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Trends in Medicaid-Reimbursed Outpatient Buprenorphine, Naltrexone, and Naloxone Prescriptions following New Jersey P.L. 2017, c.28

Key Findings

In 2017, New Jersey enacted legislation (New Jersey Public Law 2017, c.28) to limit access to opioids and increase access to Medicaid-Assisted Treatments (MAT) for substance use disorders. We used 2015-2018 State Drug Utilization Data from the Centers for Medicare & Medicaid Services (CMS) to compare changes in volume and spending for outpatient MATs (buprenorphine and naltrexone), and naloxone prescriptions following enactment of the legislation. Key findings include:

- *Following a drop in the first half of 2017, the total number of MAT (buprenorphine and naltrexone) prescriptions began increasing in the second half of 2017 and continued rising through 2018.*
- *Although not a statistically significant increase, following enactment of the legislation, we estimate about 7,932 more MAT prescriptions and a more than $680,000 increase in Medicaid spending in the second half of 2018.*
- *Buprenorphine prescriptions increased by about one-fourth in the second half of 2018 when compared to the pre-policy averages (2015-2016). Average Medicaid spending for buprenorphine decreased by 7.3%. Findings were not statistically significant.*
- *With regard to naltrexone, both the average number of prescriptions and spending more than doubled in the second half of 2018 when compared to the pre-policy averages.*
- *For changes in naloxone prescriptions, we estimate nearly eight-fold increase in the average number of naloxone prescription in the second half of 2018 following enactment of the legislation.*

Medication-assisted treatment (MAT) involves a combination of medications and behavioral therapy for treatment of substance use disorders. To combat the opioid crisis, the Federal Drug Administration (FDA) approved three drugs for use in MAT: buprenorphine, methadone, and naltrexone.[1] Among these drugs, both buprenorphine and naltrexone are permitted to be prescribed or dispensed in office settings. For office-based treatment with buprenorphine, physicians are required to obtain a waiver to prescribe the medication, complete buprenorphine training, and abide by the limits set by the Substance Abuse and Mental Health Services Administration (SAMHSA) on the number of patients they can treat for opioid dependency at any one time.[2, 3] Naltrexone can be prescribed by any health care provider with prescribing authority. However, methadone is only given under supervision of a physician and is available through a SAMHSA certified opioid treatment program.[4]

For rapid reversal of opioid overdose, the FDA approved naloxone, an opioid antagonist that blocks the effects of opioids and restores normal respiration. It is a life-saving drug used widely by first responders because of its quick effect in reversing respiratory depression and requires minimal training. Timely administration of naloxone is critical for preventing opioid overdose deaths. There are multiple efforts at both the federal and state levels to improve accessibility and expand the use of both MATs and naloxone, including physician training, increasing the patient limit for buprenorphine prescriptions, and offering easy access to naloxone.

An earnest approach in New Jersey was the enactment of the strongest law in the country. The bill was signed into law (NJ P.L. 2017, c.28) on February 15, 2017 by former New Jersey Governor Chris Christie.[5,6] In addition to reducing access to prescription opioids, the law aimed at reducing treatment barriers by requiring state-regulated

[1] https://www.fda.gov/Drugs/DrugSafety/InformationbyDrugClass/ucm600092.htm
[2] https://www.samhsa.gov/medication-assisted-treatment/buprenorphine-waiver-management/increase-patient-limits
[3] https://nasadad.org/2019/01/nasadad-releases-overview-of-buprenorphine-patient-limits/
[4] https://www.samhsa.gov/medication-assisted-treatment/treatment/methadone
[5] https://legiscan.com/NJ/text/S3/id/1558993
[6] https://www.njspotlight.com/stories/17/02/15/governor-gets-his-addiction-law-just-5-weeks-after-outlined-in-state-of-state/

health insurance plans to cover both inpatient and outpatient treatment for at least 180 days for persons diagnosed with a substance use disorder. To ensure coverage, physicians are required to declare that the treatment is medically necessary. The law also supports reassessment after the first 28 days, and at periodic intervals afterward, based on the needs of the patient.

This brief examines trends in Medicaid-reimbursed outpatient MATs and naloxone prescriptions following enactment of the New Jersey legislation. Using 2015-2018 New Jersey State Drug Utilization Data from CMS, we looked at (1) the number of outpatient MATs (buprenorphine and naltrexone) and naloxone prescriptions reimbursed by NJ Medicaid from 2015-2018; and (2) Medicaid spending on MATs and naloxone during that period. We excluded methadone from our analysis as it is only dispensed in a clinical setting under the supervision of a physician.[7] The State Drug Utilization Data is a publicly available dataset routinely available from CMS with a three- to five-month data lag. Data sources and methods are further described at the end of this brief.

Findings

Trends for Total MAT (Buprenorphine and Naltrexone) Prescriptions: The overall upward trend in the total number of MAT prescriptions reimbursed by Medicaid was interrupted by a small dip (-11.5%) in the first half of 2017. However, the number of MAT prescriptions started climbing again from the second half of 2017 and continued to climb further through the fourth quarter of 2018 (+14.6% from 2017 to 2018) (Figure 1 and Appendix Table 1).

2015-2018 Trend Analysis

- Independent samples t-test: comparisons of the mean number of MAT prescriptions for each half year to the mean in the preceding half year showed that the semiannual changes in the average number of prescriptions were not statistically significant.
- Linear regression estimates: a statistically significant upward trend was seen for the MAT prescriptions across the four years (Appendix Table 5).

Pre (2015-2016)/Post (2017-2018) Policy Comparison

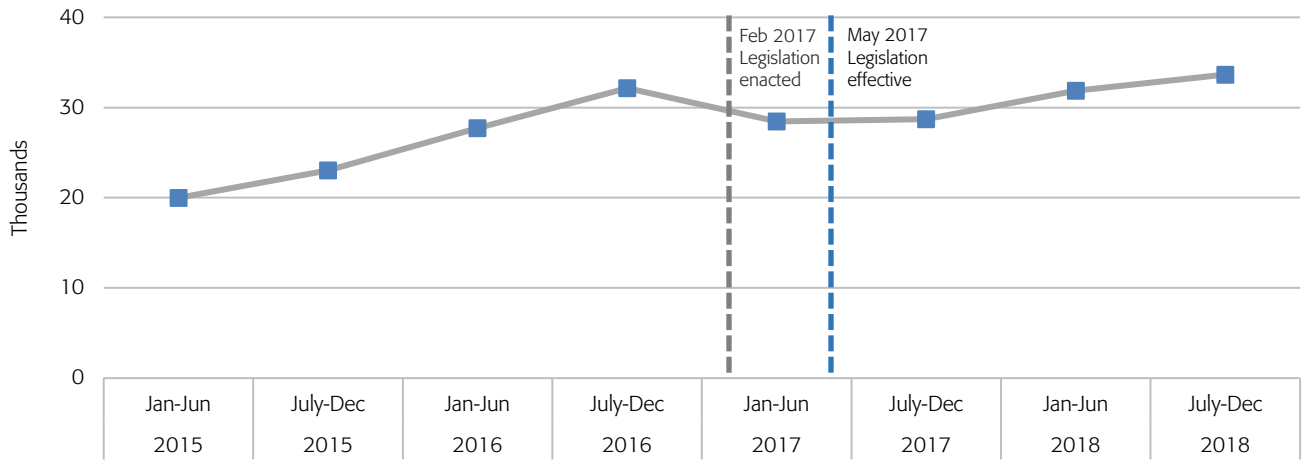
- To compare prescription volume in the period prior to the enactment of the legislation to the period afterward, we conducted an independent samples t-test for the average number of prescriptions in the pre-policy period (2015-2016) to the average number of prescriptions for Q3 and Q4 of 2018. The difference (+30.8% in the second half of 2018) was not statistically significant (Appendix Table 6). Comparison of pre/post-policy differences using segmented regression analysis (SRA) of interrupted time series also did not yield significant findings.

Trends for Total Medicaid Reimbursement for MAT (Buprenorphine and Naltrexone) Prescriptions: The semiannual average amount reimbursed by Medicaid followed an upward trend in 2015 and 2016, followed by a slight drop (-14.4%) in the first half of 2017. The spending increased slightly (+4.1%) in the second half of 2017 and showed minor variations in 2018 (Figure 2 and Appendix Table 1).

2015-2018 Trend Analysis

- Independent samples t-test: comparisons of the semiannual averages of adjacent half years were not statistically significant.

Figure 1 | **Semiannual Trends in Average Number of MAT Prescriptions from 2015–2018**



Source: New Jersey State Drug Utilization Data from CMS, 2015-2018; Analysis by Rutgers Center for State Health Policy.

[7] https://www.samhsa.gov/medication-assisted-treatment/treatment/methadone

- Linear regression estimates: showed an upward trend in Medicaid spending across the four years. The trend was not statistically significant (Appendix Table 5).

Pre (2015-2016)/Post (2017-2018) Policy Comparison

- Independent samples t-test: the increase (+9.1%) in average Medicaid spending in the second half of 2018 was not statistically significant when compared to the average pre-policy (2015-2016) spending level (Appendix Table 6). Differences from segmented regression analysis (SRA) of interrupted time series were also not statistically significant.

Trends for Buprenorphine: Buprenorphine is the most commonly prescribed medication for outpatient treatment of substance use disorder. The upward trend in the total number of prescriptions of buprenorphine was interrupted in 2017 (-6.8%). However, the trend became positive starting from the first half of 2018 (+13.1% in 2018). For Medicaid spending for buprenorphine prescriptions, the upward trend reversed starting from 2017 (-14.3%) and decreased further (-3.3%) in 2018.

2015-2018 Trend Analysis

- Using the first half of 2015 as a baseline, there was a 60.1% percent increase in the average number of prescriptions by the end of 2018 Q4. Medicaid spending for buprenorphine prescriptions increased by 11.9% from the baseline level (Figure 3, and Appendix Tables 2 and 3).
- Linear regression estimates: there was a statistically significant upward trend for the buprenorphine prescriptions across the four years. For spending, the positive trend was marginally significant (Appendix Table 5).

Pre (mean of 2015-2016)/Post (mean of Q3 and Q4 of 2018) Policy Comparison

- Independent samples t-test: the differences were not statistically significant for the buprenorphine prescriptions (+25.4%) and concordant Medicaid spending (-7.3%) when compared to the pre-policy averages (Appendix Table 6).

Trends for Naltrexone: The total number of prescriptions and Medicaid spending for naltrexone jumped sharply in 2016 (number of prescriptions=+66.6%, spending= +104.2%), and this marked upward trend continued through 2018.

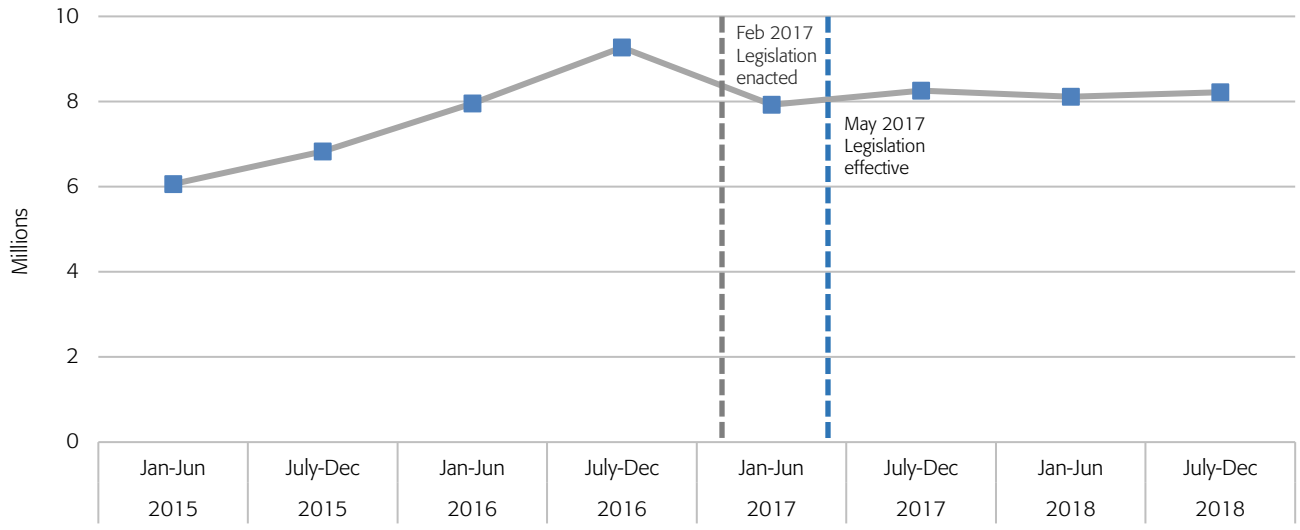
2015-2018 Trend Analysis

- When compared to the baseline, the average number of prescriptions increased by 203.4% and spending increased 271.9% by the end of fourth quarter of 2018 (Figure 4, and Appendix Tables 2 and 3).
- Linear regression estimates: showed a statistically significant upward trend for the semiannual average number of prescriptions and spending for naltrexone across the four years (Appendix Table 5).

Pre (mean of 2015-2016)/Post (mean of Q3 and Q4 of 2018) Policy Comparison

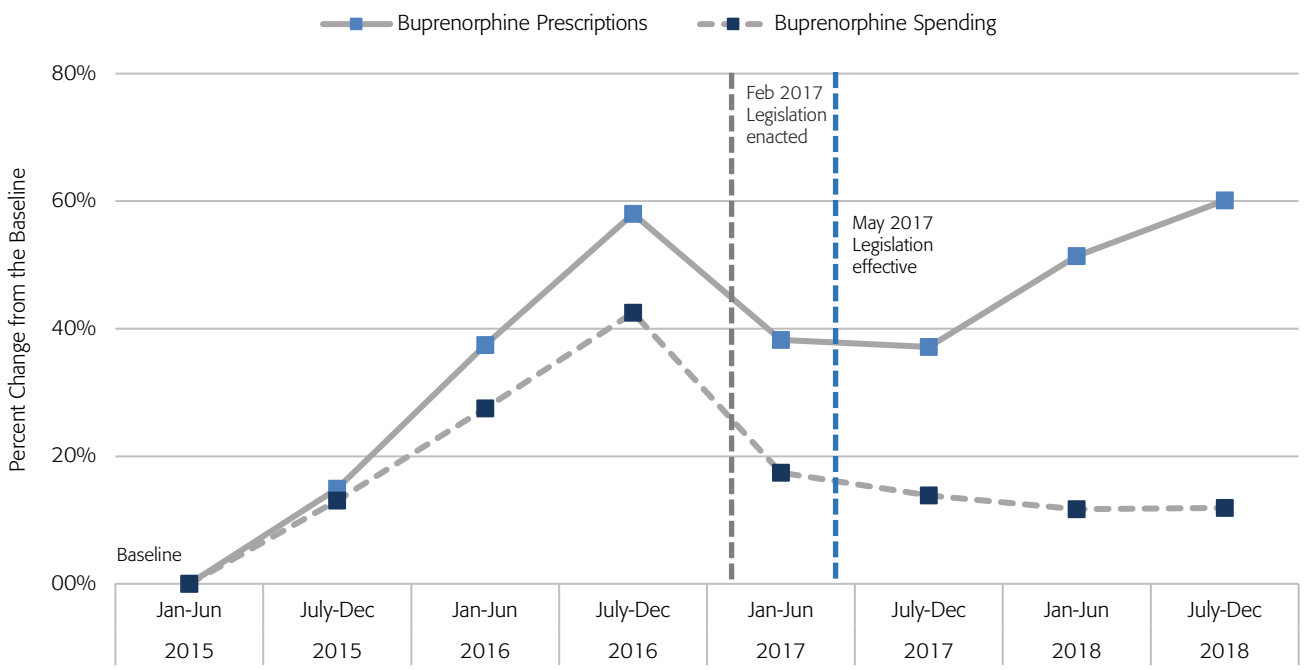
- Independent samples t-test: the differences were statistically significant for both the average number of prescriptions (+107.3%) and spending for naltrexone (+134.9%) (Appendix Table 6).

Figure 2 | **Semiannual Trends in Average Medicaid Spending on MAT from 2015–2018**



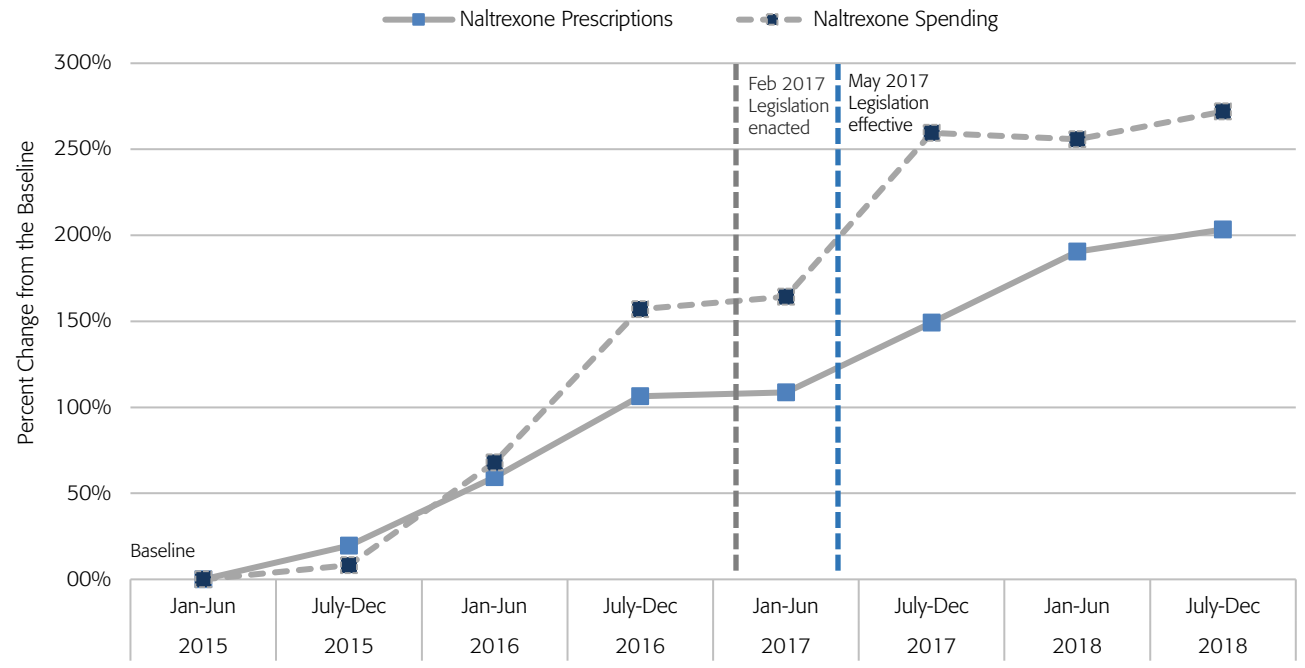
Source: New Jersey State Drug Utilization Data from CMS, 2015-2018; Analysis by Rutgers Center for State Health Policy.

Figure 3 | **Semiannual Percent Change in the Number of Buprenorphine Prescriptions and Spending from the Baseline (January–June 2015)**



Source: New Jersey State Drug Utilization Data from CMS, 2015-2018; Analysis by Rutgers Center for State Health Policy.

Figure 4 | **Semiannual Percent Change in the Number of Naltrexone Prescriptions and Spending from the Baseline (January–June 2015)**



Source: New Jersey State Drug Utilization Data from CMS, 2015-2018; Analysis by Rutgers Center for State Health Policy.

Trends for Naloxone: The widespread use of naloxone as a first medication for opioid overdose events was evident in a steep upward trend in naloxone use from 2015 to 2018.

2015-2018 Trend Analysis

- The number of naloxone prescriptions nearly doubled in 2017 (+80.0% from the 2016 level), followed by a marked increase in the number of prescriptions in 2018 (+169.0% from 2017 level). For Medicaid spending on naloxone, following a sharp decline from 2016 to 2017 (-60.4%), the Medicaid spending for naloxone jumped substantially (+180.1%) in 2018 (Figures 5 and 6, and Appendix Table 4).
- Linear regression estimates: showed a statistically significant upward trend for the semiannual average number of prescriptions of naloxone across the four years (Appendix Table 5).

Pre (mean of 2015-2016)/Post (mean of Q3 and Q4 of 2018) Policy Comparison

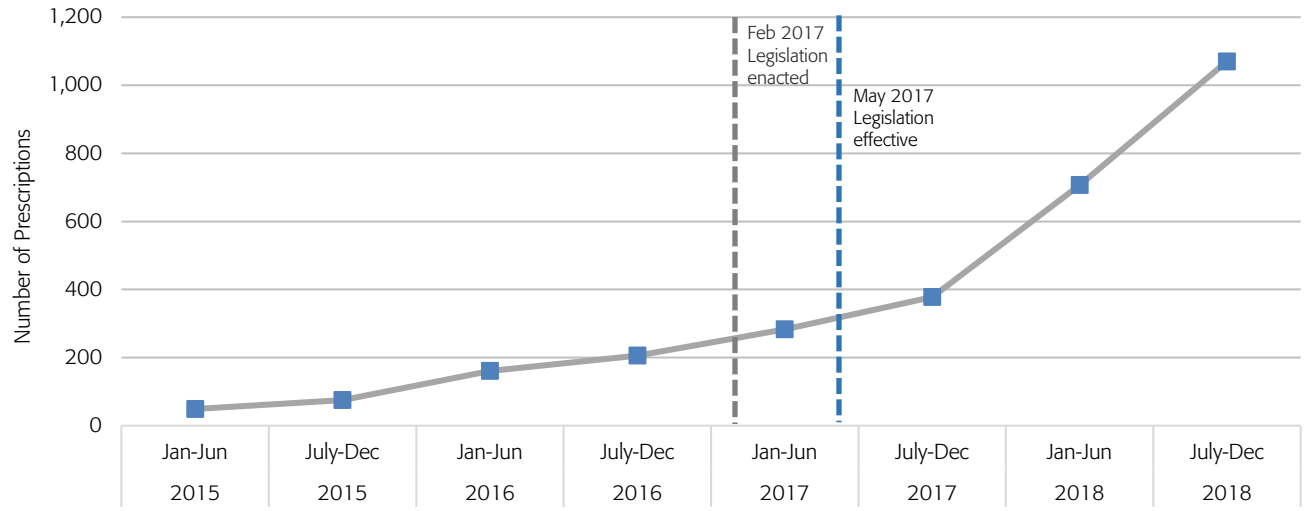
- Independent samples t-test: there was a statistically significant increase in the volume of naloxone prescriptions (+773.1%) in the second half of 2018. For Medicaid spending on naloxone, the difference (+155.5%) was not statistically significant (Appendix Table 6).

Discussion

This brief examines the effect of improved access to addiction treatment on the number of prescriptions and spending for drugs used in addiction treatment (MATs) and overdose prevention (naloxone). The data show that an upward trend for average number of MAT prescriptions in the pre-policy period took a small dip in the first half of 2017 before climbing again in the second half of 2017. Medicaid spending related to MAT prescriptions showed very little variation following the slide in the first half of 2017. Although not statistically significant, we estimate the number of MAT prescriptions increased by nearly 8,000 and the spending by nearly $700,000 in the second half of 2018. Trends for the volume of buprenorphine prescriptions mirrored the overall trend. However, spending for buprenorphine decreased further in 2018. This may be due to availability of generic versions of the drug in recent years.[8] The average number of prescriptions and spending for naltrexone and naloxone grew rapidly and demonstrated a sharp increase in the post-policy period. When compared with the pre-policy averages (2015-2016), we estimate that the average number of prescriptions and spending for naltrexone more than doubled in the second half of 2018. For naloxone, we estimate that the average number of prescriptions increased nearly eight-fold in the second half of 2018.

Our analysis has several important limitations. It does not include the number of prescriptions and spending covered by health plans for inpatient treatment. Inconsistency in data reporting may also impact the trend (for example, there are large fluctuations in 2016). There may be other policies and restrictions during that time contributing to the trend which are not controlled for in our analysis, such as lag in adoption by the health plans, negative opinions toward MAT in the community, effect of other policies during that time (e.g. The SUPPORT for Patients and Communities Act of 2019),[9] availability of

Figure 5 | **Semiannual Trends in the Number of Naloxone Prescriptions from 2015–2018**

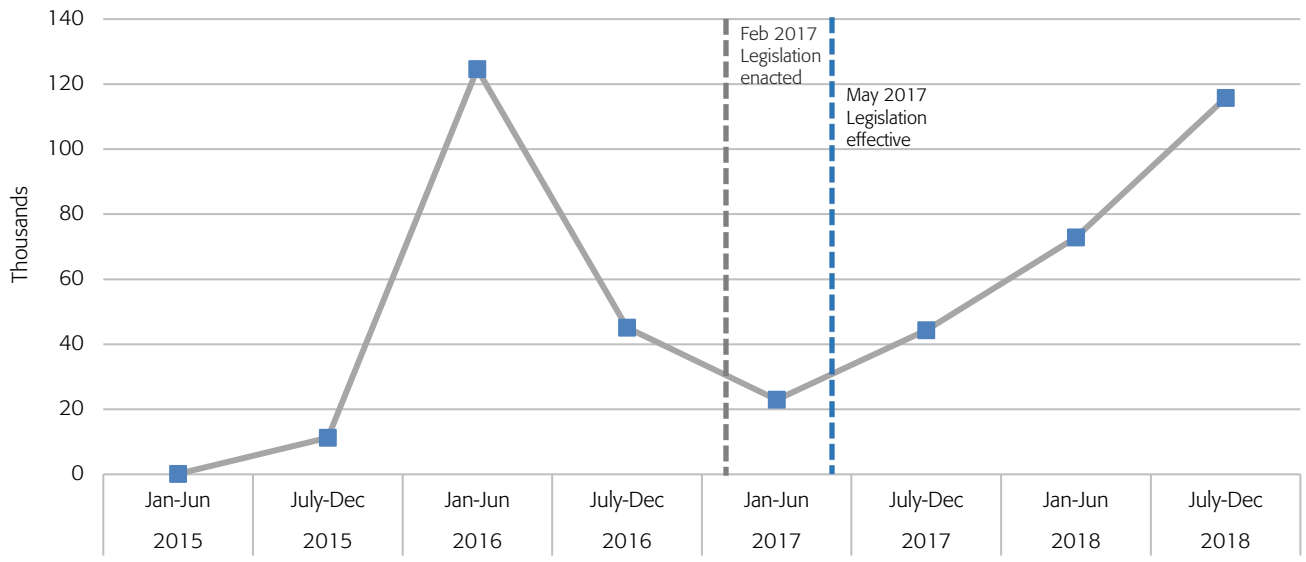


Source: New Jersey State Drug Utilization Data from CMS, 2015-2018; Analysis by Rutgers Center for State Health Policy.

[8] https://www.fda.gov/news-events/press-announcements/fda-approves-first-generic-versions-suboxone-sublingual-film-which-may-increase-access-treatment

[9] https://www.samhsa.gov/medication-assisted-treatment

Figure 6 | **Semiannual Trends in the Spending for Naloxone Prescriptions from 2015–2018**



Source: New Jersey State Drug Utilization Data from CMS, 2015-2018; Analysis by Rutgers Center for State Health Policy.

federal and state grants for community education, availability and accessibility of MATs, and availability of naloxone without prescriptions.

There may be several other factors impacting the buprenorphine trend such as accessibility to an authorized buprenorphine provider, capacity limits of waivered providers, prescribers' knowledge about drug and behavioral therapies that may be optimal for a specific patient, advance authorization requirement for Medicaid patients, consumer lack of knowledge about the medications, stigma related to addiction, and additional needs such as social services. The sharp fluctuations in naloxone spending in 2015 and 2016 may be due to the very high cost of the naloxone prescriptions (such as Evzio) prescribed at that time, when the generic versions were not widely available.

Availability of and accessibility to effective treatment is essential for combating the opioid crisis. To address underutilization of treatment, we must ensure seamless access to treatment, enhance adoption of medication-assisted treatments, streamline the administrative process, expand the number of authorized practitioners, ease the capacity barriers of providers, and provide education to address the myths and stigma related to use of MATs. All of these may be crucial in curbing the opioid use disorder epidemic.

Data Source and Methods

For our analysis, we used 2015-2018 New Jersey State Drug Utilization Data from CMS. The State Drug Utilization Data is publicly available dataset compiled through state reports and includes drug utilization data for covered outpatient drugs that are paid for by the state Medicaid agencies. It provides quarterly data on the number of prescriptions and the dollars reimbursed for each Medicaid covered drug in NJ. CMS suppresses all data with counts less than 11. Drugs were identified by National Drug Code (NDC) numbers. We used multiple lists to identify all drugs containing opioids, MATs and naloxone from the database. We: (1) compiled a list of all prescription drugs containing opioids, MATs, and naloxone from the National Drug Code Directory,[10] which is managed by the US Food and Drug Administration; (2) used Centers for Disease Control and Prevention data files of controlled substances including opioids, MATs and naloxone (2016, 2017, & 2018 versions);[11] and (3) referenced the Healthcare Effectiveness Data and Information Set (HEDIS) 2018 Medications List Directory.[12]

We verified the NDC drug codes on the DailyMed website,[13] an official provider of FDA label information and managed by the National Library of Medicine, for "indications of use" and excluded opioids and MAT drugs mainly prescribed for pain. Naltrexone is also approved by the FDA for the treatment of alcohol use disorder. However, there is no way to identify prescriptions for this

[10] https://www.fda.gov/Drugs/InformationOnDrugs/ucm142438.htm
[11] https://www.cdc.gov/drugoverdose/resources/data.html
[12] https://www.ncqa.org/hedis/measures/hedis-2018-ndc-license/hedis-2018-final-ndc-lists/
[13] https://dailymed.nlm.nih.gov/dailymed/index.cfm

purpose in the dataset. For naloxone, we excluded NDC codes containing naloxone and pentazocine since they are primarily used to treat pain. We used the consumer price index for US prescription drugs developed by the Bureau of Labor Statistics[14] to adjust all dollar amounts to 2018 dollars for prescription drugs. Data were analyzed using SPSS 26 and STATA MP 16 software. We included the 2015 and 2016 data in the pre-policy period, and the 2017 and 2018 data in the post-policy period.

To smooth out large variations, we computed semiannual averages of adjacent quarters for 2015-2018. We conducted an independent samples t-test to compare means of adjacent half years (e.g., mean of Q1 and Q2 vs. mean of Q3 and Q4, etc.). For identifying the change in trend for each of the metrics (such as number of prescriptions of MATs and naloxone and related Medicaid spending), we used the first half of the 2015 data as the baseline and calculated percent change in the average number of prescriptions and spending from the baseline for each metric.

Additionally, we conducted linear regression on the average number of prescriptions for the eight half years to assess change over time from 2015 to 2018 for each of the metrics. We calculated time trends in the average semiannual value of metrics over 2015-2018 and designated 'yes' or 'no' to indicate whether the time trend reflected an improvement (upward trend in number of prescriptions) for each metric. The time trend estimate reflecting the average semiannual change is reported in Table 6 in the Appendix.

Furthermore, we conducted an independent samples t-test to compare the pre-policy (2015 and 2016) mean with the mean of Q3 and Q4 of 2018 for each of the metric. The pre/post policy mean for each metric and the level of significance is reported in Appendix Table 7.

Finally, to isolate and estimate the impact of the legislation on the total number of MAT prescriptions and spending, we used Segmented Regression Analysis of Interrupted Time Series.[15] We adjusted for policy initiation and the number of people enrolled in Medicaid. We estimated any immediate changes in level and trend in the post-policy period, and also calculated the net change at the end of the post-policy period with the law in effect, compared to a counterfactual scenario without the law if pre-policy trends were allowed to continue uninterrupted. The results were not shown in the brief as they were not statistically significant.

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[14] https://beta.bls.gov/dataQuery/find?removeAll=1

[15] Wagner AK, SB Soumerai, F Zhang, and D Ross-Degnan. 2002. "Segmented Regression Analysis of Interrupted Time Series Studies in Medication Use Research." *Journal of Clinical Pharmacy and Therapeutics* 27 (4): 299–309.

Appendix Tables

Table 1: Number of MAT Prescriptions and Medicaid Spending from 2015–2018			
Year	Quarter	Number of Prescriptions	Medicaid Spending^*
2015	Q1	22,869	$6,905,709
	Q2	17,112	$5,219,845
	Mean Q1 & Q2	19,991	$6,062,777
	Q3	23,678	$7,089,259
	Q4	22,381	$6,565,838
	Mean Q3 & Q4	23,030	$6,827,548
2016	Q1	24,304	$7,015,970
	Q2	31,153	$8,891,887
	Mean Q1 & Q2	27,729	$7,953,929
	Q3	18,453	$5,394,399
	Q4	45,851	$13,146,247
	Mean Q3 & Q4	32,152	$9,270,323
2017	Q1	28,128	$7,821,006
	Q2	28,781	$8,035,024
	Mean Q1 & Q2	28,455	$7,928,015
	Q3	27,933	$8,287,852
	Q4	29,493	$8,221,136
	Mean Q3 & Q4	28,713	$8,254,494
2018	Q1	31,276	$8,141,027
	Q2	32,475	$8,090,310
	Mean Q1 & Q2	31,876	$8,115,669
	Q3	33,228	$8,208,543
	Q4	34,087	$8,225,324
	Mean Q3 & Q4	33,658	$8,216,933

Source: New Jersey State Drug Utilization Data from CMS, 2015-2018; Analysis by Rutgers Center for State Health Policy.
^Medicaid spending accounts for 98% of total spending.
*Adjusted to 2018 dollars for prescription drugs in U.S. city average, all urban consumers, seasonally adjusted.

Table 2: Number of Prescriptions and Medicaid Spending for Buprenorphine and Naltrexone (2015–2018)					
Year	Quarter	Buprenorphine	Buprenorphine Spending*	Naltrexone	Naltrexone Spending*
2015	Q1	21,721	$6,449,581	1,148	$456,128
	Q2	15,946	$4,574,758	1,166	$645,087
	Mean Q1 & Q2	18,834	$5,512,169	1,157	$550,608
	Q3	22,275	$6,448,090	1,403	$641,169
	Q4	21,017	$6,015,903	1,364	$549,935
	Mean Q3 & Q4	21,646	$6,231,996	1,384	$595,552
2016	Q1	22,740	$6,160,060	1,564	$855,911
	Q2	29,028	$7,897,672	2,125	$994,215
	Mean Q1 & Q2	25,884	$7,028,866	1,845	$925,063
	Q3	17,133	$4,591,603	1,320	$802,796
	Q4	42,393	$11,118,056	3,458	$2,028,191
	Mean Q3 & Q4	29,763	$7,854,830	2,389	$1,415,494
2017	Q1	25,799	$6,443,173	2,329	$1,377,833
	Q2	26,282	$6,502,422	2,499	$1,532,602
	Mean Q1 & Q2	26,041	$6,472,798	2,414	$1,455,218
	Q3	25,173	$6,351,355	2,760	$1,936,497
	Q4	26,484	$6,199,016	3,009	$2,022,120
	Mean Q3 & Q4	25,829	$6,275,185	2,885	$1,979,309
2018	Q1	27,948	$6,152,320	3,328	$1,988,707
	Q2	29,081	$6,161,431	3,394	$1,928,879
	Mean Q1 & Q2	28,515	$6,156,876	3,361	$1,958,793
	Q3	29,652	$6,079,005	3,576	$2,129,538
	Q4	30,642	$6,259,897	3,445	$1,965,427
	Mean Q3 & Q4	30,147	$6,169,451	3,511	$2,047,482

Source: New Jersey State Drug Utilization Data from CMS, 2015-2018; Analysis by Rutgers Center for State Health Policy.
*Adjusted to 2018 dollars for prescription drugs in U.S. city average, all urban consumers, seasonally adjusted.

Table 3: Percent Change in the Average Number of MAT Prescriptions and Medicaid Spending from the Baseline					
Year	Quarter	Buprenorphine	Buprenorphine Spending*	Naltrexone	Naltrexone Spending*
2015	Jan-Jun	Baseline			
	July-Dec	14.9	13.1	19.6	8.2
2016	Jan-Jun	37.4	27.5	59.4	68.0
	July-Dec	58.0	42.5	106.5	157.1
2017	Jan-Jun	38.3	17.4	108.6	164.3
	July-Dec	37.1	13.8	149.3	259.5
2018	Jan-Jun	51.4	11.7	190.5	255.8
	July-Dec	60.1	11.9	203.4	271.9

Source: New Jersey State Drug Utilization Data from CMS, 2015-2018; Analysis by Rutgers Center for State Health Policy.
*Adjusted to 2018 dollars for prescription drugs in U.S. city average, all urban consumers, seasonally adjusted.

Table 4: Number of Prescriptions and Medicaid Spending for Naloxone (2015–2018)			
Year	Quarter	Naloxone	Naloxone Spending*
2015	Q1	20	$88
	Q2	77	$188
	Mean Q1 & Q2	49	$138
	Q3	84	$497
	Q4	65	$21,984
	Mean Q3 & Q4	75	$11,240
2016	Q1	193	$104,732
	Q2	129	$144,520
	Mean Q1 & Q2	161	$124,626
	Q3	129	$3,240
	Q4	283	$87,043
	Mean Q3 & Q4	206	$45,141
2017	Q1	235	$17,130
	Q2	331	$28,782
	Mean Q1 & Q2	283	$22,956
	Q3	399	$52,081
	Q4	356	$36,627
	Mean Q3 & Q4	378	$44,354
2018	Q1	393	$36,500
	Q2	1,021	$109,163
	Mean Q1 & Q2	707	$72,832
	Q3	971	$98,847
	Q4	1,168	$132,587
	Mean Q3 & Q4	1,070	$115,717

Source: New Jersey State Drug Utilization Data from CMS, 2015-2018; Analysis by Rutgers Center for State Health Policy.
*Adjusted to 2018 dollars for Prescription drugs in U.S. city average, all urban consumers, seasonally adjusted.

Table 5: Linear Regression-Based Time Trend Estimates Reflecting the Average Semi-annual Change for 2015–2018 for Each of the Metrics

	2015 Mean Q1&Q2	2015 Mean Q3&Q4	2016 Mean Q1&Q2	2016 Mean Q3&Q4	2017 Mean Q1&Q2	2017 Mean Q3&Q4	2018 Mean Q1&Q2	2018 Mean Q3&Q4	p-Value*	Trend	Improved	Trend Estimate
Total number of MAT prescriptions	19,991	23,030	27,729	32,152	28,455	28,713	31,876	33,658	**0.005**	↑	Yes	1,657
Total Medicaid MAT spending	$6,062,777	$6,827,548	$7,953,929	$9,270,323	$7,928,015	$8,254,494	$8,115,669	$8,216,933	0.093	↑	Yes	$250,942
Buprenorphine	18,834	21,646	25,884	29,763	26,041	25,829	28,515	30,147	**0.014**	↑	Yes	1,305
Buprenorphine spending	$5,512,169	$6,231,996	$7,028,866	$7,854,830	$6,472,798	$6,275,185	$6,156,876	$6,169,451	0.955	↑	Yes	$6,932
Naltrexone	1,157	1,384	1,845	2,389	2,414	2,885	3,361	3,511	**0.000**	↑	Yes	351
Naltrexone spending	$550,608	$595,552	$925,063	$1,415,494	$1,455,218	$1,979,309	$1,958,793	$2,047,482	**0.000**	↑	Yes	$244,009
Naloxone	49	75	161	206	283	378	707	1,070	**0.002**	↑	Yes	131
Naloxone spending	$138	$11,240	$124,626	$45,141	$22,956	$44,354	$72,832	$115,717	0.169	↑	Yes	$10,167

Source: New Jersey State Drug Utilization Data from CMS, 2015-2018; Analysis by Rutgers Center for State Health Policy.
*Bolded items are statistically significant (p<.05).

Table 6: Pre/Post Mean Comparison Using Independent Samples T-Test			
Category	Pre-Policy Period (2015-2016) Mean	2018 Mean Q3&Q4	p-Value*
Total number of MAT prescriptions	25,725	33,658	0.275
Total Medicaid MAT spending	$7,528,644	$8,216,933	0.723
Buprenorphine	24,032	30,147	0.354
Buprenorphine spending	$6,656,965	$6,169,451	0.761
Naltrexone	1,694	3,511	**0.013**
Naltrexone spending	$871,679	$2,047,482	**0.013**
Naloxone	123	1,070	**0.000**
Naloxone spending	$45,286	$115,717	0.143

Source: New Jersey State Drug Utilization Data from CMS, 2015-2018; Analysis by Rutgers Center for State Health Policy.
*Bolded items are statistically significant ($p<.05$).

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