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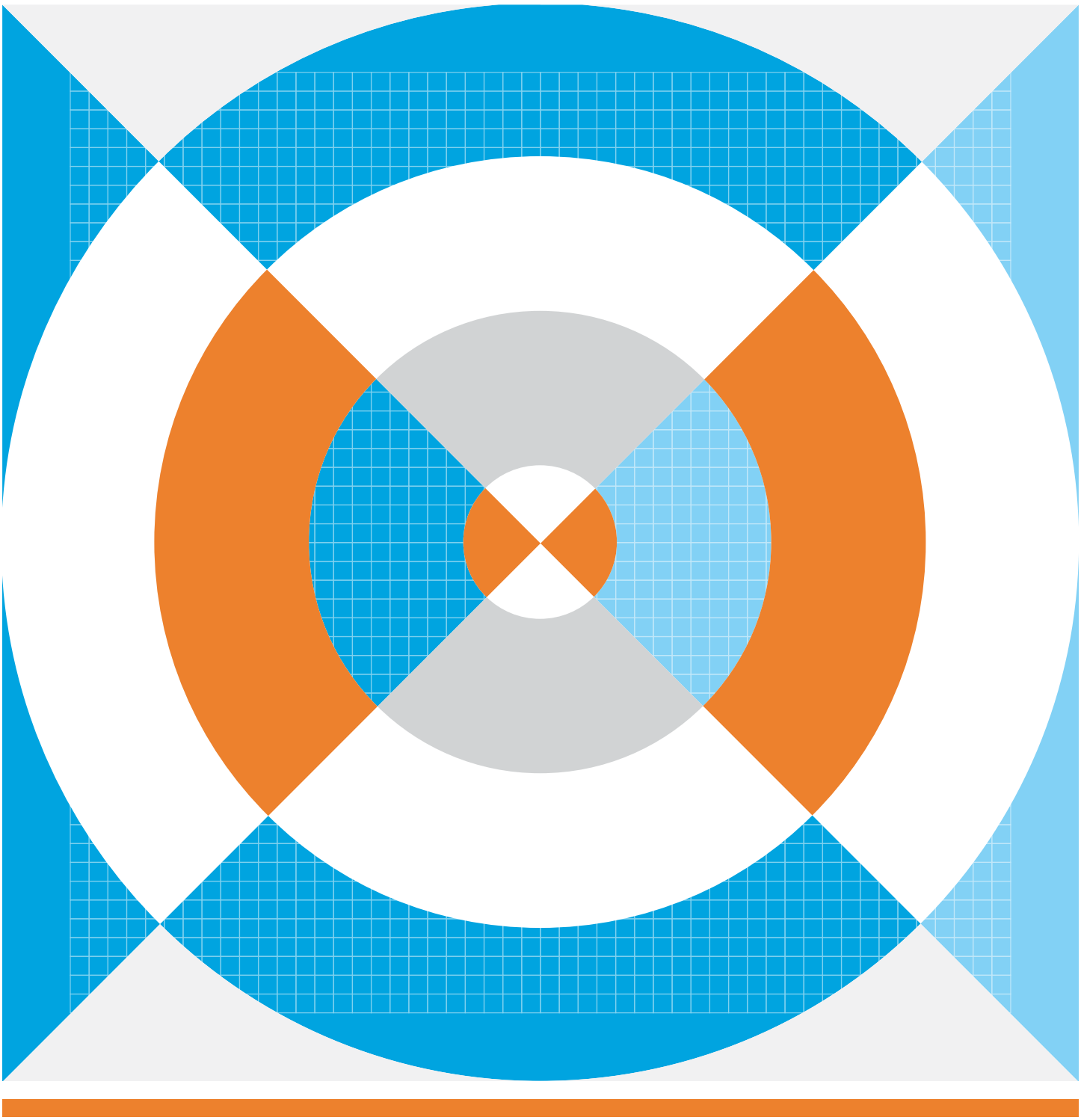

DATA INSIGHTS

A nation in pain: Focus on Medicaid

Opioid pain medications have become one of the most controversial classes of prescription therapy. While they provide great benefits in controlling both long and short term pain, they have addictive properties, making them prone to misuse, fraud and abuse.

A look back

In December 2014, Express Scripts released a report titled "A Nation in Pain". The report examined how patients in the U.S. are using narcotic pain medications known as opioids. The report evaluated short and long term use of these medications, looking at prevalence, utilization and costs.

Key findings of the 2014 research

- Fewer patients are filling pain medications, yet the number of prescriptions is increasing.
- Short-term use of prescription opioids declined
- Patients are likely to use prescription opioids long-term
- Younger adults use more opioid medications
- Opioid use is more prevalent among women
- Pain prescription use is most prevalent in small southeastern cities
- Most long-term opioid users take dangerous drug combinations

Opioid pain medications have become one of the most controversial classes of prescription therapy. While they provide great benefits in controlling both long and short term pain, they have addictive properties, making them prone to misuse, fraud and abuse. There continues to be extensive public debate about how to address what's regarded as the "opioid epidemic," a national crisis that has led to growing overdose deaths related to legal and illegal narcotic use. The Centers for Disease Control and Prevention, the U.S. Congress, and state governments have all been looking at ways to address the problems associated with prescription opioids.

On July 22, 2016, President Obama signed into law the Comprehensive Addiction and Recovery Act of 2016 (CARA). This Act attempts to create a framework to address the opioid epidemic with focus areas such as prevention and education, law enforcement and treatment, treatment and recovery, collateral consequences of prior non-violent drug convictions, addiction and treatment services for women, families and veterans, as well as state demonstration grants. While not as sweeping or well-funded as many had hoped, the Act demonstrates the heightened awareness of substance abuse and addiction, and the impact they are having on our society.[1]

Where we are today

With the increased focus on this class of medications, for both clinical and regulatory reasons, a new study was initiated to examine the current state of opioid medication use in Medicaid populations. The goal was to assess utilization rates, as well as other clinically relevant indicators of the scope of opioid use. Express Scripts has managed Medicaid health plans for more than 20 years, and as one of the largest providers of PBM services to managed Medicaid plans, we are able to draw on experience from health plans and members across the nation.

The population of Medicaid enrollees included in this analysis encompassed 3.1 million members enrolled in managed care programs across 14 states, with an average age of 38 years. **This report reviews utilization from Jan. 1 through Dec. 31, 2015.** It examines the influence that age and gender have on opioid utilization, and then compares categories of Medicaid enrollment and opioid use among those groups.

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Gender factors

Table 1 shows that the population observed was 54% female. We found that the proportion of female members who received any type of prescription was slightly higher than males receiving medications. As the previous study had found, women were significantly more likely to fill prescriptions for opioid analgesics (Table 2), however analysis showed that the men receiving opioids tended to fill more of those prescriptions.

TABLE 1: EXPRESS SCRIPTS MEDICAID POPULATON OVERALL

GENDER	# OF ELIGIBLE MEMBERS	% OF ELIGIBLE MEMBERS	# OF MEMBERS FILLING AN RX	% OF MEMBERS WHO FILL ANY RX	% OF ELIGIBLE MEMBERS FILLING OPIOIDS	% OF UTILIZING MEMBERS* FILLING OPIOIDS
Male	1,436,835	46%	855,989	60%	12%	20%
Female	1,666,504	54%	1,149,582	69%	17%	25%

*Utilizing members are those who filled any prescription during the study period.

TABLE 2: MEMBERS USING OPIOID MEDICATION

GENDER	# OF MEMBERS FILLING OPIOIDS	% OF MEMBERS WHO FILL OPIOIDS	# OF OPIOID RX PER UTILIZING MEMBER
Male	171,578	37%	4.1
Female	288,901	63%	3.9

The proportion of **female members** who received any type of prescription was slightly higher than males receiving medications.

Age factors

The highest rate of utilization was among members age 45-64, with an overall average age of opioid utilizers of 41 years. The average opioid utilizer filled four opioid prescriptions per year. The highest utilization was in members aged 45-64 years old, filling 5.4 opioid prescriptions per year.

TABLE 3: AGE DISTRIBUTION

MEMBER AGE ON OPIOID MEDICATION	% OF MEMBERS ON OPIOIDS	% FEMALE AMONG OPIOID PATIENTS
0-19	4.3%	53.3%
20-44	26.0%	68.7%
45-64	31.1%	56.9%
65-84	5.7%	62.8%
84+	2.5%	66.7%

Drug types

Opioids are overwhelmingly filled with generic products (Table 4). There are numerous short- and long-acting opioid and opioid combinations that have become available generically, so Medicaid managed care plans normally promote these as first choices in narcotic pain management. For Medicaid enrollees, generics accounted for 90.6% of all claims for opioid medications. The brand name opioid medications only represented 9.4% of prescriptions, yet they accounted for 45.1% of costs. The average brand claim cost was $236.71 compared to the average generic claim of $29.80.

The brand name opioid medications only represented **9.4% of prescriptions**, yet they accounted for **45.1% of costs**.

TABLE 4: BRAND VS GENERIC UTILIZATION

	OPIOID RXS 2015	% OF OPIOID RXS	TOTAL COST	% OF COST	AVERAGE RX COST
Single and multi-source name brand opioids	171,967	9.4%	$40,705,561	45.1%	$236.71
Generic opioids	1,660,007	90.6%	$49,473,441	54.9%	$29.80

As Table 5 (next page) shows, the top three opioid pain medications dispensed for Medicaid members (by Rx count) were:

- Hydrocodone-acetaminophen
- Oxycodone-acetaminophen
- Tramadol HCL

Several states had significantly higher rates of brand opioid utilization than others. West Virginia, a state which requires managed Medicaid plans to follow the state's Preferred Drug List, was the highest with 25% of opioids being dispensed as brands. Three of the states included in this study were above 10%, while the remaining states averaged 3.4%.

In 2014, the Drug Enforcement Administration moved hydrocodone-containing products from Schedule III to Schedule II, the most restricted class of narcotics that can be prescribed. Among the restrictions is a limitation that Schedule II controlled substances cannot be refilled; instead a new written prescription is required each time they are dispensed. This was in an attempt to reduce what was regarded as excessive prescribing of these agents.

Several states had significantly higher rates of brand opioid utilization. West Virginia was the highest with **25% of opioids being dispensed as brands**.

Hydrocodone is most often combined with acetaminophen, a non-narcotic pain reliever, and has been the most-prescribed opioid for many years. All three of the medications above were among the top 30 medications dispensed to Medicaid members in this study.

We found that 4.5% of Medicaid members were using long-acting forms of these medications, representing just 7.3% of all opiate prescriptions, however these long-acting formulations accounted for 24% of all opiate costs and 1% of all drug costs. The long-acting formulations have a place in therapy for certain patients, providing steady pain relief for members with chronic pain, but many are only available as brand-name products. Health plans often require prior authorization for their use in an effort to ensure they are being used appropriately.

TABLE 5: TOP 10 OPIOID MEDICATIONS PRESCRIBED TO MEDICAID MEMBERS

RANK	DRUG NAME	BRAND (B) GENERIC (G)	RX COUNT	% OF OPIOID RXS	OVERALL MEDICATION RANK
1	hydrocodone-acetaminophen	G	626,174	34%	2
2	oxycodone-acetaminophen	G	266,333	15%	21
3	tramadol HCL	G	219,886	12%	28
4	oxycodone HCL	G	193,913	11%	35
5	Suboxone®	B	143,043	8%	52
6	acetaminophen-codeine	G	95,968	5%	81
7	buprenorphine-naloxone	G	57,813	3%	121
8	morphine sulfate ER	G	47,056	3%	151
9	fentanyl	G	26,493	1%	208
10	buprenorphine HCL	G	26,493	1%	209
	TOTAL OPIOID RXS IN 2015		1,831,974		

4.5% of Medicaid members were using long acting forms of these medications, representing just **7.3% of all opiate prescriptions**, however these long acting formulations accounted for **24% of all opiate costs** and **1% of all drug costs**.

Prevalence by enrollment category

When evaluating drug utilization among Medicaid enrollees, it's important to recognize that there are different types of Medicaid members, each with unique characteristics. The numerous enrollment categories in the Medicaid program differentiate members by age, gender, disease severity and economic factors. Examples of these categories are Children's Health Insurance Program (CHIP) and Temporary Assistance for Needy Families (TANF), as well as programs with a narrower focus, like children in foster care, pregnant women, and members with HIV.

Express Scripts has worked closely with Medicaid health plans to separate their members into these categories through eligibility data, enabling us to benchmark plan performance more accurately. For this report, Medicaid enrollment categories have been combined into broader groups of members:

AGED, BLIND AND DISABLED-LONG TERM CARE (ABD-LTC)

A federal program that funds insurance coverage for individuals of all ages that are aged, blind, or disabled and/or living in long-term care (LTC) facilities. For this report, we have combined members who do and do not qualify for Supplemental Security Income (SSI)

CHILDREN'S HEALTH INSURANCE PROGRAM (CHIP)

This represents federal and state programs providing healthcare coverage to children age 0-18 living in households that meet specific income requirements. Programs may be directly under Title 21 of the Social Security Act of 1965, while others are state-run programs that allow more flexibility in benefit design and income requirements.

DUAL ELIGIBLE

A program for individuals with insurance coverage through both Medicare and Medicaid. Medicare is the primary insurance coverage with secondary coverage through Medicaid.

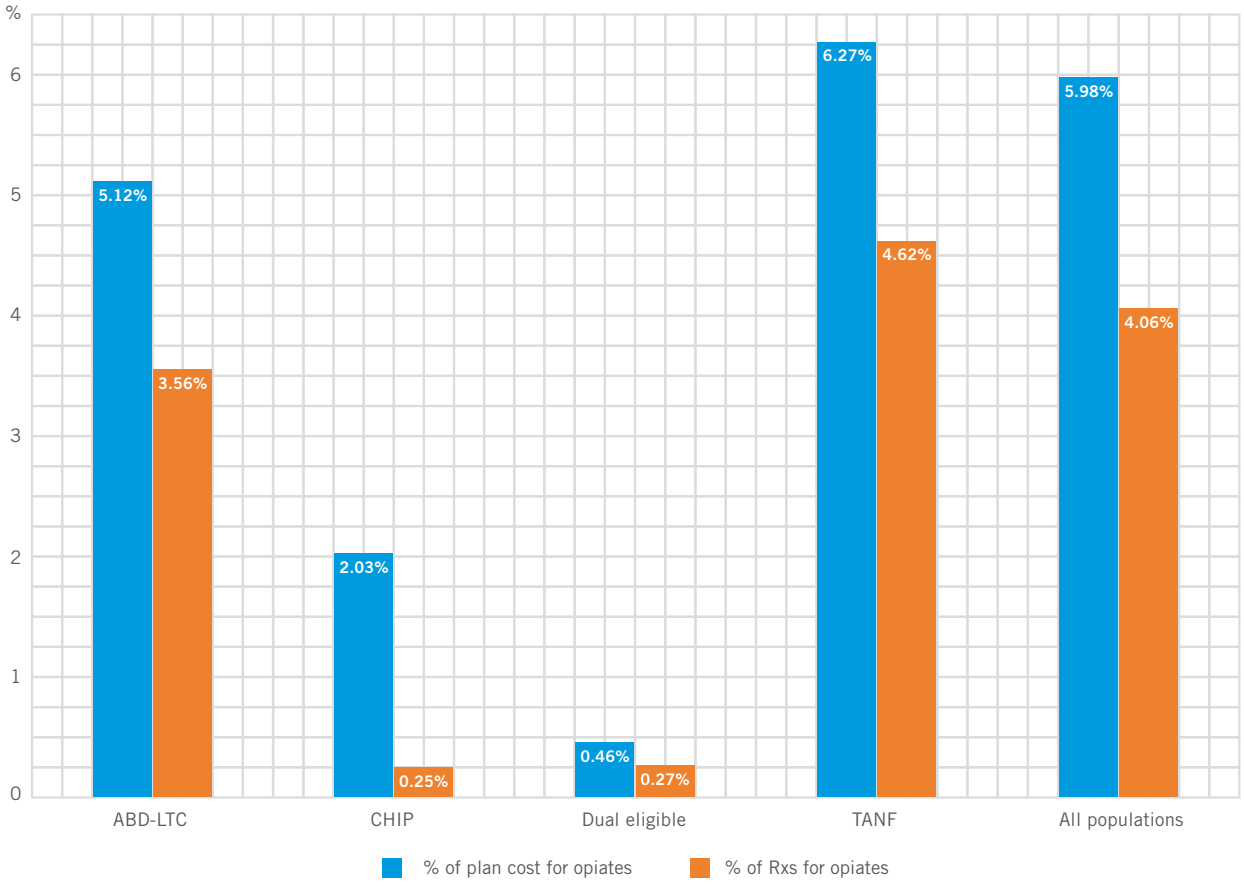
TEMPORARY ASSISTANCE FOR NEEDY FAMILIES (TANF)

A federal program that funds insurance coverage for needy families under Title 19 of the Social Security Act of 1965. This program covers both adults and children living in households with a household income below a certain threshold of the Federal Poverty Limit (FPL).

Express Scripts has worked closely with Medicaid health plans to separate their members into these categories through eligibility data, enabling us to benchmark plan performance more accurately.

Opioid medications accounted for 6% of Medicaid prescriptions, and 4.1% of plan costs. Table 6 shows opioid utilization rates for each of the enrollment categories. As expected, utilization rates for CHIP and dual eligible programs were low, while TANF and ABD-LTC showed higher utilization rates. Overall, TANF members had the highest rates of opioid prescriptions, at 6.27%, and these drugs represented almost 5% of that group's plan costs.

TABLE 6: PERCENT OF OPIOID COST AND UTILIZATION



Utilization rates for CHIP and dual eligible programs were low, while TANF and ABD-LTC showed higher utilization rates.

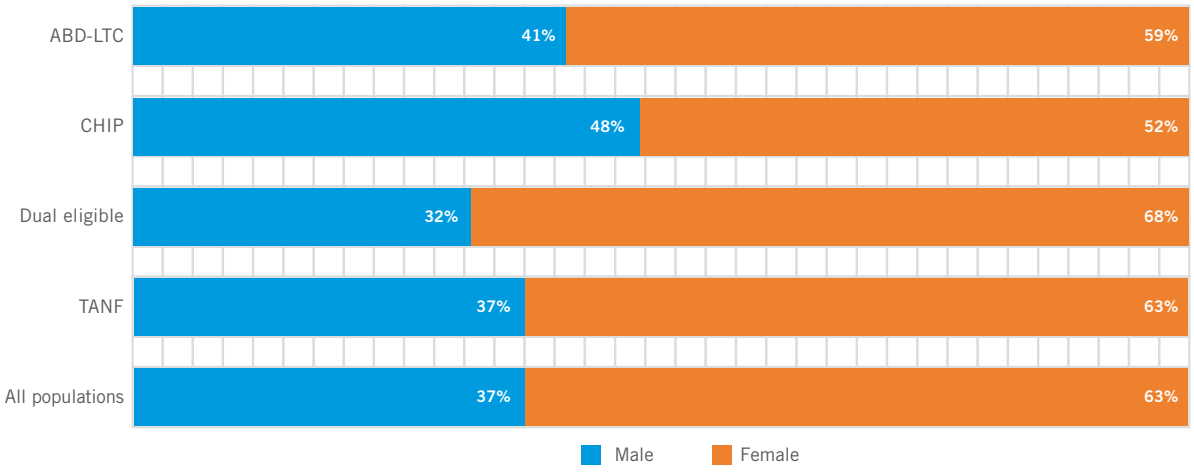
The prevalence of opioid use in the Medicaid population, which indicates the percent of all enrolled members who are receiving these medications, was 23%. The highest prevalence was in the TANF population. The lowest was in the dual eligible population (note that the utilization may be under-stated because dual eligible Medicaid benefits often exclude coverage of Medicare-eligible drugs, such as opioids). The average day supply of opioid prescriptions was just 16 days, however, 28.5% of patients received more than 30 days of total therapy in 2015.

TABLE 7: COMPARATIVE UTILIZATION

MEDICAID CATEGORY	% OF POPULATION FILLING RXS	% OF RXS FOR OPIOIDS	% OF MEMBERS FILLING OPIOID RX	AVERAGE OPIOID RX DAYS SUPPLY	AVERAGE MEMBER AGE	AVERAGE MEMBER AGE RECEIVING OPIOID
ABD-LTC	8.8%	5.1%	5.6%	20	39	47
CHIP	2.0%	3.7%	2.2%	5	11	14
Dual eligible	0.95%	0.3%	0.06%	19	63	74
TANF	86.5%	6.3%	91.6%	16	38	41
Total	**98.25%**	**6.01%**	**23.1%**	**16**	**38**	**41**

When considering gender, prevalence of opioid use in the Medicaid population is 68% higher in women. This is much more than the 13% higher rate we have observed across commercial populations. As mentioned earlier, when men use opioids they fill slightly more prescriptions per year than do women. This gender gap was widest among the dual eligible members but still very pronounced in all populations

TABLE 8: GENDER DISTRIBUTION



Most costly opioids

Earlier we noted that the opioids most often prescribed were the generics: hydrocodone-acetaminophen, oxycodone-acetaminophen and tramadol HCL. This was seen pretty consistently across the Medicaid categories, however when we examine top opioids by cost, the ABD-LTC group stood out with brand-name drug Suboxone® appearing as the top opioid.

TABLE 9: HIGHEST COST OPIOIDS

MEDICAID CATEGORY	1	2	3
ABD-LTC	Suboxone®	hydrocodone-acetaminophen	oxycontin*
CHIP	hydrocodone-acetaminophen	oxycodone-acetaminophen	oxycodone HCL
Dual eligible	oxycontin*	fentanyl	oxycodone-acetaminophen
TANF	percocet*	roxicodone*	zohydro ER**

*Oxycontin, percocet, roxicodone are oxycodone formulations
**Zohydro ER is a hydrocodone formulation

Adjuvant therapy

Patients using opioids often take medications from other therapy classes that provide additional relief for specific types of pain. These may reduce or even prevent pain, lowering the need for opioids. Anticonvulsants have long been used for treatment of neurogenic pain and to prevent migraine headaches. Antidepressants may be used to lessen pain, while also treating mild depression that may accompany chronic pain. Overall, 48% of the Medicaid patients were using one or more of these adjuvant therapies. The lowest use of adjuvant therapy was seen in the CHIP population, and the highest in the ABD-LTC group.

TABLE 10: NON-OPIOID PAIN MANAGEMENT THERAPIES

MEDICAID CATEGORY	# MEMBERS FILLING OPIOIDS	# MEMBERS ON OPIOIDS AND ADJUVANT THERAPY	% MEMBERS ON OPIOIDS AND ADJUVANT THERAPY
ABD-LTC	25,324	14,622	58%
CHIP	10,095	1,210	12%
Dual eligible	276	118	43%
TANF	407,768	197,244	48%
All populations	**461,588**	**221,824**	**48%**

Table 11 shows that the classes with the highest rates of use as adjuvant pain therapy were the anticonvulsants and skeletal muscle relaxants. The remaining classes have more narrow indications as aids in pain prevention.

TABLE 11: ADJUVANT THERAPY CLASS RANKING

TYPE OF ADJUVANT THERAPY	# OF MEMBERS ON OPIOIDS AND ADJUVANT THERAPY MEDICATION	% OF MEMBERS ON OPIOIDS AND ADJUVANT THERAPY MEDICATION
Anticonvulsants	103,965	23%
Skeletal muscle relaxants	107,663	23%
Serotonin-norepinephrine reuptake-inhib	30,212	7%
Serotonin-2 antagonist/reuptake inhib	29,897	6%
Norepinephrine and dopamine reuptake inhib	22,775	5%
Tricyclic antidepressants & non-selective ruuptake inhib	24,068	5%
Postherpetic neuralgia agents	99	0%
Tricyclic antidepressant/benzodiazepine combo	5	0%
Tricyclic antidepressant/phenothiazine combo	23	0%

Safety

People who take opioids along with other medications that can be used for pain, specifically benzodiazepines and skeletal muscle relaxants, are at a high risk for adverse reactions. These most often involve the additive drowsiness these medications can cause. In this study, 34% of Medicaid members had prescriptions filled for opioids along with benzodiazepines and/or muscle relaxants. This was highest in the ABD-LTC category. Due to the fact that confusion and falls can occur when these are mixed, this can be a particularly dangerous combination in this frail group.

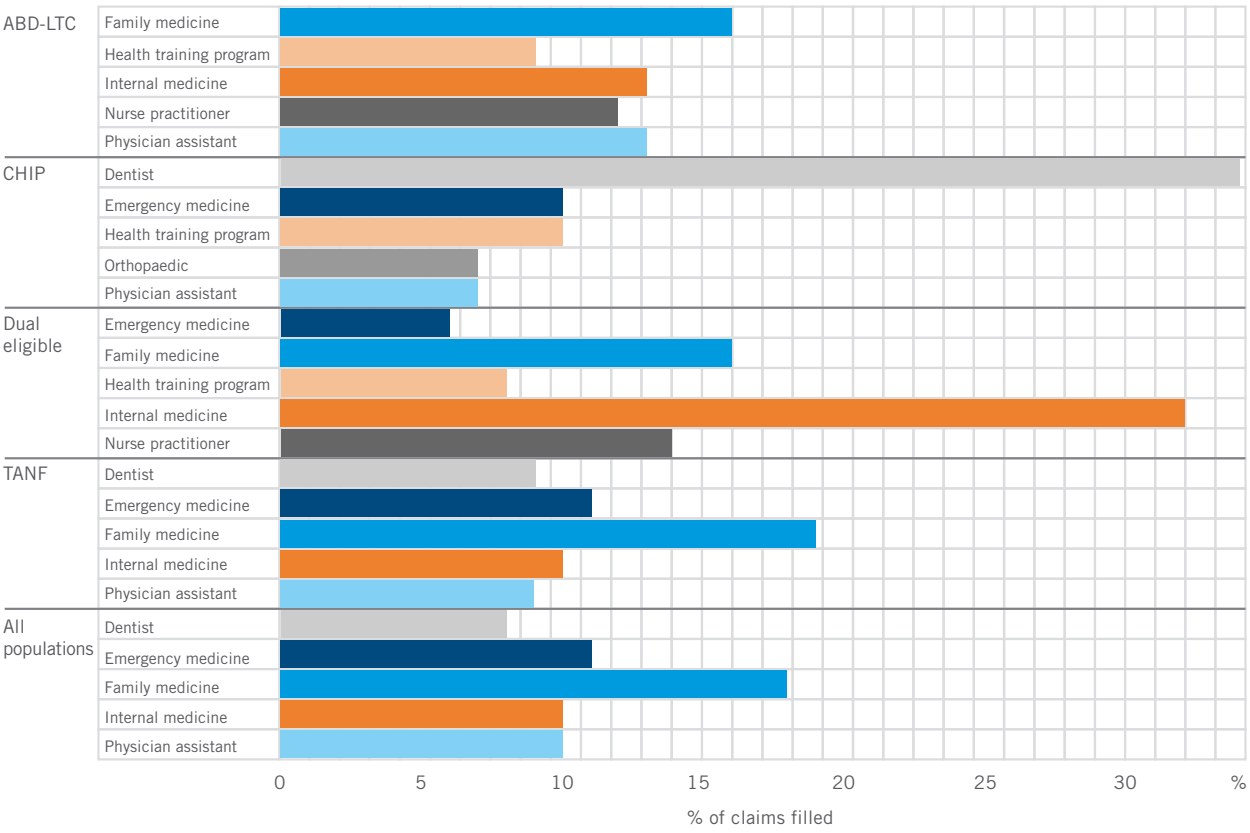
TABLE 12: BENZODIAZEPINES / MUSCLE RELAXANTS UTILIZATION

MEDICAID CATEGORY	# OF MEMBERS FILLING OPIOIDS	# OF MEMBERS FILLING OPIOIDS AND BENZODIAZEPINES OR MUSCLE RELAXANTS	% OF MEMBERS FILLING OPIOIDS AND BENZODIAZEPINES OR MUSCLE RELAXANTS
ABD-LTC	25,324	10,433	41%
CHIP	10,095	746	7%
Dual eligible	276	44	16%
TANF	407,768	139,273	34%
All populations	**461,588**	**156,293**	**34%**

Prescriber types

Prescriber taxonomy can be used to determine which types of practitioners are prescribing opioids. The top 5 prescriber types were responsible for the majority of opioid prescriptions across all Medicaid categories. These were family medicine, internal medicine, emergency medicine, OB/GYN and orthopedic surgeon. While emergency medicine physicians were represented in all categories, family medicine physicians were the predominant prescribers. Dental providers were the most common opioid prescribers for CHIP members. For dual eligible enrollees, internal medicine physicians were the top prescribers.

TABLE 13: TOP PRESCRIBER TYPES



The top 5 prescriber types – family medicine, internal medicine, emergency medicine, OB/GYN, orthopedic surgeon – were responsible for the majority of opioid prescriptions across all Medicaid categories.

Warning signs of opioid overuse

No discussion about opioid utilization would be complete without a review of misuse and overuse of opioid medications.

Multiple providers

Patients that abuse opioids tend to use multiple prescribers and pharmacies, which can greatly increase medical costs. In fact, members exhibiting drug-seeking behavior can incur $41 in medical costs for every $1 spent on opioid medications.[2]

- The average Medicaid member on opioids received their prescriptions from 1.8 prescribers, with 8.9% of members filling opioids using four or more prescribers. The highest number of prescribers used by a single enrollee in this study was 34 prescribers.
- The average Medicaid member used 1.4 pharmacies to fill their prescriptions, and 3.4% of members used more than three pharmacies. The highest number of pharmacies used by a single enrollee was 24.
- More than one-fourth of all Medicaid members who filled opioids received the same medication from more than one prescriber. This was most common in the ABD-LTC population and least common among CHIP members.

TABLE 14: MEMBERS USING MULTIPLE PRESCRIBERS

MEDICAID CATEGORY	# OF MEMBERS FILLING OPIOIDS	# OF MEMBERS USING MORE THAN ONE PRESCRIBER TO FILL OPIOIDS	% OF MEMBERS USING MORE THAN ONE PRESCRIBER TO FILL OPIOIDS
ABD-LTC	25,324	8,369	33.0%
CHIP	10,095	548	5.4%
Dual eligible	276	46	16.7%
TANF	407,768	104,972	25.7%
All populations	**461,588**	**118,119**	**25.6%**

High utilization

Table 15 outlines the number of enrollees who filled six or more opioid medications during the fourth quarter of 2015, using three or more doctors and two or more pharmacies. Data from only the fourth quarter was used for illustration because overutilization within a short period may be an indicator of fraudulent activity.

TABLE 15: MEMBERS WITH SIX OR MORE OPIOID PRESCRIPTIONS

MEDICAID CATEGORY	# OF MEMBERS FILLING 6 OR MORE OPIOIDS	# OF MEMBERS FILLING 6 OR MORE OPIOIDS AND USING 3 OR MORE PRESCRIBERS	# OF MEMBERS FILLING 6 OR MORE OPIOIDS AND USING 3 OR MORE PRESCRIBERS AND 2 OR MORE PHARMACIES
ABD-LTC	1,126	297 (26%)	186 (17%)
CHIP	4	3 (75%)	2 (50%)
Dual Eligible	4	1 (25%)	-
TANF	15,851	4,466 (28%)	3,254 (21%)
All populations	**17,741**	**4,963**	**3,580**

In 2014, the Drug Enforcement Administration moved hydrocodone-containing products from Schedule III to Schedule II, the most restricted class of narcotics that can be prescribed.

Abuse-deterrent formulations

Opioid products can be abused in many ways. They can be swallowed whole, crushed and swallowed, crushed and snorted, smoked, dissolved and injected. New formulations of opioids have been released to combat these types of abuse methods. Mechanisms include physical barriers or additives that prevent chewing, crushing or transforming the dosage form. Some formulations are designed to turn into a gel if dissolved to prevent injection. There are also products that add an opioid antagonist, which inhibits or prevents the euphoric feelings associated with opioid abuse.

These newer products are primarily single-source brands that are extremely expensive when compared to generic forms of older opioids. Due to this high cost, Medicaid plans often impose restrictions on access to these abuse deterrent formulations, such as prior-authorization or formulary exclusion. The table below shows the use of these products is extremely small among our Medicaid plans. Despite these efforts, patients can still abuse these newer formulations by simply taking more of them than prescribed.[3]

TABLE 16: UTILIZATION OF ABUSE DETERRENT FORMULATIONS

MEDICAID CATEGORY	# OF MEMBERS FILLING OPIOIDS	# OF MEMBERS FILLING ABUSE DETERRENT	% OF MEMBERS FILLING ABUSE DETERRENT
ABD-LTC	25,324	9	0.04%
CHIP	10,095	-	0.00%
Dual Eligible	276	-	0.00%
TANF	407,768	123	0.03%
All populations	**461,588**	**133**	**0.03%**

Out-of-state use

Another indicator of potential opioid misuse is the filling of prescriptions out-of-state. Plans have observed enrollees travelling one or two states away to find prescribers willing to authorize excessive amounts of opioids. These so called “pill mills” have led to criminal prosecution for providers in states like Florida and Kentucky, but all states have experienced this.

For all Medicaid members, 1.3% of prescriptions, representing 4.3% of costs for all medications, were filled out of state. When looking only at opioids, 1.3% of prescriptions, representing 1.4% of costs, were filled out of state. While the numbers aren’t high, health plans should pay close attention to members seeking opioids from prescribers and pharmacies in other states.

How to address the opioid problem

Express Scripts encourages Medicaid health plans to implement programs that detect members with high or aberrant utilization. Prior authorization, step therapy and quantity limits are essential tools that help manage utilization before problems develop, but health plans cannot rely solely on these.

Members receiving opioids for acute pain should receive the shortest supply necessary and should be counseled on the risks of continued opioid use. Prescriber education may help to standardize pain management approaches, helping them to more safely treat acute pain. Sophisticated data analytics can identify abuse early, prevent fraud and prevent addiction to opioids. Predictive modeling can help plans target members who are more likely to be at risk for addiction and abuse, enabling interventions that help the member stay healthy, such as medication counseling, case management, and provider lock-ins when necessary.

Morphine-equivalent dose limits

Over-utilization of opioid medications can be managed by tracking the Morphine Equivalent Dose (MED). Through this program, the pain relief value of an opioid medication is converted to the comparable pain relief provided by a reference drug, morphine. For example, 30mg of oxycodone provides pain relief equivalent to 45mg of morphine, and 4mg of hydromorphone provides the same pain relief as 16 mg of morphine.

Programs applying limits to the morphine-equivalent dose total up the daily dose of morphine equivalents represented by all the opioids a patient is currently taking. Members exceeding this limit may need a prior authorization in order to receive additional opioid medication. This logic was originally developed for Medicare Part D plans, but commercial and Medicaid plans should consider using the same mechanism to identify and manage opioid overuse.

A number of states across the country are evaluating or recommending that the MED threshold be set at dosages ranging from 50mg to 300mg of morphine. At this time, no single MED threshold has been identified as “optimal,” but research continues concerning the best ways to protect enrollees while minimizing disruption to patients who truly need higher dosages. The Center for Disease Control and Prevention recommends that prescribers use caution when prescribing dosages above 50mg MED and avoid increasing dosages above 90mg MED.

Prior authorization, step therapy and quantity limits are essential tools that help manage utilization before problems develop, but health plans cannot rely solely on these.

Ask us about managing opioids

Opioid utilization is a complex issue that the healthcare system has been dealing with for many years. Medicaid health plans face unique challenges, often dealing with the sickest and most frail members, as well as members with a higher propensity for abuse. There is no single solution to address the national problem, but partnerships between the government, health plans, prescribers and pharmacies, as well as a host of other ancillary services, continue to work toward finding effective solutions.

To learn more about how Express Scripts can help Medicaid plans to better manage opioid cost and utilization, contact your sales or account team today.

governmentsolutions@express-scripts.com

lab.express-scripts.com/regulatedmarkets

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