The STOP Measure

2019 UPDATE

Safe and Transparent Opioid Prescribing to Promote Patient Safety and Reduced Risk of Opioid Misuse

MARCH 2022

STOP

Methodology & Establishment of a Baseline

Opioid misuse and addiction is an urgent public health crisis in America. As leading researchers have noted, the number of prescriptions for opioids (e.g., hydrocodone and oxycodone products such as Vicodin and Percocet, respectively) have escalated from approximately 76 million in 1991 to nearly 191 million in 2017. The United States is the biggest consumer, accounting for almost 100 percent of the world total for hydrocodone and 81 percent of oxycodone use, as a result, approximately 130 Americans die every day from an opioid overdose. The impact is broad, affecting individuals and families, social services, the health care system, communities, and the economy.

The opioid crisis must be addressed comprehensively by all stakeholders – from law enforcement and the justice system, to social services agencies, community housing programs, and Medicaid programs, to physicians and other health care providers, pharmacists, health insurance providers, and pharmaceutical companies. Health insurance providers have been part of the solution by embracing a comprehensive approach encompassing prevention, early intervention, and substance use disorder treatment and recovery. America's Health Insurance Plans (AHIP) and its members launched the Safe, Transparent, Opioid Prescribing (STOP) Measure – a robust, evidence-based methodology that health insurance providers can use to assess how provider practices compare to the federal recommendations for prescribing opioids.

The STOP Measure – Methodology

The STOP Measure is designed to assess adherence with the Centers for Disease Control and Prevention (CDC) *Guideline for Prescribing Opioids for Chronic Pain* for primary care physicians. Issued in 2016, the *Guideline* consists of twelve recommendations to help medical decision-makers determine when to initiate or continue opioids for pain.

The STOP Measure focuses on six of the twelve recommendations included in the CDC *Guideline* that can be measured using health insurance claims data.

To develop the methodology, AHIP was advised by an Expert Panel of clinical leaders from health insurance plans with experience in pain management and opioid prescribing. Together, AHIP and the Expert Panel developed the following specific measures to align with the CDC recommendations:

- Extended-release opioid prescriptions as a proportion of all initial opioid prescriptions for chronic pain.
- Extended-release opioid prescriptions as a proportion of all initial opioid prescriptions for acute pain.

- Morphine milligram equivalent (MME) of initial opioid prescription for chronic pain.
- Days' supply of initial opioid prescription for acute pain.
- Proportion of patients with a follow-up visit (based on E&M CPT codes) within 30 days after the initial opioid prescription for chronic pain.
- Proportion of patients who received a urine drug test within 30 days before initial opioid prescription (initial screening) and within 365 days after initial opioid prescription (annual screening) for chronic pain.
- Proportion of patients who had an overlapping benzodiazepine prescription filled during opioid treatment for chronic pain.

A more detailed description of the measures is in Appendix A.

Data from the Truven MarketScan® Commercial Claims and Encounters Database was used to assess the feasibility of operationalizing the CDC recommendations using claims data and to conduct an initial retrospective assessment of adherence to the six CDC recommendations.

Enrollees undergoing active cancer treatment, receiving palliative or end-of-life care, were excluded per the CDC *Guideline*. Enrollees diagnosed with human immunodeficiency virus (HIV), end-stage renal disease (ESRD), or sickle cell anemia were also excluded based on input from the Expert Panel, who noted that patients with these diseases are often treated by specialists (who were explicitly outside of the scope of the CDC *Guideline*).

Analysis included data from 2009 – 2016, before the impact of the CDC *Guideline* disseminated in 2016 could be measured, and thus illustrates an industry-wide baseline prior to adoption.

The STOP Measure – 2019 Update

The STOP Measure has been updated to include three additional years of data (2014 - 2016) to further indicate trends, for further comparison against the CDC *Guideline* recommendations. The following are key takeaways:

- In general, alignment with the CDC recommendations either trended towards safer opioid prescribing over the study period or remained consistent over the 7 years of data analyzed. Though there were year-to-year fluctuations within each metric, overall trends indicate a shift towards safer prescribing practices.
- The rate of immediate-release versus extended-release formulations of initial opioid prescriptions has remained consistent across the study period with a high degree of compliance with the recommendation. (CDC *Guideline* Recommendation #4)
- For acute pain, the proportion of extended-release prescriptions and the days' supply for initial opioid prescriptions has remained consistent across the study period with room for improvement to reduce the duration of opioid prescriptions for acute pain.

(Recommendation #6)

- The proportion of chronic pain patients who receive initial opioid prescriptions less than 50 morphine milligram equivalent (MME) increased from 75.2% of prescriptions to 84.0%, indicating progress towards lower dosage opioids for initial prescriptions. Correspondingly, initial prescriptions of 50 to 90 MME and prescriptions of more than 90 MME trended downward. (Recommendation #5)
- Follow-up visits have increased over the study period, increasing from 42.6% of patients who had a follow-up visit within 30 days of initial opioid prescription in 2009 to 48.8% in 2016. (Recommendation #7)
- From 2009 to 2016, very few people received a urine drug test with their initial prescription of opioids (consistent across the study period at around 1%), though the rates of those who receive an annual drug screen increased, from 9.5% of patients receiving an annual urine drug test to 16.0%. (Recommendation #10)
- The percentage of people with overlapping prescriptions for opioids and benzodiazepines fluctuated on a year-to-year basis, but remained largely consistent across the study period indicating room for improvement to reduce overlapping prescriptions. (Recommendation #11)

In 2018, several AHIP members used the STOP Measure Methodology to analyze their own claims data to evaluate their recent opioid prevention and management efforts. Data was collected from health insurance providers representing a cross-section of lines of business, geographies, and patient populations. The AHIP members providing data included national and regional health plans, and included Medicare, Medicaid, and commercial lines of business.

Generally, results were aligned with the overall analysis, though some plans showed further improvements from the baseline, particularly with respect to the proportion of initial prescriptions that were for immediate-release rather than extended-release (Recommendation #4), shorter initial prescription duration (Recommendation #6.2), and annual urine drug screening (Recommendation #10). These findings indicate that, even prior to the release of the CDC *Guideline*, health insurance providers were working to encourage safer opioid prescribing to ensure that their members received effective and appropriate care. These efforts have continued as the opioid crisis has persisted and evolved.

More information and examples of insurance provider activities can be found in the AHIP STOP Playbook.

The STOP Measure – Results

Below are the initial results of the retrospective assessment.

Based on this analysis, current practice is closely aligned with the guideline of prescribing immediate release opioids rather than extended-release opioids. For the other CDC recommendations, there is room for improvement to better align practices with the Guideline. This includes: opioid prescription dosages, opioid prescription duration for acute pain, follow-up visits within 30 days of initial opioid prescription, initial urine drug testing and annual urine drug testing while on chronic opioid therapy, and overlapping prescriptions for benzodiazepines with opioids.

Extended-release opioid prescriptions as a proportion of all initial opioid therapy prescriptions (Recommendation #4). CDC Recommendation #4 states that when starting opioid therapy for chronic pain, clinicians should prescribe immediate-release opioids instead of extended-release/long-acting (ER/LA) opioids.

98%

Results show that the great majority of initial opioid prescriptions for chronic pain were for immediate-release opioids; about 98% in 2016. The results indicate strong compliance with this recommendation.

	2009	2010	2011	2012	2013	2014	2015	2016
IMMEDIATE-RELEASE INITIAL OPIOID PRESCRIPTIONS (%)	96.7	97.7	97.8	97.7	97.4	97.4	97.6	97.9
EXTENDED-RELEASE INITIAL OPIOID PRESCRIPTIONS (%)	3.3	2.3	2.2	2.3	2.6	2.6	2.4	2.1

Percentage of all initial opioid prescriptions for acute pain that are extended-release (Recommendation #6).

.3%

Results show that 0.3 percent has been starting their acute pain opioid management with an extended-release opioid in 2009-2016, indicating strong alignment of current practice with this recommendation.

	2009	2010	2011	2012	2013	2014	2015	2016
IMMEDIATE-RELEASE (%)	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
EXTENDED-RELEASE (%)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

Morphine milligram equivalent (MME) of initial opioid prescription for chronic pain (Recommendation #5). CDC Recommendation #5 states that when opioids are started, clinicians should prescribe the lowest effective dosage. Clinicians should use caution when prescribing opioids at any dosage, should carefully reassess evidence of individual benefits and risks when considering increasing dosage to >= 50 MME/day, and should avoid increasing dosage to >= 90 MME/day or carefully justify a decision to titrate dosage to >=90 MME/day.

16%

Results show that about 16 percent of initial prescriptions for opioids exceed 50 MME, which indicates progress but that there is room for improvement to reduce dosages.

	2009	2010	2011	2012	2013	2014	2015	2016
<50 MME (%)	75.1	77.2	82.0	83.0	76.7	81.9	82.0	84.0
50—<90 MME (%)	13.9	13.5	13.0	12.2	11.1	11.1	10.5	9.6
90+ MME (%)	11.0	9.3	5.0	4.8	12.2	7.0	7.6	6.4

Days' supply of initial opioid prescription for acute pain (Recommendation #6). CDC Recommendation #6 states that long-term opioid use often begins with treatment of acute pain. When opioids are used for acute pain, clinicians should prescribe the lowest effective dose of immediate-release opioids and should prescribe no greater quantity than needed for the expected duration of pain severe enough to require opioids. Three days or less will often be sufficient; more than seven days will rarely be needed.

16%

Results show 16 percent of opioid prescriptions for acute pain are for more than 7 days, indicating there is room for improvement to reduce the duration of opioid prescriptions for acute pain.

	2009	2010	2011	2012	2013	2014	2015	2016
<4 DAYS (%)	44.5	44.3	44.7	43.5	42.8	41.9	41.8	42.4
4—7 DAYS (%)	41.1	41.0	40.4	40.7	41.3	41.6	41.7	41.7
>7 DAYS (%)	14.5	14.7	14.9	15.9	16.0	16.5	16.5	15.9

Clinician follow-up visits with patients to evaluate benefits and harms of continued opioid therapy (Recommendation #7). CDC Recommendation #7 states that clinicians should evaluate benefits and harms with patients within 1 to 4 weeks of starting opioid therapy for chronic pain or of dose escalation. Clinicians should evaluate benefits and harms of continued therapy with patients every 3 months or more frequently. If benefits do not outweigh harms of continued opioid therapy, clinicians should optimize other therapies and work with patients to taper opioids to lower dosages or to taper to discontinue opioids.

The calculation to measure this recommendation identifies the proportion of patients with a possible follow-up visit (based on the presence of medical claims for evaluation and management office visits) within 30 days after the initial opioid prescription for chronic pain.

49%

The percent of patients receiving a follow up visit increased to 49 percent, but there is room for improvement regarding this recommendation.

	2009	2010	2011	2012	2013	2014	2015	2016
EVALUATION AND MANAGEMENT WITHIN 30 DAYS AFTER FIRST OPIOID PRESCRIPTION **DID NOT OCCUR** (%)	**57.4**	**57.7**	**56.0**	**54.3**	**51.9**	**54.7**	**52.4**	**51.2**
EVALUATION AND MANAGEMENT WITHIN 30 DAYS AFTER FIRST OPIOID PRESCRIPTION **OCCURRED** (%)	**42.6**	**42.3**	**44.0**	**45.7**	**48.1**	**45.3**	**47.6**	**48.8**

Proportion of patients who underwent urine drug testing within 30 days before initial opioid prescription (initial screening) and within 365 days after initial opioid prescription (annual screening) (Recommendation #10). CDC Recommendation #10 states that when prescribing opioids for chronic pain, clinicians should use urine drug testing before starting opioid therapy and consider urine drug testing at least annually to assess for prescribed medications as well as other controlled prescription drugs and illicit drugs.

16% ANNUALLY

Only about 1 percent of patients received a urine drug test before being prescribed an opioid. Those receiving annual urine drug rests increased to 16 percent in 2016. There is room for improvement regarding this recommendation.

	2009	2010	2011	2012	2013	2014	2015	2016
INITIAL TEST (%)	**0.9**	**1.0**	**1.2**	**1.5**	**1.9**	**2.0**	**2.3**	**0.9**
ANNUAL TEST (%)	**9.5**	**10.7**	**13.2**	**14.9**	**17.9**	**18.4**	**16.3**	**16.0**

Proportion of patients with overlapping prescriptions for opioids and benzodiazepines. (Recommendation #11). CDC Recommendation #11 states that clinicians should avoid prescribing opioid pain medications and benzodiazepines concurrently whenever possible.

40%

Results show that 40 percent of chronic pain patients were prescribed benzodiazepines during their opioid treatment in 2016, indicating there is room for improvement with regard to this recommendation.

	2009	2010	2011	2012	2013	2014	2015	2016
BENZO OVERLAP (%)	**46.3**	**46.4**	**45.6**	**42.7**	**41.2**	**45.3**	**44.6**	**39.7**

The STOP Measure – Outlook

A growing number of health insurance providers are beginning to use the STOP Measure methodology to understand how practices perform compared with select CDC recommendations. The value of this methodology is two-fold: first, to demonstrate the feasibility of operationalizing the CDC Guideline using administrative claims data; and second, to provide an initial baseline to measure progress over time in improved adherence with the CDC Guideline. Health insurance providers will share information with their contracted providers and collaborate with them to improve adherence with evidence-based guidelines and to improve patient safety.

This report was prepared for publication by AHIP's Clinical Affairs. For further information, please contact Kate Berry, Senior Vice President, at ***kberry@ahip.org****.*

Appendix A: Specification for Measuring Adherence to CDC Opioid Guideline

MEASURE	DENOMINATOR	INCLUSION DENOMINATOR	EXCLUSION DENOMINATOR	NUMERATOR
CDC Recommendation 4 When starting opioid therapy for chronic pain, clinicians should prescribe immediate-release opioids instead of extended- release/long-acting (ER/LA) opioids.	A. Commercial enrollees age 18 and over with continuous coverage who have at least one opioid prescription during the measurement year B. Enrollees undergoing chronic pain treatment	C. Enrollees undergoing active cancer treatment, having a recent diagnosis of ESRD, HIV, or sickle cell anemia. D. Enrollees receiving palliative or end-of-life care	Count of enrollees having an index opioid prescription for the denominator population	Count of enrollees having an index opioid prescription for an extended-release/long-acting opioid formulation
CDC Recommendation 5 When opioids are started, clinicians should prescribe the lowest effective dosage. Clinicians should use caution when prescribing opioids at any dosage, should carefully reassess evidence of individual benefits and risks when increasing dosage to ≥50 morphine milligram equivalents (MME)/ day, and should avoid increasing dosage to ≥90 MME/ day or carefully justify a decision to titrate dosage to ≥90 MME/ day.	A. Commercial enrollees age 18 and over with continuous coverage who have at least one opioid prescription during the measurement year B. Enrollees undergoing chronic pain treatment	C. Enrollees undergoing active cancer treatment, having a recent diagnosis of ESRD, HIV, or sickle cell anemia. D. Enrollees receiving palliative or end-of-life care	Count of enrollees having an index opioid prescription for the denominator population	Count of enrollees whose index opioid prescription was one of the following MME equivalent dosage levels: 1. <50 MME/day 2. 50 - 89 MME/day 3. ≥ 90 MME/day
CDC Recommendation 6 Long-term opioid use often begins with treatment of acute pain. When opioids are used for acute pain, clinicians should prescribe the lowest effective dose of immediate-release opioids and should prescribe no greater quantity than needed for the expected duration of pain severe enough to require opioids. Three days or less will often be sufficient; more than seven days will rarely be needed.	A. Commercial enrollees age 18 and over with continuous coverage who have at least one opioid prescription during the measurement year B. Enrollees undergoing chronic pain treatment	C. Enrollees undergoing active cancer treatment, having a recent diagnosis of ESRD, HIV, or sickle cell anemia. D. Enrollees receiving palliative or end-of-life care	Count of enrollees having an index opioid prescription for the denominator population	Count of enrollees whose index opioid prescription was for one of the following days supply levels: 1. ≤3 days 2. 4-7 days 3. >7 days

Appendix A: Specification for Measuring Adherence to CDC Opioid Guideline

MEASURE	DENOMINATOR	INCLUSION DENOMINATOR	EXCLUSION DENOMINATOR	NUMERATOR
CDC Recommendation 7 (any physician) Clinicians should evaluate benefits and harms with patients within 1 to 4 weeks of starting opioid therapy for chronic pain or of dose escalation. Clinicians should evaluate benefits and harms of continued therapy with patients every 3 months or more frequently.	A. Commercial enrollees age 18 and over with continuous coverage who have at least one opioid prescription during the measurement year B. Enrollees undergoing chronic pain treatment	C. Enrollees undergoing active cancer treatment, having a recent diagnosis of ESRD, HIV, or sickle cell anemia. D. Enrollees receiving palliative or end-of-life care	Count of enrollees having an index opioid prescription for the denominator population	Count of enrollees who had an outpatient visit (with the physician who prescribed the first opioid prescription OR any other physician) that included evaluation and management services within 30 days of the initial opioid prescription.
CDC Recommendation 7 (same physician) Clinicians should evaluate benefits and harms with patients within 1 to 4 weeks of starting opioid therapy for chronic pain or of dose escalation. Clinicians should evaluate benefits and harms of continued therapy with patients every 3 months or more frequently.	A. Commercial enrollees age 18 and over with continuous coverage who have at least one opioid prescription during the measurement year B. Enrollees undergoing chronic pain treatment	C. Enrollees undergoing active cancer treatment, having a recent diagnosis of ESRD, HIV, or sickle cell anemia. D. Enrollees receiving palliative or end-of-life care	Count of enrollees having an index opioid prescription for the denominator population	Count of enrollees who had an outpatient visit (with the same physician who prescribed the first opioid prescription) that included evaluation and management services within 30 days of the initial opioid prescription.
CDC Recommendation 10 (any physician) When prescribing opioids for chronic pain, clinicians should use urine drug testing before starting opioid therapy and consider urine drug testing at least annually to assess for prescribed medications as well as other controlled prescription drugs and illicit drugs.	A. Commercial enrollees age 18 and over with continuous coverage who have at least one opioid prescription during the measurement year B. Enrollees undergoing chronic pain treatment	C. Enrollees undergoing active cancer treatment, having a recent diagnosis of ESRD, HIV, or sickle cell anemia. D. Enrollees receiving palliative or end-of-life care	Count of enrollees having an index opioid prescription for the denominator population	1. Initial screening: count of enrollees who had a urine drug test (ordered by the physician who prescribed the first opioid prescription OR ordered by any other physician) within 30 days before the initial opioid prescription. 2. Annual screening: count of enrollees who had a urine drug test (ordered by the physician who prescribed the first opioid prescription OR ordered by any other physician) within 365 days after the initial opioid prescription.

Appendix A: Specification for Measuring Adherence to CDC Opioid Guideline

MEASURE	DENOMINATOR	INCLUSION DENOMINATOR	EXCLUSION DENOMINATOR	NUMERATOR
CDC Recommendation 10 (same physician) When prescribing opioids for chronic pain, clinicians should use urine drug testing before starting opioid therapy and consider urine drug testing at least annually to assess for prescribed medications as well as other controlled prescription drugs and illicit drugs.	A. Commercial enrollees age 18 and over with continuous coverage who have at least one opioid prescription during the measurement year B. Enrollees undergoing chronic pain treatment	C. Enrollees undergoing active cancer treatment, having a recent diagnosis of ESRD, HIV, or sickle cell anemia. D. Enrollees receiving palliative or end-of-life care	Count of enrollees having an index opioid prescription for the denominator population	1. Initial screening: count of enrollees who had a urine drug test (ordered by the same physician who prescribed the first opioid prescription) within 30 days before the initial opioid prescription. 2. Annual screening: count of enrollees who had a urine drug test (ordered by the same physician who prescribed the first opioid prescription) within 365 days after the initial opioid prescription.
CDC Recommendation 11 (same physician) Clinicians should avoid prescribing opioid pain medication and benzodiazepines concurrently whenever possible.	A. Commercial enrollees age 18 and over with continuous coverage who have at least one opioid prescription during the measurement year B. Enrollees undergoing chronic pain treatment	C. Enrollees undergoing active cancer treatment, having a recent diagnosis of ESRD, HIV, or sickle cell anemia. D. Enrollees receiving palliative or end-of-life care	Count of index opioid prescriptions for the denominator population	Count of enrollees who filled benzodiazepine prescriptions with prescription service dates falling between the start date and the end date of their opioid treatment (the benzodiazepine prescription could have been prescribed by the same physician who prescribed the first opioid prescription OR any other physician).
CDC Recommendation 11 (same physician) Clinicians should avoid prescribing opioid pain medication and benzodiazepines concurrently whenever possible.	A. Commercial enrollees age 18 and over with continuous coverage who have at least one opioid prescription during the measurement year B. Enrollees undergoing chronic pain treatment	C. Enrollees undergoing active cancer treatment, having a recent diagnosis of ESRD, HIV, or sickle cell anemia. D. Enrollees receiving palliative or end-of-life care	Count of enrollees having an index opioid prescription for the denominator population	Count of enrollees who filled benzodiazepine prescriptions with prescription service dates falling between the start date and the end date of their opioid treatment (the benzodiazepine prescription having been prescribed by the same physician who prescribed the first opioid prescription).

Appendix B

Table B.1 List of Identifying Codes fort Medical Conditions

MEDICAL CONDITION	ICD-9-CM CODES
Cancer	140.0 — 239.9
HIV	042
ESRD	585.5, 585.6
Sickle Cell Anemia	282.60 — 282.69

Table B.2 List of Identifying Codes for Medical Procedures

MEDICAL PROCEDURE	HCPCS CODES
Pain Assessment	G8730, G8731, G8509, G8939
Drug Test Analysis	G0430, G0431, G0434

MEDICAL PROCEDURE	CPT CODES
Evaluation and Management	99211, 99212, 99213, 99214, 99215
Drug Test Urinalysis	80100, 80101, 80102, 80103, 80104, 80150, 80152, 80154, 80156, 80157, 80158, 80160, 80162, 80164, 80166, 80168, 80170, 80172, 80173, 80174, 80176, 80178, 80182, 80184, 80185, 80186, 80188, 80190, 80192, 80194, 80195, 80196, 80197, 80198, 80200, 80201, 80202, 80299, 82003, 82055, 82101, 82145, 82205, 82415, 82520, 82638, 82646, 82649, 82654, 82742, 83840, 83925, 83992, 84022

Definitions

Opioid use and chronic vs. acute pain definitions were based on the paper by Von Korff et al as follows:

Opioid treatment – opioid use episode

- Index opioid prescription (start of episode date) – no previous prescriptions in 180 days
- End of episode date = end of opioid treatment date + days' supply
- All prescription with less than 180 days' gap are considered part of the same opioid treatment

Chronic vs Acute pain treatment:

- Treatment duration <= 90 days

Chronic pain treatment:

- Treatment duration > 90 days
- Total day supply > 180 or number of prescriptions > 10

Data Base Details

- The Truven MarketScan® Database contains de-identified administrative data from large employers and health plans across the U.S. who provided private health care coverage for 35 million - 53 million individuals in 2008-2017; about a quarter of the U.S. commercially insured population.
- In addition, the Truven Red Book 2017 dataset was used to construct a list of pharmacological treatments.
- The analyses included patients aged 18 to 64, continuously enrolled for at least 3 years between 2008 and 2017, and with at least one prescription for an opioid.

Study Limitations

Limitations of this study include the absence of well-populated provider identifiers in the Truven MarketScan® data, which makes the measures for Recommendations 7 (evaluation of opioid therapy in follow-up visits) and 10 (urine drug testing) somewhat less precise since we are not able to ascertain with certainty that this testing or evaluation and management procedures were related specifically to opioid management of chronic pain. Another study limitation was the definition of the initiation of opioid therapy for chronic pain based on the subsequent opioid use prescription patterns. Some of these therapies could have been started as an episode of acute pain opioid management and later became chronic pain management, however, this type of information may be captured in electronic medical records but not in the administrative data.

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