.9     |
| 2019Q3  | \$17.9 | \$17.7   | \$0.2      |
| 2019Q4  | \$19.3 | \$18.0   | \$1.3      |
| 2020Q1  | \$21.8 | \$19.5   | \$2.4      |
| 2020Q2  | \$23.6 | \$19.6   | \$4.0      |
| 2020Q3  | \$24.3 | \$20.9   | \$3.4      |
| 2020Q4  | \$23.0 | \$19.6   | \$3.3      |
| 2021Q1  | \$28.9 | \$21.8   | \$7.1      |
| 2021Q2  | \$34.9 | \$22.2   | \$12.7     |
| 2021Q3  | \$26.1 | \$21.9   | \$4.3      |
| 2021Q4  | \$26.6 | \$20.8   | \$5.8      |

**Table A-67—Total Cost (Millions) for SUD Services for Members with SUD Diagnosis – Pharmacy (Measure 47)**

| Quarter | Actual | Expected | Difference |
|---------|--------|----------|------------|
| 2018Q1  | \$7.6  | \$7.6    | \$0.0      |
| 2018Q2  | \$7.4  | \$7.7    | -\$0.3     |
| 2018Q3  | \$7.0  | \$7.8    | -\$0.8     |
| 2018Q4  | \$6.6  | \$7.6    | -\$1.1     |
| 2019Q1  | \$6.0  | \$8.0    | -\$2.0     |
| 2019Q2  | \$5.3  | \$8.4    | -\$3.1     |
| 2019Q3  | \$5.9  | \$8.6    | -\$2.7     |
| 2019Q4  | \$6.6  | \$8.6    | -\$2.0     |
| 2020Q1  | \$6.7  | \$9.4    | -\$2.7     |
| 2020Q2  | \$6.8  | \$9.5    | -\$2.7     |
| 2020Q3  | \$6.4  | \$10.1   | -\$3.7     |
| 2020Q4  | \$6.3  | \$9.6    | -\$3.3     |
| 2021Q1  | \$6.5  | \$10.6   | -\$4.1     |
| 2021Q2  | \$8.0  | \$10.8   | -\$2.8     |
| 2021Q3  | \$7.9  | \$10.7   | -\$2.7     |
| 2021Q4  | \$7.7  | \$10.2   | -\$2.5     |

**Table A-68—Percentage Change in Annual PMPM Costs for SUD Services for Members with SUD Diagnosis – Inpatient (Measure 47)**

| Quarter | Actual | Expected |
|---------|--------|----------|
| 2018Q1  | --     | --       |
| 2018Q2  | -15.4% | 0.6%     |
| 2018Q3  | -7.2%  | 0.8%     |
| 2018Q4  | -3.9%  | -0.1%    |
| 2019Q1  | -1.1%  | 1.1%     |
| 2019Q2  | 0.2%   | 1.7%     |
| 2019Q3  | 1.6%   | 1.1%     |
| 2019Q4  | 0.3%   | 0.9%     |
| 2020Q1  | 1.6%   | 0.9%     |
| 2020Q2  | 2.4%   | 0.9%     |
| 2020Q3  | 3.4%   | 1.1%     |
| 2020Q4  | 4.5%   | 0.9%     |
| 2021Q1  | 2.3%   | 1.3%     |
| 2021Q2  | 2.2%   | 1.3%     |
| 2021Q3  | 1.9%   | 1.2%     |
| 2021Q4  | 2.0%   | 0.9%     |

**Table A-69—Percentage Change in Annual PMPM Costs for SUD Services for Members with SUD Diagnosis – Long-Term Care (Measure 47)**

| Quarter | Actual | Expected |
|---------|--------|----------|
| 2018Q1  | --     | --       |
| 2018Q2  | -8.9%  | 0.4%     |
| 2018Q3  | 1.0%   | 1.7%     |
| 2018Q4  | 2.8%   | 0.3%     |
| 2019Q1  | -11.3% | 1.3%     |
| 2019Q2  | -8.5%  | 1.8%     |
| 2019Q3  | -6.2%  | 1.3%     |
| 2019Q4  | -5.0%  | 1.2%     |
| 2020Q1  | -4.5%  | 1.1%     |
| 2020Q2  | -3.4%  | 1.1%     |
| 2020Q3  | -5.3%  | 1.3%     |
| 2020Q4  | -5.9%  | 1.0%     |
| 2021Q1  | -3.6%  | 1.5%     |
| 2021Q2  | -4.2%  | 1.5%     |
| 2021Q3  | -3.6%  | 1.3%     |
| 2021Q4  | -4.4%  | 1.1%     |

**Table A-70—Percentage Change in Annual PMPM Costs for SUD Services for Members with SUD Diagnosis – Outpatient (Measure 47)**

| Quarter | Actual | Expected |
|---------|--------|----------|
| 2018Q1  | --     | --       |
| 2018Q2  | 6.0%   | 0.2%     |
| 2018Q3  | 3.4%   | 1.4%     |
| 2018Q4  | 1.2%   | 0.1%     |
| 2019Q1  | -0.1%  | 1.0%     |
| 2019Q2  | 0.7%   | 1.5%     |
| 2019Q3  | 1.8%   | 1.0%     |
| 2019Q4  | 1.1%   | 0.9%     |
| 2020Q1  | 1.4%   | 0.9%     |
| 2020Q2  | 0.2%   | 0.9%     |
| 2020Q3  | 1.4%   | 1.1%     |
| 2020Q4  | 0.4%   | 0.8%     |
| 2021Q1  | 1.1%   | 1.3%     |
| 2021Q2  | 1.5%   | 1.3%     |
| 2021Q3  | 1.0%   | 1.2%     |
| 2021Q4  | 0.8%   | 1.0%     |

**Table A-71—Percentage Change in Annual PMPM Costs for SUD Services for Members with SUD Diagnosis – Professional (Measure 47)**

| Quarter | Actual | Expected |
|---------|--------|----------|
| 2018Q1  | --     | --       |
| 2018Q2  | -8.4%  | 0.5%     |
| 2018Q3  | -1.6%  | 1.7%     |
| 2018Q4  | -1.2%  | 0.5%     |
| 2019Q1  | -0.1%  | 1.4%     |
| 2019Q2  | 0.7%   | 1.8%     |
| 2019Q3  | 1.4%   | 1.2%     |
| 2019Q4  | 2.1%   | 1.1%     |
| 2020Q1  | 2.5%   | 1.0%     |
| 2020Q2  | 3.2%   | 1.1%     |
| 2020Q3  | 2.8%   | 1.3%     |
| 2020Q4  | 2.4%   | 0.9%     |
| 2021Q1  | 3.8%   | 1.4%     |
| 2021Q2  | 5.0%   | 1.4%     |
| 2021Q3  | 2.6%   | 1.3%     |
| 2021Q4  | 2.7%   | 1.1%     |

**Table A-72—Percentage Change in Annual PMPM Costs for SUD Services for Members with SUD Diagnosis – Pharmacy (Measure 47)**

| Quarter | Actual | Expected |
|---------|--------|----------|
| 2018Q1  | --     | --       |
| 2018Q2  | -3.7%  | 0.6%     |
| 2018Q3  | -4.1%  | 1.2%     |
| 2018Q4  | -4.7%  | 0.3%     |
| 2019Q1  | -5.7%  | 1.3%     |
| 2019Q2  | -7.1%  | 1.8%     |
| 2019Q3  | -4.8%  | 1.3%     |
| 2019Q4  | -2.7%  | 1.0%     |
| 2020Q1  | -3.2%  | 1.0%     |
| 2020Q2  | -2.5%  | 1.2%     |
| 2020Q3  | -3.2%  | 1.3%     |
| 2020Q4  | -2.7%  | 1.1%     |
| 2021Q1  | -2.5%  | 1.5%     |
| 2021Q2  | -0.8%  | 1.5%     |
| 2021Q3  | -0.7%  | 1.4%     |
| 2021Q4  | -0.7%  | 1.1%     |

## Health Home Propensity Scoring Matching Technical Methodology

To determine the expected rates for the treatment group (individuals enrolled in a health home, a non-health home population with characteristics similar to those of the health home population was identified. Propensity score-based matching is a common methodology used to select a comparison group that is statistically similar to a treatment group. The following describes the methodology to generate propensity scores and use those scores to match members in the treatment group (i.e., the health home population) with members in the comparison group (i.e., the non-health home population).

### Covariate Identification

Demographic and health condition covariates were identified for each member. The following provides a description of each covariate and the methods used to identify the covariates. All covariates were identified during the baseline period and were expected to be related to the likelihood of a member being enrolled in a health home. Table A-73 provides a list of the demographic covariates and the methods used to identify each covariate.

**Table A-73—Demographic Covariates**

| Covariates  | Identification Method  |
|---|--|
| Age   | Member’s date of birth was used to identify the member’s age at the end of the baseline period.  |
| Male<br>Female  | Member’s gender in the demographic file.   |
| County  | County was assigned based on the county the member resided in for the majority of days during the baseline year. If there was a tie between two or more counties, the county that the member resided in last during the year was assigned. |
| Race<br>Caucasian<br>American Indian<br>Asian/Pacific Islander<br>Black<br>Other<br>Unknown | Race codes contained in the demographic file.  |
| Ethnicity<br>Hispanic   | Ethnicity codes contained in the demographic file.   |

An indicator variable for having had at least one diagnosis of serious mental illness (SMI) or severe emotional disturbance (SED) during the baseline period, as well as the Chronic Illness and Disability Payment System (CDPS) unweighted and weighted risk scores were also included in the propensity score models.<sup>A-2</sup> CDPS is a diagnostic classification system that Medicaid programs use to make health-based capitated payments for Temporary Assistance for Needy Families (TANF) and disabled Medicaid beneficiaries.<sup>A-3</sup>

Two sets of health condition covariates were explored before choosing the final propensity score methodology (Table A-74). Encounter and fee-for-service (FFS) data were used to identify members who had a primary diagnosis for any of the health conditions listed below. Each health condition was represented separately as an

<sup>A-2</sup> Diagnosis codes for SMI or SED from the Centennial Care Managed Care Policy manual were used. New Mexico Human Services Department. Managed Care Policy Manual. Available at: <https://www.hsd.state.nm.us/wp-content/uploads/2020/12/Centennial-Care-Managed-Care-Policy-M.pdf>. Accessed on June 29, 2022.

<sup>A-3</sup> Kronick, R., Dreyfus, T., Gilmer, T., Lee, Lora. (2000). “Improving Health-Based Payment for Medicaid Beneficiaries: CDPS” Health Care Financing Review. 21(3): 29-64.



indicator variable. For example, a member diagnosed with both asthma and hypertension would have two health condition flags, one for asthma and another for hypertension.

**Table A-74—Health Condition Covariates**

| Covariate Set #1 <sup>A-4</sup>                                 | Covariate Set #2 <sup>A-5</sup> |
|---|---------------------------------|
| Acute bronchitis  | Cancer                          |
| ADHD  | Diabetes                        |
| Adjustment disorders  | HIV                             |
| Alcohol Disorder  | Serious mental illness          |
| Anxiety disorder  | Substance-related disorder      |
| Blindness and vision defects                                    |                                 |
| Cancer  |                                 |
| Chronic kidney disease  |                                 |
| Congestive heart failure  |                                 |
| Coronary artery disease   |                                 |
| Cystic fibrosis   |                                 |
| Delirium dementia and amnestic and other cognitive disorders    |                                 |
| Developmental disorder  |                                 |
| Diabetes  |                                 |
| Disorders usually diagnosed in infancy childhood or adolescence |                                 |
| Epilepsy  |                                 |
| Esophageal disorders  |                                 |
| Hepatitis   |                                 |
| HIV   |                                 |
| Hypertension  |                                 |
| Intracranial injury   |                                 |
| Mood disorders  |                                 |
| Osteoarthritis  |                                 |
| Osteoporosis  |                                 |
| Other cardiac conditions  |                                 |
| Other nervous system disorder                                   |                                 |
| Other nutritional, endocrine, and metabolic disorders           |                                 |
| Personality disorder  |                                 |
| Pregnancy   |                                 |
| Rheumatoid arthritis and related diseases                       |                                 |
| Schizophrenia and other psychotic disorders                     |                                 |
| Spondylosis and other back problems                             |                                 |
| Substance-related disorders                                     |                                 |
| Suicide and self-injury   |                                 |
| Thyroid disorders   |                                 |

Note: ADHD = Attention Deficit Hyperactivity Disorder; HIV = human immunodeficiency virus

<sup>A-4</sup> Covariate Set 1 was created by identifying health conditions using the Agency for Health Research and Quality (AHRQ) Clinical Classification Software (CCS) categories. Certain CCS categories were grouped together in the final covariate selection based on characteristics of the Health Home population and clinical relevance (e.g., the CCS category for “diabetes mellitus without complications” and “diabetes mellitus with complications” were grouped together into the Diabetes health condition covariate).

<sup>A-5</sup> Covariate Set 2 was based on CCS groupings from the Mayer et al. (2021) paper. Mayer V, Mijanovich T, Egorova N, et al. Impact of New York State’s Health Home program on access to care among patients with diabetes. *BMJ Open Diab Res Care* 2021;9:e002204. doi:10.1136/bmjdr-2021-002204

## Propensity Score Model and Matching Algorithm

Propensity scores were derived to match individuals in the health home and non-health home populations. This allowed the construction of a comparison group that was most similar to the treatment group (i.e., the health home population) without the use of randomized selection. Thus, the propensity score was used to reduce bias in the results and control for multiple confounders.

The covariates were used to determine a propensity score for each member through logistic regression. The equation for the logistic regression is:

$$\Pr(Y_i = 1) = \frac{1}{1 + \exp [-(\beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \dots + \beta_k X_{ik})]}$$

Where  $\Pr(Y_i = 1)$  is the propensity score, the  $\beta$ s are parameters to be estimated and the  $X$ s are the covariates.<sup>A-6</sup>

The *PROC PSMATCH* procedure was used to conduct the final matching algorithm: greedy nearest neighbor matching on the logit of the propensity score using calipers of width equal to 0.2 of the standard deviation of the logit of the propensity score was used. Greedy nearest neighbor matching selects a control individual whose propensity score is closest to that of the treated individual, sequentially and without replacement.<sup>A-7</sup> If multiple control individual subjects are equally close to the treated subject, one of these untreated subjects is selected at random.

## Evaluating Matched Populations

Matching on propensity scores has been shown to create a “covariate balance,” such that the matched comparison population is similar for all the baseline covariates included in calculating the propensity score.<sup>A-8</sup> Imbalances of baseline characteristics between the treatment and comparison group can still exist if the statistical model used to calculate the propensity score is mis-specified, thus we assessed covariate balance following the matching procedure. Covariate balance was assessed through calculating standardized differences between matched treatment and comparison groups, which is a commonly used statistic for the assessment of covariate balance.<sup>A-9</sup> The standardized difference represents the difference in means of a covariate between the health home and non-health home comparison groups in terms of the pooled standard deviation.<sup>A-10</sup> A rule of thumb when interpreting standardized differences is that an absolute value of less than 0.1 generally indicates a minimal difference between the two groups (i.e., the covariate is balanced). Additionally, to evaluate covariate balance across the spectrum of covariates, an omnibus test was employed to test the joint hypothesis that the mean difference between the health home and non-health home comparison groups across all measured covariates was zero.<sup>A-11</sup>

<sup>A-6</sup> Linden, A., Adams, J.L., and Roberts, N. (2005). “Using propensity scores to construct comparable comparison groups for disease management program evaluation.” *Disease Management Health Outcomes*. 13(2): 107-115.

<sup>A-7</sup> Austin P. C. (2014). A comparison of 12 algorithms for matching on the propensity score. *Statistics in medicine*, 33(6), 1057–1069. <https://doi.org/10.1002/sim.6004>.

<sup>A-8</sup> Parsons, L.S. (2001). “Reducing Bias in Propensity Score Matched-Pair Sample Using Greedy Matching Techniques.” Paper 214-26. Proceedings of the Twenty-Sixth Annual SAS Users Group International Conference. Cary (NC): SAS Institute Inc.

<sup>A-9</sup> Austin, P.C. (2011). “An Introduction to Propensity Score Methods for Reducing the Effects of Confounding in Observational Studies,” *Multivariate Behav Res.* 46(3): 399–424

<sup>A-10</sup> Stuart, E. A., Lee, B. K., & Leacy, F. P. (2013). Prognostic score-based balance measures can be a useful diagnostic for propensity score methods in comparative effectiveness research. *Journal of clinical epidemiology*, 66(8 Suppl), S84–S90.e1. <https://doi.org/10.1016/j.jclinepi.2013.01.013>

<sup>A-11</sup> See, Hansen, B.B. and Bowers, J. (2008). “Covariate Balance in Simple, Stratified, and Clustered Comparative Studies,” *Statistical Science*. 23(2): 219-236.

Health Services Advisory Group, Inc. (HSAG) implemented a variety of matching algorithms to determine the best match under alternative propensity score models. The matching algorithms included a greedy 5→1 digit matching, greedy matching with different calipers and caliper types (e.g., propensity score calipers and propensity score logits at calipers of 0.1 and 0.2), replacement matching with different calipers, and greedy matching with exact matching on county of residence.<sup>A-12</sup>

Table A-75 presents a comparison of the propensity score matching algorithms tested for the calendar year (CY) 2019 evaluation period. Overall, all the matching algorithms yielded a high matching rate of the eligible health home population. All model specifications of the greedy 5→1 matching algorithm resulted in matched groups that still had between five and 21 covariates that were unbalanced. Excluding any disease covariates from both replacement matching and greedy matching also resulted in a high number of unbalanced covariates (19 for matching with replacement and 18 for greedy matching). For both replacement matching and greedy matching, including health condition covariate set one resulted in zero covariates showing statistical unbalance and matching approximately 100 percent of the eligible health home population. Based on an understanding of the county-by-county implementation of health homes, HSAG additionally explored greedy matching algorithms with exact matching on county of residence, with various specifications of health condition covariate sets and CDPS unweighted and weighted risk scores. HSAG chose the greedy nearest neighbor matching algorithm with exact matching on county, covariate set one, and the CDPS risk score because it provided the best covariate balance while maintaining a high matching rate of 99.8 percent (model boldface in Table A-75).

**Table A-75—Summary of Propensity Score Matching Results**

| Matching Type                  | Disease Condition Covariates | CDPS Risk Score |          | Caliper Distance | Distance Type | Number of Covariates Exceeding Standardized Difference Threshold | Omnibus Test p-value | HH Matching Rate |
|--------------------------------|------------------------------|-----------------|----------|------------------|---------------|--|----------------------|------------------|
|                                |                              | Unweighted      | Weighted |                  |               |  |                      |                  |
| Greedy 5 > 1                   | None                         | ✓               | ✓        | 0.0001 to 0.1    | PS            | 21   | <.0001               | 100.0%           |
| Greedy 5 > 1                   | Covariate set 1              | ✓               | ✓        | 0.0001 to 0.1    | PS            | 5  | 0.0051               | 100.0%           |
| Greedy 5 > 1                   | Covariate set 2              | ✓               | ✓        | 0.0001 to 0.1    | PS            | 10   | <.0001               | 100.0%           |
| Greedy                         | None                         | ✓               | ✓        | 0.2              | LPS           | 18   | 0.0003               | 100.0%           |
| Greedy                         | Covariate set 1              | ✓               | ✓        | 0.1              | LPS           | 0  | 0.9699               | 100.0%           |
| Greedy                         | Covariate set 1              | ✓               | ✓        | 0.2              | LPS           | 0  | 0.9699               | 100.0%           |
| Greedy                         | Covariate set 1              | ✓               | ✓        | 0.2              | PS            | 0  | 0.9768               | 99.8%            |
| Greedy                         | Covariate set 2              | ✓               | ✓        | 0.1              | LPS           | 4  | 0.7332               | 100.0%           |
| Greedy                         | Covariate set 2              | ✓               | ✓        | 0.2              | LPS           | 4  | 0.7332               | 100.0%           |
| Greedy                         | Covariate set 2              | ✓               | ✓        | 0.2              | PS            | 4  | 0.7457               | 100.0%           |
| Greedy - exact match on county | None                         | ✓               |          | 0.1              | LPS           | 13   | 0.9346               | 100.0%           |
| Greedy - exact match on county | None                         |                 | ✓        | 0.1              | LPS           | 10   | 0.3329               | 99.8%            |

<sup>A-12</sup> Parsons, L.S. (2001). “Reducing Bias in Propensity Score Matched-Pair Sample Using Greedy Matching Techniques.” Paper 214-26. Proceedings of the Twenty-Sixth Annual SAS Users Group International Conference. Cary (NC): SAS Institute Inc.

| Matching Type                         | Disease Condition Covariates | CDPS Risk Score |          | Caliper Distance | Distance Type | Number of Covariates Exceeding Standardized Difference Threshold | Omnibus Test p-value | HH Matching Rate |
|---------------------------------------|------------------------------|-----------------|----------|------------------|---------------|--|----------------------|------------------|
|                                       |                              | Unweighted      | Weighted |                  |               |  |                      |                  |
| Greedy - exact match on county        | Covariate set 1              | ✓               | ✓        | 0.1              | LPS           | 0  | 0.9898               | 99.7%            |
| <b>Greedy - exact match on county</b> | <b>Covariate set 1</b>       | ✓               |          | <b>0.1</b>       | <b>LPS</b>    | <b>0</b>   | <b>0.9751</b>        | <b>99.8%</b>     |
| Greedy - exact match on county        | Covariate set 1              |                 | ✓        | 0.1              | LPS           | 0  | 0.9955               | 99.7%            |
| Greedy - exact match on county        | Covariate set 1              |                 |          | 0.1              | LPS           | 0  | 0.9983               | 99.7%            |
| Greedy - exact match on county        | Covariate set 2              | ✓               | ✓        | 0.1              | LPS           | 4  | 0.8491               | 100.0%           |
| Greedy - exact match on county        | Covariate set 2              | ✓               |          | 0.1              | LPS           | 8  | 0.9507               | 100.0%           |
| Greedy - exact match on county        | Covariate set 2              |                 | ✓        | 0.1              | LPS           | 3  | 0.9924               | 100.0%           |
| Greedy - exact match on county        | Covariate set 2              |                 |          | 0.1              | LPS           | 7  | 0.9738               | 100.0%           |
| Replacement                           | None                         | ✓               | ✓        | 0.2              | LPS           | 19   | <.0001               | 100.0%           |
| Replacement                           | Covariate set 1              | ✓               | ✓        | 0.1              | LPS           | 0  | 0.9493               | 100.0%           |
| Replacement                           | Covariate set 1              | ✓               | ✓        | 0.2              | LPS           | 0  | 0.9493               | 100.0%           |
| Replacement                           | Covariate set 2              | ✓               | ✓        | 0.1              | LPS           | 3  | 0.2354               | 100.0%           |
| Replacement                           | Covariate set 2              | ✓               | ✓        | 0.2              | LPS           | 3  | 0.2354               | 100.0%           |

Note: Covariate set 1 was created by grouping together health conditions from the Agency for Health Research and Quality (AHRQ) Clinical Classification Software (CCS) categories. Covariate set 2 is based on CCS groupings from the Mayer et al. (2021) paper. HH = Health Home. LPS = logit of the propensity score. PS = propensity score.

Table A-76 presents a summary of the covariate balance for the chosen matching algorithm of the CY 2019 evaluation period. Table A-76 shows the covariate averages before and after matching for the non-Health Home comparison and the health home groups, computed standardized differences, and an indicator of denoting covariates that were balanced according to the absolute standardized difference threshold of 0.1. All covariates were balanced after matching, as all had an absolute standardized difference below the 0.1 rule of thumb. For conditions that were disproportionately less prevalent in the full comparison group compared to the Health Home group prior to matching, such as substance-related disorders, the prevalence of substance-related disorders among the matched comparison group was similar to that of the matched health home group, thus indicating improved balance. The *p*-value on the omnibus test was 0.9751, which indicates that there was not sufficient evidence to reject the joint hypothesis that the mean differences across all covariates between the health home and non-health home groups was equal to zero. Taken together, these results provide strong evidence that the propensity score matching process worked as intended and the non-health home comparison group is similar in composition to the health home group. Further, 99.8 percent (2,227/2,232) of the full health home group was matched, which means results from the evaluation are representative of the majority of the health home eligible population as a whole.

**Table A-76—Summary of Covariate Balance (CY 2019 Evaluation Group)**

| Covariate   | Full Group |        | Matched Samples |        | Standardized Difference | Balanced | Unmatched HH |
|---|------------|--------|-----------------|--------|-------------------------|----------|--------------|
|   | Comparison | HH     | Comparison      | HH     |                         |          |              |
| Age   | 26.942     | 33.971 | 35.440          | 33.935 | -0.078                  | *        | 50.2         |
| Male  | 0.456      | 0.435  | 0.420           | 0.435  | 0.031                   | *        | 0.6          |
| Race: American Indian   | 0.066      | 0.058  | 0.057           | 0.058  | 0.006                   | *        | 0            |
| Race: Asian Pacific Islander  | 0.012      | 0.014  | 0.013           | 0.014  | 0.004                   | *        | 0            |
| Race: Black   | 0.026      | 0.065  | 0.061           | 0.064  | 0.013                   | *        | 0.2          |
| Race: Other   | 0.024      | 0.027  | 0.024           | 0.027  | 0.023                   | *        | 0            |
| Race: Unknown   | 0.012      | 0.013  | 0.015           | 0.013  | -0.015                  | *        | 0            |
| Ethnicity: Hispanic   | 0.000      | 0.001  | 0.002           | 0.001  | -0.024                  | *        | 0            |
| County: Bernalillo  | 0.288      | 0.305  | 0.306           | 0.306  | 0.000                   | *        | 0            |
| County: Curry   | 0.026      | 0.170  | 0.170           | 0.170  | 0.000                   | *        | 0.2          |
| County: De Baca   | 0.001      | 0.003  | 0.003           | 0.003  | 0.000                   | *        | 0.2          |
| County: Grant   | 0.014      | 0.032  | 0.032           | 0.032  | 0.000                   | *        | 0            |
| County: Hidalgo   | 0.002      | 0.034  | 0.035           | 0.035  | 0.000                   | *        | 0            |
| County: Lea   | 0.034      | 0.198  | 0.197           | 0.197  | 0.000                   | *        | 0.6          |
| County: Quay  | 0.005      | 0.027  | 0.027           | 0.027  | 0.000                   | *        | 0            |
| County: Roosevelt   | 0.007      | 0.048  | 0.048           | 0.048  | 0.000                   | *        | 0            |
| County: Sandoval  | 0.051      | 0.064  | 0.064           | 0.064  | 0.000                   | *        | 0            |
| County: San Juan  | 0.046      | 0.031  | 0.031           | 0.031  | 0.000                   | *        | 0            |
| CDPS risk score   | 1.159      | 2.147  | 2.208           | 2.143  | -0.031                  | *        | 3.648839     |
| CDPS weighted risk score  | 2.461      | 5.834  | 5.574           | 5.820  | 0.040                   | *        | 12.002676    |
| SMI/SED diagnosis during the baseline year                                    | 0.184      | 0.630  | 0.637           | 0.629  | -0.016                  | *        | 1            |
| Covariate set 1: Acute bronchitis   | 0.051      | 0.076  | 0.078           | 0.076  | -0.008                  | *        | 0            |
| Covariate set 1: ADHD   | 0.046      | 0.180  | 0.172           | 0.179  | 0.020                   | *        | 0.6          |
| Covariate set 1: Adjustment disorders   | 0.059      | 0.118  | 0.105           | 0.119  | 0.043                   | *        | 0            |
| Covariate set 1: Alcohol Disorder   | 0.034      | 0.122  | 0.121           | 0.121  | 0.001                   | *        | 0.4          |
| Covariate set 1: Anxiety disorder   | 0.143      | 0.467  | 0.479           | 0.467  | -0.024                  | *        | 0.8          |
| Covariate set 1: Blindness and vision defects                                 | 0.176      | 0.224  | 0.211           | 0.224  | 0.030                   | *        | 0.4          |
| Covariate set 1: Coronary artery disease                                      | 0.018      | 0.053  | 0.058           | 0.053  | -0.022                  | *        | 0            |
| Covariate set 1: Cancer   | 0.030      | 0.052  | 0.052           | 0.053  | 0.004                   | *        | 0            |
| Covariate set 1: Cystic fibrosis  | 0.000      | 0.000  | 0.000           | 0.000  | 0.000                   | *        | 0            |
| Covariate set 1: Congestive heart failure                                     | 0.010      | 0.027  | 0.025           | 0.027  | 0.011                   | *        | 0.2          |
| Covariate set 1: Chronic kidney disease                                       | 0.013      | 0.026  | 0.033           | 0.026  | -0.043                  | *        | 0            |
| Covariate set 1: Delirium dementia and amnestic and other cognitive disorders | 0.011      | 0.031  | 0.029           | 0.031  | 0.016                   | *        | 0            |
| Covariate set 1: Developmental disorder                                       | 0.063      | 0.119  | 0.115           | 0.119  | 0.011                   | *        | 0            |
| Covariate set 1: Diabetes   | 0.087      | 0.172  | 0.176           | 0.171  | -0.012                  | *        | 0.4          |
| Covariate set 1: Epilepsy   | 0.021      | 0.057  | 0.049           | 0.057  | 0.034                   | *        | 0.2          |

| Covariate  | Full Group     |              | Matched Samples |              | Standardized Difference | Balanced | Unmatched HH |
|--|----------------|--------------|-----------------|--------------|-------------------------|----------|--------------|
|  | Comparison     | HH           | Comparison      | HH           |                         |          |              |
| Covariate set 1: Esophageal disorders  | 0.066          | 0.167        | 0.181           | 0.166        | -0.038                  | *        | 0.6          |
| Covariate set 1: Hepatitis   | 0.018          | 0.062        | 0.064           | 0.062        | -0.009                  | *        | 0.2          |
| Covariate set 1: HIV   | 0.002          | 0.008        | 0.006           | 0.008        | 0.022                   | *        | 0.2          |
| Covariate set 1: Hypertension  | 0.113          | 0.238        | 0.245           | 0.238        | -0.016                  | *        | 0.2          |
| Covariate set 1: Disorders usually diagnosed in infancy childhood or adolescence | 0.020          | 0.073        | 0.070           | 0.073        | 0.010                   | *        | 0            |
| Covariate set 1: Intracranial injury   | 0.013          | 0.038        | 0.038           | 0.038        | 0.000                   | *        | 0.2          |
| Covariate set 1: Mood disorders  | 0.121          | 0.476        | 0.486           | 0.475        | -0.022                  | *        | 1            |
| Covariate set 1: Osteoarthritis  | 0.050          | 0.115        | 0.125           | 0.115        | -0.032                  | *        | 0.4          |
| Covariate set 1: Osteoporosis  | 0.008          | 0.012        | 0.014           | 0.012        | -0.020                  | *        | 0            |
| Covariate set 1: Other cardiac conditions  | 0.066          | 0.160        | 0.156           | 0.160        | 0.010                   | *        | 0.4          |
| Covariate set 1: Other nervous system disorder                                   | 0.121          | 0.297        | 0.316           | 0.296        | -0.042                  | *        | 0.8          |
| Covariate set 1: Other nutritional, endocrine, and metabolic disorders           | 0.169          | 0.280        | 0.286           | 0.279        | -0.015                  | *        | 0.8          |
| Covariate set 1: Personality disorder  | 0.005          | 0.041        | 0.038           | 0.039        | 0.005                   | *        | 0.8          |
| Covariate set 1: Pregnancy   | 0.033          | 0.034        | 0.033           | 0.034        | 0.007                   | *        | 0            |
| Covariate set 1: Rheumatoid arthritis and related diseases                       | 0.010          | 0.030        | 0.033           | 0.030        | -0.015                  | *        | 0.2          |
| Covariate set 1: Schizophrenia and other psychotic disorders                     | 0.016          | 0.160        | 0.131           | 0.159        | 0.078                   | *        | 1            |
| Covariate set 1: Spondylosis and other back problems                             | 0.133          | 0.285        | 0.285           | 0.284        | -0.001                  | *        | 0.8          |
| Covariate set 1: Substance-related disorders                                     | 0.115          | 0.349        | 0.360           | 0.348        | -0.023                  | *        | 0.6          |
| Covariate set 1: Suicide and self-injury   | 0.015          | 0.100        | 0.088           | 0.099        | 0.039                   | *        | 0.6          |
| Covariate set 1: Thyroid disorders   | 0.052          | 0.116        | 0.125           | 0.115        | -0.029                  | *        | 0.4          |
| Covariate set 2: Cancer  | 0.021          | 0.038        | 0.036           | 0.038        | 0.009                   | *        | 0            |
| Covariate set 2: Diabetes  | 0.085          | 0.171        | 0.172           | 0.171        | -0.005                  | *        | 0.4          |
| Covariate set 2: HIV   | 0.010          | 0.021        | 0.020           | 0.021        | 0.006                   | *        | 0.2          |
| Covariate set 2: Serious Mental Illness  | 0.129          | 0.540        | 0.520           | 0.539        | 0.038                   | *        | 1            |
| Covariate set 2: Substance related Disorder                                      | 0.129          | 0.380        | 0.385           | 0.379        | -0.012                  | *        | 0.8          |
| <b>N=</b>  | <b>481,838</b> | <b>2,232</b> | <b>2,227</b>    | <b>2,227</b> | .                       |          | <b>5</b>     |

Note: SMI = Serious Mental Illness

Table A-77 and Table A-78 show that covariate balance for the CY 2020 and CY 2021 evaluation periods are similar. Results provide strong evidence that the propensity score matching process worked as intended and that the non-health home comparison group is similar in composition to the health home group for both evaluation years. After matching for the CY 2020 and CY 2021 evaluation periods, no covariates were found to be unbalanced as all had an absolute standardized difference below the 0.1 rule of thumb. The *p*-value on the omnibus test was 0.7314 and 0.9998 for CY 2020 and CY 2021, respectively, indicating that there was not sufficient evidence to reject the joint hypothesis that the mean differences across all covariates between the health home and non-health home groups was equal to zero. 99.7 percent (2,908/2,916) and 99.7 percent (3,165/3,174)

of the full health home group was matched for CY 2020 and CY 2021, respectively, indicating that results are representative of the majority of the health home population.

**Table A-77—Summary of Covariate Balance (CY 2020 Evaluation Group)**

| Covariate  | Full Group |        | Matched Samples |        | Standardized Difference | Balanced | Unmatched HH |
|--|------------|--------|-----------------|--------|-------------------------|----------|--------------|
|  | Comparison | HH     | Comparison      | HH     |                         |          |              |
| Age  | 27.479     | 32.976 | 33.393          | 32.949 | -0.023                  | *        | 42.875       |
| Male   | 0.453      | 0.449  | 0.433           | 0.449  | 0.033                   | *        | 0.375        |
| Race: American Indian  | 0.065      | 0.048  | 0.056           | 0.048  | -0.036                  | *        | 0            |
| Race: Asian Pacific Islander   | 0.012      | 0.013  | 0.013           | 0.013  | -0.003                  | *        | 0            |
| Race: Black  | 0.025      | 0.073  | 0.074           | 0.072  | -0.007                  | *        | 0.25         |
| Race: Other  | 0.025      | 0.028  | 0.030           | 0.028  | -0.008                  | *        | 0            |
| Race: Unknown  | 0.012      | 0.011  | 0.006           | 0.011  | 0.061                   | *        | 0            |
| Ethnicity: Hispanic  | 0.000      | 0.001  | 0.000           | 0.001  | 0.015                   | *        | 0            |
| County: Bernalillo   | 0.286      | 0.385  | 0.386           | 0.386  | 0.000                   | *        | 0            |
| County: Curry  | 0.026      | 0.129  | 0.128           | 0.128  | 0.000                   | *        | 0.25         |
| County: De Baca  | 0.001      | 0.002  | 0.001           | 0.001  | 0.000                   | *        | 0.25         |
| County: Grant  | 0.014      | 0.034  | 0.034           | 0.034  | 0.000                   | *        | 0            |
| County: Hidalgo  | 0.002      | 0.031  | 0.031           | 0.031  | 0.000                   | *        | 0.125        |
| County: Lea  | 0.035      | 0.194  | 0.194           | 0.194  | 0.000                   | *        | 0.25         |
| County: Quay   | 0.005      | 0.024  | 0.024           | 0.024  | 0.000                   | *        | 0.125        |
| County: Roosevelt  | 0.006      | 0.033  | 0.033           | 0.033  | 0.000                   | *        | 0            |
| County: Sandoval   | 0.050      | 0.051  | 0.051           | 0.051  | 0.000                   | *        | 0            |
| County: San Juan   | 0.045      | 0.024  | 0.024           | 0.024  | 0.000                   | *        | 0            |
| CDPS risk score  | 1.146      | 2.080  | 2.102           | 2.076  | -0.012                  | *        | 3.3589056    |
| CDPS weighted risk score   | 2.401      | 5.422  | 5.174           | 5.401  | 0.035                   | *        | 13.195593    |
| SMI/SED diagnosis during the baseline year                                   | 0.183      | 0.586  | 0.599           | 0.585  | -0.028                  | *        | 1            |
| Covariate set 1: Acute bronchitis  | 0.051      | 0.070  | 0.075           | 0.070  | -0.016                  | *        | 0            |
| Covariate set 1: ADHD  | 0.046      | 0.186  | 0.196           | 0.185  | -0.028                  | *        | 0.625        |
| Covariate set 1: Adjustment disorders  | 0.059      | 0.113  | 0.112           | 0.113  | 0.003                   | *        | 0.125        |
| Covariate set 1: Alcohol Disorder  | 0.033      | 0.112  | 0.115           | 0.111  | -0.012                  | *        | 0.625        |
| Covariate set 1: Anxiety disorder  | 0.142      | 0.452  | 0.450           | 0.450  | 0.001                   | *        | 0.875        |
| Covariate set 1: Blindness and vision defects                                | 0.177      | 0.218  | 0.218           | 0.217  | -0.002                  | *        | 0.375        |
| Covariate set 1: Coronary artery disease                                     | 0.017      | 0.046  | 0.046           | 0.046  | -0.002                  | *        | 0.125        |
| Covariate set 1: Cancer  | 0.029      | 0.045  | 0.041           | 0.045  | 0.024                   | *        | 0            |
| Covariate set 1: Cystic fibrosis   | 0.000      | 0.000  | 0.000           | 0.000  | 0.026                   | *        | 0            |
| Covariate set 1: Congestive heart failure                                    | 0.009      | 0.024  | 0.022           | 0.023  | 0.009                   | *        | 0.25         |
| Covariate set 1: Chronic kidney disease                                      | 0.013      | 0.021  | 0.017           | 0.021  | 0.028                   | *        | 0            |
| Covariate set 1: Delirium dementia and amnesic and other cognitive disorders | 0.010      | 0.025  | 0.024           | 0.025  | 0.004                   | *        | 0            |
| Covariate set 1: Developmental disorder                                      | 0.064      | 0.129  | 0.132           | 0.129  | -0.010                  | *        | 0.25         |



| Covariate  | Full Group |       | Matched Samples |       | Standardized Difference | Balanced | Unmatched HH |
|--|------------|-------|-----------------|-------|-------------------------|----------|--------------|
|  | Comparison | HH    | Comparison      | HH    |                         |          |              |
| Covariate set 1: Diabetes  | 0.085      | 0.142 | 0.152           | 0.141 | -0.029                  | *        | 0.375        |
| Covariate set 1: Epilepsy  | 0.020      | 0.057 | 0.052           | 0.057 | 0.021                   | *        | 0            |
| Covariate set 1: Esophageal disorders  | 0.065      | 0.158 | 0.154           | 0.157 | 0.009                   | *        | 0.375        |
| Covariate set 1: Hepatitis   | 0.018      | 0.060 | 0.064           | 0.059 | -0.020                  | *        | 0.25         |
| Covariate set 1: HIV   | 0.002      | 0.008 | 0.006           | 0.008 | 0.017                   | *        | 0.125        |
| Covariate set 1: Hypertension  | 0.109      | 0.211 | 0.218           | 0.210 | -0.020                  | *        | 0.375        |
| Covariate set 1: Disorders usually diagnosed in infancy childhood or adolescence | 0.020      | 0.078 | 0.076           | 0.078 | 0.008                   | *        | 0.125        |
| Covariate set 1: Intracranial injury   | 0.013      | 0.034 | 0.033           | 0.034 | 0.004                   | *        | 0.125        |
| Covariate set 1: Mood disorders  | 0.119      | 0.427 | 0.436           | 0.425 | -0.023                  | *        | 1            |
| Covariate set 1: Osteoarthritis  | 0.048      | 0.100 | 0.107           | 0.100 | -0.021                  | *        | 0.125        |
| Covariate set 1: Osteoporosis  | 0.008      | 0.008 | 0.010           | 0.008 | -0.018                  | *        | 0            |
| Covariate set 1: Other cardiac conditions  | 0.064      | 0.163 | 0.159           | 0.162 | 0.007                   | *        | 0.375        |
| Covariate set 1: Other nervous system disorder                                   | 0.118      | 0.272 | 0.281           | 0.272 | -0.019                  | *        | 0.375        |
| Covariate set 1: Other nutritional, endocrine, and metabolic disorders           | 0.168      | 0.261 | 0.253           | 0.260 | 0.017                   | *        | 0.625        |
| Covariate set 1: Personality disorder  | 0.005      | 0.042 | 0.035           | 0.041 | 0.031                   | *        | 0.5          |
| Covariate set 1: Pregnancy   | 0.034      | 0.038 | 0.035           | 0.039 | 0.018                   | *        | 0            |
| Covariate set 1: Rheumatoid arthritis and related diseases                       | 0.010      | 0.026 | 0.025           | 0.026 | 0.007                   | *        | 0            |
| Covariate set 1: Schizophrenia and other psychotic disorders                     | 0.016      | 0.145 | 0.114           | 0.143 | 0.086                   | *        | 1            |
| Covariate set 1: Spondylosis and other back problems                             | 0.131      | 0.260 | 0.247           | 0.259 | 0.027                   | *        | 0.75         |
| Covariate set 1: Substance-related disorders                                     | 0.114      | 0.335 | 0.343           | 0.333 | -0.020                  | *        | 1            |
| Covariate set 1: Suicide and self-injury   | 0.015      | 0.097 | 0.079           | 0.096 | 0.058                   | *        | 0.5          |
| Covariate set 1: Thyroid disorders   | 0.050      | 0.102 | 0.108           | 0.102 | -0.019                  | *        | 0            |
| Covariate set 2: Cancer  | 0.020      | 0.034 | 0.030           | 0.034 | 0.022                   | *        | 0            |
| Covariate set 2: Diabetes  | 0.082      | 0.141 | 0.149           | 0.141 | -0.023                  | *        | 0.375        |
| Covariate set 2: HIV   | 0.010      | 0.022 | 0.023           | 0.022 | -0.009                  | *        | 0.125        |
| Covariate set 2: Serious Mental Illness  | 0.127      | 0.485 | 0.464           | 0.483 | 0.040                   | *        | 1            |
| Covariate set 2: Substance related Disorder                                      | 0.128      | 0.361 | 0.364           | 0.360 | -0.009                  | *        | 1            |
| N=   | 450,312    | 2,916 | 2,908           | 2,908 | .                       |          | 8            |



**Table A-78—Summary of Covariate Balance (CY 2021 Evaluation Group)**

| Covariate   | Full Group |        | Matched Samples |        | Standardized Difference | Balanced | Unmatched HH |
|---|------------|--------|-----------------|--------|-------------------------|----------|--------------|
|   | Comparison | HH     | Comparison      | HH     |                         |          |              |
| Age   | 28.010     | 32.150 | 31.729          | 32.100 | 0.020                   | *        | 49.777778    |
| Male  | 0.452      | 0.445  | 0.438           | 0.445  | 0.014                   | *        | 0.3333333    |
| Race: American Indian   | 0.064      | 0.046  | 0.047           | 0.046  | -0.006                  | *        | 0            |
| Race: Asian Pacific Islander  | 0.012      | 0.013  | 0.014           | 0.013  | -0.008                  | *        | 0            |
| Race: Black   | 0.025      | 0.076  | 0.075           | 0.076  | 0.002                   | *        | 0.2222222    |
| Race: Other   | 0.025      | 0.031  | 0.027           | 0.031  | 0.026                   | *        | 0            |
| Race: Unknown   | 0.011      | 0.010  | 0.007           | 0.010  | 0.031                   | *        | 0            |
| Ethnicity: Hispanic   | 0.000      | 0.001  | 0.001           | 0.001  | 0.000                   | *        | 0            |
| County: Bernalillo  | 0.286      | 0.426  | 0.427           | 0.427  | 0.000                   | *        | 0.1111111    |
| County: Curry   | 0.028      | 0.118  | 0.118           | 0.118  | 0.000                   | *        | 0            |
| County: De Baca   | 0.001      | 0.003  | 0.002           | 0.002  | 0.000                   | *        | 0.1111111    |
| County: Grant   | 0.014      | 0.018  | 0.018           | 0.018  | 0.000                   | *        | 0            |
| County: Hidalgo   | 0.002      | 0.025  | 0.025           | 0.025  | 0.000                   | *        | 0            |
| County: Lea   | 0.035      | 0.210  | 0.210           | 0.210  | 0.000                   | *        | 0.4444444    |
| County: Quay  | 0.005      | 0.019  | 0.019           | 0.019  | 0.000                   | *        | 0.1111111    |
| County: Roosevelt   | 0.005      | 0.027  | 0.027           | 0.027  | 0.000                   | *        | 0.2222222    |
| County: Sandoval  | 0.050      | 0.050  | 0.050           | 0.050  | 0.000                   | *        | 0            |
| County: San Juan  | 0.045      | 0.020  | 0.020           | 0.020  | 0.000                   | *        | 0            |
| CDPS risk score   | 1.126      | 1.991  | 2.014           | 1.987  | -0.013                  | *        | 3.3803146    |
| CDPS weighted risk score  | 2.302      | 5.032  | 4.612           | 4.996  | 0.067                   | *        | 17.620314    |
| SMI/SED diagnosis during the baseline year                                    | 0.180      | 0.554  | 0.568           | 0.553  | -0.030                  | *        | 1            |
| Covariate set 1: Acute bronchitis   | 0.051      | 0.065  | 0.064           | 0.065  | 0.003                   | *        | 0.1111111    |
| Covariate set 1: ADHD   | 0.045      | 0.188  | 0.199           | 0.187  | -0.030                  | *        | 0.5555556    |
| Covariate set 1: Adjustment disorders   | 0.059      | 0.132  | 0.135           | 0.132  | -0.008                  | *        | 0.2222222    |
| Covariate set 1: Alcohol Disorder   | 0.032      | 0.104  | 0.100           | 0.102  | 0.008                   | *        | 0.5555556    |
| Covariate set 1: Anxiety disorder   | 0.140      | 0.421  | 0.424           | 0.419  | -0.010                  | *        | 0.8888889    |
| Covariate set 1: Blindness and vision defects                                 | 0.176      | 0.222  | 0.221           | 0.222  | 0.002                   | *        | 0.3333333    |
| Covariate set 1: Coronary artery disease                                      | 0.015      | 0.042  | 0.042           | 0.041  | -0.003                  | *        | 0.2222222    |
| Covariate set 1: Cancer   | 0.028      | 0.042  | 0.040           | 0.041  | 0.008                   | *        | 0.1111111    |
| Covariate set 1: Cystic fibrosis  | 0.000      | 0.001  | 0.001           | 0.001  | -0.011                  | *        | 0            |
| Covariate set 1: Congestive heart failure                                     | 0.008      | 0.023  | 0.021           | 0.022  | 0.009                   | *        | 0.3333333    |
| Covariate set 1: Chronic kidney disease                                       | 0.011      | 0.021  | 0.022           | 0.021  | -0.009                  | *        | 0.1111111    |
| Covariate set 1: Delirium dementia and amnestic and other cognitive disorders | 0.008      | 0.025  | 0.019           | 0.024  | 0.035                   | *        | 0.1111111    |
| Covariate set 1: Developmental disorder                                       | 0.064      | 0.134  | 0.146           | 0.134  | -0.036                  | *        | 0.3333333    |
| Covariate set 1: Diabetes   | 0.081      | 0.129  | 0.128           | 0.129  | 0.002                   | *        | 0.4444444    |
| Covariate set 1: Epilepsy   | 0.020      | 0.053  | 0.050           | 0.052  | 0.010                   | *        | 0.3333333    |

| Covariate  | Full Group |       | Matched Samples |       | Standardized Difference | Balanced | Unmatched HH |
|--|------------|-------|-----------------|-------|-------------------------|----------|--------------|
|  | Comparison | HH    | Comparison      | HH    |                         |          |              |
| Covariate set 1: Esophageal disorders  | 0.062      | 0.143 | 0.135           | 0.142 | 0.022                   | *        | 0.3333333    |
| Covariate set 1: Hepatitis   | 0.017      | 0.049 | 0.044           | 0.049 | 0.024                   | *        | 0.2222222    |
| Covariate set 1: HIV   | 0.002      | 0.006 | 0.006           | 0.006 | 0.004                   | *        | 0            |
| Covariate set 1: Hypertension  | 0.103      | 0.194 | 0.193           | 0.193 | -0.001                  | *        | 0.5555556    |
| Covariate set 1: Disorders usually diagnosed in infancy childhood or adolescence | 0.020      | 0.076 | 0.080           | 0.076 | -0.013                  | *        | 0            |
| Covariate set 1: Intracranial injury   | 0.013      | 0.031 | 0.028           | 0.030 | 0.015                   | *        | 0.2222222    |
| Covariate set 1: Mood disorders  | 0.115      | 0.392 | 0.391           | 0.390 | -0.003                  | *        | 1            |
| Covariate set 1: Osteoarthritis  | 0.045      | 0.088 | 0.090           | 0.088 | -0.007                  | *        | 0.2222222    |
| Covariate set 1: Osteoporosis  | 0.007      | 0.007 | 0.009           | 0.007 | -0.024                  | *        | 0            |
| Covariate set 1: Other cardiac conditions  | 0.061      | 0.139 | 0.137           | 0.138 | 0.004                   | *        | 0.2222222    |
| Covariate set 1: Other nervous system disorder                                   | 0.113      | 0.254 | 0.241           | 0.252 | 0.026                   | *        | 0.7777778    |
| Covariate set 1: Other nutritional, endocrine, and metabolic disorders           | 0.166      | 0.256 | 0.258           | 0.254 | -0.009                  | *        | 0.8888889    |
| Covariate set 1: Personality disorder  | 0.004      | 0.037 | 0.030           | 0.035 | 0.028                   | *        | 0.7777778    |
| Covariate set 1: Pregnancy   | 0.034      | 0.037 | 0.035           | 0.038 | 0.012                   | *        | 0            |
| Covariate set 1: Rheumatoid arthritis and related diseases                       | 0.009      | 0.024 | 0.029           | 0.024 | -0.032                  | *        | 0            |
| Covariate set 1: Schizophrenia and other psychotic disorders                     | 0.015      | 0.130 | 0.108           | 0.127 | 0.061                   | *        | 1            |
| Covariate set 1: Spondylosis and other back problems                             | 0.129      | 0.245 | 0.243           | 0.244 | 0.001                   | *        | 0.6666667    |
| Covariate set 1: Substance-related disorders                                     | 0.112      | 0.297 | 0.278           | 0.295 | 0.038                   | *        | 0.8888889    |
| Covariate set 1: Suicide and self-injury   | 0.014      | 0.085 | 0.076           | 0.084 | 0.030                   | *        | 0.4444444    |
| Covariate set 1: Thyroid disorders   | 0.048      | 0.093 | 0.094           | 0.093 | -0.003                  | *        | 0.3333333    |
| Covariate set 2: Cancer  | 0.020      | 0.032 | 0.029           | 0.031 | 0.011                   | *        | 0.1111111    |
| Covariate set 2: Diabetes  | 0.078      | 0.128 | 0.126           | 0.127 | 0.003                   | *        | 0.4444444    |
| Covariate set 2: HIV   | 0.010      | 0.020 | 0.021           | 0.021 | -0.004                  | *        | 0            |
| Covariate set 2: Serious Mental Illness  | 0.123      | 0.443 | 0.419           | 0.441 | 0.045                   | *        | 1            |
| Covariate set 2: Substance related Disorder                                      | 0.125      | 0.321 | 0.301           | 0.319 | 0.039                   | *        | 1            |
| N=   | 445,916    | 3,174 | 3,165           | 3,165 | .                       |          | 9            |

## Financial Analysis Trend and Cost Development

The goal of the financial analysis of Centennial Care 2.0 is to compare the costs to the State for the programs covered under the 1115 Demonstration Waiver against the estimated expected costs had the 1115 Demonstration Waiver not been implemented. The program cost effectiveness evaluation is designed to assess the impact on costs and trends (i.e., year-over-year percentage changes) of the shift to managed care throughout the course of the waiver. To accomplish this, costs and trends are developed two ways, normalized and un-normalized.

Un-normalized and normalized claim/encounter costs and trends are calculated and analyzed at two levels. Level one analysis reviews the per member per month (PMPM) cost and trend by year and compares the average annual trend from the baseline period, the average normalized annual trend from the baseline period, and the expected average annual trend. The second level of analysis for un-normalized and normalized claims/encounters is completed on a per utilizing member per month (PUMPM) basis. A utilizing member month is any month in a calendar year during which a member incurred a claim or encounter. Level two analysis reviews the PUMPM cost and trend by year and compares the average annual trend from the baseline period, the average normalized annual trend from the baseline period, and the expected average annual trend.

Un-normalized claim trends and costs represent the cost from the Centennial Care MCO reported utilization data. The information presented is aggregated for all Medicaid populations. Un-normalized data analysis does not account for known demographic differences from one Demonstration year to the next. When completing an evaluation by comparing year to year changes of the un-normalized costs, program impacts and results may be biased due to the demographic changes in the underlying population. In an un-normalized analysis, cost changes are not adjusted to account for changes in the underlying population.

Normalization is the term used to describe the process of adjusting cost data for the known quantifiable changes that impact utilization and cost such as demographic changes, risk, and inflation. Normalization analysis was employed with the goal of removing all known and quantifiable variation by analysis period, leading to a more accurate comparison between time periods. Below are the high-level steps of the normalization process. Detailed descriptions of each step are outlined further below.

1. Calculate the risk-adjusted PMPM for the analysis cohort.
2. Calculate the age-band/gender factor for the analysis cohort.
3. Calculate the area factor for the analysis cohort.
4. Apply risk, age-band/gender, and area factors to paid claims to calculate the normalized PMPMs for the analysis cohort.

To account for demographic differences throughout the Demonstration, all claims/encounters were normalized for condition-based risk score, combined age and gender variation, and variation in cost by geographic area. HSAG employed the CDPS model version 6.5 to develop person-level condition-based risk scores. CDPS is a diagnostic-based risk adjustment model widely used to adjust capitated payments for health plans that enroll Medicaid beneficiaries. CDPS uses International Classification of Diseases (ICD) codes to assign CDPS categories that indicate illness burden related to major body systems (e.g., Cardiovascular) or types of chronic disease (e.g., Diabetes). Within each major category is a hierarchy reflecting both the clinical severity of the condition and its expected effect on future costs. Each of the hierarchical CDPS categories are assigned a CDPS weight. CDPS weights are additive across major categories. The condition risk score output from CDPS was applied to the member-level claims by dividing the condition risk score into the claims PMPM to develop a risk-adjusted PMPM.

$$R_t = \frac{M_t}{C_t}$$

Where  $R$  represents the risk-adjusted member level individual claim cost,  $t$  is time,  $M$  is actual member-level expenditure, and  $C$  is the condition based CDPS risk score for the enrollee.

The risk adjusted PMPM was then used to develop the combined age/gender factors utilizing the largest populated county, Bernalillo, to remove any bias in the claims cost due to variance by geographic area. Category of service level risk-adjusted PMPM costs are calculated at an age-band and gender grouping level as well as at the total level for the entire population.

$$A_x = \sum R_x / D_x$$

Where  $A$  represents the annual risk-adjusted claim cost PMPM for an age-band/gender grouping,  $X$ ;  $R$  is risk-adjusted member-level individual claim cost and  $D$  represents corresponding eligible member months for the represented age-band/gender grouping. The risk-adjusted individual claim level expenditures and corresponding eligible members for a selected age-band/gender grouping are summed across each year. The annual risk-adjusted member-level PMPM claims were developed to calculate age-band/gender ratios, also referred to as age-band/gender factors, between each stratification comparing the risk adjusted, age-band/gender grouping PMPM to the total population-level annual risk-adjusted member level claim cost PMPM. For example, if female members ages 20–24 have an annual risk-adjusted claims cost PMPM of \$105 and the entire population has an annual risk-adjusted claims cost PMPM of \$100, then the age-band/gender factor would be 1.05 for the female 20–24 cohort.

Age-band/gender factors are calculated based on the annual risk-adjusted member-level claim cost PMPM. The factors are calculated for each year in the Demonstration by dividing the age-band/gender grouping risk-adjusted claim cost PMPM by the overall annual risk-adjusted population level claim cost PMPM. The annual age-band/gender factors are as follows.

$$AB_x = A_x / A_T$$

Where  $AB$  represents the annual age-band/gender factor and age-band/gender grouping,  $X$  is the age-band/gender grouping,  $A_x$  is risk-adjusted member-level individual claim cost, and  $A_T$  represents the annual risk-adjusted claim cost PMPM for the entire population. The calculated factors are reviewed over multiple time periods, and final factors are developed to ensure highest statistical  $R^2$  for a given age-band/gender grouping. A single set of age-band/gender factors are developed ensuring that changes in age factors are applied consistently across all areas and years.

Once consistent age factors are developed, they are applied to the member-level annual risk-adjusted claim cost PMPM for members in each age-band/gender grouping by dividing the calculated age-band/gender factor into the corresponding claims PMPM to develop an age-band /gender and risk adjusted PMPM. At this point the age-band/gender and risk-adjusted PMPM represents a PMPM that has been netted of any impact of age, gender, and risk. This allows for a focus on the variation of cost in order to develop an adjustment factor by geographic region as outlined below.

$$G_x = \sum R_x / AB_x$$

Where  $G$  represents the annual risk and age-band/gender factors adjusted claim cost PMPM for a geographic area,  $X$  is the geographic area,  $R$  is risk-adjusted member-level individual claim cost, and  $AB$  represents the annual age-band/gender age factor for an age-band/gender. The risk-adjusted individual claim level expenditures and corresponding eligible members for a selected age-band/gender grouping are summed across each year. The annual risk and age-band/gender factors adjusted claim PMPM output is developed to calculate relativities between geographic regions and the overall annual risk-adjusted member-level claim cost PMPM. The annual geographic factor is calculated as:

$$GF_x = G_x / G_T$$

Where  $GF$  represents the annual geographic factor,  $X$  is the geographic grouping,  $G_x$  is risk and age-band/gender factors adjusted claim cost and  $G_T$  represents the annual risk and age-band/gender factors adjusted PMPM for the entire population. The calculated factors are reviewed over multiple time periods and final factors are developed to ensure highest statistical  $R^2$  for a geographic grouping. A single set of geographic factors are developed

ensuring that changes in geographic stratification of the enrolled population are applied consistently across all years.

The resulting PMPM is then used to develop the normalized claims cost PMPM and the normalized claims trends. Normalized claims PMPM are calculated by dividing the risk-adjusted claim cost PMPM for an age-band/gender and geographic grouping by the calculated geographic factor for a given geographic stratification and the selected inflation rate, given by the formula below.

$$N_t = \sum (G_x / (GF_x i_t)) / D_x$$

Where  $N$  represents the normalized claims PMPM for a given geographic and age-band/gender,  $t$  represents the annual review period,  $G$  represents the annual risk and age-band/gender factors adjusted claim cost PMPM for a geographic area,  $X$  is the geographic area,  $GF$  represents the annual geographic factor,  $i$  represents the inflation rate, and  $D$  represents the corresponding eligible member months for the represented age-band/gender and geographic grouping.

The resulting normalized claims PMPM is then used to develop the normalized claims trend. Normalized claims trends are calculated as the ratio of the normalized claims PMPM between two periods.

$$NT_t = N_t / N_{t-1}$$

Where  $NT$  represents the normalized claims trend for a given geographic and age-band/gender,  $N$  represents the normalized claims PMPM for a given geographic and age-band/gender, and  $t$  represents the annual review period.

Costs and trends were calculated and reviewed seven ways:

- **Actual Total Cost** represents the total expenditure for each review period.
- **Actual PMPM** represents the per member per month cost over the review period.

$$Y_t = \sum X_t / \sum Z_t$$

Where  $Y$  represents the claims PMPM cost,  $t$  represents the annual review period,  $X$  represents the actual total cost for the population or time period under review, and  $Z$  represents the total enrolled population for the analysis cohort.

- **Expected PMPM** represents the expected per member per month cost over the review period. It is calculated by multiplying the ratio of the age-band/gender factor between the review period and the year prior, the ratio of the area factor between the review period and the year prior, and the inflation rate for the review period.

$$E_t = E_{t-1} \left( \frac{AB_t}{AB_{t-1}} \right) \left( \frac{GF_t}{GF_{t-1}} \right) \left( \frac{C_t}{C_{t-1}} \right) i \text{ where } t \geq 1$$

$$E_t = Y_t \text{ where } t = 0$$

Where  $E$  represents the expected PMPM cost,  $t$  represents the review period,  $AB$  represents the annual age-band/gender age factor for an age-band/gender,  $GF$  represents the annual geographic factor,  $C$  represents the annual condition based CDPS risk score,  $i$  represents the inflation rate, and  $Y$  represents the claims PMPM cost.

- **Expected Total Cost** represents the expected total expenditure for each review period. It is calculated by taking the total enrolled population for the analysis cohort and multiplying by the expected claims PMPM.

$$EC_t = E_t Z_t$$

Where  $EC$  represents the expected total expenditure for each review period,  $t$  represents the review period,  $E$  represents the expected PMPM cost, and  $Z$  represents the total enrolled population for the analysis cohort.

- **Average Annual Trend** represents the average annual growth in cost of care between the baseline and each year. The annualized trend is then adjusted to smooth the individual annual trends to determine the average across the represented time period.

$$L_t = \left( \left( \frac{Y_t}{Y_0} \right)^{\left( \frac{1}{t} \right)} \right) - 1$$

Where  $L$  represents the average annual trend,  $t$  represents the review period,  $Y_t$  represents the claims PMPM cost for the review period at time  $t$ , and  $Y_0$  represents the claims PMPM cost for the baseline year.

- **Average Annual Normalized Trend** represents the average annual growth in cost of care adjusted for known variances between the baseline and each year. The normalized annual trend is then adjusted to smooth the individual annual trends to determine the average across the represented time period.

$$M_t = \left( \left( \frac{N_t}{N_0} \right)^{\left( \frac{1}{t} \right)} \right) - 1$$

Where  $M$  represents the average annual normalized trend,  $t$  represents the review period,  $N_t$  represents the normalized claims PMPM for a given geographic and age-band/gender for the review period at time  $t$ , and  $N_0$  represents the normalized claims PMPM for a given geographic and age-band/gender for the baseline year.

- **Expected Average Annual Trend** represents the average annual growth in cost of care for the expected cost between the baseline and each year. The expected annualized trend is then adjusted to smooth the individual annual trends to determine the average across the represented time period.

$$K_t = \left( \left( \frac{E_t}{E_0} \right)^{\left( \frac{1}{t} \right)} \right) - 1$$

Where  $K$  represents the expected average annual trend,  $t$  represents the review period,  $E_t$  represents the expected claims PMPM cost for the review period at time  $t$ , and  $E_0$  represents the expected claims PMPM cost for the baseline year.

## Appendix B. Evaluation Design

Appendix B contains the Centers for Medicare & Medicaid Services' (CMS')-approved evaluation design plan for the New Mexico Centennial Care 2.0 Demonstration Waiver.

# **MEDICAID 1115 DEMONSTRATION AND SUBSTANCE USE DISORDER WAIVER EVALUATION DESIGN PLAN**

**CENTENNIAL CARE 2.0 — 11W  
00285/6**

**JANUARY 9, 2020**

**State of New Mexico Human Services Department  
Medical Assistance Division**



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# A

## GENERAL BACKGROUND INFORMATION

### HISTORY AND OVERVIEW

In 2013, prior to the introduction of New Mexico's 1115 demonstration waiver, approximately 520,000 individuals, more than a quarter of the state's population, received health care through the Medicaid program. At that time, New Mexico sought to improve the Medicaid system to address the following challenges:

- An administratively complex program operating under 12 separate federal waivers in addition to a fee-for-service program for those who either opted out of or were exempt from managed care.
- A fragmented program, with seven different health plans administering different benefit packages for defined populations, making it difficult for individuals, providers, and managed care organizations (MCOs) to manage complex medical and behavioral conditions.
- A system that paid for the quantity of services delivered without emphasis on the quality of care that was being delivered.
- An expensive program, consuming about 16% of the state budget, up from 12% the previous year.

Since launching the Centennial Care Program in January 2014, New Mexico's goals for reforming Medicaid have been to:

- Assure that Medicaid beneficiaries in the program receive the right amount of care, delivered at the right time and in the right setting.
- Ensure that the care and services being provided are measured in a manner that will improve quality and not solely reimbursed based on quantity.
- Show the growth rate of costs or "bend the cost curve" over time without reductions in benefits, eligibility or provider rates.
- Streamline and modernize the Medicaid program.

New Mexico's Section 1115 demonstration waiver, commonly referred to as the Centennial Care program featured an integrated, comprehensive Medicaid delivery system in which the member's

MCO was responsible for coordinating the member's full array of services: acute care (including pharmacy), behavioral health services, institutional service and home- and community-based services (HCBS). The original Section 1115 waiver was effective through December 2018 when an extension of the waiver was requested and approved by the Center for Medicare and Medicaid Services. In the extension of the demonstration, known as Centennial Care 2.0, the goals, as stated above for the original waiver, continue to be in place. The extension allows New Mexico to continue to advance initiatives begun under the previous demonstration while implementing new, targeted initiatives to address specific gaps in care and improve healthcare outcomes for its most vulnerable members.

As of February 2019, 831,398 members were enrolled in the Medicaid program. Centennial Care 2.0 became effective January 1, 2019 and will build on the strengths of Centennial Care 1.0 while supporting improvements to achieve four aims:

- Continue the use of appropriate services by members to enhance member access to services and quality of care.
- Manage the pace at which costs are increasing while sustaining or improving quality, services, eligibility and provider rates.
- Streamline processes and modernize the Centennial Care health delivery system through use of data, technology and a member focus.
- Improve access to, and quality of, treatment for Medicaid beneficiaries with Substance Use Disorder (SUD).

Initiatives to improve SUD services will ensure the appropriate level of treatment is provided, increase the availability of medication assisted treatment (MAT), and enhance coordination between levels of care. In addition, New Mexico will launch new supportive housing services for individuals with serious mental illness.

The need to address substance disorders in New Mexico is based on statistics that exceed those of the nation and the impact of SUD on the health of members in Medicaid<sup>1</sup>:

- Over the past 30 years, New Mexico has consistently had among the highest alcohol-related death rates in the United States;

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<sup>1</sup> New Mexico Substance Use Epidemiology Profile, December 2018. <https://nmhealth.org/data/view/substance/2201/>

- New Mexico's rate of death due to alcohol-related chronic disease was more than twice the national rate in 2017. American Indians, both male and female, and Hispanic males have extremely high rates;
- Alcohol related injury deaths were 1.6 times the national average in 2016;
- In the reporting period 2012-2016, drug overdoses surpassed alcohol related motor vehicle traffic crashes;
- Unintentional drug overdoses account for almost 86% of drug overdose deaths with the most common drugs accounting for deaths in descending order being prescription opioids, benzodiazepines, cocaine and methamphetamines;
- New Mexico had the seventeenth highest drug overdose death rate in the nation;
- Opioid overdose related emergency department (ED) visits increased by 51% in New Mexico between 2013 and 2017;
- The negative consequences of excessive alcohol use in New Mexico are not limited to death but also include domestic violence, crime, poverty, and unemployment as well as chronic liver disease, motor vehicle crash and other injuries, mental illness and a variety of other medical problems.

New Mexico has made significant advances in recent years in services to both prevent and treat opioid use disorder (OUD) and SUD, halting the increasing overdose trend from the highest rate among states to 17th<sup>2</sup>, however, high substance use and related health consequences require more aggressive intervention that the waiver will support. Initiatives to improve SUD services will ensure the appropriate level of treatment is provided, increase the availability of MAT and enhance coordination between levels of care.

## DEMONSTRATION APPROVAL

The New Mexico "Centennial care 2.0 Medicaid 1115 Demonstration" renewal, was approved on December 14, 2018, became effective January 1, 2019 and will continue through December 31, 2023 (five years).

## DESCRIPTION OF THE DEMONSTRATION

This waiver renewal builds upon the Centennial Care program's accomplishments and maximizes opportunities for targeted improvements and other modifications in key areas such as care

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<sup>2</sup> <https://www.nmpharmacy.org/resources/2018%2006%2023%20-%20NMPHA%20Law%20Update.pdf>

coordination, benefit and delivery system refinements, payment reform, member engagement and administrative simplification. Improvements and modifications to the program include:

- Refining care coordination to better meet the needs of high-cost, high-need members, especially during transitions in settings of care;
- Continuing to expand access to Long-Term Services and Supports (LTSS) and maintain the progress achieved in rebalancing efforts;
- Improving the integration of behavioral and physical health services, with greater emphasis on other social factors that impact population health and improving the continuum of care for SUDs;
- Expanding payment reform through value-based purchasing (VBP) arrangements to achieve improved quality and better health outcomes;
- Building upon and incorporating policies that seek to enhance members' ability to become more active participants in their own health care

The demonstration extension will provide home visiting services focusing on prenatal care, post-partum care and early childhood development as well as enhanced services for SUD.

Rationale for including home visitation is based on research that show that home-visitation programs positively impact maternal, prenatal and postnatal care and infant care. The results from research involving Medicaid members receiving maternal and infant healthcare, such as a study in Michigan, provide strong evidence for the effectiveness of a Medicaid-sponsored population-based home-visitation program in improving maternal prenatal and postnatal care and infant care<sup>3</sup>.

Rationale for emphasis on SUDs and improving the integration of behavioral and physical health services, is based on research and evidence based practice. Research reported by Ritchie and Roser suggests that “the transition from intermittent or regular use toward addiction and relapse are most strongly influenced by a mixture of stress response, environmental factors, genetic predisposition to addiction and importantly the drug-induced effects which often create a cycle of addiction and relapse.” The Ritchie/Roser article also relates mental health as a risk factor for SUD postulating that a person with a mental health condition is 1.1 to 6.3 times more likely to develop a SUD. ADHD, bipolar disorder, intermittent explosive disorder, and PTSD are among the top diagnoses signaling risk.

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<sup>3</sup> Maghea, C.Ci, Raffo, J.E., Zhu, Q, and Roman, L (2013). Medicaid home visitation and maternal and infant healthcare utilization. American Journal of Preventive Medicine 45(4), October 2013, 441-447.

For these reasons New Mexico’s 1115 waiver extension improves the continuum of SUD services with an implementation plan that includes:

- Treatment of co-occurring mental health conditions with a primary diagnosis of SUD;
- A focus on the integration of SUD screening in physical health provider locations;
- The introduction of behavioral health counselors in primary care agencies, and primary care practitioners in behavioral health agencies; and
- Interdisciplinary teaming with the Medicaid beneficiary and his/her natural supports to treat not only the person with the SUD, but also the family or natural support system.

**POPULATION IMPACTED**

Table 1 represents the eligibility groups currently served in Centennial Care. As of February 2019, New Mexico’s Medicaid program covered 831,398 individuals, with approximately 700,000 enrolled in Centennial Care. Since the end of 2013, New Mexico’s Human Services Department, Medical Assistance Division has enrolled more than 390,000 new individuals into the program, with the largest growth attributed to the Medicaid adult expansion program.

**Table 1 – Eligibility Groups Covered in Centennial Care**

| POPULATION GROUP   | POPULATIONS   |
|--------------------|---|
| TANF and Related   | <ul style="list-style-type: none"> <li>• Newborns, infants and children</li> <li>• Children’s Health Insurance Program</li> <li>• Foster children</li> <li>• Adopted children</li> <li>• Pregnant women</li> <li>• Low income parent(s)/caretaker(s) and families</li> <li>• Breast and Cervical Cancer</li> <li>• Refugees</li> <li>• Transitional Medical Assistance</li> </ul> |
| SSI Medicaid       | <ul style="list-style-type: none"> <li>• Aged, blind, and disabled</li> <li>• Working disabled</li> </ul>   |
| SSI Dual Eligible  | <ul style="list-style-type: none"> <li>• Aged, blind, and disabled</li> <li>• Working disabled</li> </ul>   |
| Medicaid Expansion | <ul style="list-style-type: none"> <li>• Adults between 19 – 64 years old up to 133% of MAGI</li> </ul>   |

The following populations are excluded from Centennial Care:

- Qualified Medicare Beneficiaries;
- Specified Low Income Medicare Beneficiaries;
- Qualified Individuals;
- Qualified Disabled Working Individuals;
- Non-citizens only eligible for emergency medical services;
- Program of All-inclusive Care for the Elderly;
- Individuals residing in ICF/IIDs;
- Medically Fragile 1915(c) waiver participants for HCBS;
- Developmentally Disabled 1915(c) waiver participants for HCBS;
- Individuals eligible for family planning services only; and
- Mi Via 1915 (c) Waiver participants for HCBS.



# B

## EVALUATION QUESTIONS AND HYPOTHESES

### EVALUATION FRAMEWORK INTRODUCTION

The evaluation of the New Mexico 1115 Demonstrative Waiver renewal will utilize a mixed-methods evaluation design with three main goals:

1. Describe the progress made on specific waiver-supported activities (process/implementation evaluation);
2. Demonstrate change/accomplishments in the waiver; and
3. Demonstrate progress in meeting the overall project goals/aims.

Evaluation methods will include descriptive statistics showing change over time in both counts and rates for specific metrics and interrupted time series analysis to assess the degree to which the timing of waiver interventions affect changes across specific outcome measures.

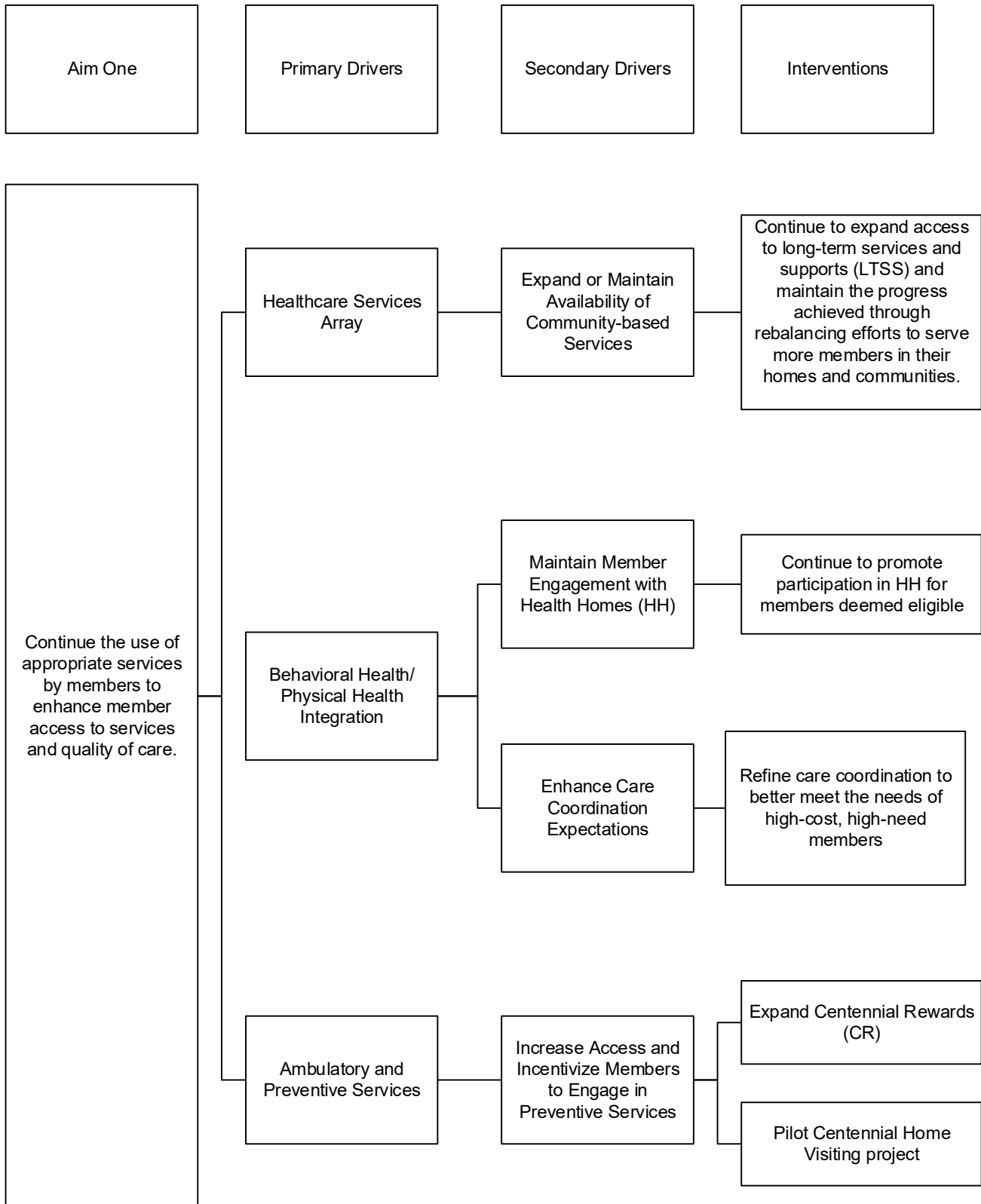
### TARGETS FOR IMPROVEMENT

| PROGRAM OBJECTIVES  | QUANTIFIABLE TARGET   |
|---|---|
| <p>Assure that Medicaid members in the program receive the right amount of care, delivered at the right time and in the right setting.</p> <p>Ensure that the care and services being provided are measured in terms of their quality and not solely by quantity.</p> | <p>I. Continue the use of appropriate services by members to enhance member access to services and quality of care.</p>                             |
| <p>Slow the growth rate of costs or “bend the cost curve” over time without inappropriate reductions in benefits, eligibility or provider rates.</p>  | <p>II. Manage the pace of cost increases while sustaining or improving quality, services, and eligibility.</p>                                      |
| <p>Streamline and modernize the Medicaid program in the State of New Mexico.</p>  | <p>III. Streamline processes and modernize the Centennial Care health delivery system through use of data, technology and person-centered care.</p> |
| <p>Ensure members have access to high quality, evidence-based OUD and other SUD treatment services ranging from medically supervised withdrawal management to ongoing chronic care for these conditions in cost-effective settings.</p>                               | <p>IV. Improve access to, and quality of treatment for Medicaid beneficiaries with SUD.</p>   |

## DRIVER DIAGRAMS, RESEARCH QUESTIONS AND HYPOTHESES

The program aims represent the goals of the waiver. The primary drivers represent concepts related to the aims which lead to strategic initiatives (secondary drivers) put into action through interventions. The driver diagrams below present the connections between the interventions, initiatives, healthcare concepts and program goals.

Evaluation questions and hypotheses for each aim were derived from and organized based on the Driver Diagrams below. The overall aims of the project are to: 1) Continue the use of appropriate services by members and to enhance member access to services and quality of care; 2) Manage the pace at which costs are increasing while sustaining or improving quality, services, eligibility and provider rates; 3) Streamline processes and modernize the Centennial Care health delivery system through use of data, technology and person centered care; 4) Improve quality of care and outcomes for Medicaid beneficiaries with SUD. To accomplish these goals, the demonstration includes several key activities and interventions to maintain current levels or improve performance and health outcomes for Centennial Care 2.0 members. The hypotheses were developed based on the potential for improvement, the ability to measure performance (including baseline measurement) and, where appropriate, use of comparison groups to isolate the effects of the Demonstration and interventions.



**Aim One: Continue the use of appropriate services by members to enhance member access to services and quality of care.**

**PRIMARY DRIVER: HEALTHCARE SERVICES ARRAY**

**Hypothesis 1: Continuing to expand access to LTSS and maintaining the progress achieved through rebalancing efforts to serve more members in their homes and communities will maintain the number of members accessing Community Benefit (CB) services.**

Q1: Has the number of members accessing CB services been maintained year-over-year?

**PRIMARY DRIVER: BEHAVIORAL HEALTH/PHYSICAL HEALTH INTEGRATION**

**Hypothesis 2: Promoting participation in a health home will result in increased member engagement with the Health Home and increase access to integrated physical and behavioral health care in the community.**

Q1: Is there an increase in the number/percentage of members enrolled in a Health Home?

Q2: Is the proportion of members engaged in a Health Home receiving any PH services higher than those not engaged in a Health Home?

**Hypothesis 3: Enhanced care coordination supports integrated care interventions, which lead to higher levels of access to preventative/ ambulatory health services**

Q1: Is there an increase in Centennial Care members who have at least one claim for preventative/ambulatory care in a year?

Q2: Does engagement in a Health Home result in beneficiaries receiving more ambulatory/ preventative health services?

**Hypothesis 4: Engagement in a Health Home and care coordination support Integrative care interventions, which improve quality of care.**

Q1: To what extent is Health Home engagement associated with improved disease management?

Q2: Does Health Home engagement result in increased follow up after hospitalization for mental illness?

**PRIMARY DRIVER: PREVENTIVE SERVICES**

**Hypothesis 5: Expanding member access to and incentives for preventative care through the Centennial Home Visitation (CHV) pilot program and Centennial Rewards (CR) will encourage members to engage in preventative care services**

Q1: Has the percentage of Centennial Care members participating in CR increased?

Q2: Are CR incentive redeeming members likely to receive more preventative/ ambulatory services on an annual basis than those who have not redeemed incentives in the 12 month period following the initial redemption?

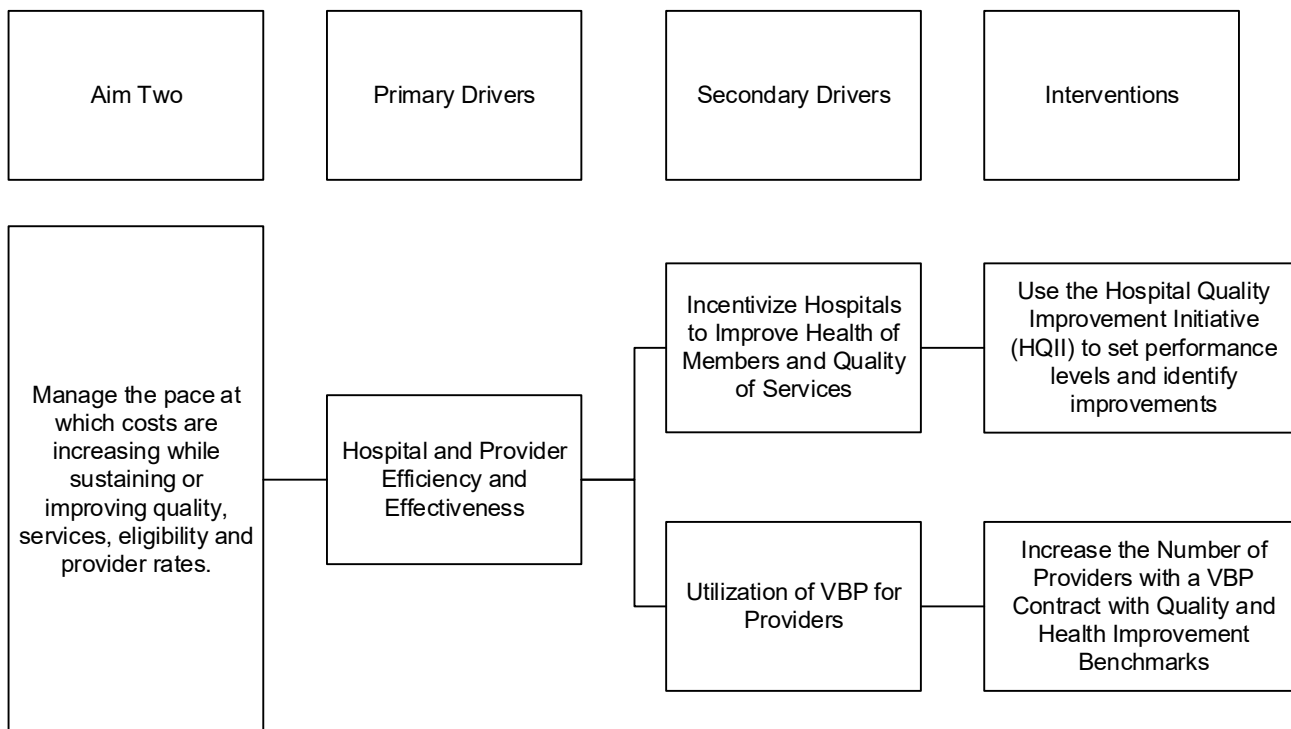
Q3: Does use of CR encourage members to improve their health and make healthy choices?

**PRIMARY DRIVER: HEALTHCARE SERVICES ARRAY**

Q4: Is the percentage of babies born with low birth weight (< 2,500 grams<sup>4</sup>) to mothers participating in the CHV pilot program lower than the percentage of low birth weight babies born to Medicaid mothers who do not participate in the CHV pilot program?

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<sup>4</sup> Specifications from the Medicaid Child Core Set.

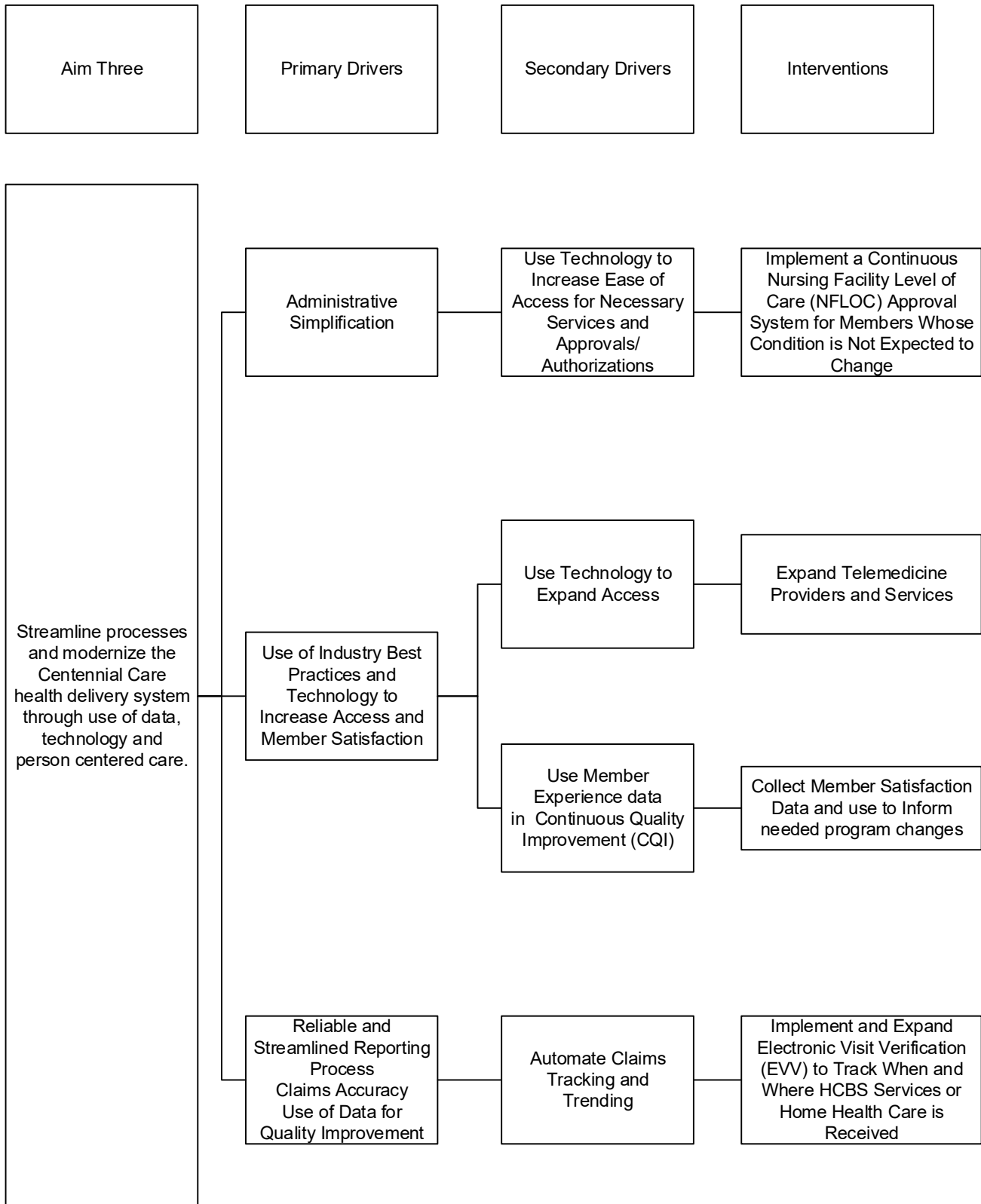


**Aim Two: Manage the pace at which costs are increasing while sustaining or improving quality, services and eligibility.**

**PRIMARY DRIVER: HOSPITAL AND PROVIDER EFFICIENCY AND EFFECTIVENESS**

**Hypothesis 1: Incentivizing hospitals to improve health of members and quality of services and increasing the number of providers with VBP contracts will manage costs while sustaining or improving quality.**

- Q1: Has the number of providers with VBP contracts increased?
- Q2: Has the number of providers participating in VBP arrangements, who meet quality metric targets increased?
- Q3: Has the amount paid in VBP arrangements increased?
- Q4: Has reported performance of Domain 1 measures in the Safety Net Care Pool (SNCP) Hospital Quality Improvement Program been maintained or improved?
- Q5: Do cost trends align with expected reimbursement and benefit changes?



**Aim Three: Streamline processes and modernize the Centennial Care health delivery system through use of data, technology and person-centered care.**

**PRIMARY DRIVER: ADMINISTRATIVE SIMPLIFICATION**

**Hypothesis 1: The Demonstration will relieve administrative burden by implementing a continuous Nursing Facility Level of Care approval with specific criteria for members whose condition is not expected to change over time.**

Q1: Has the number of continuous NFLOC approvals increased during the Demonstration?

**PRIMARY DRIVER: USE OF INDUSTRY BEST PRACTICES AND TECHNOLOGY TO INCREASE ACCESS AND MEMBER SATISFACTION**

**Hypothesis 2: The use of technology and CQI processes align with increased access to services and member satisfaction.**

Q1: Has the number of telemedicine providers increased during Centennial Care 2.0?

Q2: Has the number of unduplicated members with a telemedicine visit increased during Centennial Care 2.0?

Q3: Has member satisfaction increased during Centennial Care 2.0?

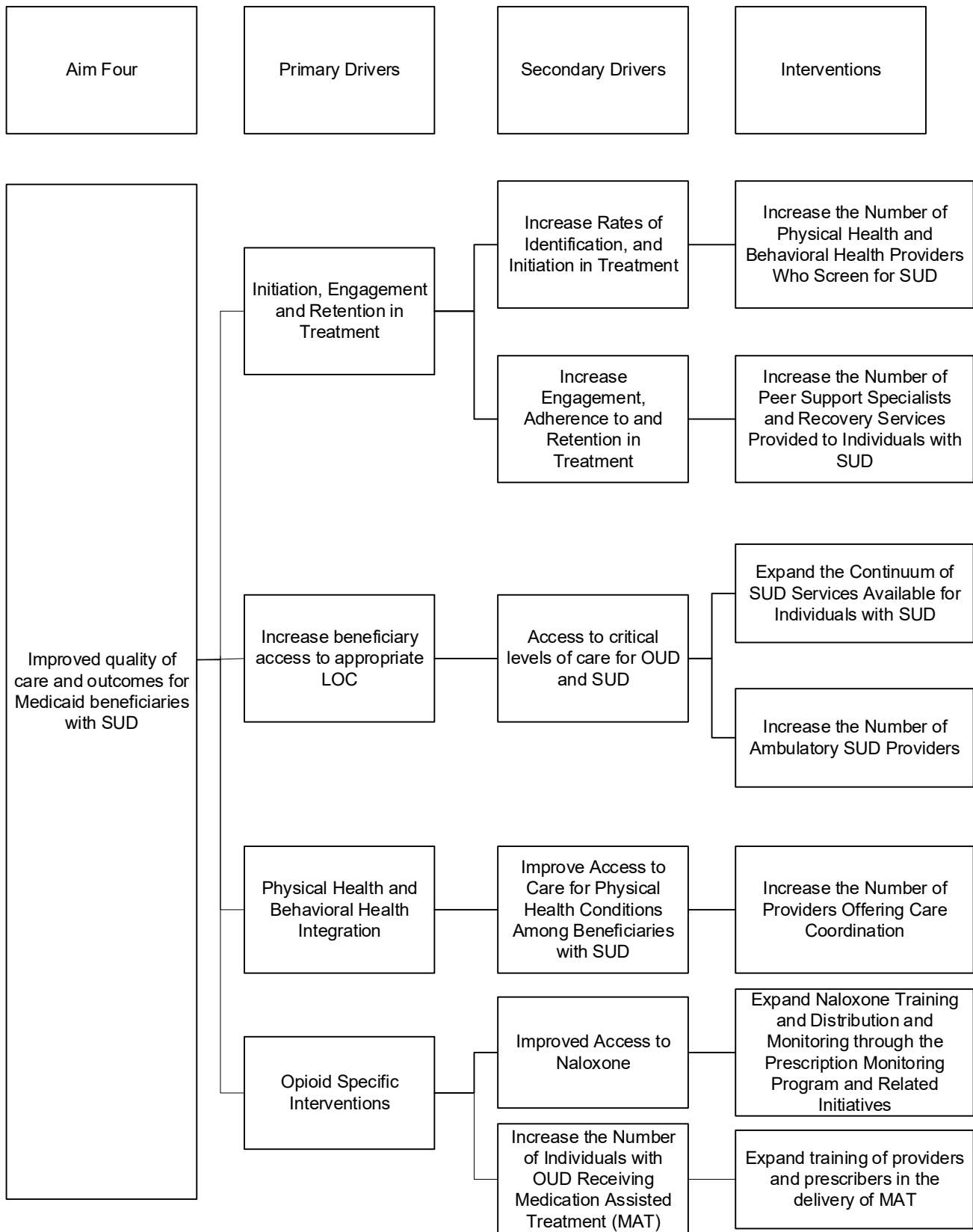
**PRIMARY DRIVER: RELIABLE AND STREAMLINED REPORTING PROCESS, CLAIMS ACCURACY, USE OF DATA FOR QUALITY IMPROVEMENT**

**Hypothesis 3: Implementation of EVV is associated with increased accuracy in reporting services rendered.**

Q1: Has the number of claims submitted through EVV increased?

Q2: Has the proportion of paid or unpaid hours retrieved due to false reporting decreased?





**Aim Four: Improved quality of care and outcomes for Medicaid beneficiaries with SUD.**

**PRIMARY DRIVER: INITIATION, ENGAGEMENT AND RETENTION IN TREATMENT**

**Hypothesis 1: The demonstration will increase the number of providers that provide SUD screening, which will result in an increase in the number of individuals screened and the percentage of individuals who initiate treatment for Alcohol and Other Drug (AOD) Dependence Treatment.**

Q1: Did the number of Behavioral Health and Physical Health providers who screen beneficiaries for SUD increase?

Q2: Did the number of individuals screened for SUD increase?

Q3: Has the percentage of individuals with SUD who received any SUD related service increased?

Q4: Did the percentage of individuals who initiated AOD treatment increase?

**Hypothesis 2: The demonstration will increase peer support services which will result in more individuals engaging in and retained in AOD Dependence Treatment.**

Q1: Has the percentage of individuals with a SUD diagnosis who received peer support services increased?

Q2: Does receiving peer support increase the percentage of individuals engaged in AOD treatment?

Q3: Does receiving peer support increase the treatment tenure for individuals receiving AOD treatment?

Q4: Does receiving peer support increase the treatment tenure for MAT for OUD?

**PRIMARY DRIVER: INCREASE BENEFICIARY ACCESS TO APPROPRIATE LEVEL OF CARE**

**Hypothesis 3: The Demonstration will improve access to a comprehensive continuum of SUD care which will result in decreased utilization of ED and inpatient hospitalization and SUD inpatient readmissions.**

Q1: Has the continuum of services available for individuals with SUD expanded in terms of which services are available?

Q2: Has capacity for ambulatory SUD services increased?

Q3: Has the utilization of EDs by individuals with SUD decreased?

Q4: Has the utilization of inpatient hospital settings for SUD related treatment decreased?

Q5: Has the utilization of inpatient hospital settings for withdrawal management decreased?

Q6: Have inpatient SUD readmissions decreased for individuals with SUD diagnoses?

Q7: Have increasing trends in total cost of care been slowed for individuals with SUD diagnoses?

Q8: Have SUD costs for individuals with SUD diagnoses changed proportionally as expected with increased identification and engagement in treatment?

## PRIMARY DRIVER: PHYSICAL HEALTH AND BEHAVIORAL HEALTH INTEGRATION

**Hypothesis 4: The Demonstration will Increase the number of individuals with fully delegated care coordination which includes screening for co-morbid conditions, which will result in increased utilization for physical health conditions.**

Q1: Has the percentage of individuals diagnosed with SUD receiving care coordination increased?

Q2: Has the number of individuals with SUD receiving preventive health care increased?

## PRIMARY DRIVER: OPIOID SPECIFIC INTERVENTIONS

**Hypothesis 5: Hypothesis 5: The Demonstration will Increase use of naloxone, MAT and enhanced monitoring and reporting of opioid prescriptions through the prescription monitoring program, which will result in fewer overdose deaths due to opioid use.**

Q1: Has there been an expansion of naloxone distribution and training?

Q2: Has the number of providers using MAT services increased?

Q3: Has the number of individuals with SUD receiving MAT increased?

Q4: Is there evidence of enhanced policies and practices related to the prescription monitoring program, real time prescription monitoring program updates, member/provider lock-in programs and limits/edits at pharmacy points-of-sale?

Q5: Is there a decrease in the number of deaths due to overdose?

# C

## METHODOLOGY

### EVALUATION DESIGN

The evaluation design of the 1115 demonstration waiver will utilize a mixed-methods evaluation design. Quantitative methods will include descriptive statistics showing change over time in both counts and rates for specific metrics, interrupted time series analysis to assess the degree to which the timing of waiver interventions effect changes across specific outcome measures, and logistic regression to study characteristics of waiver intervention participants. Where possible, comparison groups will be used to demonstrate that effects are likely due to the waiver demonstration. For some evaluation questions, a comparison group may be possible. The research tables below describe the comparison group, if any, that will be used to answer each question. In some cases, a valid comparison group cannot be used, given the lack of a comparable population not targeted by the intervention for whom data is available. This occurs for interventions that will be implemented for all members throughout the state simultaneously. Where possible, national and regional benchmarks will be used for comparison for those measures for which data are available (e.g. HEDIS measures). Qualitative evaluation methods will include review of policy guides and provider education and outreach.

### TARGET AND COMPARISON POPULATIONS

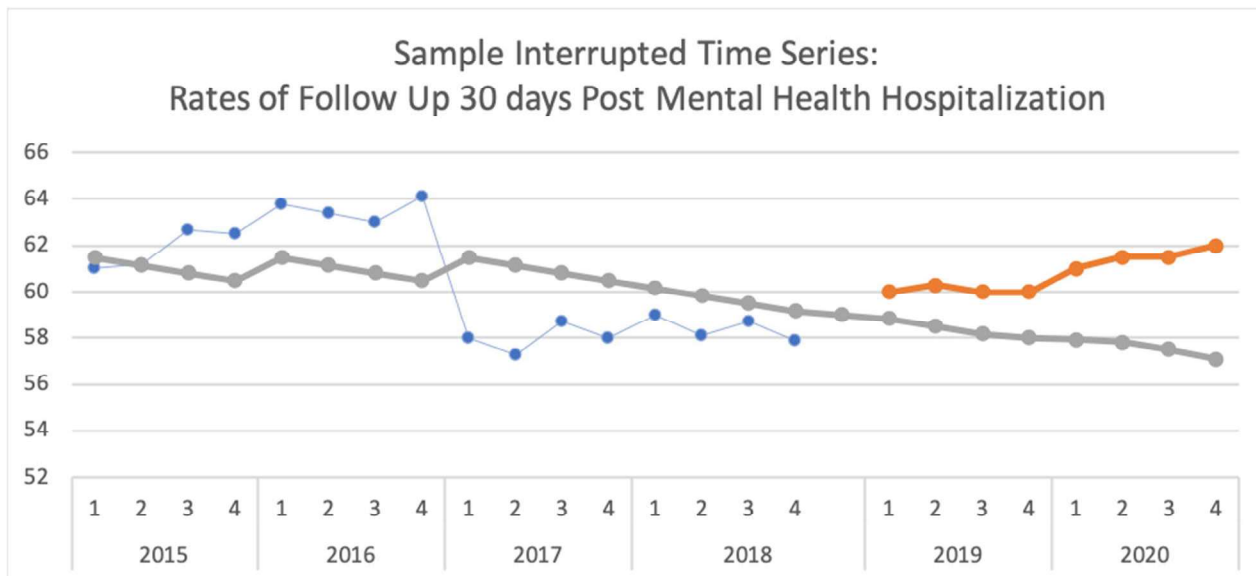
The target populations for the hypotheses in Aims 1 through 4 are managed care Centennial Care 2.0 members, subgroups of managed care members receiving the demonstration interventions and providers serving Centennial Care members.

Within Aims 1 through 3, the specific member subgroups to be studied include: long-term care members, LTSS members enrolled in CB (approximately 25,000), members enrolled in Health Homes (approximately 2,300), members receiving fully delegated care coordination from VBP contracted providers, members engaged in the CR program (approximately 313,000 participating, approximately 57,000 redeeming rewards), and members enrolled in the CHV pilot program (approximately 100 in three participating counties). Provider subgroups to be studied include: SNCP Hospital Quality Improvement incentivized hospitals, and providers with VBP contracts.

Within Aim 4, specific member subgroups to be studied are Centennial Care members with a SUD diagnosis (approximately 93,800), and members with a SUD diagnosis that are receiving MAT (approximately 77,000). The subgroup of members receiving peer support/recovery services is approximately 600. Providers serving members with a SUD diagnosis will also be studied.

The evaluation design does not include a treatment and a control group. That is, there is not a group of managed care members who would be eligible for the waiver interventions but who will not receive them based on random assignment. There are waiver programs (e.g. CHV Pilot) that do

allow for comparisons between groups. These groups are based on member self-selection, not randomization. The interrupted time series design will link events during the evaluation period, forecasting the trajectory of counts and rates over time, without any program changes and comparing this forecast to actual changes over time. To strengthen this design as many data points pre- and post- waiver implementation will be collected as possible across multiple years preceding waiver changes. A graphic example of an interrupted time series is below. While the dates for which certain measures are available vary, the overall evaluation design will examine the period from 2013 (one year prior to implementation of Centennial Care 1.0) through 2023 (the end of the demonstration). This will allow for adjustment of seasonal or other, cyclical variations in the data. Additionally, the design will examine multiple change points, identifying key areas of major program and policy adjustments, so that with each accomplishment (i.e. improved access to and quality of treatment, improved health outcomes, etc.), corresponding changes to metrics can be observed. Comparison groups will be matched to demonstration participants based on key individual characteristics (demographics, diagnoses, prior utilization) and geographic location (e.g. urban vs. rural residence).



**EVALUATION PERIOD**

The evaluation period is January 1, 2014 through December 31, 2023. The Final Evaluation Report analysis will allow for six months run out of encounter data; analysis will focus on the Centennial Care 2.0 period (2019 – 2023). Results across this time period will be included in the Draft Summative Evaluation Report due to CMS by June 30th, 2025. Draft interim results derived from a portion of this evaluation period, January 1, 2019 through December 2021 (with six months run out of encounter data) will be reported in the Draft Interim Evaluation Report due to CMS on December 31, 2022.

## EVALUATION MEASURES AND DATA SOURCES

The evaluation design and evaluation measures are based on data sources that provide valid and reliable data that will be readily available throughout the Demonstration and final evaluation. To determine if data to be used for the evaluation are complete and accurate, an independent evaluator will review the quality and completeness of data sources (including but not limited to encounters for pharmacy, professional and facility services as well as eligibility data). Example analyses the evaluator will use to determine reliability and accuracy of encounter data include, but are not limited to: referential integrity, lag triangles, frequency reports, valid values, missing values, date and numerical distributions duplicates, and encounter to cost report comparisons.

Consistent with recommendations in the CMS State Toolkit for Validating Medicaid Managed Care Encounter Data (August 2019) HSD currently has a comprehensive standardized reporting framework for the Centennial Care program quarterly and annual MCO financial reports that:

- Are specific to the Centennial Care program;
- Include comprehensive instructions, including detailed service categorization criteria;
- Are specific to each program (physical health (PH), behavioral health (BH), LTSS);
- Align with capitation rate structure (e.g., cohort and service category);
- Include monthly lag reports by date of service and date of payment by program and service category grouping;
- Capture paid claim amounts separate from estimated amounts for unpaid claims liability and separate from amounts for payments made outside the MCO's claims system;
- Capture MCO paid amounts for sub-capitated services separate from services paid on a fee-for-service basis;
- Capture medical expenses separate from non-medical/administrative expenses;
- Require MCOs to explain differences identified in the encounter/financial comparison report;
- Are reconciled to the MCO's audited financials; and
- Require a certification statement to be submitted with each report that's signed by the MCO's CFO or CEO attesting that the information submitted in the financial reports is current, complete, and accurate.

As often as possible, measures in the evaluation have been selected from nationally recognized measure stewards for which there are strict data collection processes and audited results. Information from additional data sources, such as the Department of Health, Office of the Medical

Investigator, Hospital Associations, and Pharmacy Boards will be assessed for completeness and accuracy to the best of the ability of the independent evaluator and based on State knowledge of the provider community and experience in New Mexico.

The following tables state the primary drivers, hypotheses, describe both process (implementation) and outcome measures for the evaluation, the measure steward (if applicable), defines the numerators and denominators where appropriate, the types of data (quantitative or qualitative) and the data sources.

**Aim One: Continue the use of appropriate services by members to enhance member access to services and quality of care.**

| RESEARCH QUESTION  | PROCESS/ OUTCOME MEASURE   | STEWARD | NUMERATOR   | DENOMINATOR                                    | DATA SOURCES                                 | ANALYTIC METHODS   |
|--|--|---------|---|--|--|--|
| <b>Primary Driver: Healthcare services array</b>   |  |         |   |  |  |  |
| <b>Hypothesis 1:</b> Continuing to expand access to LTSS and maintaining the progress achieved through rebalancing efforts to serve more members in their homes and communities will maintain the number of members accessing CB services. |  |         |   |  |  |  |
| <b>Q1:</b> Has the number of members accessing CB services been maintained year-over-year?   | <ul style="list-style-type: none"> <li>Number of Centennial Care members enrolled and receiving CB services.</li> </ul>  | N/A     | Number of LTSS-eligible Centennial Care members enrolled and receiving CB services. | N/A  | Medical Management Information System (MMIS) | Descriptive time series analysis. 2013-2023 Annual             |
| <b>Primary Driver: Behavioral health/physical health integration</b>   |  |         |   |  |  |  |
| <b>Hypothesis 2:</b> Promoting participation in a Health Home will result in increased member engagement with a Health Home and increase access to integrated physical and behavioral health care in the community.                        |  |         |   |  |  |  |
| <b>Q1:</b> Is there an increase in the number/percentage of members enrolled in a Health Home?   | <ul style="list-style-type: none"> <li>Number/percentage of Centennial Care members enrolled in a Health Home</li> </ul> | N/A     | Number of Centennial Care members enrolled in a Health Home.                        | Number of all eligible Centennial Care members | MMIS   | Descriptive time series analysis 2015 (baseline) - 2023 Annual |



| RESEARCH QUESTION   | PROCESS/ OUTCOME MEASURE  | STEWARD | NUMERATOR  | DENOMINATOR  | DATA SOURCES | ANALYTIC METHODS  |
|---|---|---------|--|--|--------------|---|
| Q2. Is the proportion of members engaged in a Health Home receiving any PH services higher than those not engaged in a Health Home?                                       | <ul style="list-style-type: none"> <li>Number of Health Home members with at least 1 claim for PH service in the CY (confirm this time period)</li> </ul>   | N/A     | <p><b><u>Treatment group:</u></b><br/>Centennial Care members enrolled in a Health Home with at least 1 claim for PH service in the CY.</p> <p><b><u>Comparison group:</u></b><br/>Centennial Care members not enrolled in a Health Home (matched) with at least 1 claim for PH service in the CY.</p> | <p><b><u>Treatment group:</u></b><br/>Centennial Care members enrolled in a Health Home.</p> <p><b><u>Comparison group:</u></b><br/>Centennial Care members not enrolled in a Health Home (matched).</p> | MMIS         | Interrupted time series analysis with comparison group 2015 (baseline) - 2023<br>Annual |
| <b>Hypothesis 3: Enhanced care coordination supports integrated care interventions, which lead to higher levels of access to preventative/ ambulatory health services</b> |   |         |  |  |              |   |
| Q1: Is there an increase in Centennial Care members who have at least one claim for preventative/ ambulatory care in a year?  | <p>Adults' access to preventative/ ambulatory health services (AAP).</p> <ul style="list-style-type: none"> <li>The percentage of members 20 years and older who had an ambulatory or preventative care visit.</li> </ul> <p>The total rate will be reported; reporting</p> | NCQA    | Centennial Care members 20 years and older who had an ambulatory or preventative care visit  | Centennial Care members 20 years and older   | MMIS         | Interrupted time series analysis 2015 (baseline) - 2023<br>Quarterly                    |

| RESEARCH QUESTION | PROCESS/<br>OUTCOME<br>MEASURE   | STEWARD | NUMERATOR  | DENOMINATOR  | DATA SOURCES | ANALYTIC METHODS   |
|-------------------|--|---------|--|--|--------------|--|
|                   | will not be stratified by age.   |         |  |  |              |  |
|                   | <p>Children and adolescents' access to primary care practitioners (CAP).</p> <ul style="list-style-type: none"> <li>The percentage of members 12 months–19 years of age who had a visit with a PCP.</li> </ul>   | NCQA    | Centennial Care members 12 months–19 years of age who had a visit with a PCP.  | Centennial Care members 12 months–19 years of age. | MMIS         | Interrupted time series analysis 2015 (baseline) - 2023<br>Quarterly |
|                   | <p>Well-child visits in the third, fourth, fifth and sixth years of life (W34).</p> <ul style="list-style-type: none"> <li>The percentage of members 3–6 years of age who had one or more well-child visits with a PCP during the measurement year.</li> </ul> | NCQA    | Centennial Care members 3–6 years of age who had one or more well-child visits with a PCP during the measurement year. | Centennial Care members 3–6 years of age.          | MMIS         | Interrupted time series analysis 2015 (baseline) - 2023<br>Quarterly |

| RESEARCH QUESTION  | PROCESS/<br>OUTCOME<br>MEASURE  | STEWARD | NUMERATOR   | DENOMINATOR   | DATA SOURCES | ANALYTIC METHODS   |
|--|---|---------|---|---|--------------|--|
| Q2: Does engagement in a Health Home result in beneficiaries receiving more ambulatory/preventative health services? | <p>Adults' access to preventive/ambulatory health services (AAP).</p> <ul style="list-style-type: none"> <li>The percentage of Health Home members 20 years and older who had an ambulatory or preventive care visit.</li> </ul> <p>The total rate will be reported; reporting will not be stratified by age.</p> | NCQA    | <p><b><u>Treatment group:</u></b><br/>Centennial Care members 20 years and older enrolled in a Health Home who had an ambulatory or preventive care visit.</p>                | <p><b><u>Treatment group:</u></b><br/>Centennial Care members 20 years and older enrolled in a Health Home.</p>               | MMIS         | <p>Interrupted time series analysis with comparison group 2015 (baseline)-2023<br/>Quarterly</p> |
|  |   |         | <p><b><u>Comparison group:</u></b><br/>Centennial Care members 20 years and older not enrolled in a Health Home (matched) who had an ambulatory or preventive care visit.</p> | <p><b><u>Comparison group:</u></b><br/>Centennial Care members 20 years and older not enrolled in a Health Home (matched)</p> |              |  |
|  | <p>Children and adolescents' access to primary care practitioners (CAP).</p> <ul style="list-style-type: none"> <li>The percentage of Health Home members 12 months–19 years of</li> </ul>  | NCQA    | <p><b><u>Treatment group:</u></b><br/>Centennial Care members 12 months – 19 years of age enrolled in a Health Home who had an ambulatory or preventive care visit.</p>       | <p><b><u>Treatment group:</u></b><br/>Centennial Care members 12 months – 19 years of age enrolled in a Health Home.</p>      | MMIS         | <p>Interrupted time series analysis with comparison group 2015 (baseline)-2023<br/>Quarterly</p> |

| RESEARCH QUESTION   | PROCESS/<br>OUTCOME<br>MEASURE  | STEWARD | NUMERATOR  | DENOMINATOR  | DATA SOURCES | ANALYTIC METHODS   |
|---|---|---------|--|--|--------------|--|
|   | age who had a visit with a PCP.   |         | <b><u>Comparison group:</u></b><br>Centennial Care members 12 months - 19 years of age not enrolled in a Health Home (matched) who had an ambulatory or preventive care visit.             | <b><u>Comparison group:</u></b><br>Centennial Care members 12 months - 19 years of age not enrolled in a Health Home (matched)                         |              |  |
| <b>Hypothesis 4:</b> Engagement in a Health Home and care coordination support integrative care interventions, which improve quality of care. |   |         |  |  |              |  |
| <b>Q1:</b> To what extent is Health Home engagement associated with improved disease management?  | Diabetes screening for members with schizophrenia or bipolar disorder who are using antipsychotic medications (SSD).<br><br>• The percentage of Health Home members 18 – 64 | NCQA    | <b><u>Treatment group:</u></b><br>Members in the treatment group denominator who were dispensed an antipsychotic medication and had a diabetes screening test during the measurement year. | <b><u>Treatment group:</u></b><br>Centennial Care members 18 – 64 years of age with SMI (schizophrenia or bipolar disorder) enrolled in a Health Home. | MMIS         | Interrupted time series analysis with comparison group 2015 (baseline) - 2023<br><br>Quarterly |

| RESEARCH QUESTION | PROCESS/<br>OUTCOME<br>MEASURE  | STEWARD | NUMERATOR  | DENOMINATOR   | DATA SOURCES | ANALYTIC METHODS   |
|-------------------|---|---------|--|---|--------------|--|
|                   | years of age with schizophrenia or bipolar disorder, who were dispensed an antipsychotic medication and had a diabetes screening test during the measurement year.  |         | <b><u>Comparison group:</u></b><br>Members in the comparison group denominator who were dispensed an antipsychotic medication and had a diabetes screening test during the measurement year. | <b><u>Comparison group:</u></b><br>Centennial Care members 18 – 64 years of age with SMI (schizophrenia or bipolar disorder) not enrolled in a Health Home (matched).                               |              |  |
|                   | Anti-depressant medication management (AMM) Effective Acute Phase Treatment<br><ul style="list-style-type: none"> <li>The percentage of Health Home members 18 years of age and older who were treated with antidepressant</li> </ul> | NCQA    | <b><u>Treatment group:</u></b><br>Members in the treatment group denominator who remained on an antidepressant medication treatment for at least 84 days.                                    | <b><u>Treatment group:</u></b><br>Centennial Care members 18 years of age and older enrolled in a Health Home who were treated with antidepressant medication, had a diagnosis of major depression. | MMIS         | Interrupted time series analysis with comparison group 2015 (baseline) - 2023<br>Quarterly |

| RESEARCH QUESTION | PROCESS/ OUTCOME MEASURE   | STEWARD | NUMERATOR  | DENOMINATOR   | DATA SOURCES | ANALYTIC METHODS   |
|-------------------|--|---------|--|---|--------------|--|
|                   | medication, had a diagnosis of major depression and who remained on an antidepressant medication treatment for at least 84 days (12 weeks).  |         | <b>Comparison group:</b><br>Members in the comparison group denominator who remained on an antidepressant medication treatment for at least 84 days. | <b>Comparison group:</b><br>Centennial Care members 18 years of age and older not enrolled in a Health Home (matched) who were treated with antidepressant medication, had a diagnosis of major depression. |              |  |
|                   | Anti-depressant medication management (AMM) Effective Continuation Phase Treatment<br><br>• The percentage of Health Home members 18 years of age and older who were treated with antidepressant medication, had a | NCQA    | <b>Treatment group:</b><br>Members in the treatment group denominator who remained on an antidepressant medication treatment for at least 180 days.  | <b>Treatment group:</b><br>Centennial Care members 18 years of age and older enrolled in a Health Home who were treated with antidepressant medication, had a diagnosis of major depression.                | MMIS         | Interrupted time series analysis with comparison group 2015 (baseline) - 2023<br><br>Quarterly |

| RESEARCH QUESTION   | PROCESS/ OUTCOME MEASURE   | STEWARD | NUMERATOR   | DENOMINATOR  | DATA SOURCES | ANALYTIC METHODS   |
|---|--|---------|---|--|--------------|--|
|   | diagnosis of major depression and who remained on an antidepressant medication treatment for at least 180 days (6 months).   |         | <p><b><u>Comparison group:</u></b><br/>Members in the comparison group denominator who remained on an antidepressant medication treatment for at least 180 days.</p>            | <p><b><u>Comparison group:</u></b><br/>Centennial Care members 18 years of age and older not enrolled in a Health Home (matched) who were treated with antidepressant medication, had a diagnosis of major depression.</p> |              |  |
| <p><b>Q2:</b> Does Health Home engagement result in increased follow up after hospitalization for mental illness?</p> | <p>7 – day follow up after hospitalizations for mental illness (FUH).</p> <ul style="list-style-type: none"> <li>The percentage of discharges for members 6 years of age and older who were hospitalized for treatment of selected mental illness diagnoses</li> </ul> | NCQA    | <p><b><u>Treatment group:</u></b><br/>Members in the treatment group denominator who had a follow-up visit with a mental health practitioner within 7 days after discharge.</p> | <p><b><u>Treatment group:</u></b><br/>Centennial Care members 6 years of age and older enrolled in a Health Home who were hospitalized for treatment of selected mental illness diagnoses.</p>                             | MMIS         | <p>Interrupted time series analysis with comparison group 2015 (baseline)-2023<br/>Quarterly</p> |

| RESEARCH QUESTION | PROCESS/<br>OUTCOME<br>MEASURE  | STEWARD | NUMERATOR  | DENOMINATOR  | DATA SOURCES | ANALYTIC METHODS   |
|-------------------|---|---------|--|--|--------------|--|
|                   | and who had a follow-up visit within 7 days after discharge.  |         | <b>Comparison group:</b><br>Members in the comparison group denominator who had a follow-up visit with a mental health practitioner within 7 days after discharge. | <b>Comparison group:</b><br>Centennial Care members 6 years of age and older not enrolled in a Health Home (matched) who were hospitalized for treatment of selected mental illness diagnoses. |              |  |
|                   | 30 – day follow up after hospitalizations for mental illness (FUH).<br><ul style="list-style-type: none"> <li>The percentage of discharges for members 6 years of age and older who were hospitalized for treatment of selected mental</li> </ul> | NCQA    | <b>Treatment group:</b><br>Members in the treatment group denominator who had a follow-up visit with a mental health practitioner within 30 days after discharge.  | <b>Treatment group:</b><br>Centennial Care members 6 years of age and older enrolled in a Health Home who were hospitalized for treatment of selected mental illness diagnoses.                | MMIS         | Interrupted time series analysis with comparison group 2015 (baseline)-2023<br>Quarterly |



| RESEARCH QUESTION  | PROCESS/ OUTCOME MEASURE  | STEWARD | NUMERATOR   | DENOMINATOR  | DATA SOURCES   | ANALYTIC METHODS                      |
|--|---|---------|---|--|----------------|---------------------------------------|
|  | illness diagnoses and who had a follow-up visit within 30 days after discharge. |         | <b>Comparison group:</b><br>Members in the comparison group denominator who had a follow-up visit with a mental health practitioner within 30 days after discharge. | <b>Comparison group:</b><br>Centennial Care members 6 years of age and older not enrolled in a Health Home (matched) who were hospitalized for treatment of selected mental illness diagnoses. |                |                                       |
| <b>Primary Driver: Preventive services</b>   |   |         |   |  |                |                                       |
| <b>Hypothesis 5:</b> Expanding member access to and incentives for preventative care through the CHV pilot program and CR will encourage members to engage in preventative care services |   |         |   |  |                |                                       |
| Q1: Has the percentage of Centennial Care members participating in CR increased?   | Percentage of CC members participating in CR.                                   | N/A     | Centennial Care members participating in CR. A participating member would be someone who has engaged (i.e. registered) and has earned points.                       | Total number of enrolled Centennial Care members   | MMIS<br>Finity | Descriptive time series.<br>2013-2023 |

| RESEARCH QUESTION  | PROCESS/ OUTCOME MEASURE   | STEWARD | NUMERATOR   | DENOMINATOR  | DATA SOURCES                    | ANALYTIC METHODS   |
|--|--|---------|---|--|---------------------------------|--|
| <b>Q2:</b> Are CR incentive redeeming members likely to receive more preventative/ ambulatory services on an annual basis than those who have not redeemed incentives in the 12 month period following the initial redemption? | Percentage of CR participating members with an annual preventative/ ambulatory service.  | N/A     | <b><u>Treatment group:</u></b><br>Centennial Care members redeeming rewards with preventative/ ambulatory services in the 12-month period following the initial redemption. | <b><u>Treatment group:</u></b><br>Centennial Care members redeeming CR rewards during the calendar year.               | MMIS & Finity                   | Interrupted time series analysis with comparison group. 2013-2023 Annual |
| <b>Q3:</b> Does use of CR encourage members to improve their health and make healthy choices?  | Percent of CR users responding positively on satisfaction survey to question regarding if the program helped to improve their health and make healthy choices. | N/A     | <b><u>Comparison group:</u></b><br>CC members not redeeming rewards with preventative/ ambulatory services in the 12-month period (matched with members redeeming rewards). | <b><u>Comparison group:</u></b><br>Centennial Care members not redeeming CR rewards during the calendar year (matched) | Finity Satisfaction Survey data | Descriptive time series analysis 2018-2023                               |

| RESEARCH QUESTION   | PROCESS/ OUTCOME MEASURE                                       | STEWARD                                    | NUMERATOR  | DENOMINATOR  | DATA SOURCES | ANALYTIC METHODS   |
|---|--|--|--|--|--------------|--|
| Q4: Is the percentage of babies born with low birth weight (< 2,500 grams <sup>5</sup> ) to mothers participating in the CHV pilot program lower than the percentage of low birth weight babies born to Medicaid mothers who do not participate in the CHV pilot program? | Live births weighing less than 2,500 grams (low birth weight). | Centers for Disease Control and Prevention | <p>question: Do rewards encourage you to make healthy choices?</p> <p><b>Treatment group:</b> Number of resident live births in the treatment denominator weighing less than 2,500 grams (low birth weight).</p> <p><b>Comparison group:</b> Number of resident live births in the comparison denominator weighing less than 2,500 grams (low birth weight).</p> | <p><b>Treatment group:</b> Number of resident live births in the state in the reporting period who are CHV pilot participants.</p> <p><b>Comparison group:</b> Number of resident live births in the state in the reporting period who are non-CHV pilot participants (matched).</p> | MMIS         | <p>Interrupted time series analysis with comparison group.<br/>2018-2023 Annual</p> <p>Benchmark Comparison:<br/>Eligible CHV birth outcome with national benchmarks</p> |

<sup>5</sup> Specifications from the Medicaid Child Core Set.

**Aim Two: Manage the pace at which costs are increasing while sustaining or improving quality, services and eligibility.**

| RESEARCH QUESTION  | PROCESS/ OUTCOME MEASURE  | STEWARD | NUMERATOR   | DENOMINATOR                                   | DATA SOURCES | ANALYTIC METHODS  |
|--|---|---------|---|---|--------------|---|
| <b>Primary Driver: Hospital and provider efficiency and effectiveness</b>  |   |         |   |   |              |   |
| <b>Hypothesis 1:</b> Incentivizing hospitals to improve health of members and quality of services and increasing the number of providers with VBP contracts will manage costs while sustaining or improving quality. |   |         |   |   |              |   |
| <b>Q1:</b> Has the number of providers with VBP contracts increased?   | Total number of providers with VBP contracts.                           | N/A     | Centennial Care providers with VBP contracts.                                 | N/A   | MCO Report   | Descriptive time series (annual) using CY2018 as baseline year. |
| <b>Q2:</b> Has the number of providers participating in VBP arrangements, who meet quality metric targets increased?   | Number/ percentage of providers meeting quality threshold.              | N/A     | Centennial Care providers with VBP contracts who meet quality metric targets. | Centennial Care providers with VBP contracts. | MCO Report   | Descriptive time series analysis. 2019 - 2023                   |
| <b>Q3:</b> Has the amount paid in VBP arrangements increased?  | Percentage of total payments that are for providers in VBP arrangements | N/A     | Total payments to Centennial Care providers with VBP contracts                | Total payments to Centennial Care providers   | MCO Report   | Descriptive time series analysis. Jan 2017 - 2023               |

| RESEARCH QUESTION   | PROCESS/ OUTCOME MEASURE   | STEWARD                              | NUMERATOR  | DENOMINATOR   | DATA SOURCES   | ANALYTIC METHODS   |
|---|--|--------------------------------------|--|---|--|--|
| <p><b>Q4:</b> Has reported performance of Domain 1 measures in the SNCP Hospital Quality Improvement Program been maintained or improved?</p> <p><b>Q5:</b> Do cost trends align with expected reimbursement and benefit changes?</p> | <p>Percentage of qualified Domain 1 SNCP Hospital Quality Incentive measures that have maintained or improved their reported performance rates over the previous year.</p> | N/A                                  | <p>Number of Domain 1 SNCP Hospital Quality Incentive measures that have maintained or improved the reported performance rate.</p> | <p>Number of Domain 1 SNCP Hospital Quality Incentive performance measures.</p> | <p>DOH HIT, NM Hospital Association</p>  | <p>Descriptive time series (annual) using CY2018 as baseline year with control chart.</p>  |
|   | <p>Cost per member trend.</p>  | N/A                                  | <p>Total cost of Centennial Care</p>   | <p>Centennial Care managed care members.</p>                                    | <p>MMIS<br/>CMS Report 64</p>  | <p>Descriptive time series (annual) with control chart; using CY2013 as baseline year.</p> |
| <p>Cost per user trend.</p>   | N/A  | <p>Total cost of Centennial Care</p> | <p>Centennial Care managed care users.</p>   | <p>MMIS<br/>CMS Report 64</p>   | <p>Descriptive time series (annual) with control chart; using CY2013 as baseline year.</p> |  |

**Aim Three: Streamline processes and modernize the Centennial Care health delivery system through use of data, technology and person-centered care.**

| RESEARCH QUESTION  | PROCESS/ OUTCOME MEASURE              | STEWARD | NUMERATOR   | DENOMINATOR | DATA SOURCES | ANALYTIC METHODS   |
|--|---------------------------------------|---------|---|-------------|--------------|--|
| <b>Primary Driver: Administrative simplification</b>   |                                       |         |   |             |              |  |
| <b>Hypothesis 1:</b> The Demonstration will relieve administrative burden by implementing a continuous Nursing Facility Level of Care (NFLOC) approval with specific criteria for members whose condition is not expected to change over time. |                                       |         |   |             |              |  |
| Q1: Has the number of continuous NFLOC approvals increased during the Demonstration?   | Number of continuous NFLOC approvals. | N/A     | Number of continuous NFLOC approvals for Centennial Care members eligible for LTSS. | N/A         | MCO Report   | Descriptive time series analysis.<br>2018 (baseline) – 2023<br>Quarterly |
| <b>Primary Driver: Use of industry best practices and technology to increase access and member satisfaction</b>  |                                       |         |   |             |              |  |
| <b>Hypothesis 2:</b> The use of technology and CQI processes align with increased access to services and member satisfaction.  |                                       |         |   |             |              |  |
| Q1: Has the number of telemedicine providers increased during Centennial Care 2.0?   | Number of telemedicine providers.     |         | Number of Centennial Care telemedicine providers.                                   | N/A         | MCO Report   | Descriptive time series.<br>2013 – 2023<br>Annually                      |

| RESEARCH QUESTION  | PROCESS/ OUTCOME MEASURE                           | STEWARD       | NUMERATOR   | DENOMINATOR   | DATA SOURCES | ANALYTIC METHODS                                     |
|--|--|---------------|---|---|--------------|--|
| <b>Q2:</b> Has the number of unduplicated members with a telemedicine visit increased during Centennial Care 2.0?                                | Number of members receiving telemedicine services. | N/A           | Number of unduplicated Centennial Care members with a telemedicine visit.                                     | N/A   | MMIS         | Descriptive time series.<br>2013 – 2023<br>Quarterly |
| <b>Q3:</b> Has member satisfaction increased during Centennial Care 2.0?   | Member rating of health care.                      | NCQA<br>CAHPS | Composite score CAHPS survey that reflects overall satisfaction with health care for Centennial Care members. | Number of Centennial Care CAHPS respondents rating overall satisfaction with health care. | CAHPS        | Interrupted time series.<br>2014 – 2023<br>Annually  |
|  | Member rating of health plan.                      | NCQA          | Composite score that reflects satisfaction with health plan for Centennial Care members.                      | Number of Centennial Care CAHPS respondents rating satisfaction with health plan.         | CAHPS        | Descriptive time series.<br>2014 – 2023<br>Annually  |
|  | Member rating of personal doctor.                  | NCQA          | Composite score that reflects satisfaction with personal doctor for Centennial Care members.                  | Number of Centennial Care CAHPS respondents rating satisfaction with personal doctor.     | CAHPS        | Descriptive time series.<br>2014 – 2023<br>Annually  |
| <b>Primary Driver: Reliable and streamlined reporting process, claims accuracy, use of data for quality improvement</b>                          |  |               |   |   |              |  |
| <b>Hypothesis 3:</b> Implementation of electronic visit verification (EVV) is associated with increased accuracy in reporting services rendered. |  |               |   |   |              |  |

| RESEARCH QUESTION   | PROCESS/ OUTCOME MEASURE  | STEWARD | NUMERATOR  | DENOMINATOR   | DATA SOURCES | ANALYTIC METHODS  |
|---|---|---------|--|---|--------------|---|
| <b>Q1:</b> Has the number of claims submitted through EVV increased?                              | Number of claims submitted through EVV.                           | N/A     | Number of Centennial Care claims submitted through EVV.          | N/A   | MCO Report   | Descriptive time series.<br>2018 (baseline) – 2023<br>Quarterly |
| <b>Q2:</b> Has the proportion of paid or unpaid hours retrieved due to false reporting decreased? | Percent of paid or unpaid hours retrieved due to false reporting. | N/A     | Number of paid or unpaid hours retrieved due to false reporting. | Centennial Care claims paid and unpaid hours reported | MCO Report   | Descriptive time series.<br>2018 (baseline) – 2023<br>Quarterly |



**Aim Four: Improved quality of care and outcomes for Medicaid beneficiaries with SUD.**

| RESEARCH QUESTION  | PROCESS/<br>OUTCOME<br>MEASURE   | STEWARD | NUMERATOR   | DENOMINATOR                                      | DATA SOURCES | ANALYTIC METHODS                                       |
|--|--|---------|---|--|--------------|--|
| <b>Primary Driver: Initiation, engagement and retention in treatment</b>   |  |         |   |  |              |  |
| <b>Hypothesis 1:</b> The demonstration will increase the number of providers that provide SUD screening, which will result in an increase in the number of individuals screened and the percentage of individuals who initiate treatment for AOD dependence treatment. |  |         |   |  |              |  |
| Q1: Did the number of Behavioral Health and Physical Health providers who screen beneficiaries for SUD increase?   | Number of providers who provide SUD screening.   | N/A     | Number of Centennial Care Physical Health and Behavioral Health providers who provide SUD screening       | N/A  | MMIS         | Descriptive time series analysis. 2018 -2023 Quarterly |
| Q2: Did the number of individuals screened for SUD increase?   | Number of individuals screened for SUD.  | N/A     | Centennial Care members screened for SUD  | N/A  | MMIS         | Descriptive time series analysis. 2018 -2023 Quarterly |
| Q3: Has the percentage of individuals with SUD who received any SUD related service increased?   | Percentage of individuals with a SUD diagnosis who received any SUD service during the measurement year. | N/A     | Centennial Care Individuals with a SUD diagnosis who received any SUD service during the measurement year | Centennial Care Individuals with a SUD diagnosis | MMIS         | Descriptive time series analysis. 2018 -2023 Quarterly |

| RESEARCH QUESTION   | PROCESS/ OUTCOME MEASURE   | STEWARD | NUMERATOR  | DENOMINATOR  | DATA SOURCES | ANALYTIC METHODS   |
|---|--|---------|--|--|--------------|--|
| Q4: Did the percentage of individuals who initiated AOD treatment increase? | <p>Initiation of AOD Abuse or Dependence Treatment (IET).</p> <ul style="list-style-type: none"> <li>The percentage of members who initiate treatment through an inpatient AOD admission, outpatient visit, intensive outpatient encounter or partial hospitalization, telehealth or MAT within 14 days of diagnosis.</li> </ul> | NCQA    | Centennial Care individuals with SUD diagnosis who initiate AOD treatment through an inpatient admission, outpatient visit, telemedicine, intensive outpatient encounter or partial hospitalization or MAT within 14 days of the IESD. | Centennial Care adolescent and adult members (13 years and older) with a new episode of AOD abuse or dependence. | MMIS         | <p>Interrupted time series analysis. 2018 -2023 Quarterly</p> <p>National or other state benchmarks change over time</p> |

**Hypothesis 2:** The demonstration will increase peer support services which will result in more individuals engaging in and retained in AOD Dependence Treatment.

| RESEARCH QUESTION   | PROCESS/ OUTCOME MEASURE   | STEWARD | NUMERATOR   | DENOMINATOR  | DATA SOURCES | ANALYTIC METHODS  |
|---|--|---------|---|--|--------------|---|
| <b>Q1:</b> Has the percentage of individuals with a SUD diagnosis who received peer support services increased? | Percentage of individuals with a SUD diagnosis who received peer support.  | N/A     | Centennial Care members with a SUD diagnosis who receive peer support.  | Centennial Care members with a SUD diagnosis.  | MMIS         | Interrupted time series analysis. 2018-2023 Quarterly   |
| <b>Q2:</b> Does receiving peer support increase the percentage of individuals engaged in AOD treatment?         | Engagement of AOD Abuse or Dependence Treatment (IET) <ul style="list-style-type: none"> <li>The percentage of members who initiated treatment and who had two or more additional AOD services or MAT within 34 days of the initiation visit.</li> </ul> | NCQA    | Centennial Care adolescent and adult members (13 years and older), with SUD diagnosis, receiving peer support, who initiated treatment and who had two or more additional AOD services or MAT within 34 days of the initiation visit. | Centennial Care adolescent and adult members (13 years and older) with a new episode of AOD abuse or dependence. | MMIS         | Interrupted time series analysis. 2018 -2023 Quarterly<br>National or other state benchmarks change over time |
| <b>Q3:</b> Does receiving peer support increase the treatment tenure for individuals receiving AOD treatment?   | Average Length of Stay (ALOS).   | N/A     | Average Length of Stay for Centennial Care individuals with SUD in AOD treatment, receiving peer support.   |  | MMIS         | Interrupted time series analysis. 2018 -2023 Quarterly  |

| RESEARCH QUESTION   | PROCESS/<br>OUTCOME<br>MEASURE                | STEWARD | NUMERATOR   | DENOMINATOR   | DATA<br>SOURCES                 | ANALYTIC<br>METHODS                                    |
|---|---|---------|---|---|---------------------------------|--|
| <b>Q4:</b> Does receiving peer support increase the treatment tenure for MAT for OUD?   | Continuity of Pharmacotherapy for OUD.<br>USC | USC     | Individuals in the denominator who have at least 180 days of continuous pharmacotherapy with a medication prescribed for OUD without a gap of more than seven days. | Centennial Care members 18-64 years of age who had a diagnosis of OUD and at least one claim for an OUD medication. | MMIS                            | Interrupted time series analysis. 2018 -2023 Quarterly |
| <b>Primary Driver: Increase beneficiary access to appropriate level of care</b>   |   |         |   |   |                                 |  |
| Hypothesis 3: The Demonstration will improve access to a comprehensive continuum of SUD care which will result in decreased utilization of ED and inpatient hospitalization and SUD inpatient readmissions. |   |         |   |   |                                 |  |
| <b>Q1:</b> Has the continuum of services available for individuals with SUD expanded in terms of which services are available?  | Continuum of services available. <sup>6</sup> | N/A     | Centennial Care continuum of care.  | N/A   | BHSD GeoMap reports, MCO Report | Descriptive data analysis. 2018-2023                   |

<sup>6</sup> SBIRT, and other screening, HH, peer support, recovery services, CCSS, crisis stabilization, outpatient, intensive outpatient, partial hospitalization, MAT, residential, inpatient, pharmacy services, supported housing and transitional living services.

| RESEARCH QUESTION  | PROCESS/<br>OUTCOME<br>MEASURE  | STEWARD | NUMERATOR   | DENOMINATOR   | DATA<br>SOURCES     | ANALYTIC<br>METHODS                                    |
|--|---|---------|---|---|---------------------|--|
| <b>Q2:</b> Has capacity for ambulatory SUD services increased?                                     | Number of providers and capacity for ambulatory SUD services.                         | N/A     | Number of Centennial Care providers and capacity for SUD services.                                  | N/A   | MMIS and MCO Report | Interrupted time series analysis. 2018 -2023 Quarterly |
| <b>Q3:</b> Has the utilization of EDs by individuals with SUD decreased?                           | Percentage of ED visits of individuals with SUD diagnoses.                            | N/A     | Number of ED visits of Centennial Care members with a SUD diagnosis.                                | ED visits for Centennial Care members.                                    | MMIS                | Interrupted time series analysis. 2018 -2023 Quarterly |
| <b>Q4:</b> Has the utilization of inpatient hospital settings for SUD related treatment decreased? | Percentage of Inpatient admissions for SUD related treatment.                         | N/A     | Inpatient admissions for SUD related treatment for Centennial Care members.                         | Inpatient admissions for Centennial Care members.                         | MMIS                | Interrupted time series analysis. 2018 -2023 Quarterly |
| <b>Q5:</b> Has the utilization of inpatient hospital settings for withdrawal management decreased? | Percentage of Inpatient admissions of individuals with SUD for withdrawal management. | N/A     | Inpatient admissions of individuals with SUD for withdrawal management for Centennial Care members. | Inpatient admissions of individuals with SUD for Centennial Care members. | MMIS                | Descriptive time series analysis. 2018 -2023 Quarterly |

| RESEARCH QUESTION   | PROCESS/ OUTCOME MEASURE   | STEWARD | NUMERATOR  | DENOMINATOR   | DATA SOURCES | ANALYTIC METHODS   |
|---|--|---------|--|---|--------------|--|
| <b>Q6:</b> Have inpatient SUD readmissions decreased for individuals with SUD diagnoses?                | 7 and 30 day inpatient and residential SUD readmission rates                           | N/A     | 7-day inpatient and residential readmission rates for Centennial Care users discharged with SUD diagnosis and readmitted with SUD diagnosis.<br><br>30-day inpatient and residential readmission rates for Centennial Care users discharged with SUD diagnosis. and readmitted with SUD diagnosis. | Unique Centennial Care Inpatient with discharge diagnosis of SUD diagnosis. | MMIS         | Interrupted time series analysis.<br><br>2018 -2023<br>Quarterly |
| <b>Q7:</b> Have increasing trends in total cost of care been slowed for individuals with SUD diagnoses? | Total and PMPM cost (medical, behavioral and pharmacy) for members with SUD diagnosis. | N/A     | Total cost (medical, behavioral and pharmacy) for Centennial Care members with SUD diagnosis   | Number of Centennial Care members (and member months) with SUD diagnosis    | MMIS         | Descriptive time series analysis.<br>2018 -2023<br>Quarterly     |

| RESEARCH QUESTION  | PROCESS/ OUTCOME MEASURE   | STEWARD | NUMERATOR  | DENOMINATOR  | DATA SOURCES                       | ANALYTIC METHODS                                       |
|--|--|---------|--|--|------------------------------------|--|
|  | Total and PMPM costs (medical, behavioral and pharmacy) for members with SUD diagnosis by SUD source of care | N/A     | Total cost (medical, behavioral and pharmacy) for Centennial Care members with SUD diagnosis by source of care | Number of Centennial Care members (and member months) with SUD diagnosis | MMIS                               | Descriptive time series analysis. 2018 -2023 Quarterly |
| <b>Q8:</b> Have SUD costs for individuals with SUD diagnoses changed proportionally as expected with increased identification and engagement in treatment?   | Total and PMPM cost for SUD services for members with SUD diagnosis  | N/A     | Total SUD service cost for Centennial Care members with SUD diagnosis  | Number of Centennial Care members (and member months) with SUD diagnosis | MMIS                               | Descriptive time series analysis. 2018 -2023 Quarterly |
|  | Total and PMPM cost for SUD services by type of care (IP, OP, RX, etc.)                                      | N/A     | Total SUD service cost for Centennial Care members with SUD diagnosis by type of care (IP, OP, RX, etc.)       | Number of Centennial Care members (and member months) with SUD diagnosis | MMIS                               | Descriptive time series analysis. 2018 -2023 Quarterly |
| <b>Primary Driver: Physical health and behavioral health integration</b>   |  |         |  |  |                                    |  |
| <b>Hypothesis 4:</b> The Demonstration will increase the number of individuals with fully delegated care coordination which includes screening for co-morbid conditions, which will result in increased utilization of physical health services. |  |         |  |  |                                    |  |
| <b>Q1:</b> Has the percentage of individuals diagnosed with SUD receiving care coordination increased?   | Percentage of individuals diagnosed with SUD receiving care coordination.                                    | N/A     | Centennial Care members with SUD diagnosis in fully delegated care coordination.                               | Centennial Care members with SUD diagnosis.                              | MMIS Health Home enrollment roster | Interrupted time series analysis. 2018 -2023 Quarterly |

| RESEARCH QUESTION  | PROCESS/ OUTCOME MEASURE  | STEWARD | NUMERATOR  | DENOMINATOR                                 | DATA SOURCES | ANALYTIC METHODS                                       |
|--|---|---------|--|---|--------------|--|
| <b>Q2:</b> Has the number of individuals with SUD receiving preventive health care increased?  | Percentage of individuals with SUD receiving preventive/ ambulatory health services (AAP).<br>The percentage of individuals with SUD who are 20 years and older who had an ambulatory or preventive care visit. The total rate will be reported; reporting will not be stratified by age. | NCQA    | Centennial Care members with SUD diagnosis receiving preventive/ ambulatory health services. | Centennial Care members with SUD diagnosis. | MMIS         | Interrupted time series analysis. 2018 -2023 Quarterly |
| <b>Primary Driver: Opioid specific interventions</b>   |   |         |  |   |              |  |
| <b>Hypothesis 5:</b> Hypothesis 5: The Demonstration will increase use of naloxone, MAT and enhanced monitoring and reporting of opioid prescriptions through the prescription monitoring program, which will result in fewer overdose deaths due to opioid use. |   |         |  |   |              |  |
| <b>Q1:</b> Has there been an expansion of naloxone distribution and training?  | Number of naloxone training and kit distributions.  | N/A     | Number of naloxone training and kit distributions to New Mexico residents.                   | N/A   | DOH, BHSD    | Descriptive data analysis. 2018 -2023 Annually         |



| RESEARCH QUESTION  | PROCESS/ OUTCOME MEASURE                                      | STEWARD | NUMERATOR  | DENOMINATOR  | DATA SOURCES   | ANALYTIC METHODS   |
|--|---|---------|--|--|--|--|
| <b>Q2:</b> Has the number of MAT providers increased?  | Number of MCO network MAT providers.                          | N/A     | Number of MCO network MAT providers.   | N/A  | MCO report   | Descriptive time series.<br>2018 -2023<br>Annually           |
| <b>Q3:</b> Has the number of individuals with SUD receiving MAT increased?   | Percentage of individuals diagnosed with SUD with MAT claims. | N/A     | MAT claims for Centennial Care individuals with SUD diagnosis.                         | Total claims for Centennial Care individuals with SUD diagnosis. | MMIS   | Interrupted time series analysis.<br>2018 -2023<br>Quarterly |
| <b>Q4:</b> Is there evidence of enhanced policies and practices related to the prescription monitoring program, real time prescription monitoring program updates, member/provider lock-in programs and limits/edits at pharmacy points-of-sale? | Number of policy and procedure manual references.             | N/A     | Number of policy and procedure manual references about prescription monitoring program | N/A  | NM Board of Pharmacy,<br>MCO report                        | Descriptive data.<br>2018 -2023<br>Annually                  |
| <b>Q5:</b> Is there a decrease in the number of deaths due to overdose?  | Rate of deaths due to overdose.                               | N/A     | Overdose deaths of New Mexico residents.   | Total deaths of New Mexico Residents                             | DOH epidemiology reports<br>Office of Medical Investigator | Interrupted time series analysis.<br>2018 -2023<br>Annually  |

## ANALYTIC METHODS

Multiple analytic techniques will be used, depending on the type of data for the measure and the availability of data. The Tables in Section B of this document detail the evaluation plan, including analytic methods for each measure. The following table summarizes the overall evaluation plan and analytic methods.

Descriptive, content analysis will be used to present data related to process evaluation measures gathered from document reviews. The data will be summarized in order to describe the activities undertaken, including highlighting specific successes and challenges.

Descriptive statistics, including frequency distributions and time series (presentation of rates over time), will be used for quantitative process measures in order to describe the output of specific waiver activities. These analysis techniques will also be used for some short-term outcome measures in cases where the role of the measure is to describe changes in the population, but not to show specific effects of the waiver demonstration.

An interrupted time series design will include annual or quarterly observations of each measure over time, beginning at least one year prior to the demonstration implementation. The counterfactual for the analysis is the trend, as it would have happened, without being “interrupted” by the demonstration. It is anticipated that the slope of the trend line will change after implementation of specific waiver demonstration activities. Specific outcome measures will be collected for multiple time periods both before and after the first demonstration period and waiver renewal and related interventions. The evaluation design table contains the time span during which observations will be collected for each specific measure. Segmented regression analysis will be used to measure statistically the changes in level and slope in the post-intervention period compared to the pre-intervention period.

$$Y_t = \beta_0 + \beta_1 T + \beta_2 X_t + \beta_3 TX_t$$

Where  $\beta_0$  represents the baseline observation,  $\beta_1$  is the change in the measure associated with a time unit (quarter or year) increase (representing the underlying pre-intervention trend),  $\beta_2$  is the level change following the intervention and  $\beta_3$  is the slope change following the intervention (using the interaction between time and intervention:  $TX_t$ ).<sup>7</sup>

Where possible, comparison groups (and/or national benchmarks) will be used to strengthen causal inference in the design. In cases where a comparison group trend is available, we will conduct a

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<sup>7</sup> Bernal, J.L., Cummins, S. and Gasparrini, A. “Interrupted time series regression for the evaluation of public health interventions: a tutorial” (2017 Feb.). *International Journal of Epidemiology* 46(1): 348-355.

descriptive analysis of the differences in slope change between the treatment group and comparison trend lines.

# D

## METHODOLOGICAL LIMITATIONS

There are two main methodological limitations. The first is related to the difficulty in obtaining complete data to fully assess the impact of the waiver activities. The second is that the evaluation design, overall, does not include a treatment and a control group. There are a small number of programs (e.g. CHV Pilot) that will not be implemented with all members statewide simultaneously and, therefore, do not allow for comparisons between groups. Similarly, some interventions (e.g. Health Homes) are not available throughout all regions of the state. However, these groups are based on member self-selection or service availability, not randomization. The state considered options for comparing members opting in to some services to those who do not. However, there are likely to be considerable differences among these groups that would result in significant selection bias in the design.

This evaluation primarily uses descriptive (either time series or pre-post comparison) analyses and an interrupted time series design, where possible. Interrupted time series analysis is often used in cases where an intervention is implemented across an entire population at the same time<sup>8</sup>. This design avoids selection bias, but can be confounded by other factors. In particular, historical threats to validity are a concern for this design. In this case, other events, happening during the same time period as the intervention could influence trends in outcome measures. To try to minimize the impact of historical threats to validity, the design includes interrupted time series analysis with a control series whenever possible, either in the form of a comparison group or national benchmarks.

Additionally, quarterly data points will be utilized and the timing of the intervention “interruption” will be specific to each intervention in the waiver, rather than the official start date of the waiver. This will ensure that pre and post-intervention data points occur as closely in time as possible to the actual change in policy or program being made. Any interpretation of findings will also include a description of any other intervening events that could have also impacted the measure.

According to the literature on interrupted time series analysis, estimating the level and slope parameters requires a minimum of eight observations before and after implementation in order to have sufficient power to estimate the regression coefficients<sup>9</sup>. Evaluators will need to work closely with program staff data teams to gather as many data points as possible and discuss limitations

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<sup>8</sup> Bernal, J.L., Cummins, S. and Gasparrini, A. “Interrupted time series regression for the evaluation of public health interventions: a tutorial” (2017 Feb.). *International Journal of Epidemiology* 46(1): 348-355.

<sup>9</sup> Penfold, RB, Zhang, F. “Use of interrupted time series analysis in evaluating health care quality improvements.” *Academic Pediatrics*, 2013 Nov-Dec, 13(6Suppl): S38-44.

within the evaluation findings if enough points cannot be collected, including sufficient data points pre-intervention to establish the counterfactual trend.

Another threat to validity in this design may be the ability to measure the outcome rates of interest for the desired period of time, both before and after waiver implementation. In some cases, data might not be available for the time period prior to the waiver or for a baseline measure. Evaluators will work closely with the program staff and data teams to assure that complete data is available for each measure and discuss any specific data concerns or considerations on a measure by measure basis.

It should also be noted that interrupted time series cannot be used to make inferences about any one individual's outcomes as a result of the waiver. Conclusions can be drawn about changes to population rates, in aggregate, but not speak to the likelihood of any individual Medicaid member having positive outcomes as a result of the waiver.

# E

## ATTACHMENTS

### INDEPENDENT EVALUATOR

As part of the Standard Terms and Conditions, as set forth by the CMS, the demonstration project is required to arrange with an independent party to conduct an evaluation of the 1115 Demonstration Waiver and the SUD waiver to ensure that the necessary data is collected at the level of detail needed to research the approved hypotheses. To fulfill this requirement, the state of New Mexico will, through a request for proposal process, contract with an external entity to conduct the waiver evaluation.

Examples of the qualifications of the evaluator will be:

- Experience working with federal programs and/or demonstration waivers;
- Experience with evaluating effectiveness of complex, multi-partnered programs;
- Familiarity with CMS federal standards and policies for program evaluation;
- Familiarity with nationally-recognized data sources; and
- Analytical skills and experience with statistical testing methods.

The evaluator will be required to have the following key personnel designated:

- Engagement Leader;
- Lead Evaluator;
- Project Manager; and
- Statistician.

### CONFLICT OF INTEREST

The Human Services Department (HSD) will take steps to ensure that the evaluator is free of any conflict of interest and will remain free from any such conflicts during the contract term. HSD considers it a conflict if the evaluator currently 1) provides services to any MCOs or health care providers doing business in New Mexico under the Medicaid program; or 2) provides direct services to individuals in HSD-administered programs included within the scope of the evaluation contract. If HSD discovers a conflict during the contract term, HSD may terminate the contract pursuant to the provisions in the contract.

PROPOSED EVALUATION BUDGET<sup>10</sup>

|   | 2019    | 2020    | 2021    | 2022    | 2023    | TOTAL     |
|---|---------|---------|---------|---------|---------|-----------|
| <b>Salaries, Benefits &amp; Taxes</b>       |         |         |         |         |         |           |
| <b>Total Salaries, Benefits &amp; Taxes</b> | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 500,000   |
| <b>Professional fees</b>                    |         |         |         |         |         |           |
| Evaluator                                   | 100,000 | 100,000 | 100,000 | 200,000 | 200,000 | 700,000   |
| Subcontractor A                             | 20,000  | 20,000  | 20,000  | 100,000 | 100,000 | 260,000   |
| Subcontractor B                             | 20,000  | 20,000  | 20,000  | 40,000  | 40,000  | 140,000   |
| <b>Total Professional Fees</b>              | 100,000 | 100,000 | 100,000 | 200,000 | 200,000 | 700,000   |
| <b>Total Cost</b>                           | 240,000 | 240,000 | 240,000 | 440,000 | 440,000 | 1,600,000 |

The increased budget reflected in DY4 and DY5 has been allocated to the development and production of the Interim and Final Reports of the demonstration period.

POTENTIAL TIMELINE AND MAJOR DELIVERABLES

The table below highlights key evaluation milestones and activities for the waiver and the dates for completion.

| DELIVERABLE   | STC REFERENCE | DATE  |
|---|---------------|---|
| Submit evaluation design plan to CMS                                      | 56, 115       | June 30, 2019                                   |
| Final evaluation design due 60 days after comments received from CMS      | 53            | 60 days after comments received from CMS        |
| Mid-point assessment due  | 55            | September 30, 2020 (SUD)<br>June 1, 2022 (1115) |
| Draft Interim Report due  | 120           | December 31, 2022                               |
| Final Interim Report due 60 days after CMS comments received              | 120           | 60 days after comments received from CMS        |
| Draft Summative Evaluation Report due 18 months following demonstration   | 122           | June 30, 2025                                   |
| Final Summative Evaluation Report due 60 days after CMS comments received | 122           | 60 days after comments received from CMS        |

<sup>10</sup> This is a proposed estimate for the program evaluation pending independent evaluator contract award.

## Appendix C. Measure Specifications

Each measure being evaluated is categorized into the four waiver goals and spread across the 14 hypotheses. The measure definitions are based on the most recent information available about the data to be used in the evaluation. Some definitions for some measures may require adjustment as additional information about the data is received.

### Number of Centennial Care members enrolled and receiving Community Benefit (CB) services (Measure 1)

|                                      |   |
|--------------------------------------|---|
| <b>Numerator</b>                     | <p>Number of long-term supports and services (LTSS) eligible Centennial Care members enrolled and receiving CB services during the measurement period.</p> <p>LTSS members enrolled in CB will be defined as those with one of the following Setting of Care identifiers:</p> <ul style="list-style-type: none"> <li>• Agency Based CB – Agency Non-Waiver (ANW) or Agency Direct Benefit (ADB)</li> <li>• Self-Directed CB – Self-Directed Non-Waiver (SNW) or Self-Directed Benefit (SDB)</li> </ul> <p>Members must be concurrently enrolled in Centennial Care.</p> |
| <b>Denominator</b>                   | N/A   |
| <b>Comparison Population</b>         | N/A   |
| <b>Analytic Approach</b>             | Descriptive time series analysis  |
| <b>Measure Steward</b>               | N/A   |
| <b>Data Source</b>                   | Medicaid Management Information System (MMIS)   |
| <b>Frequency</b>                     | Annual  |
| <b>Desired Direction</b>             | No change   |
| <b>Notes for Measure Calculation</b> |   |

### Number/Percentage of Centennial Care members enrolled in a Health Home (Measure 2)

|                                      |  |
|--------------------------------------|--|
| <b>Numerator</b>                     | Among members identified in the denominator, the number of unique Medicaid members contained in Health Home roster files during the measurement period.                    |
| <b>Denominator</b>                   | The number of unique Medicaid members with Centennial Care enrollment (i.e., paid capitation) during the measurement period.   |
| <b>Comparison Population</b>         | N/A  |
| <b>Analytic Approach</b>             | Descriptive time series analysis   |
| <b>Measure Steward</b>               | N/A  |
| <b>Data Source</b>                   | MMIS   |
| <b>Frequency</b>                     | Month  |
| <b>Desired Direction</b>             | Higher is better   |
| <b>Notes for Measure Calculation</b> | Members should have concurrent Health Home and Centennial Care enrollment to be counted for the numerator. Health Home and Centennial Care enrollment is captured monthly. |



| Number/Percentage of Health Home members with at least 1 claim for physical health (PH) service in the calendar year (CY) (Measure 3) |  |
|---|--|
| <b>Numerator</b>  | <p><u>Treatment group:</u> Among members identified in the denominator, the number of unique Medicaid members contained in Health Home roster files during the measurement period, and who have at least one physical health service claim/encounter.</p> <p><u>Comparison group:</u> Centennial Care members not enrolled in a Health Home (matched) with at least one claim for a physical health service in the measurement period.</p> |
| <b>Denominator</b>  | <p><u>Treatment group:</u> The number of unique Centennial Care members contained in Health Home roster files during the measurement period.</p> <p><u>Comparison group:</u> The number of unique Centennial Care members who have never participated in the Health Home program.</p>  |
| <b>Comparison Population</b>  | Propensity score adjusted members who have never participated in the Health Home program.  |
| <b>Analytic Approach</b>  | Differences-in-differences   |
| <b>Measure Steward</b>  | N/A  |
| <b>Data Source</b>  | MMIS   |
| <b>Frequency</b>  | Annual   |
| <b>Desired Direction</b>  | Higher is better   |
| <b>Notes for Measure Calculation</b>  | Physical health services are identified as having a non-behavioral health claim/encounter. Evaluation and management codes rendered by behavioral health providers were also excluded. Health Services Department (HSD) supplied a list of Current Procedural Terminology (CPT), Healthcare Common Procedure Coding System (HCPCS), and revenue codes to identify behavioral health claims/encounters and providers.                       |

| Adults' access to preventive/ambulatory health services (AAP) – Centennial Care (CC) population (Measure 4a) |   |
|--|---|
| <b>Numerator</b>   | The number of Centennial Care members among the denominator who had an ambulatory or preventive care visit during the measurement year.                         |
| <b>Denominator</b>   | The number of Centennial Care members 20 years and older and were continuously enrolled with no more than one gap of up to 45 days during the measurement year. |
| <b>Comparison Population</b>   | N/A   |
| <b>Analytic Approach</b>   | Interrupted time series analysis  |
| <b>Measure Steward</b>   | National Committee for Quality Assurance (NCQA)   |
| <b>Data Source</b>   | MMIS  |
| <b>Frequency</b>   | Annual  |
| <b>Desired Direction</b>   | Higher is better  |
| <b>Notes for Measure Calculation</b>   | This measure follows NCQA specifications for Adults' Access to Preventive-Ambulatory Services.  |

| Adults' access to preventive/ambulatory health services (AAP) -Health Home (HH) population (Measure 4b) |   |
|---|---|
| <b>Numerator</b>  | Among members identified in the denominator for each group, the number of unique Medicaid members who had an ambulatory or preventive care visit during the measurement period. |

**Adults' access to preventive/ambulatory health services (AAP) -Health Home (HH) population (Measure 4b)**

|                                      |   |
|--------------------------------------|---|
| <b>Denominator</b>                   | <p><u>Treatment group:</u><br/>The number of Centennial Care members 20 years and older continuously enrolled in Centennial Care with no more than one gap of up to 45 days during the measurement year. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months concurrently in a Health Home and Centennial Care during the measurement year, and had no exposure to a Health Home prior to January 1<sup>st</sup>, 2018.</p> <p><u>Comparison group:</u><br/>The number of Centennial Care members 20 years and older continuously enrolled in Centennial Care with no more than one gap of up to 45 days during the measurement year. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017 and had no exposure to a Health Home during or prior to the measurement year.</p> |
| <b>Comparison Population</b>         | Propensity score adjusted members who have never participated in the Health Home program.   |
| <b>Measure Steward</b>               | NCQA  |
| <b>Data Source</b>                   | MMIS  |
| <b>Frequency</b>                     | Annual  |
| <b>Desired Direction</b>             | Higher is better  |
| <b>Analytic Approach</b>             | Difference-in-differences   |
| <b>Notes for Measure Calculation</b> | This measure follows NCQA specifications for Adults' Access to Preventive-Ambulatory Services, with matching for comparison population. Enrollment in Health Home is defined as appearing in the monthly Health Home roster files.  |

**Children and adolescents' access to primary care practitioners (CAP) - CC population (Measure 5a)**

|                                      |   |
|--------------------------------------|---|
| <b>Numerator</b>                     | Among members identified in the denominator, the number of Centennial Care members who had a visit with a primary care physician (PCP).   |
| <b>Denominator</b>                   | <p>The number of Centennial Care members 12 months – 19 years of age. Children aged 12 months to 6 years must be continuously enrolled in Centennial Care during the measurement period, and children and adolescents aged 7 to 19 years must be continuously enrolled in Centennial Care during the measurement period and the year prior to the measurement period.</p> <p>Members must be continuously enrolled with no more than one gap of up to 45 days in each year.</p> |
| <b>Comparison Population</b>         | N/A   |
| <b>Analytic Approach</b>             | Interrupted time series analysis  |
| <b>Measure Steward</b>               | NCQA  |
| <b>Data Source</b>                   | MMIS  |
| <b>Frequency</b>                     | Annual  |
| <b>Desired Direction</b>             | Higher is better  |
| <b>Notes for Measure Calculation</b> | This measure follows NCQA specifications for Children and Adolescents' Access to Primary Care Practitioners.  |

| Children and adolescents' access to primary care practitioners (CAP) - HH population (Measure 5b) |  |
|---|--|
| <b>Numerator</b>  | Among members identified in the denominator for each group, the number of unique Medicaid members who had a visit with a PCP during the measurement period.<br><br><u>Treatment group:</u><br>The number of Centennial Care members 12 months – 19 years of age. Children aged 12 months to 6 years must be continuously enrolled in Centennial Care during the measurement period, and children and adolescents aged 7 to 19 years must be continuously enrolled in Centennial Care during the measurement period and the year prior to the measurement period. Members must be continuously enrolled in Centennial Care with no more than one gap of up to 45 days in each year. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months concurrently in a Health Home and Centennial Care during the measurement year, and had no exposure to a Health Home prior to January 1 <sup>st</sup> , 2018. |
| <b>Denominator</b>  | <u>Comparison group:</u><br>The number of Centennial Care members 12 months – 19 years of age. Children aged 12 months to 6 years must be continuously enrolled in Centennial Care during the measurement period, and children and adolescents aged 7 to 19 years must be continuously enrolled in Centennial Care during the measurement period and the year prior to the measurement period. Members must be continuously enrolled with no more than one gap of up to 45 days in each year. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017 and had no exposure to a Health Home during or prior to the measurement year.   |
| <b>Comparison Population</b>  | Propensity score adjusted members who have never participated in the Health Home program.  |
| <b>Measure Steward</b>  | NCQA   |
| <b>Data Source</b>  | MMIS   |
| <b>Frequency</b>  | Annual   |
| <b>Desired Direction</b>  | Higher is better   |
| <b>Analytic Approach</b>  | Difference-in-differences  |
| <b>Notes for Measure Calculation</b>  | This measure follows NCQA specifications for Children and Adolescents' Access to Primary Care Practitioners, with matching for comparison population.<br>Enrollment in a Health Home is defined as appearing in the monthly Health Home roster files.  |

| Well-child visits in the third, fourth, fifth, and sixth years of life (W34) (Measure 6) |  |
|--|--|
| <b>Numerator</b>   | The number of Centennial Care members meeting the denominator criteria who had one or more well-child visits with a PCP during the measurement year. |
| <b>Denominator</b>   | The number of Centennial Care members 3–6 years of age continuously enrolled in Centennial Care with no more than one gap of up to 45 days.          |
| <b>Comparison Population</b>   | N/A  |
| <b>Measure Steward</b>   | NCQA   |
| <b>Data Source</b>   | MMIS   |
| <b>Frequency</b>   | Annual   |
| <b>Desired Direction</b>   | Higher is better   |
| <b>Analytic Approach</b>   | Interrupted time series analysis   |
| <b>Notes for Measure Calculation</b>   | This measure follows NCQA specifications for Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life.                                  |

| Diabetes screening for members with schizophrenia or bipolar disorder who are using antipsychotic medications (SSD) (Measure 7) |  |
|---|--|
| <b>Numerator</b>  | Among members identified in the denominator for each group, the number of unique Medicaid members who were dispensed an antipsychotic medication and had a diabetes screening test during the measurement year.  |
| <b>Denominator</b>  | <p><u>Treatment group:</u><br/>The number of Centennial Care members 18 – 64 years of age with serious mental illness (SMI) (schizophrenia or bipolar disorder), continuously enrolled in Centennial Care with no more than one gap of up to 45 days. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months concurrently in a Health Home and Centennial Care during the measurement year, and had no exposure to a Health Home prior to January 1<sup>st</sup>, 2018.</p> <p><u>Comparison group:</u><br/>The number of Centennial Care members 18 – 64 years of age with SMI (schizophrenia or bipolar disorder), continuously enrolled in Centennial Care with no more than one gap of up to 45 days. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017 and had no exposure to a Health Home during or prior to the measurement year.</p> |
| <b>Comparison Population</b>  | Propensity score adjusted members who have never participated in the Health Home program.  |
| <b>Measure Steward</b>  | NCQA   |
| <b>Data Source</b>  | MMIS   |
| <b>Frequency</b>  | Annual   |
| <b>Desired Direction</b>  | Higher is better   |
| <b>Analytic Approach</b>  | Difference-in-differences  |
| <b>Notes for Measure Calculation</b>  | <p>This measure follows NCQA specifications for Diabetes Screening for People With Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications, with matching for comparison population.</p> <p>Enrollment in a Health Home is defined as appearing in the monthly Health Home roster files.</p>   |

| Anti-depressant medication management (AMM) Effective Acute Phase Treatment – HH population (Measure 8) |  |
|---|--|
| <b>Numerator</b>  | Among members identified in the denominator for each group, the number of unique Medicaid members who remained on an antidepressant medication treatment for at least 84 days.   |
| <b>Denominator</b>  | <p><u>Treatment group:</u><br/>The number of Centennial Care members 18 years of age and older, who were treated with antidepressant medication, had a diagnosis of major depression, and were continuously enrolled in Centennial Care with no more than one gap of up to 45 days during the measurement period. Members aged 18 years and older must be continuously enrolled in Centennial Care 105 days prior to the index prescription start date (IPSD) through 231 days after the IPSD. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months concurrently in a Health Home and Centennial Care during the measurement year, and had no exposure to a Health Home prior to January 1<sup>st</sup>, 2018.</p> <p><u>Comparison group:</u><br/>The number of Centennial Care members 18 years of age and older, who were treated with antidepressant medication, had a diagnosis of major depression, and were continuously enrolled in Centennial Care with no more than one gap of up to 45 days during the measurement period. Members aged 18 years and older must be continuously enrolled in</p> |

| Anti-depressant medication management (AMM) Effective Acute Phase Treatment – HH population (Measure 8) |  |
|---|--|
|   | Centennial Care 105 days prior to the IPSD through 231 days after the IPSD. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017 and had no exposure to a Health Home during or prior to the measurement year. |
| <b>Comparison Population</b>  | Propensity score adjusted members who have never participated in the Health Home program.  |
| <b>Measure Steward</b>  | NCQA   |
| <b>Data Source</b>  | MMIS   |
| <b>Frequency</b>  | Annual   |
| <b>Desired Direction</b>  | Higher is better   |
| <b>Analytic Approach</b>  | Difference-in-differences  |
| <b>Notes for Measure Calculation</b>  | This measure follows NCQA specifications for Antidepressant Medication Management, with matching for comparison group.<br>Enrollment in a Health Home is defined as appearing in the monthly Health Home roster files.   |

| Anti-depressant medication management (AMM) Effective Continuation Phase Treatment - HH population (Measure 9) |   |
|--|---|
| <b>Numerator</b>   | Among members identified in the denominator for each group, the number of unique Medicaid members who remained on an antidepressant medication treatment for at least 180 days.   |
| <b>Denominator</b>   | <p><u>Treatment group:</u><br/>The number of Centennial Care members 18 years of age and older, who were treated with antidepressant medication, had a diagnosis of major depression, and were continuously enrolled in Centennial Care with no more than one gap of up to 45 days during the measurement period. Members aged 18 years and older must be continuously enrolled in Centennial Care 105 days prior to the IPSD through 231 days after the IPSD. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months concurrently in a Health Home and Centennial Care during the measurement year, and had no exposure to a Health Home prior to January 1<sup>st</sup>, 2018.</p> <p><u>Comparison group:</u><br/>The number of Centennial Care members 18 years of age and older, who were treated with antidepressant medication, had a diagnosis of major depression, and were continuously enrolled in Centennial Care with no more than one gap of up to 45 days during the measurement period. Members aged 18 years and older must be continuously enrolled in Centennial Care 105 days prior to the IPSD through 231 days after the IPSD. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017 and had no exposure to a Health Home during or prior to the measurement year.</p> |
| <b>Comparison Population</b>   | Propensity score adjusted members who have never participated in the Health Home program.   |
| <b>Measure Steward</b>   | NCQA  |
| <b>Data Source</b>   | MMIS  |
| <b>Frequency</b>   | Annual  |
| <b>Desired Direction</b>   | Higher is better  |
| <b>Analytic Approach</b>   | Difference-in-differences   |
| <b>Notes for Measure Calculation</b>   | This measure follows NCQA specifications for Antidepressant Medication Management, with matching for comparison group.<br>Enrollment in a Health Home is defined as appearing in the monthly Health Home roster files.  |

| 7-day follow up after hospitalization for mental illness (FUH) – HH population (Measure 10) |   |
|---|---|
| <b>Numerator</b>  | Of members identified in the denominator for each group, the number of unique Medicaid members who had a follow-up visit with a mental health practitioner within 7 days after discharge.   |
| <b>Denominator</b>  | <p><u>Treatment group:</u></p> <p>The number of Centennial Care members 6 years of age and older, who were hospitalized for treatment of selected mental illness diagnoses and continuously enrolled in Centennial care during the measurement period. Members 6 years of age and older must be continuously enrolled in Centennial Care from the date of discharge through 30 days after discharge. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months concurrently in a Health Home and Centennial Care during the measurement year, and had no exposure to a Health Home prior to January 1<sup>st</sup>, 2018.</p> <p><u>Comparison group:</u></p> <p>The number of Centennial Care members 6 years of age and older, who were hospitalized for treatment of selected mental illness diagnoses and continuously enrolled in Centennial care during the measurement period. Members 6 years of age and older must be continuously enrolled in Centennial Care from the date of discharge through 30 days after discharge. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months in Centennial Care during the measurement year, and had no exposure to a Health Home during or prior to the measurement year.</p> |
|   | <b>Comparison Population</b>  |
| <b>Measure Steward</b>  | NCQA  |
| <b>Data Source</b>  | MMIS  |
| <b>Frequency</b>  | Annual  |
| <b>Desired Direction</b>  | Higher is better  |
| <b>Analytic Approach</b>  | Difference-in-differences   |
| <b>Notes for Measure Calculation</b>  | This measure follows NCQA specifications for 7-day Follow Up after Hospitalizations for Mental Illness, with matching for comparison group. Enrollment in a Health Home is defined as appearing in the monthly Health Home roster files.  |

| 30-day follow up after hospitalization for mental illness (FUH) – HH population (Measure 11) |   |
|--|---|
| <b>Numerator</b>   | Among members identified in the denominator for each group, the number of unique Medicaid members who had a follow-up visit with a mental health practitioner within 30 days after discharge.   |
| <b>Denominator</b>   | <p><u>Treatment group:</u></p> <p>The number of Centennial Care members 6 years of age and older, who were hospitalized for treatment of selected mental illness diagnoses and continuously enrolled in Centennial care during the measurement period. Members 6 years of age and older must be continuously enrolled in Centennial Care from the date of discharge through 30 days after discharge. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months concurrently in a Health Home and Centennial Care during the measurement year, and had no exposure to a Health Home prior to January 1<sup>st</sup>, 2018.</p> <p><u>Comparison group:</u></p> <p>The number of Centennial Care members 6 years of age and older, who were hospitalized for treatment of selected mental illness diagnoses and continuously enrolled in Centennial care</p> |

**30-day follow up after hospitalization for mental illness (FUH) – HH population (Measure 11)**

|                                      |   |
|--------------------------------------|---|
|                                      | during the measurement period. Members 6 years of age and older must be continuously enrolled in Centennial Care from the date of discharge through 30 days after discharge. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months in Centennial Care during the measurement year, and had no exposure to a Health Home during or prior to the measurement year. |
| <b>Comparison Population</b>         | Propensity score adjusted members who have never participated in the Health Home program.   |
| <b>Measure Steward</b>               | NCQA  |
| <b>Data Source</b>                   | MMIS  |
| <b>Frequency</b>                     | Annual  |
| <b>Desired Direction</b>             | Higher is better  |
| <b>Analytic Approach</b>             | Difference-in-differences   |
| <b>Notes for Measure Calculation</b> | This measure follows NCQA specifications for 30-day Follow Up after Hospitalizations for Mental Illness, with matching for comparison group.<br>Enrollment in a Health Home is defined as appearing in the monthly Health Home roster files.  |

**Percentage of CC members participating in Centennial Rewards (CR) (Measure 12)**

|                                      |  |
|--------------------------------------|--|
| <b>Numerator</b>                     | The number of members who were engaged and have completed a reward activity.   |
| <b>Denominator</b>                   | The total number of members who were eligible or conditional. Members are conditional if they failed to appear on at least one monthly eligibility file and are removed from the numerator after they have failed to appear on three consecutive eligibility files and are considered disenrolled. |
| <b>Comparison Population</b>         | N/A  |
| <b>Measure Steward</b>               | N/A  |
| <b>Data Source</b>                   | Finity   |
| <b>Frequency</b>                     | Annual   |
| <b>Desired Direction</b>             | Higher is better   |
| <b>Analytic Approach</b>             | Descriptive time series  |
| <b>Notes for Measure Calculation</b> |  |

**Percentage of CR participating members with an annual preventive/ambulatory service (Measure 13)**

|                    |   |
|--------------------|---|
| <b>Numerator</b>   | <p><u>Treatment group:</u><br/>Total number of members who are engaged, earned any reward, have redeemed at least one reward (participated and redeemed), and have completed a second preventive/ambulatory visit in the twelve months following an initial preventive/ambulatory visit.</p> <p><u>Comparison group:</u><br/>Total number of members who are engaged, earned any reward, have not redeemed a reward (participated and not redeemed), and have completed a second preventive/ambulatory visit in the twelve months following an initial preventive/ambulatory visit.</p> |
| <b>Denominator</b> | <p><u>Treatment group:</u><br/>Total number of members who are engaged, earned any reward, have redeemed at least one reward (participated and redeemed), and had an initial preventive/ambulatory visit.</p>   |

**Percentage of CR participating members with an annual preventive/ambulatory service (Measure 13)**

|                                      |   |
|--------------------------------------|---|
|                                      | <p><u>Comparison group:</u><br/>Total number of members who are engaged, earned any reward, have not redeemed a reward (participated and not redeemed), and had an initial preventive/ambulatory visit.</p> |
| <b>Comparison Population</b>         | Centennial Rewards participating members not redeeming CR rewards during the calendar year.   |
| <b>Measure Steward</b>               | N/A   |
| <b>Data Source</b>                   | Finity  |
| <b>Frequency</b>                     | Annual  |
| <b>Desired Direction</b>             | Higher is better  |
| <b>Analytic Approach</b>             | Interrupted time series analysis with comparison group.   |
| <b>Notes for Measure Calculation</b> |   |

**Percent of CR users responding positively on satisfaction survey to question regarding if the program helped to improve their health and make healthy choices (Measure 14)**

|                                      |   |
|--------------------------------------|---|
| <b>Numerator</b>                     | The number of positive responses to each question |
| <b>Denominator</b>                   | The total responses to each question              |
| <b>Comparison Population</b>         | N/A   |
| <b>Measure Steward</b>               | N/A   |
| <b>Data Source</b>                   | Finity  |
| <b>Frequency</b>                     | Annual  |
| <b>Desired Direction</b>             | Higher is better                                  |
| <b>Analytic Approach</b>             | Descriptive time series analysis                  |
| <b>Notes for Measure Calculation</b> |   |

**Live births weighing less than 2,500 grams (low birth weight) (Measure 15)**

|                              |  |
|------------------------------|--|
| <b>Numerator</b>             | <p><u>Treatment group:</u><br/>The number of resident live births in the treatment denominator weighing less than 2,500 grams (low birth weight).</p> <p><u>Comparison group:</u><br/>The number of resident live births in the comparison denominator weighing less than 2,500 grams (low birth weight).</p>  |
| <b>Denominator</b>           | <p><u>Treatment group:</u><br/>The number of live births among Centennial Care 2.0 members in the reporting period who are Centennial Home Visiting (CHV) pilot participants and had a delivery on or after their first program enrollment date.</p> <p><u>Comparison group:</u><br/>The number of live births among Centennial Care 2.0 members in the reporting period who have never participated in the CHV pilot program.</p> |
| <b>Comparison Population</b> | Chronic Illness and Disability Payment System (CDPS) risk-score adjusted members who have never participated in the CHV program.   |
| <b>Measure Steward</b>       | Centers for Disease Control and Prevention (CDC)   |
| <b>Data Source</b>           | HSD-supplied list of deliveries and low birth weight deliveries  |



| Live births weighing less than 2,500 grams (low birth weight) (Measure 15) |  |
|--|--|
|  | HSD-supplied list of CHV participants<br>MMIS                |
| <b>Frequency</b>   | Annual   |
| <b>Desired Direction</b>   | Lower is better  |
| <b>Analytic Approach</b>   | Logistic regression by year controlling for CDPS risk score. |
| <b>Notes for Measure Calculation</b>                                       |  |

| Total number of providers with value-based payment (VBP) contracts (Measure 16) |   |
|---|---|
| <b>Numerator</b>  | The number of Centennial Care providers with VBP contracts in each calendar year. |
| <b>Denominator</b>  | N/A   |
| <b>Comparison Population</b>  | N/A   |
| <b>Measure Steward</b>  | N/A   |
| <b>Data Source</b>  | Annual Supplemental VBP reports provided by managed care organizations (MCOs)     |
| <b>Frequency</b>  | Annual  |
| <b>Desired Direction</b>  | Higher is better  |
| <b>Analytic Approach</b>  | Descriptive time series analysis  |
| <b>Notes for Measure Calculation</b>  |   |

| Number/percentage of providers meeting quality threshold (Measure 17) |   |
|---|---|
| <b>Numerator</b>  | The number of Centennial Care providers with VBP contracts who meet quality metric targets. |
| <b>Denominator</b>  | The total number of VBP providers reporting quality metrics                                 |
| <b>Comparison Population</b>  | N/A   |
| <b>Measure Steward</b>  | N/A   |
| <b>Data Source</b>  | Annual Supplemental VBP reports provided by MCOs  |
| <b>Frequency</b>  | Annual  |
| <b>Desired Direction</b>  | Higher is better  |
| <b>Analytic Approach</b>  | Descriptive time series analysis  |
| <b>Notes for Measure Calculation</b>                                  |   |

| Percentage of total payments that are for providers in VBP arrangements (Measure 18) |  |
|--|--|
| <b>Numerator</b>   | The total amount of payments to Centennial Care providers with VBP contracts |
| <b>Denominator</b>   | The total amount of payments to Centennial Care providers                    |
| <b>Comparison Population</b>   | N/A  |
| <b>Measure Steward</b>   | N/A  |
| <b>Data Source</b>   | Annual Supplemental VBP reports provided by MCOs                             |
| <b>Frequency</b>   | Annual   |
| <b>Desired Direction</b>   | Higher is better   |

**Percentage of total payments that are for providers in VBP arrangements (Measure 18)**

**Analytic Approach** Descriptive time series analysis

**Notes for Measure Calculation**

**Percentage of qualified Domain 1 Safety Net Care Pool (SNCP) Hospital Quality Incentive measures that have maintained or improved their reported performance rates over the previous year (Measure 19)**

**Numerator** The number of Domain 1 SNCP Hospital Quality Incentive measures that have maintained or improved the reported performance rate.  
To identify whether a rate was maintained or improved, compare the annual performance rate to the improvement target rate. If the rate is lower than the target for measures in which a lower rate is better, then the measure has maintained or improved.

**Denominator** The number of Domain 1 SNCP Hospital Quality Incentive performance measures.

**Comparison Population** N/A

**Measure Steward** N/A

**Data Source** Department of Health (DOH) Health Information Technology (HIT)  
NM Hospital Association

**Frequency** N/A

**Desired Direction** Higher is better

**Analytic Approach** Descriptive time series analysis

**Notes for Measure Calculation**

**Cost per member trend (Measure 20)**

**Numerator** The sum of total MCO paid claim/encounter amounts for all inpatient, long-term care, outpatient, professional and pharmacy categories of service.

**Denominator** The sum of all Centennial Care member months including enrollees who had claims/encounters and those who had no claims/encounters.

**Comparison Population** N/A

**Measure Steward** N/A

**Data Source** MMIS  
Centers of Medicare & Medicaid Services (CMS)-64 Report

**Frequency** Annual

**Desired Direction** No significant change from projections

**Analytic Approach** Descriptive time series analysis

**Notes for Measure Calculation**

**Cost per user trend (Measure 21)**

**Numerator** The sum of total MCO paid claim/encounter amounts for all inpatient, long-term care, outpatient, professional and pharmacy categories of service

**Denominator** The sum of all Centennial Care member months only including enrollees who had claims/encounters.

**Comparison Population** N/A

| Cost per user trend (Measure 21) |  |
|----------------------------------|--|
| Measure Steward                  | N/A                                    |
| Data Source                      | MMIS<br>CMS-64 Report                  |
| Frequency                        | Annual                                 |
| Desired Direction                | No significant change from projections |
| Analytic Approach                | Descriptive time series analysis       |
| Notes for Measure Calculation    |  |

| Rate of continuous nursing facility level of care (NF LOC) approvals (Measure 22) |  |
|---|--|
| Numerator   | The number of nursing facility beneficiaries enrolled in Centennial Care with a continuous NF LOC approval |
| Denominator   | The number of nursing facility beneficiaries enrolled in Centennial Care                                   |
| Comparison Population   | N/A  |
| Measure Steward   | N/A  |
| Data Source   | Summary report of open ended LTC spans   |
| Desired Direction   | Higher is better   |
| Frequency   | Quarterly  |
| Analytic Approach   | Descriptive time series analysis   |
| Notes for Measure Calculation   | Rates are calculated per 10,000 NF beneficiaries.  |

| Number of telemedicine providers (Measure 23) |  |       |       |       |       |       |  |       |       |       |       |       |       |
|---|--|-------|-------|-------|-------|-------|--|-------|-------|-------|-------|-------|-------|
| Numerator                                     | <p>The number of unique Centennial Care telemedicine providers that offer telehealth services.</p> <p>Step 1: Identify encounters for telehealth services using the following codes:</p> <ul style="list-style-type: none"> <li>Any service with a telehealth modifier or place of service (<a href="#">Telehealth Modifier Value Set</a> or <a href="#">Telehealth Place of Service (POS) Value Set</a>)</li> <li>A telephone visit (<a href="#">Telephone Visits Value Set</a>)</li> <li>An e-visit or virtual check-in (<a href="#">Online Assessments Value set</a>)</li> <li>Any service from Table A</li> </ul> <table border="1"> <caption>Table A—HSD Telemedicine Service Codes</caption> <tbody> <tr> <td>99441</td> <td>99442</td> <td>99443</td> <td>99451</td> <td>99452</td> <td></td> </tr> <tr> <td>G2010</td> <td>G2012</td> <td>G2061</td> <td>G2062</td> <td>G2063</td> <td>D9995</td> </tr> </tbody> </table> <p>Step 2: Calculate the number of unique servicing/rendering providers with at least one encounter from Step 1 with a date of service in the measurement period.</p> | 99441 | 99442 | 99443 | 99451 | 99452 |  | G2010 | G2012 | G2061 | G2062 | G2063 | D9995 |
| 99441   | 99442  | 99443 | 99451 | 99452 |       |       |  |       |       |       |       |       |       |
| G2010   | G2012  | G2061 | G2062 | G2063 | D9995 |       |  |       |       |       |       |       |       |
| Denominator                                   | N/A  |       |       |       |       |       |  |       |       |       |       |       |       |
| Comparison Population                         | N/A  |       |       |       |       |       |  |       |       |       |       |       |       |
| Measure Steward                               | N/A  |       |       |       |       |       |  |       |       |       |       |       |       |
| Data Source                                   | MMIS   |       |       |       |       |       |  |       |       |       |       |       |       |
| Frequency                                     | Annual   |       |       |       |       |       |  |       |       |       |       |       |       |

| Number of telemedicine providers (Measure 23) |   |
|---|---|
| <b>Desired Direction</b>                      | Higher is better  |
| <b>Analytic Approach</b>                      | Descriptive time series analysis  |
| <b>Notes for Measure Calculation</b>          | Value sets are from Healthcare Effectiveness Data and Information Set (HEDIS <sup>®C-1</sup> ) measurement year (MY) 2020 technical specifications. |

| Number of members receiving telemedicine services (Measure 24) |   |       |       |       |       |       |  |       |       |       |       |       |
|--|---|-------|-------|-------|-------|-------|--|-------|-------|-------|-------|-------|
| <b>Numerator</b>   | <p>The number of Centennial Care members with a telemedicine visit.</p> <p>Step 1: Identify encounters for telehealth services using the following codes:</p> <ul style="list-style-type: none"> <li>Any service with a telehealth modifier or place of service (<u>Telehealth Modifier Value Set</u> or <u>Telehealth POS Value Set</u>)</li> <li>A telephone visit (<u>Telephone Visits Value Set</u>)</li> <li>An e-visit or virtual check-in (<u>Online Assessments Value Set</u>)</li> <li>Any service from Table A</li> </ul> |       |       |       |       |       |  |       |       |       |       |       |
|  | <p style="text-align: center;"><b>Table A—HSD Telemedicine Service Codes</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td>99441</td> <td>99442</td> <td>99443</td> <td>99451</td> <td>99452</td> <td></td> </tr> <tr> <td>G2010</td> <td>G2012</td> <td>G2061</td> <td>G2062</td> <td>G2063</td> <td>D9995</td> </tr> </tbody> </table>   | 99441 | 99442 | 99443 | 99451 | 99452 |  | G2010 | G2012 | G2061 | G2062 | G2063 |
| 99441  | 99442   | 99443 | 99451 | 99452 |       |       |  |       |       |       |       |       |
| G2010  | G2012   | G2061 | G2062 | G2063 | D9995 |       |  |       |       |       |       |       |
|  | <p>Step 2: Calculate the number of unique members with at least one encounter from Step 1 with a date of service in the measurement period.</p>   |       |       |       |       |       |  |       |       |       |       |       |
| <b>Denominator</b>   | N/A   |       |       |       |       |       |  |       |       |       |       |       |
| <b>Comparison Population</b>                                   | N/A   |       |       |       |       |       |  |       |       |       |       |       |
| <b>Measure Steward</b>   | N/A   |       |       |       |       |       |  |       |       |       |       |       |
| <b>Data Source</b>   | MMIS  |       |       |       |       |       |  |       |       |       |       |       |
| <b>Frequency</b>   | Quarterly   |       |       |       |       |       |  |       |       |       |       |       |
| <b>Desired Direction</b>                                       | Higher is better  |       |       |       |       |       |  |       |       |       |       |       |
| <b>Analytic Approach</b>                                       | Descriptive time series analysis  |       |       |       |       |       |  |       |       |       |       |       |
| <b>Notes for Measure Calculation</b>                           | Value sets are from HEDIS MY 2020 technical specifications.   |       |       |       |       |       |  |       |       |       |       |       |

| Member rating of health care (Measure 25) |   |                  |             |                                |
|---|---|------------------|-------------|--------------------------------|
| <b>Numerator</b>                          | <p>Summary rates will be evaluated based on an 8+9+10 top-box rating system as indicated in the table below. The numerator will be defined as the response score value or numerator compliance for each member answering the following question:</p> <p>“Using any number from 0 to 10, where 0 is the worst health care possible and 10 is the best health care possible, what number would you use to rate all your health care in the last 6 months?”</p> <p>Responses and their corresponding score values and numerator compliance are as follows:</p> |                  |             |                                |
|   | <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Response Choices</th> <th>Score Value</th> </tr> </thead> <tbody> <tr> <td>0 – Worst health care possible</td> <td>0</td> </tr> </tbody> </table>  | Response Choices | Score Value | 0 – Worst health care possible |
| Response Choices                          | Score Value   |                  |             |                                |
| 0 – Worst health care possible            | 0   |                  |             |                                |

<sup>C-1</sup> HEDIS<sup>®</sup> is a registered trademark of the National Committee for Quality Assurance (NCQA).

| Member rating of health care (Measure 25) |   |
|---|---|
| 1   | 0 |
| 2   | 0 |
| 3   | 0 |
| 4   | 0 |
| 5   | 0 |
| 6   | 0 |
| 7   | 0 |
| 8   | 1 |
| 9   | 1 |
| 10 – Best health care possible            | 1 |

|                                      |  |
|--------------------------------------|--|
| <b>Denominator</b>                   | The number of Centennial Care respondents with a valid response to overall satisfaction with health care.          |
| <b>Comparison Population</b>         | N/A  |
| <b>Measure Steward</b>               | NCQA   |
| <b>Data Source</b>                   | MCO Consumer Assessment of Healthcare Providers and Systems (CAHPS <sup>®C-2</sup> ) Reports                       |
| <b>Measurement Period</b>            | Annual   |
| <b>Desired Direction</b>             | Higher is better   |
| <b>Analytic Approach</b>             | Trend analysis   |
| <b>Notes for Measure Calculation</b> | Rates are provided by the MCOs and have not been independently validated by Health Services Advisory Group (HSAG). |

| Member rating of health plan (Measure 26) |   |                  |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
|---|---|------------------|-------------|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------------------|---|
| <b>Numerator</b>                          | Summary rates will be evaluated based on an 8+9+10 top-box ratings system as indicated in the table below. The numerator value will be defined as the response score value or numerator compliance for each member answering the following question:<br>“Using any number from 0 to 10, where 0 is the worst health plan possible and 10 is the best health plan possible, what number would you use to rate your health plan?”<br>Responses and their corresponding score values are as follows:                           |                  |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
|   | <table border="1"> <thead> <tr> <th>Response Choices</th> <th>Score Value</th> </tr> </thead> <tbody> <tr><td>0 – Worst health plan possible</td><td>0</td></tr> <tr><td>1</td><td>0</td></tr> <tr><td>2</td><td>0</td></tr> <tr><td>3</td><td>0</td></tr> <tr><td>4</td><td>0</td></tr> <tr><td>5</td><td>0</td></tr> <tr><td>6</td><td>0</td></tr> <tr><td>7</td><td>0</td></tr> <tr><td>8</td><td>1</td></tr> <tr><td>9</td><td>1</td></tr> <tr><td>10 – Best health plan possible</td><td>1</td></tr> </tbody> </table> | Response Choices | Score Value | 0 – Worst health plan possible | 0 | 1 | 0 | 2 | 0 | 3 | 0 | 4 | 0 | 5 | 0 | 6 | 0 | 7 | 0 | 8 | 1 | 9 | 1 | 10 – Best health plan possible | 1 |
|   | Response Choices  | Score Value      |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
|   | 0 – Worst health plan possible  | 0                |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
|   | 1   | 0                |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
|   | 2   | 0                |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
|   | 3   | 0                |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
|   | 4   | 0                |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
|   | 5   | 0                |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
|   | 6   | 0                |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
|   | 7   | 0                |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
|   | 8   | 1                |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
| 9   | 1   |                  |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
| 10 – Best health plan possible            | 1   |                  |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
| <b>Denominator</b>                        | The number of Centennial Care respondents with a valid response to overall satisfaction with health plan.   |                  |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
| <b>Comparison Population</b>              | N/A   |                  |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
| <b>Measure Steward</b>                    | NCQA  |                  |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |
| <b>Data Source</b>                        | MCO CAHPS Reports   |                  |             |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |

<sup>C-2</sup> CAHPS<sup>®</sup> is a registered trademark of the Agency for Healthcare Research and Quality (AHRQ).

**Member rating of health plan (Measure 26)**

|                                      |   |
|--------------------------------------|---|
| <b>Measurement Period</b>            | Annual  |
| <b>Desired Direction</b>             | Higher is better  |
| <b>Analytic Approach</b>             | Trend analysis  |
| <b>Notes for Measure Calculation</b> | Rates are provided by the MCOs and have not been independently validated by HSAG. |

**Member rating of personal doctor (Measure 27)**

Summary rates will be evaluated based on an 8+9+10 top-box ratings system as indicated in the table below. The numerator value will be defined as the response score value or numerator compliance for each member answering the following question:

“Using any number from 0 to 10, where 0 is the worst personal doctor possible and 10 is the best personal doctor possible, what number would you use to rate your personal doctor?”

Responses and their corresponding score values are as follows:

| <b>Numerator</b> | Response Choices                   | Score Value |
|------------------|------------------------------------|-------------|
|                  | 0 – Worst personal doctor possible | 0           |
|                  | 1                                  | 0           |
|                  | 2                                  | 0           |
|                  | 3                                  | 0           |
|                  | 4                                  | 0           |
|                  | 5                                  | 0           |
|                  | 6                                  | 0           |
|                  | 7                                  | 0           |
|                  | 8                                  | 1           |
|                  | 9                                  | 1           |
|                  | 10 – Best personal doctor possible | 1           |

|                                      |   |
|--------------------------------------|---|
| <b>Denominator</b>                   | The number of Centennial Care respondents with a valid response to overall satisfaction with personal doctor. |
| <b>Comparison Population</b>         | N/A   |
| <b>Measure Steward</b>               | NCQA  |
| <b>Data Source</b>                   | MCO CAHPS Reports   |
| <b>Measurement Period</b>            | Annual  |
| <b>Desired Direction</b>             | Higher is better  |
| <b>Analytic Approach</b>             | Trend analysis  |
| <b>Notes for Measure Calculation</b> | Rates are provided by the MCOs and have not been independently validated by HSAG.                             |

**Number of submitted claims through electronic visit verification (EVV) (Measure 28)**

|                              |   |
|------------------------------|---|
| <b>Numerator</b>             | The number of Centennial Care claims submitted through a web or interactive voice response (IVR) system, or mobile app. |
| <b>Denominator</b>           | N/A   |
| <b>Comparison Population</b> | N/A   |
| <b>Measure Steward</b>       | N/A   |
| <b>Data Source</b>           | MCO Report  |
| <b>Desired Direction</b>     |   |

**Number of submitted claims through electronic visit verification (EVV) (Measure 28)**

**Analytic Approach** Descriptive time series analysis

**Notes for Measure Calculation**

**Percent of paid or unpaid hours retrieved due to false reporting (Measure 29)**

**Numerator** Number of paid or unpaid hours retrieved due to false reporting.

**Denominator** Centennial Care claims paid and unpaid hours reported

**Comparison Population** N/A

**Measure Steward** N/A

**Data Source** MCO Report

**Desired Direction**

**Analytic Approach** Descriptive time series analysis

**Notes for Measure Calculation**

**Number of providers who provide substance use disorder (SUD) screening (Measure 30)**

**Numerator** The number of Centennial Care Physical Health and Behavioral Health providers who provide SUD screening.

Step 1: Identify encounters with any of the following procedure codes:

- H0049 – Screening, Brief Intervention, and Referral to Treatment (SBIRT) screening
- G0444 – Other behavioral health (BH) screening
- H2000 – comprehensive multidisciplinary team evaluation
- H0002 – American Society of Addition Medicine (ASAM) assessment
- H0031 – comprehensive MH assessment for patients who are not SMI or severe emotional disturbance (SED)

Step 2: Limit the rendering or servicing providers with encounters from Step 1 to providers serving CC members.

Step 3: Calculate the number of de-duplicated rendering or servicing providers in the measurement period.

**Denominator** N/A

**Comparison Population** N/A

**Measure Steward** N/A

**Data Source** MMIS

**Frequency** Quarterly

**Desired Direction** Higher is better

**Analytic Approach** Descriptive time series analysis

**Notes for Measure Calculation**

**Number of individuals screened for SUD (Measure 31)**

**Numerator** The number of Centennial Care members screened for SUD.

Step 1: Identify encounters with any of the following procedure codes:

| Number of individuals screened for SUD (Measure 31) |  |
|---|--|
|   | <ul style="list-style-type: none"> <li>• H0049 – SBIRT screening</li> <li>• G0444 – Other BH screening</li> <li>• H2000 – comprehensive multidisciplinary team evaluation</li> <li>• H0002 – ASAM assessment</li> <li>• H0031 – comprehensive mental health (MH) assessment for patients who are not SMI or SED</li> </ul> <p>Step 2: Calculate the number of de-duplicated Centennial Care members with encounters from Step 1 in the measurement period.</p> |
| <b>Denominator</b>                                  | N/A  |
| <b>Comparison Population</b>                        | N/A  |
| <b>Measure Steward</b>                              | CMS*   |
| <b>Data Source</b>                                  | MMIS   |
| <b>Desired Direction</b>                            | Higher is better   |
| <b>Frequency</b>                                    | Quarterly  |
| <b>Analytic Approach</b>                            | Descriptive time series analysis   |
| <b>Notes for Measure Calculation</b>                | <p>*Measure specifications rely on <i>Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0</i>, Metric #1: Assessed for SUD Treatment Needs Using a Standardized Screening Tool.</p> <p>No subpopulation categories will be reported.</p> <p>HSD supplied codes for identifying SUD screening services.</p>  |

| Percentage of individuals with a SUD diagnosis who received any SUD service during the measurement year (Measure 32) |   |
|--|---|
| <b>Numerator</b>   | The number of Centennial Care members among the denominator with a SUD diagnosis who received any SUD service during the measurement year.  |
| <b>Denominator</b>   | The number of unique Centennial Care beneficiaries (de-duplicated total) enrolled in the measurement period who receive medication assisted treatment (MAT) or have qualifying facility, provider, or pharmacy claims with a SUD diagnosis and a SUD-related treatment service during the measurement period and/or in the 12 months before the measurement period. |
| <b>Comparison Population</b>   | N/A   |
| <b>Measure Steward</b>   | N/A   |
| <b>Data Source</b>   | MMIS  |
| <b>Frequency</b>   | Quarterly   |
| <b>Desired Direction</b>   | Higher is better  |
| <b>Analytic Approach</b>   | Descriptive time series analysis  |
| <b>Notes for Measure Calculation</b>   | Measure specifications rely on <i>Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0</i> , Metric #4: Medicaid Beneficiaries with SUD Diagnosis, annually (denominator), and Metric #6: Any SUD Treatment (numerator)   |



| Initiation of Alcohol or Other Drug (AOD) Abuse or Dependence Treatment (IET) (Measure 33) |   |
|--|---|
| <b>Numerator</b>   | The number of Centennial Care individuals with SUD diagnosis who initiate AOD treatment through an inpatient admission, outpatient visit, telemedicine, intensive outpatient encounter or partial hospitalization or MAT within 14 days of the index episode start date (IESD). |
| <b>Denominator</b>   | The number of Centennial Care adolescent and adult members (13 years and older) with a new episode of AOD abuse or dependence.  |
| <b>Comparison Population</b>   | N/A   |
| <b>Measure Steward</b>   | NCQA  |
| <b>Data Source</b>   | MMIS  |
| <b>Frequency</b>   | Annual  |
| <b>Desired Direction</b>   | Higher is better  |
| <b>Analytic Approach</b>   | Trend analysis<br>National or other state benchmarks change over time   |
| <b>Notes for Measure Calculation</b>   | This measure follows NCQA specifications for Initiation of Alcohol and Other Drug Abuse or Dependence Treatment.  |

| Percentage of individuals with a SUD diagnosis who received peer support (Measure 34) |   |
|---|---|
| <b>Numerator</b>  | Among members identified in the denominator, the number of Medicaid members who receive peer support services ( <u>Peer Support Services Value Set</u> ).   |
| <b>Denominator</b>  | The number of unique beneficiaries (de-duplicated total) enrolled in the measurement period who receive MAT or have qualifying facility, provider, or pharmacy claims with a SUD diagnosis and a SUD-related treatment service during the measurement period and/or in the 12 months before the measurement period. |
| <b>Comparison Population</b>  | N/A   |
| <b>Measure Steward</b>  | N/A   |
| <b>Data Source</b>  | MMIS  |
| <b>Frequency</b>  | Quarterly   |
| <b>Desired Direction</b>  | Higher is better  |
| <b>Analytic Approach</b>  | Interrupted time series analysis  |
| <b>Notes for Measure Calculation</b>  | The measure denominator is adapted from <i>Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0</i> , Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly).   |

| Engagement of AOD Abuse or Dependence Treatment (IET) (Measure 35) |  |
|--|--|
| <b>Numerator</b>   | Among members identified in the denominator, the number of unique Medicaid members who initiated treatment and who had two or more additional AOD services or MAT within 34 days of the initiation visit.  |
| <b>Denominator</b>   | <p><u>Peer Support Services Group</u></p> <p>The number of Centennial Care adolescent and adult members (13 years and older) with a new episode of AOD abuse or dependence and received peer support services (<u>Peer Support Services Value Set</u>) within 48 days following the IESD.</p> <p><u>Comparison Group</u></p> |

**Engagement of AOD Abuse or Dependence Treatment (IET) (Measure 35)**

|                                      |  |
|--------------------------------------|--|
|                                      | The number of Centennial Care adolescent and adult members (13 years and older) with a new episode of AOD abuse or dependence and had never utilized peer support services ( <u>Peer Support Services Value Set</u> ) within 48 days following the IESD. |
| <b>Comparison Population</b>         | Centennial Care members meeting the NCQA eligible population criteria and had never utilized peer support services.  |
| <b>Measure Steward</b>               | NCQA (modified)  |
| <b>Data Source</b>                   | MMIS   |
| <b>Frequency</b>                     | Annual   |
| <b>Desired Direction</b>             | Higher is better   |
| <b>Analytic Approach</b>             | Difference-in-differences  |
| <b>Notes for Measure Calculation</b> | This measure follows modified NCQA specifications for Initiation and Engagement of AOD Abuse or Dependence Treatment (engagement indicator).   |

**Average Length of Stay (ALOS) (Measure 36)**

|                                      |   |
|--------------------------------------|---|
|                                      | <p><u>Peer Support Services Group</u></p> <p>The number of days between the AOD index episode and the last date of treatment (measured in monthly increments), and who received peer support services during this time (<u>Peer Support Services Value Set</u>).</p> <p><u>Comparison Group</u></p> <p>The number of days between the AOD index episode and the last date of treatment (measured in monthly increments), and who did not receive peer support services during this time.</p> <p>For example, if a member had an index episode in January and treatment in January, February, and March, then length of treatment spans from January through March. If a member had treatment in January and March, then the length of treatment only spans January.</p> |
| <b>Numerator</b>                     |   |
| <b>Denominator</b>                   | The number of Centennial Care members with an AOD episode, as identified by NCQA Technical Specifications for Initiation and Engagement of AOD Abuse or Dependence Treatment (Event/diagnosis).   |
| <b>Comparison Population</b>         | Centennial Care members meeting the denominator criteria and had never utilized peer support services during treatment tenure.  |
| <b>Measure Steward</b>               | N/A   |
| <b>Data Source</b>                   | MMIS  |
| <b>Frequency</b>                     | Annual  |
| <b>Desired Direction</b>             | Higher is better  |
| <b>Analytic Approach</b>             | Difference-in-differences   |
| <b>Notes for Measure Calculation</b> |   |

**Continuity of Pharmacotherapy for Opioid Use Disorder (OUD) (Measure 37)**

|                    |   |
|--------------------|---|
| <b>Numerator</b>   | Among members identified in the denominator, the number of unique Medicaid members who have at least 180 days of continuous pharmacotherapy with a medication prescribed for OUD without a gap of more than seven days. |
| <b>Denominator</b> | <p><u>Peer Support Services Group</u></p> <p>The number of Centennial Care members 18-64 years of age who had a diagnosis of OUD and at least one claim for an OUD medication.</p>                                      |

**Continuity of Pharmacotherapy for Opioid Use Disorder (OUD) (Measure 37)**

Members must have received peer support services (Peer Support Services Value Set) within 180 days after an OUD medication.

Comparison Group

The number of Centennial Care members 18-64 years of age who had a diagnosis of OUD and at least one claim for an OUD medication. Members must not have received peer support services (Peer Support Services Value Set) within 180 days after an OUD medication.

**Comparison Population**

N/A

**Measure Steward**

University of Southern California (USC) (National Quality Forum [NQF] #3175)

**Data Source**

MMIS

**Frequency**

Annual

**Desired Direction**

Higher is better

**Analytic Approach**

Difference-in-differences

**Notes for Measure Calculation**

**Continuum of services available (Measure 38)**

**Numerator**

The number of different types of BH facilities and BH practitioner types reported by currently contracted MCOs.  
The number of providers associated with each BH facility and practitioner types.

**Denominator**

N/A

**Comparison Population**

N/A

**Measure Steward**

N/A

**Data Source**

MCO Reports

**Frequency**

Quarterly

**Desired Direction**

Higher is better

**Analytic Approach**

Descriptive data analysis

**Notes for Measure Calculation**

This measure is a quantitative data synthesis of the types of services reported by MCOs as well as the number of providers by facility type.

**Number of providers and capacity for ambulatory SUD services (Measure 39)**

**Numerator**

The number of SUD providers and the total panel size reported by currently contracted MCOs for 2018 through 2021, compared to projected panel size between 2019 and 2021.  
Provider panel was identified by calculating the unique number of Medicaid members with a claim/encounter for each provider.  
Projected panel size was calculated by taking the average panel size among SUD providers in 2018 prior to Centennial Care 2.0, and multiplying by the number of providers in each year during the study period (2019 through 2021).  
Stratify actual and projected panel size by existing providers (i.e., those contracted with Blue Cross Blue Shield (BCBS) or Presbyterian Health Plan (PHP) in 2018, prior to CC 2.0) and new providers (i.e., those not contracted with BCBS or PHP in 2018).

**Denominator**

N/A

**Comparison Population**

N/A

**Measure Steward**

N/A

| Number of providers and capacity for ambulatory SUD services (Measure 39) |                                |
|---|--------------------------------|
| Data Source   | MMIS, MCO SUD Provider Reports |
| Frequency   | Annual                         |
| Desired Direction   | Higher is better               |
| Analytic Approach   | Descriptive data analysis      |
| Notes for Measure Calculation   |                                |

| Percentage of emergency department (ED) visits of individuals with SUD diagnoses (Measure 40) |  |
|---|--|
| Numerator   | <p>The number of ED visits among Centennial Care members with an SUD diagnosis.</p> <p>Step 1. Identify members with an SUD diagnosis (monthly), as specified through <i>Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0</i>, Metric #3: Medicaid Beneficiaries with SUD Diagnosis (monthly).</p> <p>Step 2. Calculate the number of ED visits among members retained from Step 1.</p> <p>Count each visit to an ED once, regardless of the intensity or duration of the visit. Count multiple ED visits on the same date of service as one visit. Identify ED visits using either of the following:</p> <ul style="list-style-type: none"> <li>An ED visit (<u>ED Value Set</u>).</li> <li>A procedure code (<u>ED Procedure Code Value Set</u>) with an ED place of service code (<u>ED POS Value Set</u>).</li> </ul> <p>Do not include ED visits that result in an inpatient stay (Inpatient Stay Value Set).</p> |
| Denominator   | <p>The number of ED visits among all Centennial Care members.</p> <p>Count each visit to an ED once, regardless of the intensity or duration of the visit. Count multiple ED visits on the same date of service as one visit. Identify ED visits using either of the following:</p> <ul style="list-style-type: none"> <li>An ED visit (<u>ED Value Set</u>).</li> <li>A procedure code (<u>ED Procedure Code Value Set</u>) with an ED place of service code (<u>ED POS Value Set</u>).</li> </ul> <p>Do not include ED visits that result in an inpatient stay (Inpatient Stay Value Set).</p>   |
| Comparison Population   | N/A  |
| Measure Steward   | N/A  |
| Data Source   | MMIS   |
| Frequency   | Quarterly  |
| Desired Direction   | Lower is better  |
| Analytic Approach   | Interrupted time series analysis   |
| Notes for Measure Calculation   |  |

| Percentage of Inpatient admissions for SUD related treatment (Measure 41) |  |
|---|--|
| Numerator   | <p>The number of inpatient services for SUD related treatment for Centennial Care members.</p> <p>Step 1. Among claims retained in the denominator, identify claims with a diagnosis code (any diagnosis on the claim) listed under one of the following Value Sets:</p> <ul style="list-style-type: none"> <li><u>Alcohol Abuse and Dependence Value Set</u></li> <li><u>Opioid Abuse and Dependence Value Set</u></li> </ul> |

| Percentage of Inpatient admissions for SUD related treatment (Measure 41) |   |
|---|---|
|   | <ul style="list-style-type: none"> <li>• <u>Other Drug Abuse and Dependence Value Set</u></li> </ul> <p>Step 2. Calculate the number of inpatient discharges meeting the criteria in Step 1.</p>  |
| <b>Denominator</b>  | <p>The number of inpatient admissions for Centennial Care members.</p> <p>Step 1. Identify all inpatient stays (acute and nonacute) during the measurement period (<u>Inpatient Stay Value Set</u>).</p> <p>Step 2. Identify and exclude claims for residential treatment using the Uniform Billing (UB) Revenue codes listed below:</p> <ul style="list-style-type: none"> <li>• 1001 – Residential treatment, psychiatric</li> <li>• 1002 – Residential treatment – chemical dependency</li> </ul> <p>Step 3. Identify the discharge date for the stay. Retain only stays with discharge dates that fall within the measurement period.</p>   |
| <b>Comparison Population</b>  | N/A   |
| <b>Measure Steward</b>  | N/A   |
| <b>Data Source</b>  | MMIS  |
| <b>Frequency</b>  | Quarterly   |
| <b>Desired Direction</b>  | Lower is better   |
| <b>Analytic Approach</b>  | Interrupted time series analysis  |
| <b>Notes for Measure Calculation</b>                                      | <p>To count beneficiaries using <i>inpatient services</i>, use the stay discharge date to identify claims in the measurement period. Count only stays that include a discharge during the measurement period. If a discharge date is not explicitly reported, identify all claims associated with a single stay and use the latest end date of service on the claims to assign the claim to a measurement period. Use one of the following approaches to combine claims for the same stay:</p> <ul style="list-style-type: none"> <li>• Combine claims for the same beneficiary, provider, and admission date; or</li> <li>• If an admission date is not reported on all claims, combine claims for the same beneficiary and provider that have less than a one-day break between the end date of the first claim and the start date of the next claim. For example, if the end date of the first claim is December 18 and the start date of the next claim is December 19, then combine the claims as a single stay. However, if the second claim has a start date of December 20 or later, then do not combine the claims.</li> </ul> |

| Percentage of Inpatient admissions of individuals with SUD for withdrawal management (Measure 42) |  |
|---|--|
| <b>Numerator</b>  | <p>The number of inpatient admissions of individuals with SUD for withdrawal management for Centennial Care members.</p> <p>Step 1. Among claims retained in Denominator Step 4, identify claims for withdrawal management (<u>Detoxification Value Set</u>)</p> <p>Step 2. Calculate the number of inpatient discharges meeting the criteria in Step 1.</p>   |
| <b>Denominator</b>  | <p>The number of inpatient services for SUD related treatment for Centennial Care members.</p> <p>Step 1. Identify all inpatient stays (acute and nonacute) during the measurement period (<u>Inpatient Stay Value Set</u>).</p> <p>Step 2. Identify and exclude claims for residential treatment using the UB Revenue codes listed below:</p> <ul style="list-style-type: none"> <li>• 1001 – Residential treatment, psychiatric</li> <li>• 1002 – Residential treatment – chemical dependency</li> </ul> |

**Percentage of Inpatient admissions of individuals with SUD for withdrawal management (Measure 42)**

Step 3. Identify the discharge date for the stay. Retain only stays with discharge dates that fall within the measurement period.

Step 4. Among claims retained in Step 3, identify claims with a diagnosis code (any diagnosis on the claim) listed under any of the following Value Sets:

- [Alcohol Abuse and Dependence Value Set](#)
- [Opioid Abuse and Dependence Value Set](#)
- [Other Drug Abuse and Dependence Value Set](#)

Step 5. Calculate the number of inpatient discharges meeting the criteria in Steps 1, 2, 3, and 4.

|                              |                                  |
|------------------------------|----------------------------------|
| <b>Comparison Population</b> | N/A                              |
| <b>Measure Steward</b>       | N/A                              |
| <b>Data Source</b>           | MMIS                             |
| <b>Frequency</b>             | Quarterly                        |
| <b>Desired Direction</b>     | Lower is better                  |
| <b>Analytic Approach</b>     | Descriptive time series analysis |

|                                      |   |
|--------------------------------------|---|
| <b>Notes for Measure Calculation</b> | <p>To count beneficiaries using <i>inpatient services</i>, use the stay discharge date to identify claims in the measurement period. Count only stays that include a discharge during the measurement period. If a discharge date is not explicitly reported, identify all claims associated with a single stay and use the latest end date of service on the claims to assign the claim to a measurement period. Use one of the following approaches to combine claims for the same stay:</p> <ul style="list-style-type: none"> <li>• Combine claims for the same beneficiary, provider, and admission date; or</li> <li>• If an admission date is not reported on all claims, combine claims for the same beneficiary and provider that have less than a one-day break between the end date of the first claim and the start date of the next claim. For example, if the end date of the first claim is December 18 and the start date of the next claim is December 19, then combine the claims as a single stay. However, if the second claim has a start date of December 20 or later, then do not combine the claims.</li> </ul> |
|--------------------------------------|---|

**7- and 30-day inpatient and residential SUD readmission rates (Measure 43)**

|                  |  |
|------------------|--|
| <b>Numerator</b> | <p>The number of 7-day inpatient and residential readmission rates for Centennial Care users discharged with SUD diagnosis and readmitted to either inpatient or residential treatment with SUD diagnosis.</p> <p>30-day inpatient and residential readmission rates for Centennial Care users discharged with SUD diagnosis and readmitted to either inpatient or residential treatment with SUD diagnosis.</p> |
|------------------|--|

|                    |   |
|--------------------|---|
| <b>Denominator</b> | <p>The number of inpatient discharges with a principal diagnosis of SUD.</p> <p>Step 1: Calculate the Denominator: Count of Index Hospital Stays</p> <p>Step 1a. Identify all acute inpatient discharges with any diagnosis in the first 11 months of the measurement year. To identify acute inpatient discharges:</p> <ul style="list-style-type: none"> <li>• Identify all acute and nonacute inpatient stays (<a href="#">Inpatient Stay Value Set</a>).</li> <li>• Exclude nonacute inpatient stays (<a href="#">Nonacute Inpatient Stay Value Set</a>).</li> <li>• Determine whether the discharge date for the stay falls in the first 11 months of the measurement year.</li> </ul> |
|--------------------|---|

**7- and 30-day inpatient and residential SUD readmission rates (Measure 43)**

Inpatient stays where the discharge date from the first setting and the admission date to the second setting are two or more calendar days apart must be considered distinct inpatient stays. This measure includes acute discharges from any type of acute facility (including behavioral healthcare facilities).

Step 1b. Address acute-to-acute direct transfers as described below in “Additional Guidance.” Exclude the hospital stay if the direct transfer’s discharge date occurs in the last 30 days of the measurement year.

Step 1c. Exclude hospital stays where the Index Admission Date is the same as the Index Discharge Date.

Step 1d. Exclude hospital stays for the following reasons:

- The beneficiary died during the stay.
- Female beneficiaries with a principal diagnosis of pregnancy (Pregnancy Value Set) on the discharge claim.
- A principal diagnosis of a condition originating in the perinatal period (Perinatal Conditions Value Set) on the discharge claim.

Note: For hospital stays where there was an acute-to-acute direct transfer (identified in Step 1), use both the original stay and the direct transfer stay to identify exclusions in this step.

Step 1e. Identify stays with a principal diagnosis for SUD (AOD Abuse and Dependence Value Set).

Step 1f. To calculate the count of Index Hospital Stays (i.e., the denominator), count the number of Index Hospital Stays that meet the criteria in Steps 1a-1e.

|                                      |                                  |
|--------------------------------------|----------------------------------|
| <b>Comparison Population</b>         | N/A                              |
| <b>Measure Steward</b>               | N/A                              |
| <b>Data Source</b>                   | MMIS                             |
| <b>Frequency</b>                     | Quarterly                        |
| <b>Desired Direction</b>             | Lower is better                  |
| <b>Analytic Approach</b>             | Interrupted time series analysis |
| <b>Notes for Measure Calculation</b> |                                  |

**Total and per member per month (PMPM) cost (medical, behavioral and pharmacy) for members with SUD diagnosis (Measure 44)**

|                              |   |
|------------------------------|---|
| <b>Numerator</b>             | The sum of total MCO paid claim/encounter amounts for all inpatient, long-term care, outpatient, professional and pharmacy categories of service for members flagged with an SUD diagnosis  |
| <b>Denominator</b>           | The sum of all Centennial Care member months flagged with an SUD diagnosis based on the following criteria.<br><br>The number of unique beneficiaries (de-duplicated total) enrolled in the measurement period who receive MAT or have qualifying facility, provider, or pharmacy claims with a SUD diagnosis and a SUD-related treatment service during the measurement period and/or in the 11 months before the measurement period, as outlined in the <i>Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0</i> , Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly). |
| <b>Comparison Population</b> | N/A   |
| <b>Measure Steward</b>       | N/A   |
| <b>Data Source</b>           | MMIS  |

**Total and per member per month (PMPM) cost (medical, behavioral and pharmacy) for members with SUD diagnosis (Measure 44)**

|                                      |  |
|--------------------------------------|--|
| <b>Frequency</b>                     | Quarterly  |
| <b>Desired Direction</b>             | No significant change from projections   |
| <b>Analytic Approach</b>             | Descriptive time series analysis   |
| <b>Notes for Measure Calculation</b> | The denominator specifications follow <i>Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0</i> , Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly) |

**Total and PMPM cost (medical, behavioral and pharmacy) for members with SUD diagnosis by SUD source of care (Measure 45)**

|                                      |   |
|--------------------------------------|---|
| <b>Numerator</b>                     | The sum of total MCO paid claim/encounter amounts stratified by inpatient, long-term care, outpatient, professional and pharmacy categories of service for members flagged with an SUD diagnosis.   |
| <b>Denominator</b>                   | <p>The sum of all Centennial Care member months flagged with an SUD diagnosis based on the following criteria.</p> <p>The number of unique beneficiaries (de-duplicated total) enrolled in the measurement period who receive MAT or have qualifying facility, provider, or pharmacy claims with a SUD diagnosis and a SUD-related treatment service during the measurement period and/or in the 11 months before the measurement period, as outlined in the <i>Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0</i>, Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly).</p> |
| <b>Comparison Population</b>         | N/A   |
| <b>Measure Steward</b>               | N/A   |
| <b>Data Source</b>                   | MMIS  |
| <b>Frequency</b>                     | Quarterly   |
| <b>Desired Direction</b>             | No significant change from projections  |
| <b>Analytic Approach</b>             | Descriptive time series analysis  |
| <b>Notes for Measure Calculation</b> | <p>The numerator specifications follow CMS' <i>SMI/SED and SUD Evaluation Design Guidance Appendix C</i></p> <p>The denominator specifications follow <i>Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0</i>, Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly)</p>   |

**Total and PMPM cost for SUD services for members with SUD diagnosis (Measure 46)**

|                              |   |
|------------------------------|---|
| <b>Numerator</b>             | The sum of total MCO paid claim/encounter amounts for all inpatient, long-term care, outpatient, professional and pharmacy categories of service related to SUD claims/encounters only for members flagged with an SUD diagnosis.   |
| <b>Denominator</b>           | <p>The sum of all Centennial Care member months flagged with an SUD diagnosis based on the following criteria.</p> <p>The number of unique beneficiaries (de-duplicated total) enrolled in the measurement period who receive MAT or have qualifying facility, provider, or pharmacy claims with a SUD diagnosis and a SUD-related treatment service during the measurement period and/or in the 11 months before the measurement period, as outlined in the <i>Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0</i>, Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly).</p> |
| <b>Comparison Population</b> | N/A   |



**Total and PMPM cost for SUD services for members with SUD diagnosis (Measure 46)**

|                                      |  |
|--------------------------------------|--|
| <b>Measure Steward</b>               | N/A  |
| <b>Data Source</b>                   | MMIS   |
| <b>Measurement Period</b>            | Quarterly  |
| <b>Desired Direction</b>             | No significant change from projections   |
| <b>Analytic Approach</b>             | Descriptive time series analysis   |
| <b>Notes for Measure Calculation</b> | The numerator specifications follow CMS' <i>SMI/SED and SUD Evaluation Design Guidance Appendix C</i> .<br>The denominator specifications follow <i>Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0</i> , Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly). |

**Total and PMPM cost for SUD services by type of care (inpatient [IP], outpatient [OP], pharmacy [RX], etc.) (Measure 47)**

|                                      |   |
|--------------------------------------|---|
| <b>Numerator</b>                     | The sum of total MCO paid claim/encounter amounts stratified by inpatient, long-term care, outpatient, professional and pharmacy categories of service related to SUD claims/encounters only for members flagged with an SUD diagnosis  |
| <b>Denominator</b>                   | The sum of all Centennial Care member months flagged with an SUD diagnosis based on the following criteria.<br>The number of unique Centennial Care beneficiaries (de-duplicated total) enrolled in the measurement period who receive MAT or have qualifying facility, provider, or pharmacy claims with a SUD diagnosis and a SUD-related treatment service during the measurement period and/or in the 11 months before the measurement period as outlined in the <i>Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0</i> , Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly) |
| <b>Comparison Population</b>         | N/A   |
| <b>Measure Steward</b>               | N/A   |
| <b>Data Source</b>                   | MMIS  |
| <b>Frequency</b>                     | Quarterly   |
| <b>Desired Direction</b>             | No significant change from projections  |
| <b>Analytic Approach</b>             | Descriptive time series analysis  |
| <b>Notes for Measure Calculation</b> | The numerator specifications follow CMS' <i>SMI/SED and SUD Evaluation Design Guidance Appendix C</i> .<br>The denominator specifications follow <i>Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0</i> , Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly).  |

**Percentage of individuals diagnosed with SUD receiving care coordination (Measure 48)**

|                    |   |
|--------------------|---|
| <b>Numerator</b>   | Among members identified in the denominator, the number of Centennial Care members in fully delegated care coordination during the measurement period.<br>Fully delegated care coordination is defined as participating in a Health Home program.   |
| <b>Denominator</b> | The number of unique Centennial Care beneficiaries (de-duplicated total) enrolled in the measurement period who receive MAT or have qualifying facility, provider, or pharmacy claims with a SUD diagnosis and a SUD-related treatment service during the measurement period and/or in the 11 months before the measurement period. |

| Percentage of individuals diagnosed with SUD receiving care coordination (Measure 48) |  |
|---|--|
| Comparison Population   | N/A  |
| Measure Steward   | N/A  |
| Data Source   | MMIS,<br>Health Home enrollment roster   |
| Frequency   | Quarterly  |
| Desired Direction   | Higher is better   |
| Analytic Approach   | Descriptive time series analysis with statistical processing control (SPC) chart   |
| Notes for Measure Calculation   | Denominator specifications follow <i>Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0</i> , Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly) |

| Percentage of individuals with SUD receiving preventive/ambulatory health services (AAP) (Measure 49) |  |
|---|--|
| Numerator   | The number of Centennial Care members with SUD diagnosis receiving preventive/ambulatory health services.  |
| Denominator   | The number of Centennial Care members with SUD diagnosis and meeting eligible population criteria.   |
| Comparison Population   | N/A  |
| Measure Steward   | CMS (modified NCQA)  |
| Data Source   | MMIS   |
| Frequency   | Annual   |
| Desired Direction   | Higher is better   |
| Analytic Approach   | Trend analysis   |
| Notes for Measure Calculation   | Measure specifications follow <i>Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0</i> , Metric #32: Access to Preventive/Ambulatory Health Services for Adult Medicaid Beneficiaries with SUD. |

| Number of naloxone training and kit distributions (Measure 50) |  |
|--|--|
| Numerator  | The number of naloxone training and kit distributions to New Mexico residents.       |
| Denominator  | N/A  |
| Comparison Population  | N/A  |
| Measure Steward  | N/A  |
| Data Source  | DOH, Behavioral Health Services Division (BHSD)                                      |
| Frequency  | Annual   |
| Desired Direction  | Higher is better   |
| Analytic Approach  | Descriptive data analysis  |
| Notes for Measure Calculation                                  | Numbers were provided by DOH/BHSD and have not been independently validated by HSAG. |

| Number of MCO network MAT providers (Measure 51) |  |
|--|--|
| Numerator  | The number of MCO network MAT providers. |

| Number of MCO network MAT providers (Measure 51) |   |
|--|---|
| Denominator                                      | N/A   |
| Comparison Population                            | N/A   |
| Measure Steward                                  | N/A   |
| Data Source                                      | MCO Report  |
| Frequency  | Annual  |
| Desired Direction                                | Higher is better  |
| Analytic Approach                                | Descriptive time series analysis  |
| Notes for Measure Calculation                    | Numbers are provided by the MCOs and have not been independently validated by HSAG. |

| Percentage of individuals diagnosed with SUD with MAT claims (Measure 52) |   |
|---|---|
| Numerator   | <p>Among members identified in the denominator, the number of Medicaid members with a claim for MAT during the measurement year. MAT claims are identified through one of the following dispensing events:</p> <ul style="list-style-type: none"> <li>• <a href="#">Alcohol Use Disorder Treatment Medication List</a></li> <li>• <a href="#">Opioid Use Disorder Treatment Medication List</a></li> </ul>  |
| Denominator   | <p>The number of Centennial Care members with an AOD/ODU diagnosis OR an MAT dispensing event.</p> <p>Identify members with any claim for any of the following diagnoses or dispensing events during the measurement year:</p> <ul style="list-style-type: none"> <li>• <a href="#">Alcohol Abuse and Dependence Value Set</a></li> <li>• <a href="#">Opioid Abuse and Dependence Value Set</a></li> <li>• <a href="#">Alcohol Use Disorder Treatment Medication List</a></li> <li>• <a href="#">Opioid Use Disorder Treatment Medication List</a></li> </ul> |
| Comparison Population   | N/A   |
| Measure Steward   | N/A   |
| Data Source   | MMIS  |
| Frequency   | Quarterly   |
| Desired Direction   | Higher is better  |
| Analytic Approach   | Interrupted time series analysis  |
| Notes for Measure Calculation   |   |

| Number of providers using the prescription monitoring program (Measure 53) |   |
|--|---|
| Numerator  | Number of Providers who made at least one Prescription Monitoring Program (PMP) request in the quarter. |
| Denominator  | Number of Providers Needing 10+ PMP Reports in the quarter.   |
| Comparison Population  | N/A   |
| Measure Steward  | N/A   |
| Data Source  | New Mexico (NM) Board of Pharmacy, MCO Report   |
| Frequency  | Annual  |

| Number of providers using the prescription monitoring program (Measure 53) |                           |
|--|---------------------------|
| Desired Direction  | N/A                       |
| Analytic Approach  | Descriptive data analysis |
| Notes for Measure Calculation  |                           |

| Rate of deaths due to overdose (Measure 54) |  |
|---|--|
| Numerator                                   | <p>Proportionate mortality and cause-specific death rates were calculated for both the whole New Mexico population and the New Mexico Medicaid population. Proportionate mortality rates are defined as the number of overdose deaths divided by all deaths among the population of interest. Cause-specific death rates are defined as the total overdose deaths divided by the size of the population of interest. Specific numerator and denominator definitions are included below.</p> <p><b>Proportionate Mortality Rate:</b> The total number of overdose deaths among the denominator.</p> <p><b>Cause-Specific Death Rate:</b> The total number of overdose deaths among the denominator.</p> |
| Denominator                                 | <p><b>Proportionate Mortality Rate:</b> The total number of deaths among New Mexico Residents.</p> <p><b>Cause-Specific Death Rate:</b> The total New Mexico population.</p>   |
| Comparison Population                       | Rates were calculated for the overall New Mexico population and for the New Mexico Medicaid population   |
| Measure Steward                             | N/A  |
| Data Source                                 | DOH epidemiology reports,<br>Office of Medical Investigator<br>American Community Survey   |
| Frequency                                   | Annual   |
| Desired Direction                           | Lower is better  |
| Analytic Approach                           | Descriptive data analysis  |
| Notes for Measure Calculation               |  |