Opioid Misuse Indicators in Indiana

Table of Contents

Tables

Marion S. Greene, PhD, MPH
1050 Wishard Blvd. / RG 5192
Indianapolis, IN 46202
(317) 278-3247
msgreene@iu.edu

Introduction

The Lewin Group collaborated with the Center for Health Policy (CHP) to create an Opioid Use Dashboard, which is a data visualization tool that illustrates opioid utilization among individuals covered by commercial or Medicare Advantage health plans in Indiana. This Dashboard is publicly available on the CHP website.

The Dashboard contains Key Performance Indicators (KPIs) to measure different aspects of opioid utilization. The following KPI's are included:

- Annual overdose rates involving opioids per 100,000 person-years
  - All cases
  - Those under the age of 18
- Annual rates of Opioid Use Disorder (OUD) per 1,000 person-years
  - All cases
  - Those under the age of 18
- Percentage of patients receiving medication-assisted treatment (MAT) following an overdose
- Percentage of patients receiving an initial opioid dose less/greater than 50 Morphine Milligram Equivalents (MME)/day
- Percentage of patients with/without concurrent opioid and benzodiazepine use
- Percentage of patients who had/had not opioid prescription fills following an overdose or OUD diagnosis

The data are provided for the three-year period from 2014 through 2016. Information can be viewed at the state and county level; this will help identify counties with the highest rates and percentages on the specific opioid misuse indicators.

For a detailed description on Lewin's methodology, see Appendix I.

Summary of statewide key findings

- Opioid overdose rates decreased in Indiana from 38.9 per 100,000 person-years in 2014 to 32.1 in 2016 (U.S.: 35.9).
- Rates of opioid use disorder increased from 6.5 per 1,000 person-years in 2014 to 8.4 in 2016 (U.S.: 8.0).
- Use of medication-assisted treatment in those who experienced an overdose tripled in Indiana from 4.0% in 2014 to 12.0% in 2016, but still remained considerably below the U.S. estimate (27.8%).
- In 22.0% of patients, the initial opioid dosage was greater than 50 MME (U.S.: 22.8%)
- Concurrent use of opioids and benzodiazepines occurred in 20.0% of Indiana patients (U.S.: 22.0%).
- In 53.0% of Indiana patients, opioid prescriptions were filled after they had been diagnosed with OUD or following an overdose encounter (U.S.: 58.9%).

Summary of county-level key findings

The Indiana counties most affected by selected opioid misuse indicators include:

Table 1. Counties with the highest annual overdose rates involving opioids per 100,000 person-years, 2016

All Cases	Vermillion	460.7
	Jennings	198.2
	LaPorte	169.1
	Knox	146.0
	Shelby	118.6
Persons <18 years	Switzerland	1,619.6
	Johnson	79.6
	Porter	60.4

Note: Higher rates imply more severe problems.

Table 2. Counties with the highest annual rates of Opioid Use Disorder (OUD) per 1,000 person-years, 2016

All Cases	Bartholomew	21.8
	Madison	20.8
	Rush	19.4
	Ohio	18.0
	Switzerland	17.1
Persons <18 years	Owen	9.3
	Jefferson	8.0
	Lawrence	3.6
	Clark	3.5
	Elkhart	1.6

Note: Higher rates imply more severe problems.

Table 3. Counties with the highest percentages of patients receiving medication-assisted treatment (MAT) following an overdose, 2016

Madison	67%
Lake	33%
LaPorte	33%
Marion	14%

Note: Higher percentages imply better access to MAT.

Table 4. Counties with the highest percentages of patients receiving an initial opioid dose greater than 50 Morphine Milligram Equivalents (MME) per day, 2016

Rush	47%
Ripley	40%
Decatur	36%
Floyd	36%
Sullivan	36%

Note: Higher percentages imply more severe problems.

Table 5.Counties with the highest percentages of patients with concurrent opioid and benzodiazepine use, 2016

Pike	53%
Perry	50%
Daviess	45%
Martin	37%
Posey	37%

Note: Higher percentages imply more severe problems.

Table 6.Counties with the highest percentages of patients who had opioid prescription fills following an overdose or OUD diagnosis (not implying MAT), 2016

Crawford	100%
Daviess	100%
DeKalb	100%
Fayette	100%
Gibson	100%
Miami	100%
Perry	100%
Pike	100%
Pulaski	100%
Wells	100%
Whitley	100%
Vanderburgh	89%
Huntington	88%
Fulton	86%
Clinton	80%

Note: Higher percentages imply more severe problems.

Appendix I

Lewin Group

Methods and Data Documentation

IUPUI Opioid Use Dashboard

Overview

The Lewin Group (Lewin) collaborated with the Richard M. Fairbanks School of Public Health at Indiana University–Purdue University Indianapolis (IUPUI) to create the IUPUI Opioid Use Dashboard (Dashboard), which is a data visualization tool that illustrates opioid utilization among individuals covered by commercial or Medicare Advantage health plans in Indiana.

A. Opioid Key Performance Indicators

The Dashboard contains Key Performance Indicators (KPIs), as developed by OptumLabs, to measure different aspects of opioid utilization. KPIs provide a comprehensive view of the opioid issue through standardized metrics and definitions. KPIs were developed by a combination of internal experts from Optum, UnitedHealth Group, and UnitedHealthcare and an external Expert Advisory Panel, made up of academics with specific areas of expertise in opioids and pain management.

The KPIs are calculated using UnitedHealthcare commercial and Medicare Advantage claims data based on medical and pharmacy claims for Indiana residents incurred from 2014 through 2016. The KPIs are organized in different domains, based on what is being measured. The following table shows the KPIs included in the dashboard:

Key Performance Indicators

KPI	Domain
Cases of Overdose (OD) per 100,000 person-years	Prevention
Cases of OD per 100,000 person-years among enrollees <18	Prevention
Cases of (Opioid Use Disorder) OUD per 1000 person-years	Treatment
Cases of OUD per 1000 person-years among enrollees <18	Treatment
Evidence of Medication Assisted Treatment (MAT) following OD	Treatment
Initial opioid dose is <50 Morphine Milligram Equivalents (MME)/day	Prevention
No concurrent opioid and benzodiazepine use	Prevention
No opioid prescription fills following OD or OUD diagnosis	Treatment

B. Identification Methodology

The KPI methodology uses the following criteria to identify the conditions and treatments measured:

- Evidence of Opioid Overdose. Any OD diagnosis codes on a claim

- Evidence of Opioid Use Disorder. Any OUD diagnosis codes on a claim OR evidence of MAT (see below).

- Medication Assisted Treatment was identified via three routes:
    1) Any National Drug Code (NDC) codes for drugs used in MAT (i.e. Buprenorphine) on a pharmacy claim
    2) Any National Drug Code (NDC) codes for drugs used in MAT on a medical claim, where populated
    3) Any MAT procedure codes, such as Healthcare Common Procedure Coding System (HCPC) and International Statistical Classification of Diseases and Related Health Problems (ICD) procedure codes, on a medical claim
- Morphine Milligram Equivalents (MME): Calculated by applying the Centers for Disease Control and Prevention (CDC) MME conversion factor to the strength, number of units, and days supplied information from a pharmacy claim

C. Dashboard Worksheets

The Dashboard includes three data tabs and a Glossary tab. The three data tabs are:

1) Opioid Measures by County: Includes a map of Indiana showing KPI values by county. Also includes a table showing measure values, along with numerators and denominators used to calculate them
2) Opioid Measures by County Percent Change over Time: Includes a map of Indiana and a table showing the change in KPI values by county
3) Opioid Measures over Time: Includes a chart showing the change in measure values by year

Each data tab contains a drop-down menu allowing the user to select the KPI of interest.

There is also a drop-down menu for Outcome. There are two different types of outcomes, depending on the KPI:

1) For the per person-year KPIs, the Outcome value is always "per person year"
2) For all other KPIs, the Outcome values are either "Compliant" or "Non-Compliant". The KPI value indicates the percentage of cases by Outcome.

D. Comparison to National KPI Values

The Dashboard shows KPI values statewide and by county. The table below compares the statewide values to national values for the same commercial and Medicare Advantage populations.

KPI metrics: National vs. Indiana (2016)

KPI	Indiana	National
Cases of OD per 100,000 person-years (adult/child)	32.1	35.9
Cases of OD per 100,000 person-years (<18)	6.93	7.23
No concurrent opioid and benzodiazepine use (non-compliant cases)	20.0%	22.0%
Initial opioid dose is <50MME/day (non-compliant cases)	22.0%	22.8%
Cases of OUD per 1000 person-years	8.41	7.97
Cases of OUD per 1000 person-years (among enrollees <18)	0.51	0.21
Evidence of MAT following OD	12.0%	27.8%
No opioid prescription fills following OD or OUD diagnosis	47.0%	41.1%