

An Evaluation Report Prepared for the Virginia Department of Medical Assistance Services

Addiction and Recovery Treatment Services

Access and Utilization during the First Year (April 2017 – March 2018)

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The conclusions in this report are those of the authors, and no official endorsement by the Virginia Commonwealth University School of Medicine or Virginia Department of Medical Assistance Services is intended or should be inferred.

TABLE OF CONTENTS

Executive Summary	4
Introduction	6
The Supply of Addiction Treatment Providers Increases After ARTS	7
Prevalence of Substance Use and Opioid Use Disorders by Member Characteristics.....	8
Large Increases in Service Utilization Related to Substance Use Disorders after ARTS Implementation.....	10
ARTS Narrows the Treatment Gap for Members with Substance Use Disorders	11
More Pregnant Women Getting Treatment for Substance Use Disorders after ARTS Implementation ...	14
Service Utilization by ASAM Levels of Care for Substance Use Disorders	15
Pharmacotherapy for Treatment of Opioid Use Disorders Increases	17
Most Receiving Buprenorphine Pharmacotherapy Are Receiving Other Services Consistent with Medicaid Assisted Treatment.....	18
Decreases in Emergency Department Use Related to Substance Use Disorders	19
Decreases in Acute Hospitalization Use Related to Substance Use Disorders	21
Decrease in Prescriptions for Opioid Pain Medications	22
Conclusion	24

Executive Summary

Virginia implemented the Addiction and Recovery Treatment Services (ARTS) program in April, 2017 to increase access to treatment for Medicaid members with opioid or other substance use disorders. The Department of Medical Assistance Services contracted with Virginia Commonwealth University School of Medicine to conduct an independent evaluation of the ARTS program.

The objective of this report is to describe changes in substance use disorder treatment utilization and access during the first year of ARTS. The report updates a previous report that described changes in utilization during the first five months of ARTS. The major findings from this report are as follows:

Supply of addiction treatment providers

- There have been substantial increases in the number of practitioners providing addiction treatment services to Medicaid members. During the first year of ARTS, the number of outpatient practitioners billing for ARTS services increased by 173 percent, including 848 providers who prescribed buprenorphine for members with opioid use disorders.

Increased utilization of addiction treatment services

- During the first year of the ARTS program, nearly 25,000 Medicaid members used addiction-related treatment services, a 57 percent increase from the year before.
- Treatment rates for members with substance use disorders increased by 64 percent during the first year of ARTS. Treatment rates are higher for members with an opioid use disorder (63 percent), relative to those with alcohol use disorders (30 percent).
- Pregnant women experienced improved access to treatment for substance use disorders after ARTS implementation, though overall access remains low. Treatment rate for substance use disorders during pregnancy increased from 2 percent before ARTS to 18 percent the year after ARTS was implemented.

Increased use of pharmacotherapy for treatment of opioid use disorders

- During the first year of ARTS, 42 percent of members with an opioid use disorder received pharmacotherapy.
- The number of members who received pharmacotherapy for opioid use disorders increased by 34 percent, including a 22 percent increase in the number of members receiving buprenorphine. The number of members receiving methadone treatment more than tripled.
- Nearly two-thirds (63 percent) of Medicaid members who received buprenorphine pharmacotherapy during the first year of ARTS received outpatient counseling or psychotherapy.

Decreased emergency department visits related to substance use disorders

- The number of emergency department visits related to substance use disorders decreased by 14 percent during the first 10 months of ARTS, with an even larger decrease (25 percent) for visits related to opioid use disorders. This compares to a 9 percent decrease in all emergency department visits for Virginia Medicaid members.
- The number of members with an emergency department visit related to substance use disorders decreased by 3 percent during the first 10 months of ARTS, while members with an emergency department visit related to opioid use disorders decreased by 10 percent.

Decreased utilization of acute inpatient hospital stays related to substance use disorders

- The number of Medicaid members who had an acute inpatient admission related to substance use disorders decreased by 4 percent during the first 10 months of ARTS, while members with an inpatient admission related to opioid use disorders decreased by 6 percent. This compares to a 1 percent increase in members with any inpatient admission during the first year of ARTS.

Decreased prescribing for opioid pain medications

- The total number of prescriptions for opioid pain medications among Medicaid members decreased by 27 percent during the first year of ARTS, while the number of prescriptions for non-opioid pain relievers remained unchanged.
- The number of opioid pain prescriptions per 10,000 Medicaid members decreased by 28 percent, from 3,811 prescriptions per 10,000 members before ARTS to 2,761 during the first year of ARTS .

Regional variation in the impact of ARTS

- Although treatment rates for opioid used disorders increased across all regions during the first year of ARTS, treatment rates increased the most in the Hampton Roads and Central regions.
- The Northern region experienced the greatest decrease in emergency department visits related to opioid use disorders, while visits increased in the Eastern Region.
- Despite statewide decreases in the prescribing of opioid pain medications after ARTS, the Northern region experienced the greatest decrease, and currently has the lowest prescribing rate in all of Virginia (1,309 prescriptions per 10,000 Medicaid members), whereas the Far Southwest has nearly four times the prescribing rate (4,739 prescriptions per 10,000 Medicaid members).

Introduction

This report shows changes in substance use disorder treatment services for Medicaid members during the first year of the Addiction and Recovery Treatment Services (ARTS) program. The report updates results from a previous report that described changes in utilization during the first five months of ARTS.¹ ARTS is a major initiative by the Commonwealth of Virginia to expand access to treatment for substance use disorders among Medicaid members.

Over 1,100 Virginians died from opioid overdoses in 2016, nearly doubling since 2011.² Nationally, Medicaid members are four times more likely than people with private insurance to have ever used heroin or been dependent on pain relievers.³

Addiction and Recovery Treatment Services (ARTS)

Virginia implemented ARTS in April, 2017 to increase access to treatment for Medicaid members with opioid use disorders (OUD) and other substance use disorders (SUD), which includes abuse of alcohol and other legal and illegal drugs, but not tobacco. ARTS benefits are based on American Society of Addiction Medicine's criteria and cover a full spectrum of addiction treatment services.⁴ ARTS services include the following: inpatient withdrawal management, residential treatment, partial hospitalization, intensive outpatient programs, opioid treatment, peer recovery, and case management. ARTS services are carved into existing Medicaid managed care plans to support full integration of behavioral and physical health.

ARTS evaluation

The Department of Medical Assistance Services contracted with Virginia Commonwealth University School of Medicine to conduct an independent evaluation of the ARTS program. The evaluation is conducted by faculty and staff from the Department of Health Behavior and Policy and the Department of Family Medicine and Population Health.

How the analysis was conducted

The findings in this report are based on analysis of Medicaid paid claims. For estimates of utilization related to the treatment of substance use disorders, we compare estimates of paid claims during the first 12 months of the ARTS program (April 1, 2017 through March 31, 2018) to the same 12 month period starting April 1, 2016. These estimates exclude claims for services during the study period that had not yet been submitted or paid at the time of the analysis, unpaid claims, and services not covered by Medicaid.

¹ Addiction and Recovery Treatment Services – Access, Utilization, and Spending for the Period of April 1- August 31, 2017. <https://hbp.vcu.edu/media/hbp/policybriefs/pdfs/VCUARTS5monthreport.1.04.18.pdf>

² Data extracted from Kaiser Family Foundation Opioid Overdose Deaths, <http://www.kff.org/other/state-indicator/opioid-overdose-deaths-by-raceethnicity> and the Virginia Department of Health's Office of the Chief Medical Examiner, <http://www.vdh.virginia.gov/medical-examiner/forensic-epidemiology/>.

³ MACPAC June 2017 Report to Congress on Medicaid and CHIP. Chapter 2: Medicaid and the opioid epidemic.

⁴ American Society of Addiction Medicine (ASAM). What is ASAM criteria? <https://www.asam.org/resources/the-asam-criteria/about.2017>

The Supply of Addiction Treatment Providers Increases After ARTS

- Overall, 848 providers prescribed buprenorphine to Medicaid members during the first year of the ARTS program, a 34 percent increase from the previous year.
- The number of outpatient practitioners billing for addiction treatment services increased by 173% during the first year of ARTS, compared to a similar time period during the previous year. The increases were especially large for physicians and nurse practitioners (see table below).

Number of Substance Use Disorder Practitioners

Each person represents 1,000 practitioners

Before ARTS



1,087 practitioners

After ARTS



2,965 practitioners

	Before ARTS Apr, 2016 - Mar, 2017	After ARTS Apr, 2017 - Mar, 2018	Percent Change
Substance use disorder (SUD) outpatient practitioners			
Total	1,087	2,965	173%
Physicians	261	1,571	502%
Nurse practitioners	25	188	652%
Counselors and social workers	300	457	52%
Other	501	749	50%
Opioid use disorder (OUD) outpatient practitioners			
Total	570	1,352	137%
Physicians	128	586	358%
Nurse practitioners	13	66	408%
Counselors and social workers	142	236	66%
Other	287	464	62%

Note: Outpatient practitioners refer to ASAM Level 1 practices, which are defined as outpatient services that consist of less than 9 hours of treatment per week.

Prevalence of Substance Use and Opioid Use Disorders by Member Characteristics

During the first year of ARTS, more than 20,000 Medicaid members were diagnosed with an opioid use disorder. About 30,000 Medicaid members have other substance use disorders, including those related to the use of alcohol and other legal and illegal drugs (excluding tobacco).

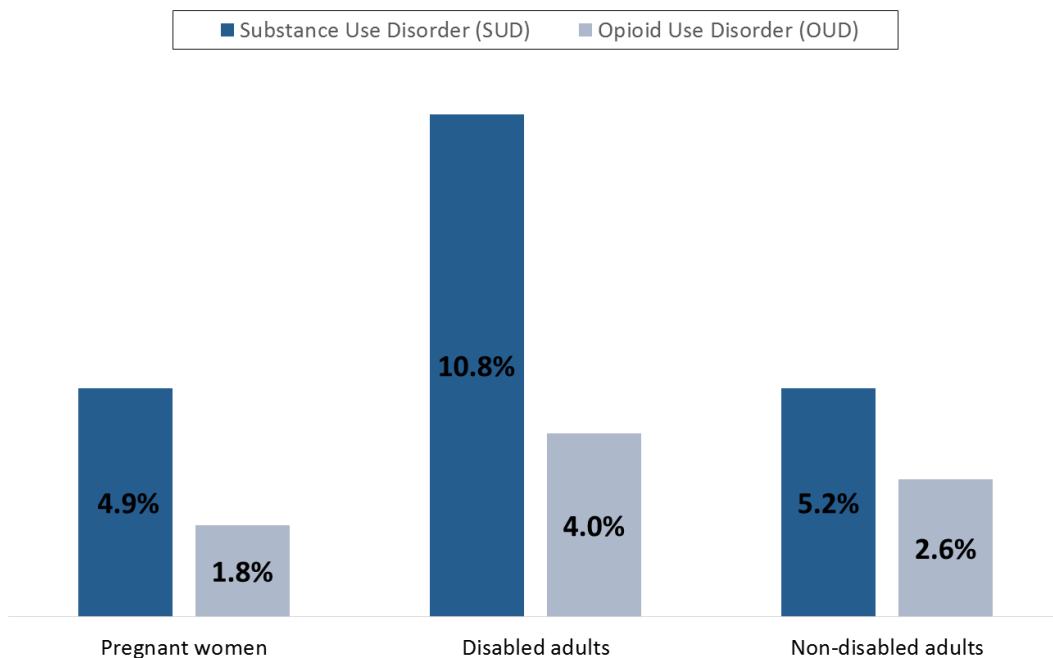
- While men are more likely than women to have a substance use disorder overall (3.6 percent), women are more likely to be diagnosed with an opioid use disorder (1.6 percent of female members compared to 1.1 percent of male members).
- Prevalence of substance use disorders is higher among non-Hispanic white members (4.0 percent) compared to other racial/ethnic groups. Opioid use disorders account for nearly half of the substance use disorders among white members.

Member Characteristics	Percent of members with a SUD	Percent of members with an OUD
All members	3.5%	1.4%
Gender		
Male	3.6%	1.1%
Female	3.4%	1.6%
Race/Ethnicity		
White	4.0%	2.0%
Black	3.1%	0.8%
Hispanic and others	1.2%	0.3%
Age group		
12-17	1.7%	0.1%
18-44	6.7%	3.2%
45-64	10.4%	3.9%
65 years and higher	2.4%	0.8%
Eligibility group		
Pregnant Women	4.9%	1.8%
Disabled Adults	10.8%	4.0%
Non-Disabled Adults	5.2%	2.6%
Comorbidity		
No Co-morbidities	1.7%	0.6%
Behavioral Health co-morbidities	14.2%	6.5%
Other Co-morbidities	4.7%	2.0%

*Comorbid health conditions are based on the Elixhauser co-morbidity index, which includes 28 mostly chronic conditions, including behavioral health conditions. See Elixhauser A, et al.. Comorbidity measures for use with administrative data. Med Care. 1998;36:8–27

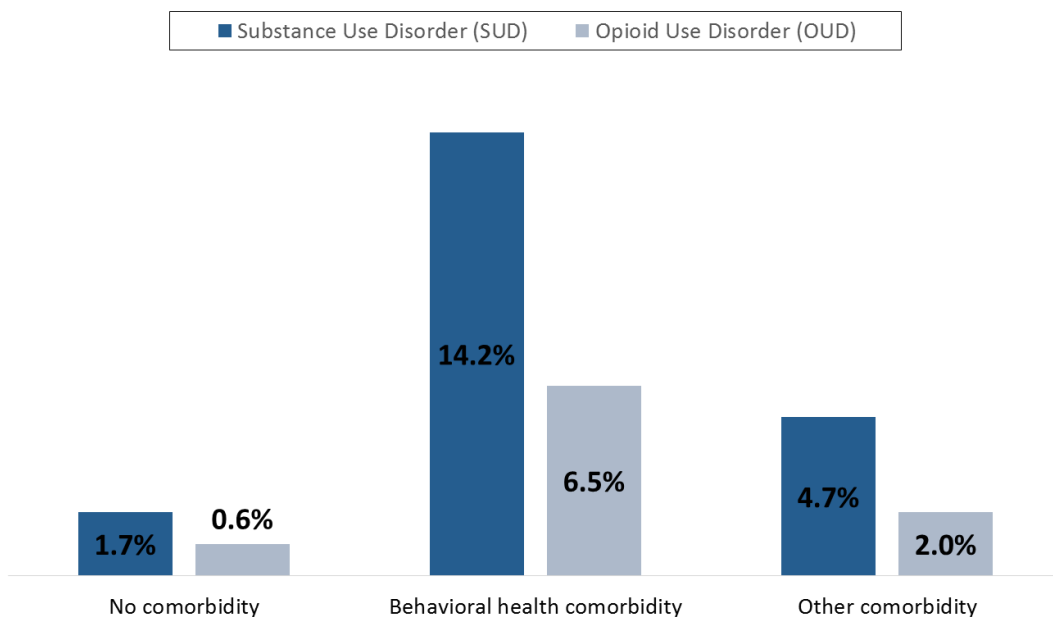
- Substance use disorders are more than twice as common among disabled adults as for pregnant women or non-disabled adults.

Prevalence of SUD and OUD Among Eligibility Groups



- Medicaid members with a behavioral health comorbidity are much more likely to have an opioid use disorder, with 6.5 percent of members with a behavioral health comorbidity having a co-occurring OUD, and 2.0 percent of members with other medical comorbidities having a co-occurring OUD.

Prevalence of SUD and OUD Among Members with Behavioral Health and Physical Health Comorbidities



Large Increases in Service Utilization Related to Substance Use Disorders after ARTS Implementation

- During the first year of the ARTS program, 24,615 Medicaid members used a substance use disorder-related service – a 57 percent increase from the year before.
- The number of Medicaid members with opioid use disorders using treatment services increased by 48 percent during the first 12 months of the ARTS program.
- The number of Medicaid members with alcohol use disorders using treatment services increased by 81 percent during the first 12 months of the ARTS program.

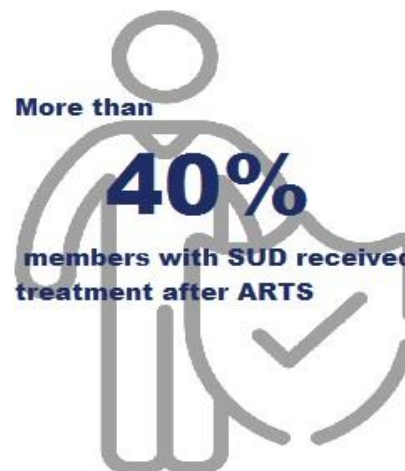
	Before ARTS Apr, 2016 - Mar, 2017	After ARTS Apr, 2017 - Mar, 2018	Percent Change
All substance use disorders (SUDs)			
Total number of members using SUD-related services	15,703	24,615	57%
Opioid use disorders (OUD)			
Total number of members using OUD-related services	10,092	14,917	48%
Alcohol use disorders (AUD)			
Total number of members using AUD-related services	3,508	6,357	81%

Note: Services include those performed in an OBOT or Opioid Treatment Program setting, Screening, Brief Intervention, and Referral to Treatment (SBIRT), psychotherapy or counseling, physician evaluation or management, care coordination, peer recovery services, intensive outpatient, partial hospitalization, residential treatment, medically managed intensive inpatient services, and pharmacotherapy. Substance use disorder services are counted using claims paid by plans to providers, (rather than the capitated rates that DMAS paid to health plans). As some claims may not have been submitted or paid at the time of analysis, actual utilization may be higher than the estimates shown.

ARTS Narrows the Treatment Gap for Members With Substance Use Disorders

During the first year of ARTS, more Medicaid members with opioid use disorders or other substance use disorders are receiving treatment.

- More than 40 percent of members with substance use disorders received treatment during the first year of ARTS, up from 24 percent in the prior year.
- Nearly 2 in 3 (63 percent) members with opioid use disorders received treatment during the first 12 months of ARTS, up from 46 percent the year before. Treatment rates for alcohol use disorders doubled in the year after ARTS implementation.
- During the first year of ARTS, the treatment rate for opioid use disorders among all members increased by 35 percent. However, some groups experienced greater gains in access to treatment than others.



	Before ARTS Apr, 2016 - Mar, 2017	After ARTS Apr, 2017 - Mar, 2018	Percent Change
Total number of members with a substance use disorder (SUD)	49,440	50,857	3%
Member with SUD receiving any SUD treatment	12,089	20,436	69%
Percent receiving treatment	24%	40%	64%
Total number of members with an opioid use disorder (OUD)	17,914	20,712	16%
Members with OUD receiving any OUD treatment	8,322	12,980	56%
Percent receiving OUD treatment	46%	63%	35%
Total number of members with an alcohol use disorder (AUD)	17,218	18,269	6%
Members with AUD receiving any AUD treatment	2,632	5,499	109%
Percent receiving AUD treatment	15%	30%	97%

Note: Services include those performed in an OBOT or Opioid Treatment Program setting, psychotherapy or counseling, physician evaluation or management, intensive outpatient, partial hospitalization, residential treatment, medically managed intensive inpatient services, and pharmacotherapy. Substance use disorder services are counted using claims paid by plans to providers, (rather than the capitated rates that DMAS paid to health plans). Results are based on claims submitted between April, 2016 and June, 2018 for services occurring between April 1, 2016 and Mar 31, 2018. As some claims may not have been submitted or paid at the time of analysis, actual utilization may be higher than the estimates shown.

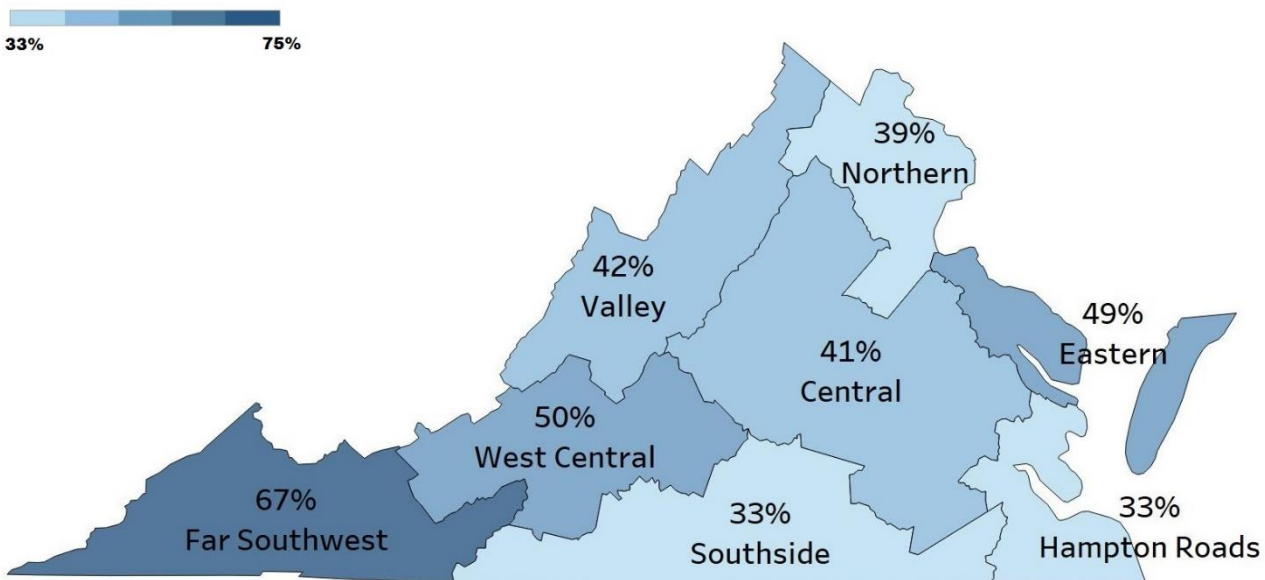
- Although both males and females experienced gains in opioid use disorder treatment after implementation of ARTS, males saw an increase of 52 percent compared to 30 percent among females. Males had lower rates of treatment than females prior to ARTS implementation.
- While non-Hispanic black Medicaid members saw the greatest increase in treatment rates (64 percent), the treatment rate after ARTS implementation remains at 51 percent, considerably lower than the rate among non-Hispanic white members (66 percent).
- While only 7 percent of members over 65 years old with an opioid use disorder received treatment prior to ARTS, treatment rates more than doubled during the first year of ARTS. However, members aged 18-44 years continue to have the highest treatment rates with nearly three-quarters receiving care.

Vulnerable populations, such as pregnant women and members with behavioral health comorbidities have particularly benefited from ARTS during its first year. While pregnant women experienced a greater than 6-fold increase, members with behavioral health comorbidities saw a 52 percent increase in treatment rates. Despite the large relative increase in treatment for pregnant women, the percent of pregnant women with an OUD remain low (25 percent).

OAD Member Characteristics	Before ARTS Apr, 2016 - Mar, 2017	After ARTS Apr, 2017 - Mar, 2018	Percent Change
All members	46%	63%	35%
Gender			
Male	40%	61%	52%
Female	49%	64%	30%
Race/Ethnicity			
White	51%	66%	30%
Black	31%	51%	64%
Hispanic and others	40%	60%	53%
Age group			
12-17	79%	61%	-23%
18-44	59%	74%	24%
45-64	30%	49%	65%
65 years and higher	7%	21%	221%
Eligibility group			
Pregnant Women	4%	25%	507%
Disabled Adults	31%	49%	60%
Non-Disabled Adults	44%	75%	71%
Comorbidity			
No Co-morbidities	72%	81%	12%
Behavioral Health co-morbidities	38%	58%	52%
Other Co-morbidities	38%	52%	38%

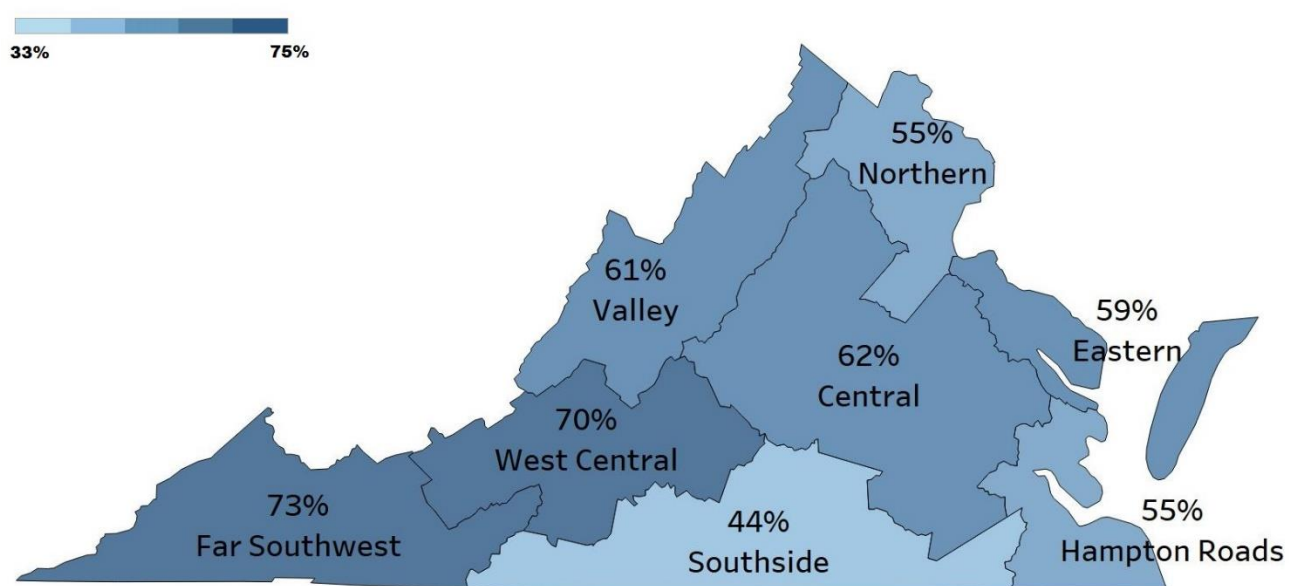
- Before implementation of ARTS, treatment rates for opioid use disorders tended to be higher in the Far Southwest and West Central regions, and lowest in the Southside and Hampton Roads region.

Percent of members with OUD who received any OUD treatment services 1 year BEFORE ARTS



- Treatment rates increased across all regions during the first year of ARTS. Increases in treatment rates were especially large in the Hampton Roads region and Central region.

Percent of members with OUD who received any OUD treatment services 1 year AFTER ARTS



More Pregnant Women Getting Treatment for Substance Use Disorders after ARTS Implementation

More than 70,000 pregnant women benefit from Virginia Medicaid each year. Opioids are widely prescribed among women at childbearing age and pregnant women are more likely to receive them. Infants born to women using opioids during pregnancy may experience severe adverse health outcomes, including neonatal abstinence syndrome.⁵ Before ARTS, there were limited options for pregnant members to get treatment for substance use disorders. Following the first year of implementation of the ARTS program, treatment rate for substance use disorders increased substantially among Medicaid pregnant women.

- Treatment for substance use disorders among pregnant women increased from 2 percent in the year prior to ARTS to 18 percent after ARTS implementation.
- Nearly 1 in 4 pregnant women with opioid use disorders received treatment in the first year after ARTS, compared to 4 percent in the year before ARTS.
- Among pregnant women with alcohol use disorders, 24 percent received treatment 12 months after ARTS.

	Before ARTS Apr, 2016 - Mar, 2017	After ARTS Apr, 2017 - Mar, 2018	Percent Change
Total number of pregnant members with a substance use disorder (SUD)	2,993	3,188	7%
Pregnant members with SUD receiving any SUD treatment	62	575	827%
Percent receiving treatment	2%	18%	780%
Total number of pregnant members with an opioid use disorder (OUD)	1,028	1,056	3%
Pregnant members with OUD receiving any OUD treatment	42	262	524%
Percent receiving OUD treatment	4%	25%	507%
Total number of pregnant members with an alcohol use disorder (AUD)	245	221	-10%
Pregnant members with AUD receiving any AUD treatment	5	30	500%
Percent receiving AUD treatment	2%	24%	565%

⁵ MACPAC June 2017 Report to Congress on Medicaid and CHIP. Chapter 2: Medicaid and the opioid epidemic.

Service Utilization by ASAM Levels of Care for Substance Use Disorders

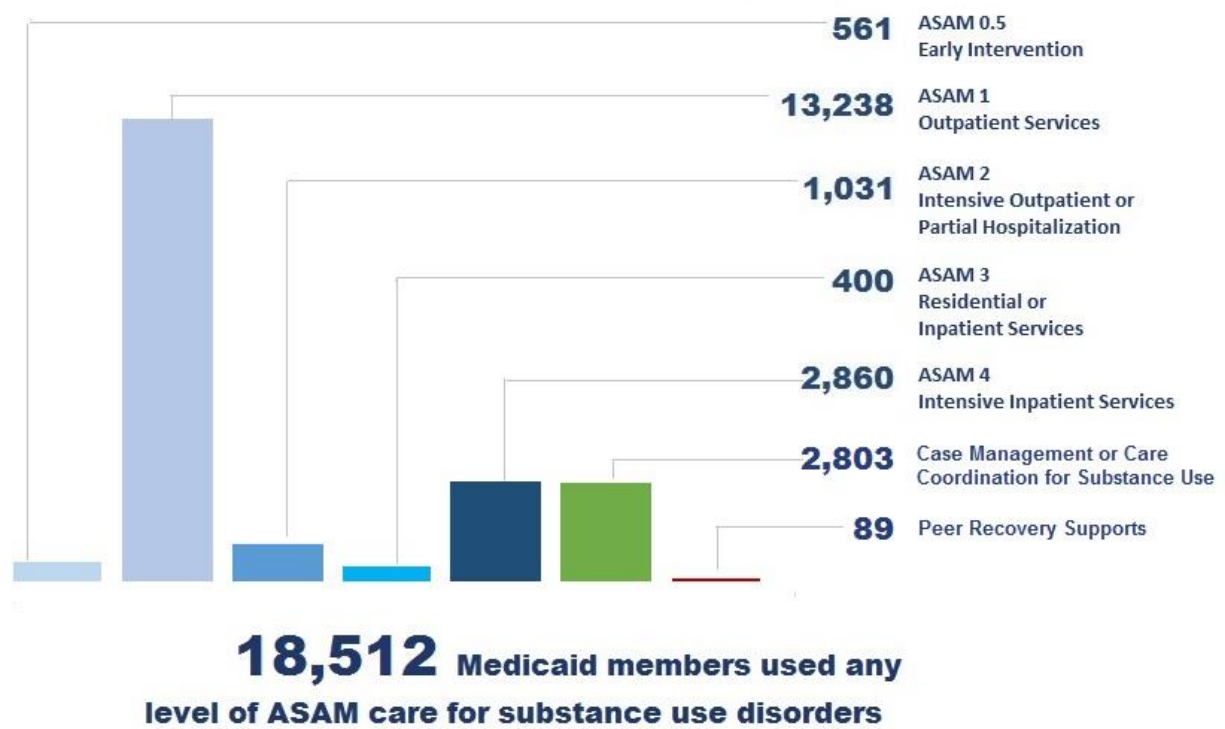
Coverage of substance use disorder services provided by ARTS is based on the American Society of Addiction Medicine (ASAM) National Practice Guidelines, which comprise a continuum of care from screening, brief intervention, and referral to treatment (Level 0.5) to medically managed intensive inpatient services (Level 4).

- Screening, Brief Intervention, and Referral to Treatment (ASAM Level 0.5) is used to screen for substance use disorders in any healthcare setting, including primary care settings. During the first year of ARTS, 561 members had screenings for substance use disorders.
- Outpatient services (ASAM Level 1), such as psychotherapy and counseling or physician evaluation, are by far the most frequently used services. During the first year of ARTS, 13,238 members with a primary diagnosis of a substance use disorder had psychotherapy, counseling or a physician evaluation, including 6,935 members with an opioid use disorder.
- ARTS established a new integrated care delivery model – Preferred Office-Based Opioid Treatment. During the first year of ARTS, 622 members obtained care through this model or through an Opioid Treatment Program.
- ASAM Level 2 includes partial hospitalization and intensive outpatient services. During the first year of ARTS, 1,031 members used these services, including 425 members with an opioid use disorder.
- ARTS added coverage of short-term residential treatment services (ASAM Level 3) and medically managed inpatient services (ASAM Level 4). During the first year of ARTS, 2,860 members used medically managed inpatient services for substance use disorders, while 400 members used short-term residential treatment services.
- ARTS also covered new services, including peer recovery supports, case management and care coordination for substance use. During the first year of ARTS, 2,803 members received substance use case management services. Utilization of peer recovery supports remained relatively low. It is important to note that these estimates reflect paid claims and therefore may under-estimate actual use of case management and peer recovery services.

Members who used treatment services for substance use disorders, April, 2017 – March, 2018

	All substance use disorders	Opioid use disorders	Alcohol use disorders
Members who had any ASAM level of service	18,512	9,691	4,787
ASAM Level 0.5, Early Intervention	561	284	70
Office-Based Opioid Treatment/ Outpatient Treatment Providers	622	331	164
ASAM Level 1, Outpatient Services	13,238	6,935	3,388
ASAM Level 2, Intensive Outpatient/Partial Hospitalization	1,031	430	304
ASAM Level 3, Residential/Inpatient Services	400	192	120
ASAM Level 4, Medically Managed Intensive Inpatient Services	2,860	541	1,553
Peer Recovery Supports	89	81	3
Substance Use Case Management	2,803	2,496	101
Substance Use Care Coordination at Preferred OBOTs	76	43	6

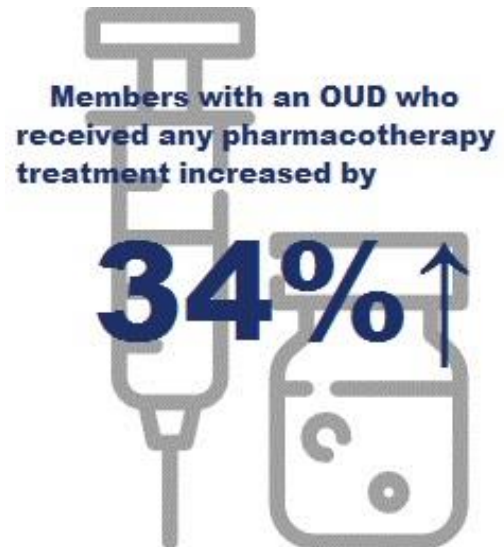
Note: Results are based on claims submitted between April, 2016 and June, 2018 for services occurring between April 1, 2016 and Mar 31, 2018.. As some claims may not have been submitted or paid at the time of analysis, actual utilization may be higher than the estimates shown.



Pharmacotherapy for Treatment of Opioid Use Disorders Increases

Treatment of opioid use disorders often involves pharmacotherapy, including buprenorphine, methadone, and naltrexone as part of evidence-based care.

- During the first 12 months of ARTS, the number of members receiving pharmacotherapy for an opioid use disorder increased by 34 percent.
- Members receiving buprenorphine pharmacotherapy – the most widely prescribed medication for opioid use disorders – increased by 22 percent.
- Methadone treatment increased substantially, while naltrexone and other pharmacotherapy treatment increased by 40 percent following ARTS implementation.



	Before ARTS Apr, 2016 - Mar, 2017	After ARTS Apr, 2017 - Mar, 2018	Percent Change
Members who received any pharmacotherapy for opioid use disorder	6,444	8,616	34%
Members who received buprenorphine	5,215	6,376	22%
Members who received methadone treatment	517	1,305	152%
Members who received naltrexone or other medication treatment	757	1,063	40%
Percent receiving any OUD pharmacotherapy	36%	42%	16%

Note: As some claims may not have been submitted or paid at the time of analysis, actual utilization may be higher than the estimates shown.

Most Receiving Buprenorphine Pharmacotherapy Are Receiving Other Services Consistent With Medication-Assisted Treatment

Per the American Society of Addiction Medicine's National Practice Guidelines, treatment of opioid use disorders is most effective when medication is combined with other treatment services, such as psychotherapy and counseling. The ARTS program was developed on these best practice principles.

- Nearly two-thirds (63 percent) of Medicaid members who received buprenorphine pharmacotherapy during the first year of ARTS received outpatient counseling or psychotherapy or had a physician evaluation.
- Compared to the year before, utilization of urine drug screen and case management services increased substantially after ARTS among buprenorphine users, though case management utilization remains low.

Members who received buprenorphine and other services for opioid use disorders

	Before ARTS Apr, 2016 - Mar, 2017	After ARTS Apr, 2017 - Mar, 2018	Percent Change
Number of members who received buprenorphine pharmacotherapy	5215	6,379	22%
Percent of members who received counseling or psychotherapy	35%	63%	78%
Percent of members who received a urine drug screen	35%	53%	51%
Percent of members who received case management services	4%	18%	338%

Note: Results are based on claims submitted between April, 2016 and June, 2018 for services occurring between April 1, 2016 and Mar 31, 2018. As some claims may not have been submitted or paid at the time of analysis, actual utilization may be higher than the estimates shown. *Treatment services include those performed in an OBOT or Opioid Treatment Program setting, psychotherapy or counseling, physician evaluation or management, intensive outpatient, partial hospitalization, residential treatment, medically managed intensive inpatient services, and pharmacotherapy.

Decreases in Emergency Department Use Related to Substance Use Disorders

It is expected that improved access to addiction treatment services will decrease emergency department (ED) utilization related to substance use disorders. Although our analysis did not directly examine the causal impact of increased treatment on emergency department utilization, the trends are suggestive of such a pattern.

- During the first 10 months of ARTS, the number of ED visits related to substance use disorders decreased by 14 percent, while the number of ED visits related to opioid use disorders decreased by 25 percent. This was a larger decrease than experienced overall by Medicaid members (9 percent).
- The number of members with an ED visit related to substance use disorders decreased by 3 percent during the first 10 months of ARTS, while the number of members with an ED visit related to opioid use disorders decreased by 10 percent.

	Before ARTS Apr, 2016 - Jan, 2017	After ARTS Apr, 2017 - Jan, 2018	Percent Change
ED visits for all Medicaid members	786,698	714,743	-9%

ED visits related to substance use disorders (SUD)

Total number of visits	24,962	21,445	-14%
Number of members with a visit	11,829	11,464	-3%

ED visits related opioid use disorders (OUD)

Total number of visits	5,016	3,756	-25%
Number of members with a visit	2,776	2,486	-10%

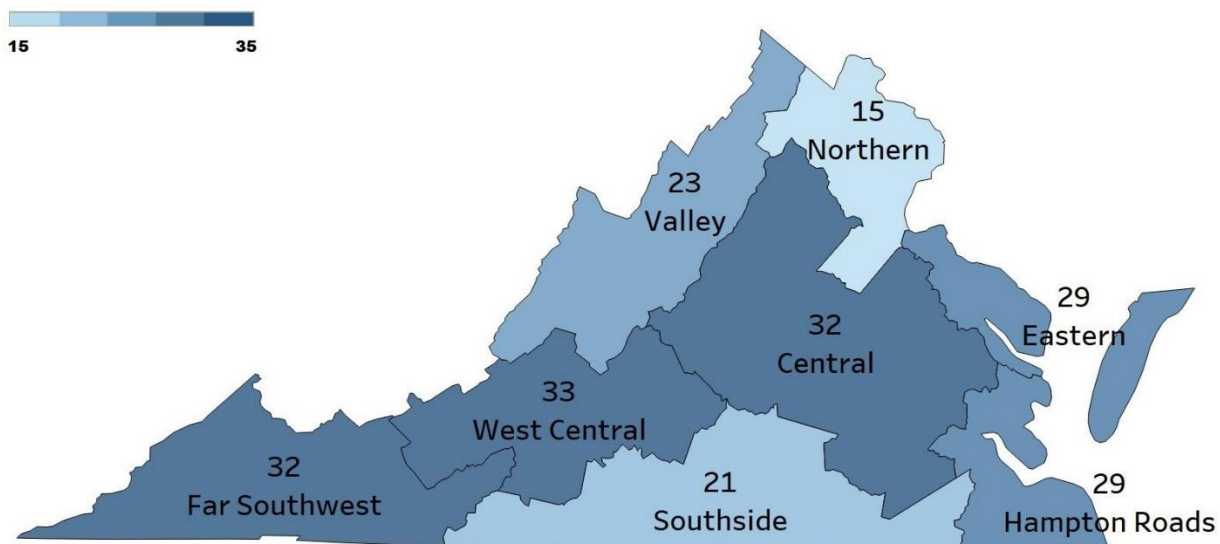
ED visits related to alcohol use disorders (AUD)

Total number of visits	11,791	9,856	-16%
Number of members with a visit	5,073	4,725	-7%

Note: ED visits with any primary or secondary diagnosis of a substance use disorder are considered to be visits related to substance use disorders. Results are based on claims submitted between April, 2016 and June, 2018 for services occurring between April 1, 2016 and Mar 31, 2018. As some claims may not have been submitted or paid at the time of analysis, actual utilization may be higher than the estimates shown.

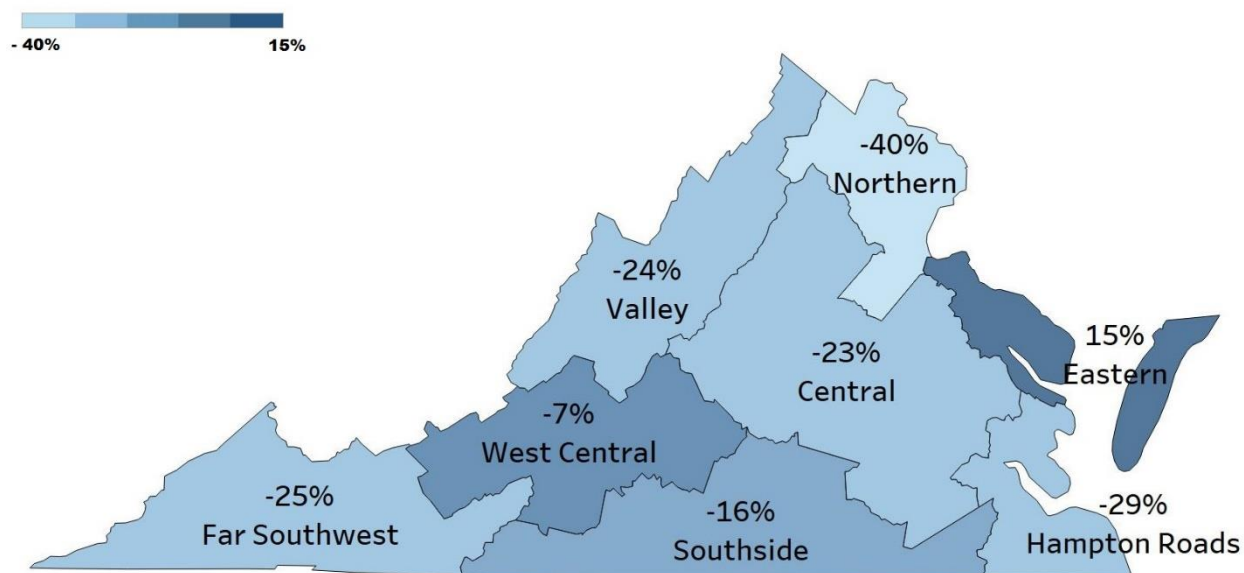
- During the first 10 months of ARTS, emergency department visits related to opioid use disorders were highest in the West Central region (33 visits per 10,000 Medicaid members) and lowest in the Northern region (15 visits per 10,000 members) (see map below).

Number of OUD-related emergency department visits per 10,000 Medicaid members, April 2017 - Jan, 2018



- The percent decrease in emergency department visits related to opioid use disorders during the first 10 months of ARTS was greatest in the Northern region (40 percent decrease), whereas ED visits increased in the Eastern region (15 percent increase) (see map below).

Percent change in OUD-related emergency department visits following 10 months ARTS implementation.



Decrease in Acute Hospitalizations Related to Substance Use Disorders

During the first 10 months of ARTS, there was a decrease in the number of members who had an acute inpatient hospital stay related to substance use disorders.

- The number of members with an inpatient admission related to substance use disorders decreased by 4 percent during the first 10 months of ARTS. The number of members with any inpatient admission increased by 1 percent.
- The number of members with an inpatient admission related to opioid use disorders decreased by 6 percent, while the number of members with an inpatient admission related to alcohol use disorders also declined by 8 percent.

	Before ARTS Apr, 2016 - Jan, 2017	After ARTS Apr, 2017 - Jan, 2018	Percent Change
Total number of Medicaid members with an inpatient admission	102,589	103,220	1%

Inpatient hospitalizations related to substance use disorders (SUD)

Number of members with an inpatient admission	13,182	12,650	-4%
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Inpatient hospitalizations related opioid use disorders (OUD)

Number of members with an inpatient admission	3,520	3,315	-6%
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Inpatient hospitalizations related to alcohol use disorders (AUD)

Number of members with an inpatient admission	5,723	5,255	-8%
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Note: Inpatient hospitalizations with any primary or secondary diagnosis of a substance use disorder are considered to be visits related to substance use disorders. Results are based on claims submitted between April, 2016 and June, 2018 for services occurring between April 1, 2016 and Mar 31, 2018. As some claims may not have been submitted or paid at the time of analysis, actual utilization may be higher than the estimates shown.

Decrease in Prescriptions for Opioid Pain Medications

The Department of Medical Assistance Services has taken a number of actions to limit opioid prescribing for pain management consistent with guidelines issued by the U.S. Centers for Disease Control and Prevention and the Virginia Board of Medicine.^{6,7} These include prior authorization requirements and quantity limits for new opioid prescriptions beginning in December, 2016 in the Medicaid Fee-for-Service program, and implemented across all the Medicaid health plans beginning July 1, 2017. To encourage more substitution of non-opioid pain medications for opioids, non-opioid pain medications that do not require prior authorization have been added to Medicaid formularies.

- During the first year of ARTS, the total number of prescriptions for opioid pain medications decreased by 27 percent compared to the year prior to ARTS.
- The number of members who received opioid pain medication decreased by 17 percent after ARTS, while the number of members who received non-opioid pain medication decreased slightly (1 percent).
- The rate of prescribing opioid pain medications (per 10,000 Medicaid members) decreased by 28 percent, whereas the rate of prescribing non-opioid pain medications remained steady.

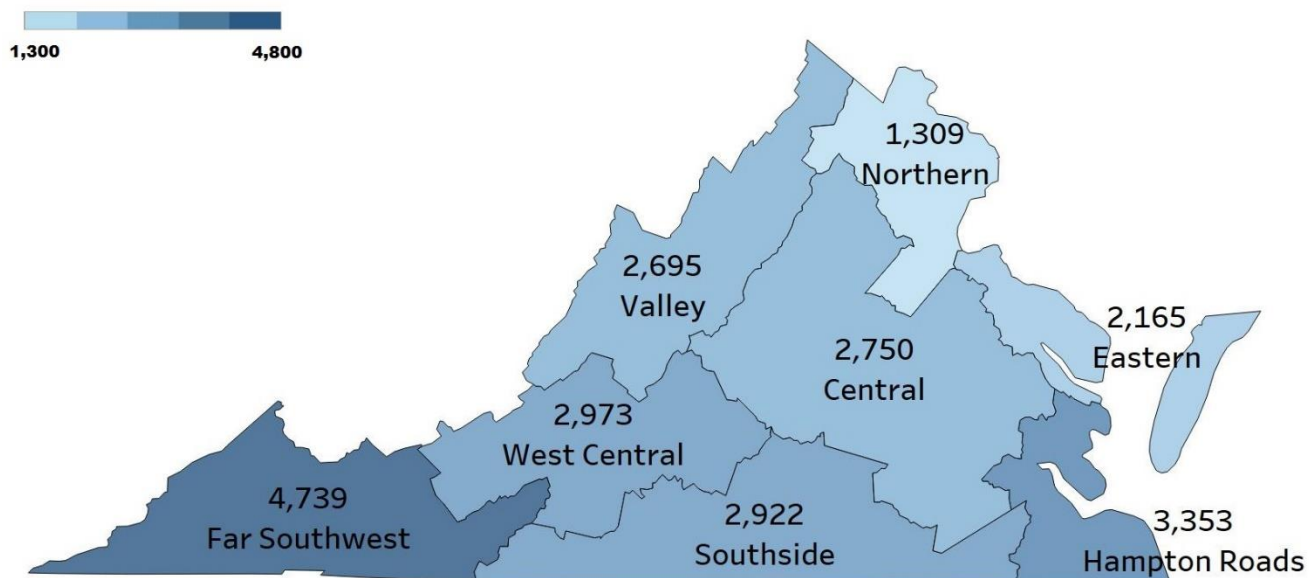
	Before ARTS Apr, 2016 - Mar, 2017	After ARTS Apr, 2017 - Mar, 2018	Percent Change
Opioid pain medications			
Total number of prescriptions	549,442	399,678	-27%
Number of members who received prescriptions	137,847	115,096	-17%
Number of prescriptions per 10,000 members	3,811	2,761	-28%
Non-opioid pain medications			
Total number of prescriptions	2,452,616	2,455,190	0%
Number of members who received prescriptions	333,215	331,504	-1%
Number of prescriptions per 10,000 members	17,012	16,954	0%

⁶ Dowell D, Haegerich TM, Chou R. CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016. *MMWR Recomm Reports*. 2016;65(1):1-49. doi:10.15585/mmwr.rr6501e1.

⁷ Medical Society of Virginia. Opioid and Buprenorphine Prescriber Regulations Guide.

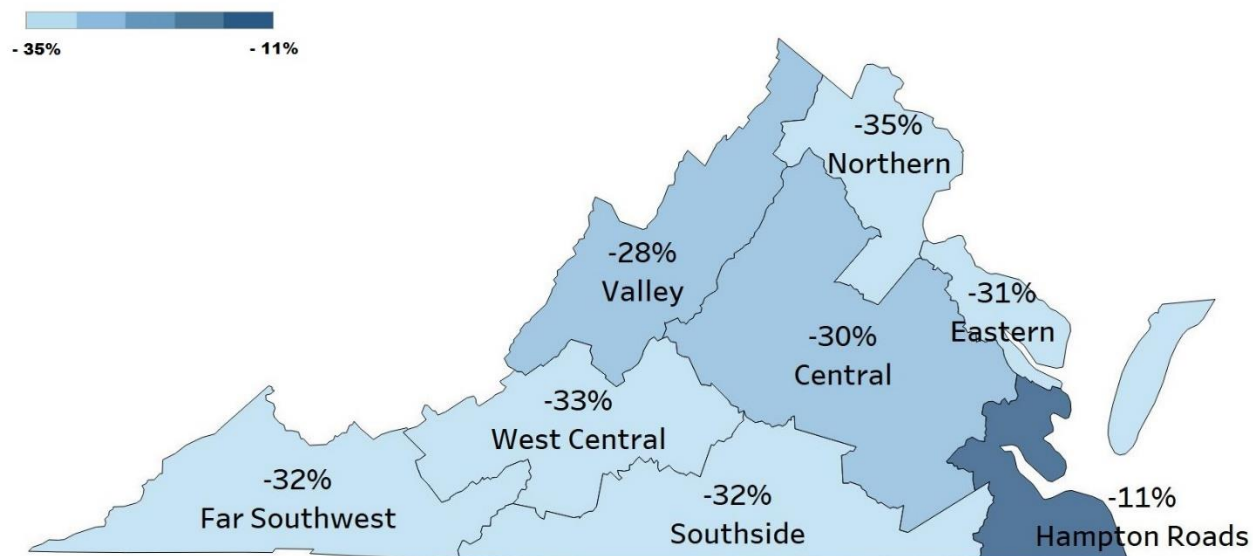
- The rate of opioid prescribing is highest in the Far Southwest region (4,739 prescriptions per 10,000 Medicaid members) and lowest in the Northern region (1,309 prescriptions per 10,000 Medicaid members).

Number of prescriptions for opioid pain medications per 10,000 Medicaid members, Apr, 2017- Mar, 2018



- Opioid prescribing decreased the most in the Northern region (35 percent) and decreased the least in the Hampton Roads region (11 percent).

Percent change in the number of prescriptions for opioid pain medications following 1 year ARTS implementation



Conclusion

There have been substantial gains in access to and use of substance disorder services among Medicaid members during the first year of the ARTS program. While the impact of programs that add or expand benefits are often not observed until months or even years after they are implemented, the substantial increase in access and utilization during the first year of ARTS is likely due in part to extensive preparations and outreach by the Department of Medical Assistance Services (DMAS), the Virginia Department of Health (VDH), and Department of Behavioral Health and Developmental Services (DBHDS) prior to the April 1, 2017 implementation. Activities included provider trainings, presentations and briefings to stakeholders by DMAS and VDH staff across the state, and efforts by health plans to recruit providers of substance use disorder services into their networks. Given the low access to services and low supply of providers prior to ARTS, high “pent-up demand” for services likely also contributed to the surge in service utilization for substance use disorders during the first year of the program.

Along with the substantial increase in supply of providers for addiction-related services, utilization and treatment rates for substance use or opioid use disorders also increased significantly after ARTS. Most notably, there was a 34 percent increase in members with opioid use disorders receiving pharmacotherapy. Also, more pregnant women with substance use disorders were receiving treatment services after ARTS than previously, although the rate of treatment among pregnant women with opioid use disorders is still low (25 percent).

Higher rates of treatment for substance use disorders during the first year of ARTS may be related to fewer emergency department visits and inpatient hospitalization for substance use disorders during the same time period. Although the report did not specifically identify ARTS as the causal mechanism for the decrease in emergency department visits and inpatient admissions, it is consistent with the expectation that increased access to treatment should result in fewer overdoses and other addiction-related health emergencies and hospitalization. Future reports will examine in greater detail the impact of ARTS on emergency department visits, inpatient hospitalization and other outcomes, including the rate of opioid prescribing, rate of fatal overdoses and length of stay for acute hospitalization among Medicaid members.

Despite gains in overall access to treatment services during the first year of ARTS, some important challenges remain. Most notably, 60 percent of members with substance use disorders – and nearly 40 percent of members with an opioid use disorder – did not receive any treatment services. Gains in treatment rates vary by member characteristics, with treatment rates notably lower among African-Americans, elderly, adults ages 45-64, pregnant women, disabled adults, and members with physical health problems (but no mental health co-morbidities). Although more members used treatment services for substance disorders after ARTS, utilization of some services remained relatively low, such as SBIRT (Screening, Brief Intervention, and Referral to Treatment) and peer recovery supports. Treatment rates are considerably lower in the Southside and Hampton Roads regions compared to other areas of the state. While treatment rates appear to be high in some regions – such as the Far Southwest – other analyses show that this reflects a large number of members in the Far Southwest receiving buprenorphine treatment without any counseling or psychotherapy.⁸

⁸ Walker LS, et al. Many Buprenorphine Users Receive no Other Services for Addiction Disorders. VCU Department of Health Behavior and Policy, ARTS Evaluation Update (March, 2018). Available at: https://hbp.vcu.edu/media/hbp/policybriefs/pdfs/HBP_ARTSIssue02_030718_website.pdf

The ARTS evaluation team will continue to monitor trends in access, service utilization, and outcomes related to substance use disorders among Medicaid members in order to determine whether there are further gains in access to care, and to identify new or ongoing challenges in member access and treatment.