

Data notes for Opioid dashboards

Data Sources

RCW 70.225 (2007) created Washington's Prescription Monitoring Program (PMP) to improve patient care and stop prescription drug misuse by collecting dispensing records for Schedule II, III, IV and V drugs, and by making the information available to medical providers and pharmacists as a patient care tool. Program rules, WAC 246-470, took effect on August 27, 2011, and the PMP started data collection from all dispensers on October 7, 2011.

Prescriptions excluded from PMP include those dispensed outside of WA state, those prescribed for less than or equal to 24 hours, those administered or given to a patient in the hospital, and those dispensed from a Department of Corrections pharmacy (unless an offender is released with a prescription), an Opioid Treatment Program, and some federally operated pharmacies (Indian Health Services and Veterans Affairs report voluntarily).

Drug information is obtained from the National Drug Code (NDC) by using an internal cumulative NDC drug file based on the Food and Drug Administration's NDC data file (<https://www.fda.gov/drugs/drug-approvals-and-databases/national-drug-code-directory>) and a cumulative Center for Disease Control's publicly available medication data file (<https://www.cdc.gov/drugoverdose/resources/data.html>).

Rates are computed using State and County Small Area Demographic Estimates (<https://ofm.wa.gov/washington-data-research/population-demographics/population-estimates>) from the Office of Financial Management, and the Census 2000 U.S. Standard Population (series P25–1130) file for age and sex adjustment.

Further information on collection and management of PMP data at DOH can be found on the PMP Website: <http://www.doh.wa.gov/pmp/data>

Metrics Background

The metrics presented here were developed based on recommendations from the Bree Collaborative: <http://www.breecollaborative.org/topic-areas/opioid/>. In 2016, the Bree Collaborative endorsed the 2015 Agency Medical Directors Group (AMDG) Guidelines on Prescribing Opioids for Pain, convened a workgroup to develop implementation strategies, and elected to develop opioid prescribing metrics aligned with both the AMDG and CDC guidelines. The metrics, updated quarterly, were designed to be limited in number, have a strategic focus, and be used for quality improvement.

All prescriptions for buprenorphine as well as prescriptions used as part of cough and cold formulations identified via AHFS Pharmacologic-Therapeutic Classification © codes 4:04.04, 4:04.08, 4:04.12, 4:04.16, 4:04.20, 4:04.92, 4:08.00, 4:92.00, 48:04.04, 48:08.00, 48:16.00, 48:24.00, and 48:92.00, which included combination products containing antihistamines, antitussives, and expectorants, were excluded from every metric computation.

Small differences in counts and rates presented here may differ from other published PMP reports, since PMP data changes as dispensers correct, amend, or resubmit data. Changes in drug scheduling may result in an increase or decrease in dispensing due to a change in reporting. Tramadol was scheduled as a schedule IV drug in August 2014, and hydrocodone was rescheduled (from schedule III to II) in October 2014.

Metrics

Patients prescribed any opioid

The prevalence of prescription opioid use in the population. The number of patients, per 1,000 population, with at least one opioid prescription submitted to the PMP in a calendar quarter. Sex-adjusted rates are presented by age groups 0–9, 10–17, 18–24, 25–34, 35–44, 45–54, 55–64, 65–74, and 75+ years, and for all ages (age- and sex- adjusted).

Patients prescribed chronic opioids

Age- and sex-adjusted prevalence of chronic, prescription opioid use in the population. The number of patients, per 1,000 population, with at least 60 days' supply of prescription opioids submitted to the PMP in a calendar quarter.

Patients prescribed high-dose chronic opioid therapy

Age- and sex-adjusted prevalence of high-dose chronic, prescription opioid use in the population, at three levels of use. The number of patients, per 1,000 population, who have filled prescriptions for at least 60 days' supply of opioids during the quarter, and whose prescriptions provided a dose of 50 morphine milligram equivalents (MME)/day or more, 90 MME/day or more, or 120 MME/day or more, averaged over the quarter. MME/day was calculated by dividing the total MME dispensed during a quarter by the number of days in the quarter. Total MME is calculated as the (strength per unit)*(quantity)*(MME Factor). Dosing thresholds were selected based on the CDC

<http://www.cdc.gov/mmwr/volumes/65/rr/pdfs/rr6501e1.pdf> and the AMDG <http://www.agencymeddirectors.wa.gov/Files/2015AMDGOpioidGuideline.pdf> opioid prescribing guidelines.

Patients prescribed chronic concurrent opioids and sedatives

Age- and sex-adjusted prevalence of concurrent opioid and sedative prescription use. The number of patients, per 1,000 population, who receive one or more days of overlapping prescriptions in a quarter according to the dates the prescriptions were filled and their days' supply.

New opioid patients days' supply of first opioid prescription

The percent distribution of prescription opioid days' supply among new opioid patients, by age group (17 years and younger, 18 years and older, and all ages) and four categories of days' supply: 3 days or less, 4–7 days, 8–13 days, and 14 days or more. New opioid patients are those with at least one opioid prescription in the current quarter (e.g., Oct–Dec) who have no opioids prescribed in the prior quarter (e.g., Jul–Sep). Days' supply was computed as the total prescribed days' supply using the reported days' supply, refill count, and authorized refill count of the first opioid prescription in the calendar quarter.

New opioid patients subsequently prescribed chronic opioids

Age- and sex-adjusted incidence rate of chronic opioid use. The number of patients with chronic opioid prescriptions, per 1,000 population, who were new opioid patients in the past quarter, and are chronic opioid patients (i.e., prescribed 60 or more days' supply) in the present quarter. Patients with no opioid prescriptions in the quarter prior to the previous quarter are excluded. Patients with tramadol prescriptions in the third and fourth quarters of 2014 were excluded as new opioid patients because of the possibility that they might have had chronic prescriptions.

Glossary

Drug Classes

Drugs are classed using the primary active drug substance identified, using the drug information obtained. Opioid drugs included: Codeine, Dihydrocodeine, Fentanyl, Hydrocodone, Hydromorphone, Levorphanol, Meperidine, Methadone, Morphine, Oxycodone, Oxymorphone, Pentazocine, Propoxyphene, Tapentadol, or Tramadol. Sedative and benzodiazepine drugs included: Alprazolam, Butabarbital, Butalbital, Carisoprodol, Clonazepam, Clorazepate, Chloral Hydrate, Chlordiazepoxide, Diazepam, Estazolam, Eszopiclone, Flumazenil, Flurazepam, Lorazepam, Mephobarbital, Meprobamate, Midazolam, Oxazepam, Phenobarbital, Quazepam, Secobarbital, Suvorexant, Temazepam, Triazolam, Zaleplon, and Zolpidem.

Geography

Counties are defined using the patient's address of residence, as listed on the prescription. If the patient's county of residence was missing using the address reported, then the patient's county was geocoded using the patient's zip code of residence. There are 39 counties in WA State. Accountable Communities of Health (ACH) in Washington State are regional (<https://www.hca.wa.gov/assets/program/ach-map.pdf>), multi-sector collaborative with a common interest in improving health and health equity. Their boundaries align with WA's Medicaid regional service areas. ACH was defined based on the patient's final computed county of residence based on the definition above. There are 9 ACHs in WA State.

Days' Supply

Days' supply, reported by the dispenser, refers to the estimated number of days the prescription will last based on the quantity prescribed. It is calculated by dividing the number of units (e.g., tablets, capsules, patches) prescribed by the maximum number of units to be used in one day. For these metrics, the total days' supply is the sum of the days' supply from all

opioid prescriptions prescribed during the calendar quarter, including overlapping prescriptions (and includes days that may extend into the next calendar quarter), except for metric, “New Opioid Patients Days’ Supply of First Opioid Prescription” which uses only the total opioid days’ supply for the first opioid prescription.

Morphine Milligram Equivalent Factor

Morphine Milligram Equivalents (MME) refers to the standardization of opioid drugs to an equivalent measure for comparison purposes. The MME Factor (<https://www.cdc.gov/drugoverdose/resources/data.html>), converts non-morphine opioids to an equianalgesic dose of morphine. Using the strength per dosage unit for an opioid drug, the MME Factor can be used to derive a morphine milligram equivalent factor for comparing different opioid drugs.

Drug Overdose Data

Drug overdose data shown here comes from death certificates using the ICD-10 codes (International Statistical Classification of Diseases and Related Health Problems) and are based on CDC definitions.

Some deaths involved more than one type of drug; these deaths were included in the rates for each drug category. Therefore, categories are not mutually exclusive.

Drugs shown here include all drugs combined, opioids (all opioids, prescription opioids, heroin and synthetic opioids, not including methadone) and psycho-stimulants. The prescription opioids group does not include synthetic opioids like fentanyl or tramadol. Synthetic opioids include fentanyl and tramadol. The prescription opioid category does not necessarily indicate that the medication was taken for medical reasons.

The data show rates per 100,000 people in order to standardize between areas with different population levels. The rates are age-adjusted in order to make comparisons between areas (counties, ACHs and the state) which have different age distributions.

All the cases are Washington residents, and residents of the county and/or the ACH mentioned.

For further information on the Injury and Violence Prevention Program at DOH please follow this link: <https://www.doh.wa.gov/YouandYourFamily/InjuryandViolencePrevention>

Drug Overdose Classification Notes

A. Fatal Drug Overdose

Overdose deaths are classified using the International Classification of Diseases, tenth revision (ICD-10)

1. All drugs overdose combined

Deaths with the following ICD-10 codes as the underlying cause of death:

- X40-X44: Accidental poisonings by drugs

- X60-X64: Intentional self-poisoning by drugs
- X85: Assault by drug poisoning
- Y10-Y14: Drug poisoning of undetermined intent

2. Selected drug categories

Drug overdose defined above (1) with the specific multiple-cause-of-death defined below each of the following specified drugs.

a. All Opioids

- T40.0: Opium
- T40.1: Heroin
- T40.2: Natural and semi-synthetic opioids
- T40.3: Methadone
- T40.4: Synthetic opioids, other than methadone
- T40.6: Other and unspecified narcotics

b. Heroin

- T40.1

c. Prescription opioids (not-fentanyl)

- T40.2: Natural and semi-synthetic opioids
- T40.3: Methadone

d. Synthetic opioids (not Methadone). Synthetic opioids include fentanyl and tramadol.

This group includes also illicit manufactured fentanyl and fentanyl analogs as well as prescription fentanyl.

- T40.4

e. Psycho stimulants with abuse potential. Includes methamphetamine, amphetamine, MDA and Ecstasy (MDMA), for example.

- T43.6

Overdose hospitalizations are defined as:

- Opioid overdoses were identified by searching for the appropriate ICD-9-CM codes and ICD-10-CM codes in all the multiple diagnosis codes and e-codes fields available.
- Since the last quarter of 2015, only ICD-10-CM codes are used. The change from using ICD-9-CM codes makes tracking trend across 2015 unreliable.
- For ICD-9-CM, the first listed/principal diagnosis code or any mention of a relevant external cause of injury code (previously first-listed/principal diagnosis code or first-listed external cause of injury)

- For ICD-10-CM, any mention of a drug poisoning in any diagnosis code field. No limitations were made on the number of diagnosis fields.
- Hospitalization discharges from Out-of-state hospitals, federal hospitals, rehabilitation centers, and psychiatric hospitals, and those who died before discharge are excluded from the numbers.
- The intent, when known, is restricted to unintentional, intentional self-harm, assault and undetermined intent.
- The encounters are limited to initial encounter or missing encounter.

Any Drug:

- ICD-10-CM: T36-T50 (Poisoning by drugs, medicaments and biological substances)
- ICD-9-CM:
 - In the principal diagnosis, 960-979 (Poisoning By Drugs, Medicinal And Biological Substances)
 - Or in any external cause or diagnosis fields with
 - E850-E858 (Accidental poisoning by drugs, medicinal substances, and biologicals)
 - E950.0-E950.5 (Suicide and self-inflicted poisoning by solid or liquid substances),
 - E962.0 (Assault by drugs and medicinal substances)
 - E980.0-E980.5 (Poisoning by solid or liquid substances undetermined whether accidentally or purposely inflicted)

Any Opioid:

- ICD-10-CM:
 - T40.0X (Poisoning by opium),
 - T40.1X (Poisoning by heroin),
 - T40.2X (Poisoning by other Opioids),
 - T40.3X (Poisoning by methadone),
 - T40.4X (Poisoning by synthetic narcotics),
 - T40.60 (Poisoning by unspecified narcotics),
 - T40.69 (Poisoning by other narcotics)
- ICD-9-CM:
 - Principal diagnosis with
 - 965.00(Poisoning by opium),
 - 965.02(Poisoning by methadone),
 - 965.09(Poisoning by other opiates and related narcotics),
 - 965.01 (Poisoning by heroin)
 - Or in any external cause or diagnosis fields with
 - E850.1(Accidental poisoning by methadone),
 - E850.2(Accidental poisoning by other opiates and related narcotics),
 - E850.0(Accidental poisoning by heroin)

Heroin: Poisoning by heroin with or without other opioid

- ICD-10-CM:
 - T40.1X(Poisoning by heroin)
- ICD-9-CM:
 - Principal diagnosis with 965.01(Poisoning by heroin)

Or in any external cause or diagnosis fields with E850.0(Accidental poisoning by heroin)

Non-Heroin Opioid: Any opioid, while excluding cases associated with heroin