## VERMONT Blueprint for Health
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# Medication Assisted Treatment Profile
**Period:** Jan 2016 - Dec 2016 **Profile Type:** Adults (18-64 Years)

Welcome to the *2016 Blueprint Medication Assisted Treatment (MAT) Profile* of the Vermont *Hub & Spoke Program,* which provides MAT to Vermonters with opioid use disorder (OUD). The Blueprint for Health, in partnership with the Vermont Department of Health's Division of Alcohol and Drug Abuse Programs, offers this statewide view of the Program.

The *Hub & Spoke Program* is a systematic treatment response to the opioid epidemic in Vermont. This program enhances the provision of MAT by adding new health care staff to both *Hub* designated providers and the *Spokes* to provide Health Home (HH) services. These new staff link OUD treatment with Blueprint primary care practices and community health teams to provide care that is evidence based and integrated.

*Hubs* are regional, specialty OUD treatment centers regulated as Opioid Treatment Programs (OTPs) that provide intensive treatment for OUD as well as consultation and support to the Spoke teams of health care professionals offering MAT.

*Spokes* are teams of health care professionals that work with providers prescribing buprenorphine for OUD. *Spokes* are organized through the Blueprint for Health's network of Patient-Centered Medical Homes and Community Health Teams.

*Blueprint MAT Profiles* are based on data from Vermont's all-payer claims database (VHCURES) and the Vermont Clinical Registry. The population in this profile is Medicaid beneficiaries ages 18-64 years with OUD who received treatment in a *Hub* or a *Spoke* in 2016.

The measure results in the profile have not been risk adjusted unless specifically noted. Results with fewer than eleven members are not reported consistent with Medicare guidelines.

*This profile is intended to be read with the related methods documentation.

## Demographics & Health Status

| | HUB | SPOKE | MAT Combined |
|---|---|---|---|
| Average Members | 2,269 | 2,822 | 5,091 |
| Average Age | 34.1 | 33.5 | 33.8 |
| % Female | 53.6 | 54.5 | 54.1 |
| % Maternity | 11.9 | 16.7 | 14.6 |
| % with Selected Chronic Conditions | 46.7 | 48.4 | 47.6 |
| % CRG Significant Chronic | 45.3 | 54.6 | 50.4 |
| % Depression | 31.4 | 33.3 | 32.5 |
| % Hepatitis C | 19.9 | 12.6 | 15.9 |
| % ADD | 16.5 | 14.7 | 15.5 |
| % Asthma | 18.7 | 18.1 | 18.4 |
| % Mental Health (Non-Substance Use) | 59.3 | 64.3 | 62.0 |
| % Other Substance Use | 37.1 | 46.5 | 42.3 |
| % Tobacco Dependence | 45.9 | 49.0 | 47.6 |
| % Concurrent Pain | 26.1 | 25.2 | 25.6 |

**Table 1:** *This table provides comparative information on the demographics and health status of all Medicaid members of the Hub & Spoke program separately and overall.*

*Average Members serves as this table's denominator and adjusts for partial lengths of Medicaid enrollment during the year. Average membership is calculated as the proportion of the measurement year that an individual is covered by Medicaid. Denominator populations vary across the three MAT profiles due to differences in attribution (please see the attribution section of related methods documentation).*

*The Selected Chronic Conditions measure indicates the proportion of members identified through the claims data as having one or more of seven selected chronic conditions: asthma, chronic obstructive pulmonary disease, congestive heart failure, coronary heart disease, hypertension, diabetes, and depression. Additional chronic conditions were included as separate lines in this table because they were prominent in this cohort.*

*The Health Status (CRG) measure aggregates 3M™ Clinical Risk Grouper (CRG) classifications for the year for the purpose of generating adjusted rates. Aggregated risk classification groups include: Healthy, Acute (e.g., ear, nose, throat infection) or Minor Chronic (e.g., minor chronic joint pain), Moderate Chronic (e.g., diabetes), Significant Chronic (e.g., diabetes and congestive heart failure), and Cancer (e.g., breast cancer, colorectal cancer) or Catastrophic (e.g., HIV, muscular dystrophy, cystic fibrosis). Since most members fall into the chronic category with a detail CRG indicating OUD, we distinguish the less healthy population as having a CRG aggregate category of significant chronic or higher.*

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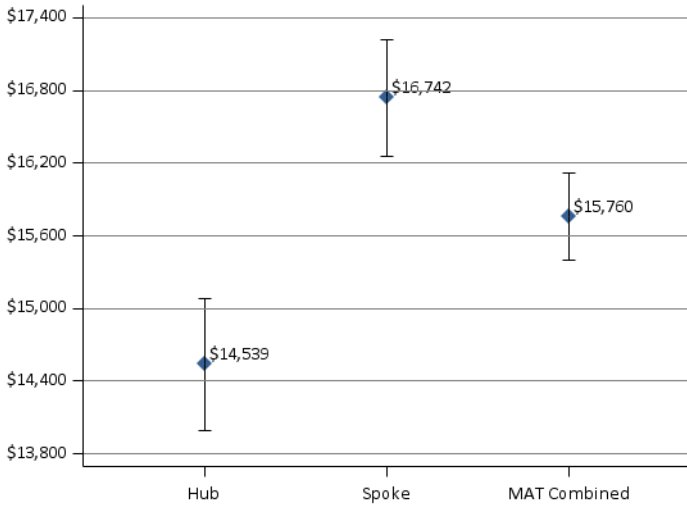Smart choices. Powerful tools.

## Total Expenditures per Capita



*Figure 1:* *Presents annual crude rates, including 95% confidence intervals, with expenditures capped statewide for outlier patients. Expenditures include all health care claims paid by Medicaid.*
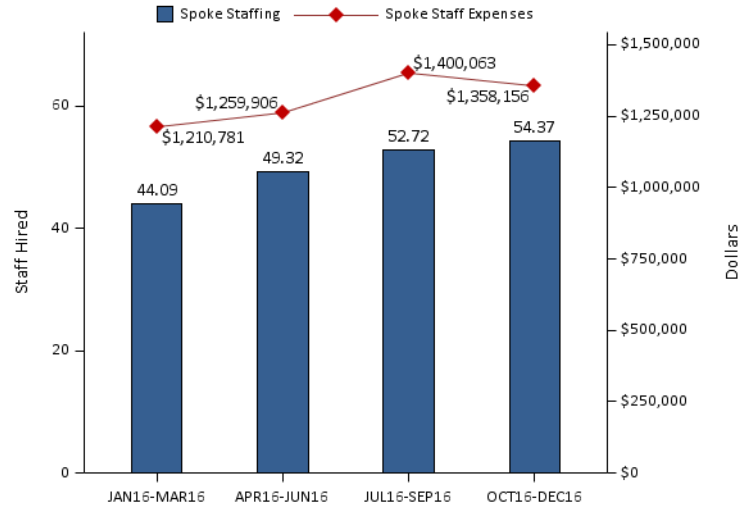
## Total Spoke Staff Expenditures



*Figure 2:* *Presents trends for Spoke staffing expenditures and spoke staffing counts for each quarter within the measurement year.*

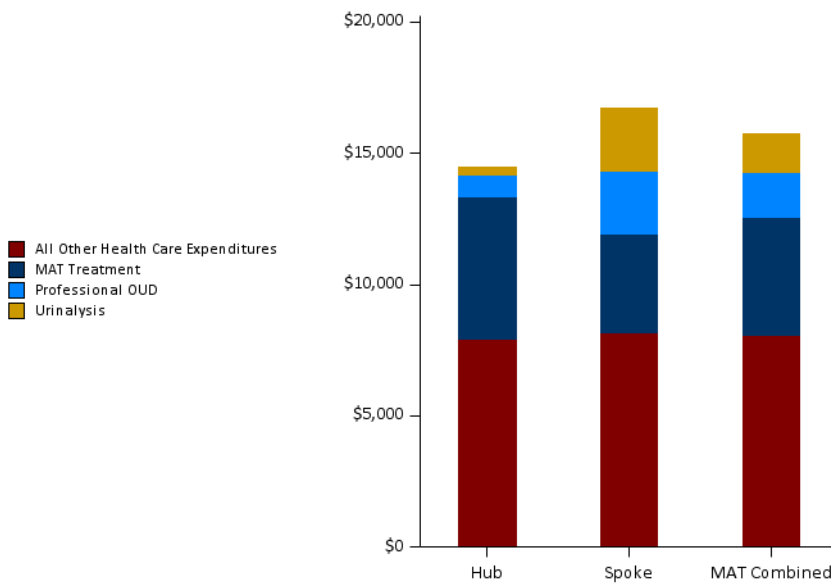## Total MAT & Non-MAT Expenditures



*Figure 3:* *Presents annual crude rates for Medication Assisted Treatment (MAT) expenditures, Non-MAT expenditures, Professional Opioid Use Disorder (OUD) expenditures, and Urinalysis expenditures with expenditures capped statewide for outlier patients.*

| Demographics / Health | Cost of Care | Utilization | Effective / Preventive | Data Detail | Enrollment |

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**Medication Assisted Treatment Profile**

**Period:** Jan 2016 - Dec 2016  **Profile Type:** Adults (18-64 Years)

### Total MAT Expenditures per Capita by Treatment Category



Legend:
- Hub Bundled Payment
- MAT Pharmacy
- Professional OUD
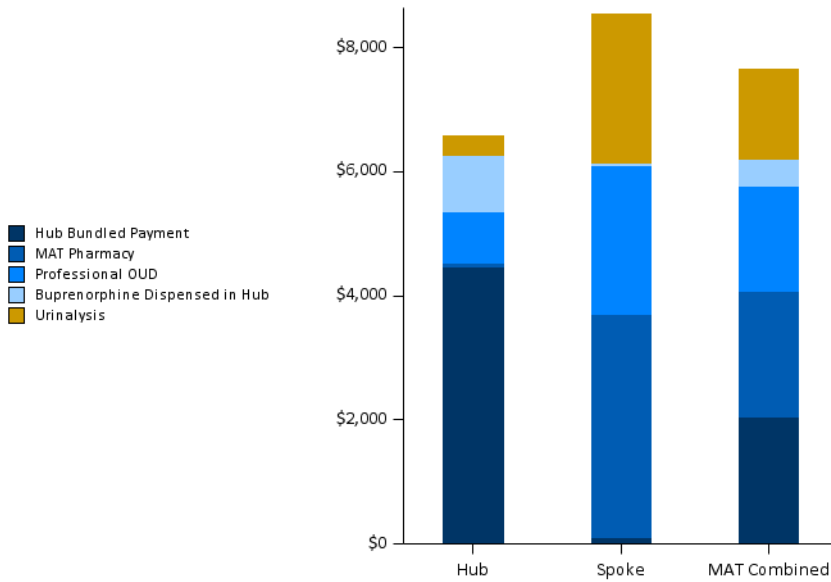- Buprenorphine Dispensed in Hub
- Urinalysis

*Figure 4:* Presents annual crude rates for the major components of Medication Assisted Treatment (MAT) expenditures as well as Urinalysis expenditures with expenditures capped statewide for outlier patients.

### All Other Health Care Expenditures per Capita by Major Category



Legend:
- Special Medicaid Services
- Inpatient Total
- Professional Total
- Non-MAT Pharmacy
- Outpatient Hospital (ED)
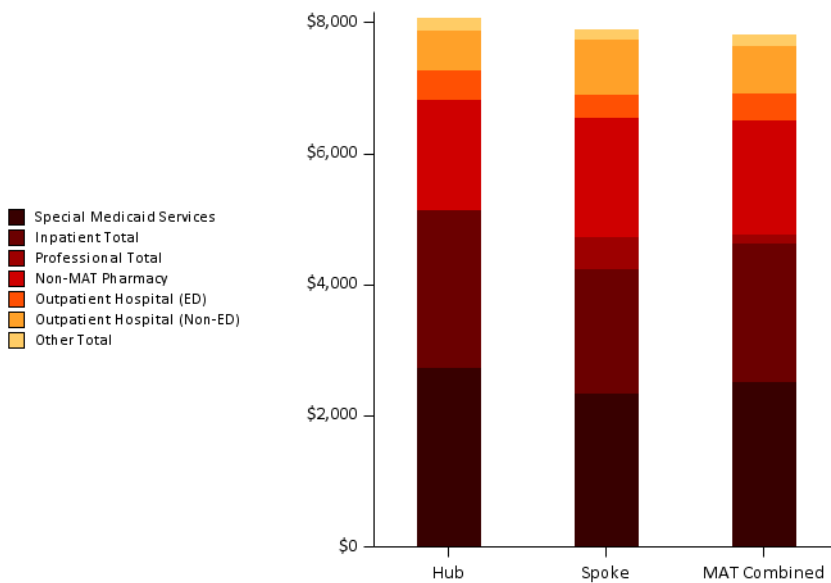- Outpatient Hospital (Non-ED)
- Other Total

*Figure 5:* Presents annual crude rates for the major expenditure categories for health and OUD care with expenditures capped statewide for outlier patients. Special Medicaid Services are services that commercial insurance often does not cover (e.g., transportation, special school services, residential treatment, etc.) and are reported separately.

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# Medication Assisted Treatment Profile
**Period:** Jan 2016 - Dec 2016  **Profile Type:** Adults (18-64 Years)
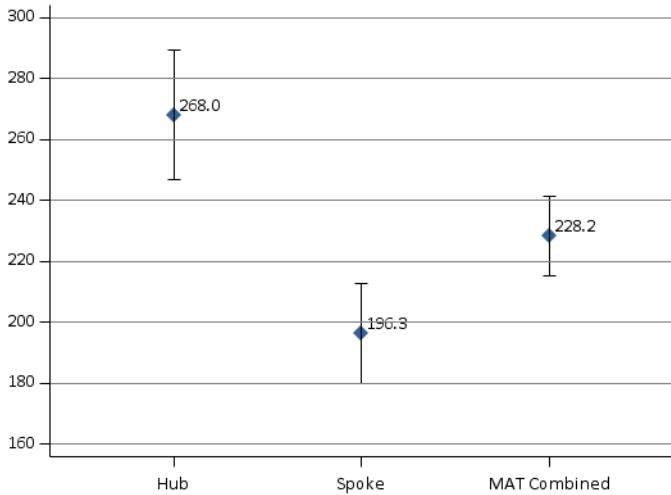
## Inpatient Discharges*



**Figure 6:** *Presents annual crude rates, including 95% confidence intervals, of inpatient discharges per 1,000 members.*
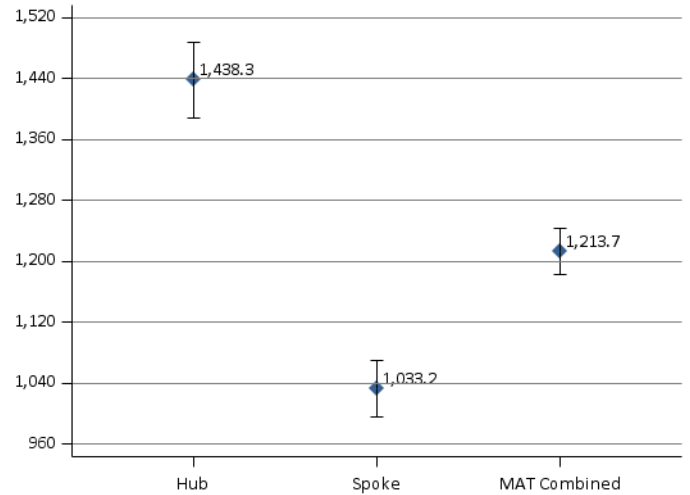
## Outpatient ED Visits*



**Figure 7:** *Presents annual crude rates, including 95% confidence intervals, of outpatient emergency department (ED) visits per 1,000 members.*
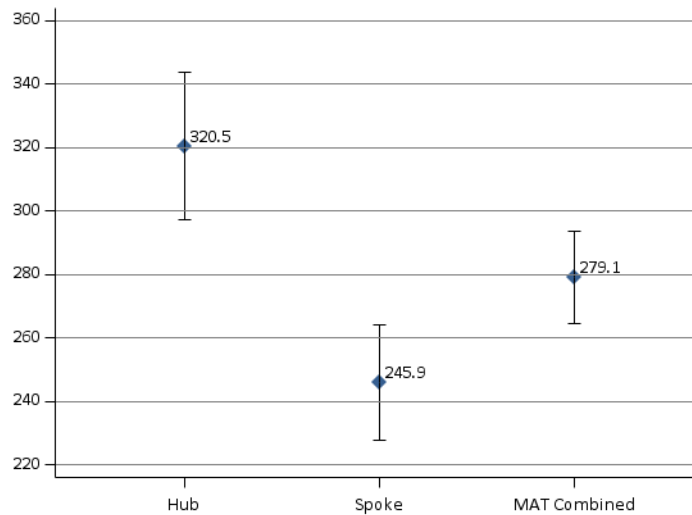
## Advanced Imaging (MRIs, CT Scans)



**Figure 8:** *Presents annual crude rates, including 95% confidence intervals, of advanced imaging diagnostic tests (i.e., magnetic resonance imagings (MRIs) and computed tomography (CT) scans) per 1,000 members.*

*These measures are included in the Center for Medicare & Medicaid Services Health Home reporting.*
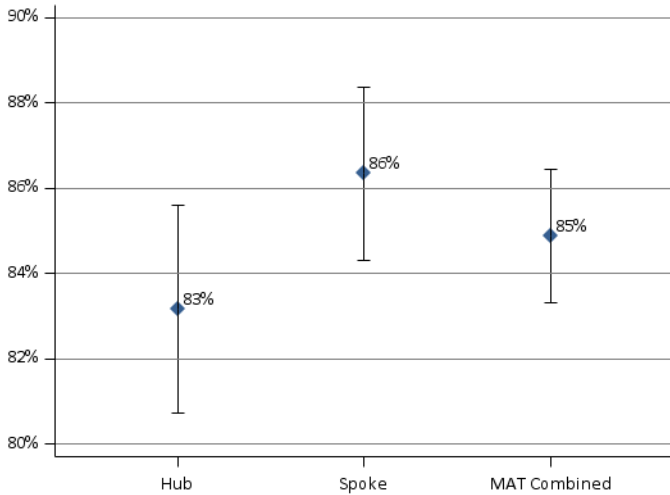
## Adult Body Mass Index Assessment*



*Figure 9:* Presents the proportion, including 95% confidence intervals, of continuously enrolled members with an outpatient visit whose body mass index (BMI) was documented during the measurement year or the year prior. This figure includes only practices providing clinical data to the Vermont Clinical Registry. Hubs do not report to the Clinical Registry.

## Screening for Clinical Depression*

*Too few patients with depression screen*

*Figure 10:* Presents the proportion, including 95% confidence intervals, of continuously enrolled members that were screened for clinical depression on the date of encounter using an age-appropriate standardized depression screening tool. This figure includes only practices providing clinical data to the Vermont Clinical Registry. Hubs do not report to the Clinical Registry.
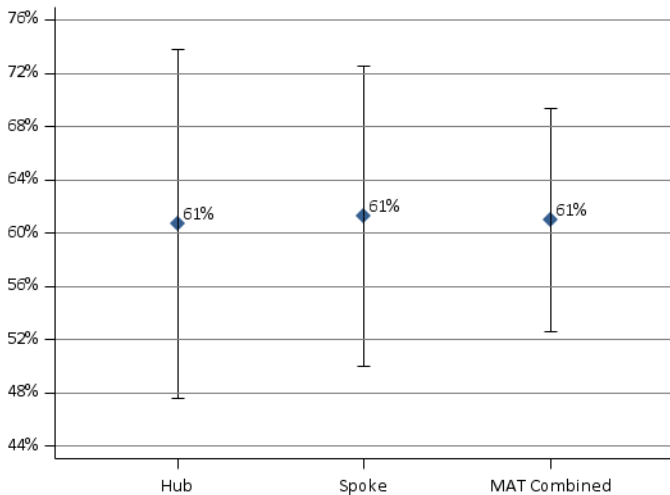
## Controlling High Blood Pressure*



*Figure 11:* Presents the proportion, including 95% confidence intervals, of continuously enrolled members with hypertension that had controlled blood pressure (<140/90 mmHg) during the measurement year. This figure includes only practices providing clinical data to the Vermont Clinical Registry. Hubs do not report to the Clinical Registry.

## Tobacco Use Screening*



*Figure 12:* Presents the proportion, including 95% confidence intervals, of continuously enrolled members that were screened for tobacco use one or more times within a two-year lookback period and who received cessation counseling intervention. This figure includes only practices providing clinical data to the Vermont Clinical Registry. Hubs do not report to the Clinical Registry.
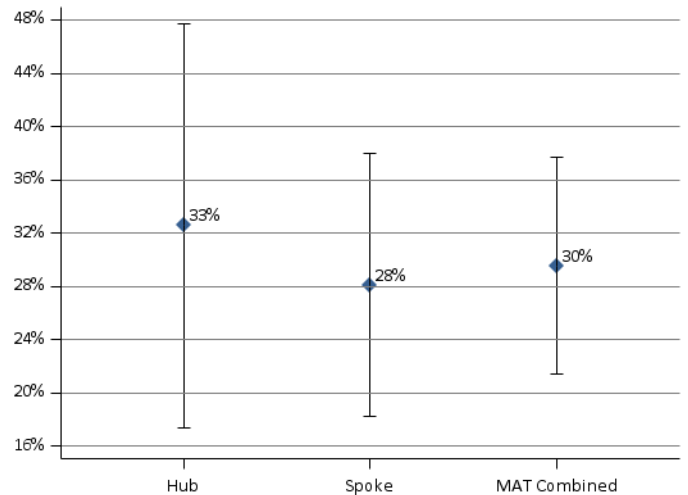
*These measures are included in the Center for Medicare & Medicaid Services Health Home reporting.

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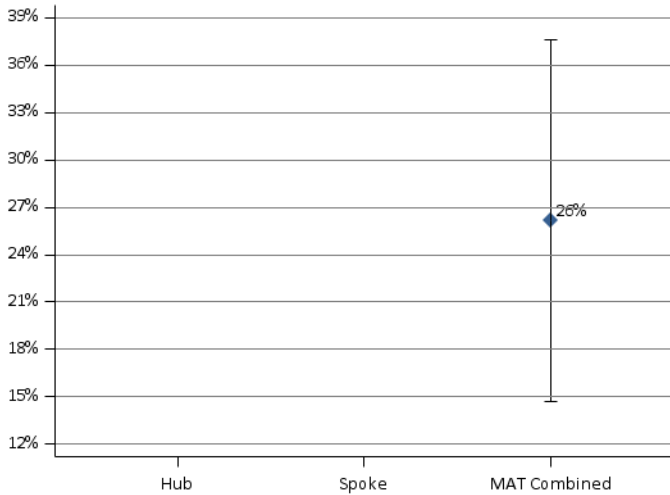
## Breast Cancer Screening*



**Figure 13:** *Presents the proportion, including 95% confidence intervals, of continuously enrolled female members, ages 52–64 years, who had a mammogram to screen for breast cancer during the measurement year or year prior to the measurement year. The number of participants with a screening result is very small.*
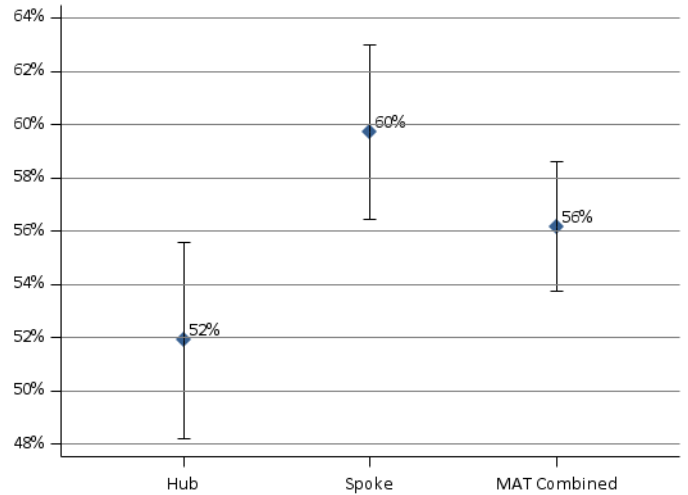
## Cervical Cancer Screening*



**Figure 14:** *Presents the proportion, including 95% confidence intervals, of continuously enrolled female members either (a) ages 21–64 years who received one or more Papanicolaou (Pap) tests to screen for cervical cancer during the measurement year or two years prior to the measurement year or (b) ages 30–64 years who received one or more Pap tests to screen for cervical cancer during the measurement year or four years prior to the measurement year.*

## Follow-Up After Hospitalization for Mental Illness*
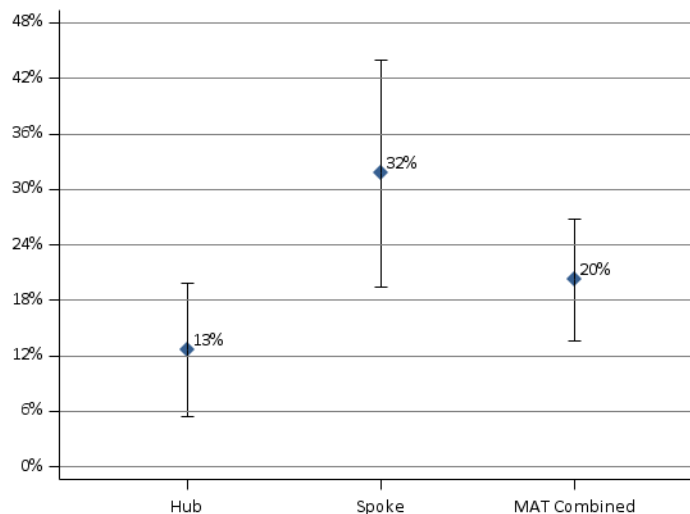


**Figure 15:** *Presents the proportion, including 95% confidence intervals, of continuously enrolled members, ages 18 years and older, hospitalized for mental illness with an intensive outpatient encounter or partial hospitalization with a mental health practitioner and a follow-up visit within seven days of discharge. Note: If follow-up was provided at a Hub or by Spoke staff, no separate claim would be generated to be counted in this measure.*

*These measures are included in the Center for Medicare & Medicaid Services Health Home reporting.

| Demographics / Health | Cost of Care | Utilization | Effective / Preventive | Data Detail | Enrollment |

The following tables provide greater detail on the annual crude rates presented in the preceding figures.

## Table 2. Expenditure Measures (Crude)

| Measure | Hub | | | Spoke | | | MAT Combined | | |
|---|---|---|---|---|---|---|---|---|---|
| | Rate per Capita | 95% LCL | 95% UCL | Rate per Capita | 95% LCL | 95% UCL | Rate per Capita | 95% LCL | 95% UCL |
| Total | $14,539 | $13,998 | $15,081 | $16,742 | $16,261 | $17,222 | $15,760 | $15,400 | $16,121 |
| Inpatient Total | $2,410 | $2,073 | $2,746 | $1,894 | $1,634 | $2,153 | $2,124 | $1,916 | $2,331 |
| Inpatient Mental Health | $745 | $571 | $918 | $444 | $326 | $561 | $578 | $476 | $679 |
| Inpatient Maternity | $377 | $299 | $456 | $504 | $416 | $592 | $448 | $388 | $507 |
| Inpatient Surgical | $772 | $495 | $1,049 | $759 | $478 | $1,040 | $765 | $566 | $963 |
| Inpatient Medical | $584 | $460 | $708 | $332 | $243 | $421 | $444 | $370 | $518 |
| Outpatient Total | $1,075 | $1,010 | $1,139 | $1,197 | $1,137 | $1,256 | $1,142 | $1,099 | $1,186 |
| Outpatient Hospital Mental Health | $106 | $97 | $115 | $266 | $246 | $286 | $195 | $183 | $207 |
| Outpatient Hospital ED | $457 | $426 | $489 | $351 | $325 | $377 | $398 | $378 | $419 |
| Outpatient Hospital Surgery | $167 | $134 | $200 | $156 | $129 | $183 | $161 | $140 | $182 |
| Outpatient Hospital Radiology | $61 | $52 | $71 | $61 | $52 | $69 | $61 | $55 | $67 |
| Outpatient Hospital Laboratory | $130 | $118 | $143 | $182 | $166 | $197 | $159 | $149 | $169 |
| Outpatient Hospital Pharmacy | $13 | $7 | $20 | $21 | $8 | $33 | $17 | $10 | $25 |
| Outpatient Hospital Other | $127 | $113 | $141 | $161 | $148 | $175 | $146 | $136 | $156 |
| Professional Non-Mental Health Total | $910 | $859 | $960 | $961 | $917 | $1,005 | $938 | $905 | $971 |
| Professional Physician Total | $577 | $538 | $616 | $670 | $635 | $704 | $628 | $602 | $654 |
| Professional Physician Inpatient | $189 | $156 | $223 | $195 | $165 | $224 | $192 | $170 | $215 |
| Professional Physician Outpatient Facility | $97 | $88 | $106 | $125 | $116 | $135 | $113 | $106 | $119 |
| Professional Physician Office Visit | $177 | $164 | $189 | $279 | $264 | $294 | $233 | $224 | $243 |
| Professional Non-Physician | $326 | $306 | $345 | $290 | $274 | $307 | $306 | $293 | $319 |
| Professional Mental Health Provider | $504 | $467 | $541 | $1,984 | $1,908 | $2,059 | $1,324 | $1,276 | $1,373 |
| Pharmacy Total | $1,750 | $1,606 | $1,895 | $5,399 | $5,236 | $5,562 | $3,773 | $3,652 | $3,894 |
| Pharmacy Psych Medication | $592 | $529 | $654 | $647 | $584 | $711 | $623 | $578 | $668 |
| Other Total | $478 | $425 | $532 | $2,542 | $2,439 | $2,646 | $1,623 | $1,555 | $1,690 |
| Special Medicaid Services | $7,169 | $7,000 | $7,338 | $2,444 | $2,296 | $2,591 | $4,549 | $4,422 | $4,677 |
| Mental Health Substance Combined* | $1,785 | $1,631 | $1,940 | $3,283 | $3,146 | $3,420 | $2,615 | $2,511 | $2,720 |

\* The *Mental Health Substance Combined* measure is the sum of all expenditures associated with medical and pharmacy services for mental health / substance abuse.

## Table 3. MAT Expenditure Measures (Crude)

| Measure | Hub | | | Spoke | | | MAT Combined | | |
|---|---|---|---|---|---|---|---|---|---|
| | Rate per Capita | 95% LCL | 95% UCL | Rate per Capita | 95% LCL | 95% UCL | Rate per Capita | 95% LCL | 95% UCL |
| Hub Bundled Payment | $4,463 | $4,393 | $4,532 | $99 | $83 | $114 | $2,043 | $1,977 | $2,109 |
| MAT Pharmacy | $70 | $58 | $83 | $3,605 | $3,526 | $3,685 | $2,030 | $1,965 | $2,095 |
| Professional OUD | $818 | $730 | $905 | $2,401 | $2,294 | $2,509 | $1,696 | $1,622 | $1,770 |
| Buprenorphine Dispensed in Hub | $918 | $849 | $988 | $47 | $37 | $57 | $435 | $402 | $469 |
| Urinalysis | $299 | $255 | $343 | $2,389 | $2,289 | $2,490 | $1,458 | $1,393 | $1,523 |

| Demographics / Health | Cost of Care | Utilization | Effective / Preventive | Data Detail | Enrollment |

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## Medication Assisted Treatment Profile
**Period:** Jan 2016 - Dec 2016  **Profile Type:** Adults (18-64 Years)

## Table 4. Utilization Measures (Crude)

| Measure | Hub | | | Spoke | | | MAT Combined | | |
|---|---|---|---|---|---|---|---|---|---|
| | Rate per 1,000 | 95% LCL | 95% UCL | Rate per 1,000 | 95% LCL | 95% UCL | Rate per 1,000 | 95% LCL | 95% UCL |
| Inpatient Discharges | 257.9 | 237.0 | 278.8 | 201.3 | 184.7 | 217.8 | 226.5 | 213.4 | 239.6 |
| Inpatient Days | 1,402.6 | 1,353.9 | 1,451.4 | 1,088.5 | 1,050.0 | 1,127.0 | 1,228.5 | 1,198.0 | 1,258.9 |
| Outpatient ED Visits | 1,286.7 | 1,240.0 | 1,333.4 | 907.4 | 872.3 | 942.5 | 1,076.4 | 1,047.9 | 1,104.9 |
| Outpatient Potentially Avoidable ED Visits | 233.2 | 213.3 | 253.1 | 153.4 | 139.0 | 167.9 | 189.0 | 177.0 | 200.9 |
| Non-Hospital Outpatient Visits | 8,053.0 | 7,936.3 | 8,169.8 | 24,955.9 | 24,771.6 | 25,140.3 | 17,423.8 | 17,309.1 | 17,538.4 |
| Primary Care Encounters | 3,811.6 | 3,731.3 | 3,892.0 | 10,885.0 | 10,763.2 | 11,006.7 | 7,733.0 | 7,656.6 | 7,809.4 |
| Medical Specialist Encounters | 654.6 | 621.3 | 687.9 | 1,250.7 | 1,209.5 | 1,292.0 | 985.1 | 957.8 | 1,012.4 |
| Surgical Specialist Encounters | 665.6 | 632.0 | 699.2 | 1,833.2 | 1,783.3 | 1,883.2 | 1,312.9 | 1,281.5 | 1,344.4 |
| Standard Imaging | 822.5 | 785.2 | 859.9 | 694.1 | 663.4 | 724.8 | 751.3 | 727.5 | 775.1 |
| Advanced Imaging | 320.5 | 297.2 | 343.8 | 245.9 | 227.6 | 264.2 | 279.1 | 264.6 | 293.6 |
| Echography | 500.3 | 471.2 | 529.4 | 549.5 | 522.2 | 576.9 | 527.6 | 507.7 | 547.6 |
| Colonoscopy | 8.8 | 5.0 | 12.7 | 12.8 | 8.6 | 16.9 | 11.0 | 8.1 | 13.9 |
| PQI 5: COPD Admissions | 9.6 | 1.2 | 17.9 | 20.6 | 8.4 | 32.8 | 15.1 | 7.7 | 22.6 |
| PQI 92: Composite (Chronic) | 4.4 | 1.7 | 7.1 | 8.4 | 5.0 | 11.8 | 6.6 | 4.4 | 8.9 |
| PQI 8: Heart Failure Admissions | | 0.0 | | 0.4 | 0.0 | 1.0 | 0.2 | 0.0 | 0.6 |
| Ambulatory Care ED Visits - HH | 1,438.3 | 1,389.0 | 1,487.7 | 1,033.2 | 995.7 | 1,070.7 | 1,213.7 | 1,183.5 | 1,244.0 |
| Inpatient Utilization - HH | 268.0 | 246.7 | 289.3 | 196.3 | 179.9 | 212.6 | 228.2 | 215.1 | 241.4 |
| Short Term Nursing Facility Admissions - HH | | | | | | | | | |
| Long Term Nursing Facility Admissions - HH | | | | | | | | | |

## Table 5. Effective & Preventive Care Measures

| Measure | Hub | | | | Spoke | | | | MAT Combined | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | Rate % | 95% LCL | 95% UCL | N | Rate % | 95% LCL | 95% UCL | N | Rate % | 95% LCL | 95% UCL |
| Breast Cancer Screening (BCS), 52-64 Years - HH | | | | | | | | | 65 | 26% | 15% | 38% |
| Cervical Cancer Screening (CCS) - HH | 742 | 52% | 48% | 56% | 889 | 60% | 56% | 63% | 1,631 | 56% | 54% | 59% |
| Follow-up After Hospitalization for Mental Illness (7 Day) - HH | 95 | 13% | 5% | 20% | 63 | 32% | 19% | 44% | 158 | 20% | 14% | 27% |
| Controlling High Blood Pressure - HH | 61 | 61% | 48% | 74% | 80 | 61% | 50% | 73% | 141 | 61% | 53% | 69% |
| Adult Body Mass Index Assessment - HH | 950 | 83% | 81% | 86% | 1,135 | 86% | 84% | 88% | 2,085 | 85% | 83% | 86% |
| Screening for Clinical Depression - HH | | | | | | | | | | | | |
| Tobacco Use Screening - HH | 43 | 33% | 17% | 48% | 89 | 28% | 18% | 38% | 132 | 30% | 21% | 38% |

## Table 6. Plan All-Cause Readmissions

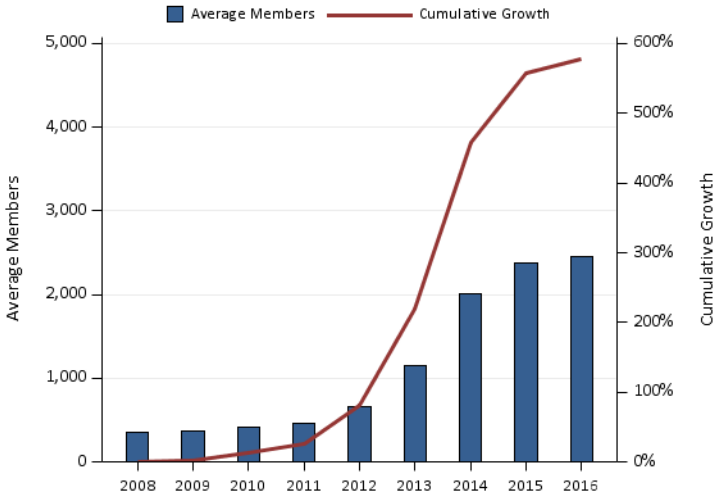| Measure | SPOKE | | | | HUB | | | | MAT Combined | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | Observed / Expected Ratio | LCL | UCL | N | Observed / Expected Ratio | LCL | UCL | N | Observed / Expected Ratio | LCL | UCL |
| PCR | 291 | 0.85 | 0.62 | 1.09 | 362 | 0.72 | 0.49 | 0.94 | 653 | 0.78 | 0.62 | 0.94 |

## Hub Case Load Growth



*Figure 16:* *Presents the total average members per year receiving at least one Hub medical claim within the measurement year and the percent cumulative growth since 2008.*
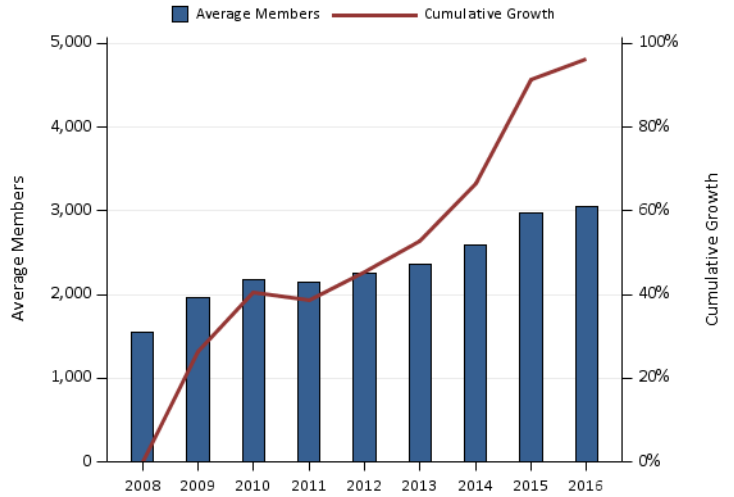
## Spoke Case Load Growth



*Figure 17:* *Presents the total average members per year receiving at least one prescription for buprenorphine as identified in the pharmacy claims within the measurement year and the percent cumulative growth since 2008.*
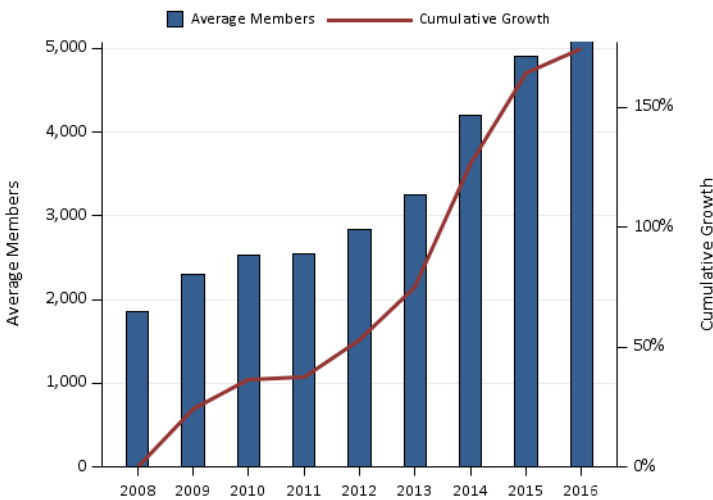
## MAT Case Load Growth



*Figure 18:* *Presents the total average members per year receiving at least one prescription for buprenorphine as identified in the pharmacy claims or at least one hub treatment medical claim within the measurement year and the percent cumulative growth since 2008.*

## Medicaid Enrollment & MAT Treatment
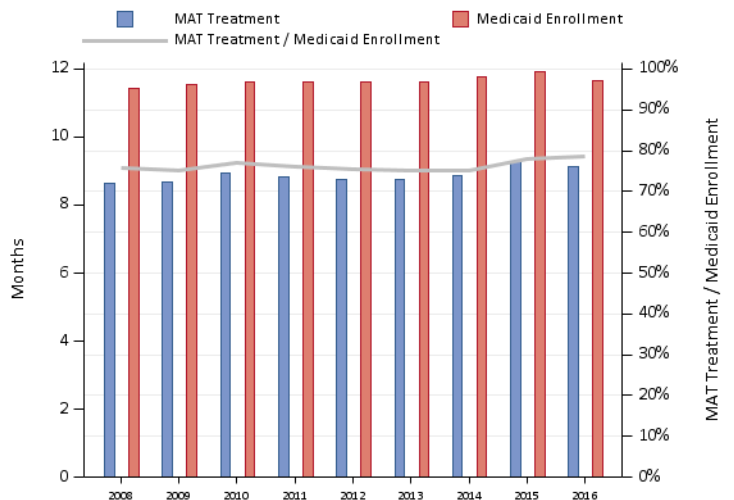


*Figure 19:* *Presents the average number of Medicaid enrollment months among MAT participants, the average number of MAT treatment months, and the percent of Medicaid enrollment months in which the member received treatment. MAT participation and Medicaid enrollment remained stable from 2008–2016 despite enhancements and changes made to the MAT program.*

| Demographics / Health | Cost of Care | Utilization | Effective / Preventive | Data Detail | **Enrollment** |

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## SFY2016 MAT Rate per 100,000 People



GRAND ISLE
1,352

FRANKLIN
2,078

ORLEANS
2,128

ESSEX
1,158

LAMOILLE
1,603

CHITTENDEN
1,266

CALEDONIA
1,576

WASHINGTON
1,633

ADDISON
771

ORANGE
1,252

RUTLAND
2,021

WINDSOR
1,768

BENNINGTON
1,705

WINDHAM
1,609

**County Hub & Spoke Rates/100,000 Compared to State Rate**

▢ Statistically Higher than State Average
▢ Statistically Similar to State Average
▢ Statistically Lower than State Average

**State rate = 1,621/100,000 people**

Estimates for Office Based Opioid Treatment (Spokes) are based on IMS Institute for Healthcare Informatics (Sept. 2016) which estimates that Medicaid pays for 68.1% of buprenorphine prescriptions.

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**DEPARTMENT OF HEALTH**
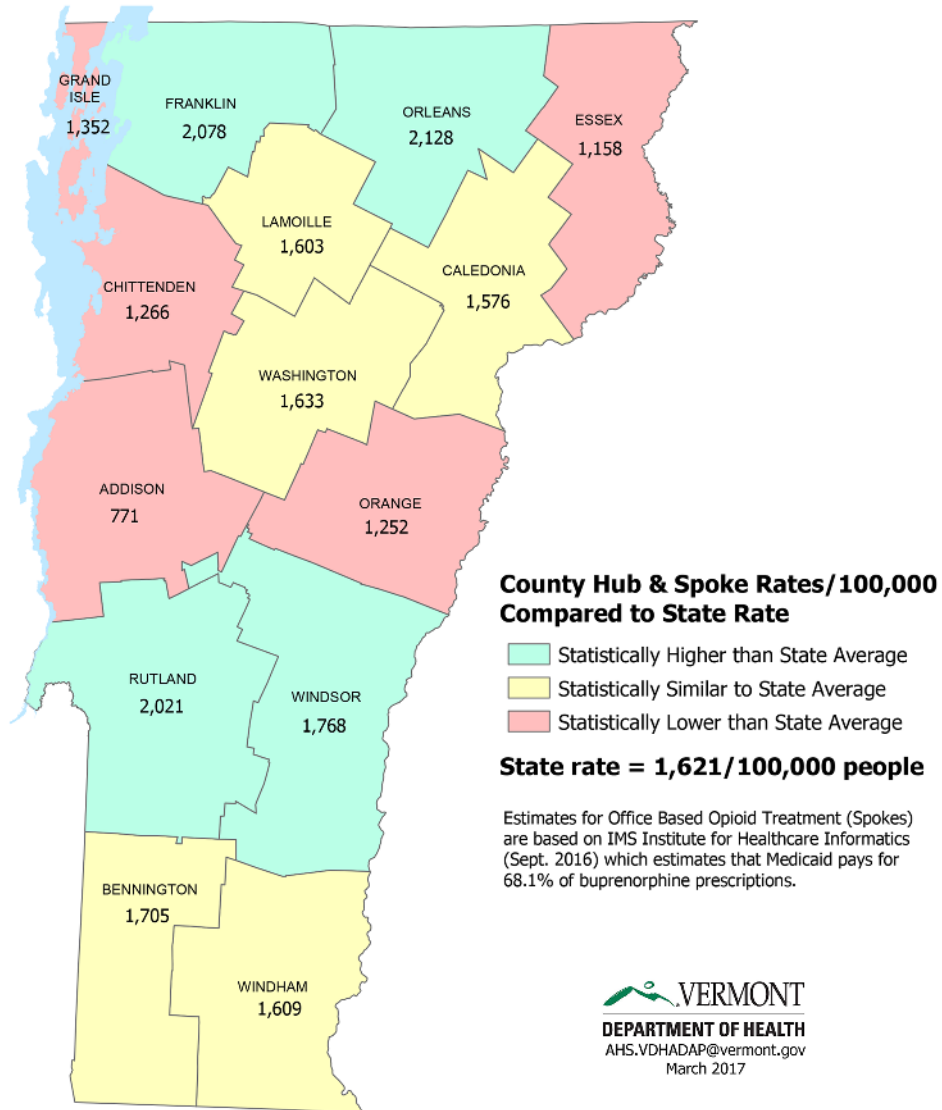AHS.VDHADAP@vermont.gov
March 2017

*Figure 20:* *Presents the rate of Hub & Spoke participation per 100,000 people within each county. Shading indicates whether the rate of MAT participation was statistically higher, lower, or similar to the statewide average. This figure and calculations are produced by the Vermont Department of Health and is a non-claims measure of statewide access to treatment.*