The Failure of Prescription Drug Monitoring Programs

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ABSTRACT

In an effort to control the rising rate of drug overdose deaths, states have enacted Prescription Drug Monitoring Programs (PDMPs) to catch "doctor shopping." Although 49 states had a PDMP by 2014, the national death rate due to prescription opioid drugs has not decreased. The definitive survey on drug use in the U.S. shows that only 2.5% of misused prescription pain medicine was obtained by doctor shopping. PDMPs cannot stop even the small amount of doctor shopping that does occur. The real problem is the 97.5% of the misused prescription pain medicine obtained from one doctor or from illicit sources.

Introduction

U.S. deaths from prescription opioid medicine increased from 4,400 in 2000 to 19,673 in 2017, and the rate of death per 100,000 population, age adjusted, has increased from 1.54 in 2000 to 6.02 in 2017[1] (Figure 1, Table 1, and Table 2). That is a 290% increase over 17 years, or 17.1% per year.

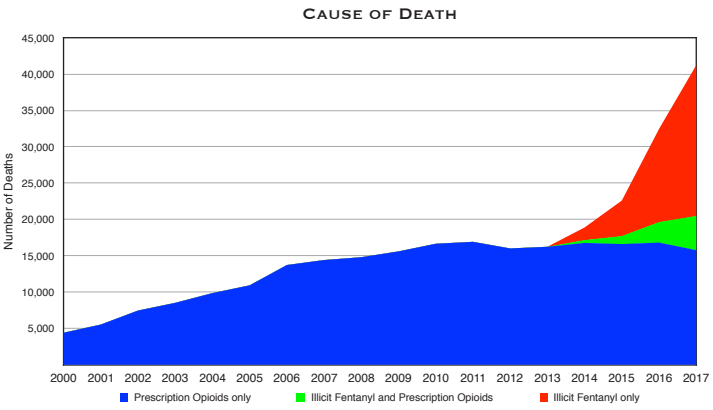

Figure 1. Cause of Death Due to Prescription Opioids and Illicit Fentanyl

Table 1. Classification of Deaths

	Classification of Deaths	2014	2015	2016	2017
1	All Opioid Pain Relievers (T40.2, T40.3, T40.4) including Illicit Fentanyl	18,893	22,598	32,455	40,051
2	All Synthetic Opioids, primarily Fentanyl (T40.4)	5,544	9,580	19,413	28,466
3	Baseline Prescription Fentanyl (T40.4)	3,416	3,592	3,767	3,942
4	Concurrent use of All Fentanyl (T40.4) AND Prescription Opioids (T40.2, T40.3)	1,489	2,263	4,055	5,444
5	Baseline of concurrent use of Prescription Fentanyl (T40.4) AND Prescription Opioids (T40.2, T40.3)	1,096	1,163	1,231	1,298
6	Illicit Fentanyl including concurrent use of Prescription Opioids (T40.2, T40.3) (4 - 5)	393	1,100	2,824	4,146
7	Only Illicit Fentanyl (excluding concurrent use of Prescription Opioids T40.2, T40.3) ((2 - 3) - 6)	1,735	4,888	12,822	20,378
8	All Illicit Fentanyl (including concurrent use of Prescription Opioids T40.2, T40.3) (2 - 3)	2,128	5,988	15,646	24,524
9	Only Prescription Opioids (T40.2, T40.3, T40.4, excluding concurrent use of Illicit Fentanyl) (1 - 8)	16,765	16,610	16,809	15,527
10	All Prescription Opioids (T40.2, T40.3, T40.4, including concurrent use of Illicit Fentanyl) (1 - 7)	17,158	17,710	19,633	19,673

Table 2. Classification of Deaths

	Classification of Deaths per Capita	2014	2015	2016	2017
1	All Opioid Pain Relievers (T40.2, T40.3, T40.4) including Illicit Fentanyl	5.91	7.04	10.17	12.49
2	All Synthetic Opioids, primarily Fentanyl (T40.4)	1.76	3.06	6.19	9.01
3	Baseline Prescription Fentanyl (T40.4)	1.08	1.13	1.18	1.23
4	Concurrent use of All Fentanyl (T40.4) AND Prescription Opioids (T40.2, T40.3)	0.46	0.72	1.29	1.71
5	Baseline of concurrent use of Prescription Fentanyl (T40.4) AND Prescription Opioids (T40.2, T40.3)	0.34	0.36	0.38	0.40
6	Illicit Fentanyl including concurrent use of Prescription Opioids (T40.2, T40.3) (4 - 5)	0.12	0.36	0.91	1.31
7	Only Illicit Fentanyl (excluding concurrent use of Prescription Opioids T40.2, T40.3) ((2 - 3) - 6)	0.56	1.57	4.10	6.47
8	All Illicit Fentanyl (including concurrent use of Prescription Opioids T40.2, T40.3) (2 - 3)	0.68	1.93	5.01	7.78
9	Only Prescription Opioids (T40.2, T40.3, T40.4, excluding concurrent use of Illicit Fentanyl) (1 - 8)	5.23	5.11	5.16	4.71
10	All Prescription Opioids (T40.2, T40.3, T40.4, including concurrent use of Illicit Fentanyl) (1 - 7)	5.35	5.47	6.07	6.02

In response to this perceived crisis, Prescription Drug Monitoring Programs (PDMPs) were established. A PDMP is a statewide electronic database, which collects designated data on specific medications, usually schedule II, III, and IV drugs, dispensed in the state. In 2000, 16 states had an operational PDMP, and 18 states had joined them by 2010. By 2014, 49 states had a PDMP intended to curb drug abuse, misuse, and diversion.[2]

The program is housed within a statewide regulatory, administrative, or law enforcement agency. The agency distributes data from the database to individuals who are authorized under state law to receive the information. The main purpose of the programs is to eliminate "doctor shopping," the practice of one patient going to two or more physicians to obtain prescription drugs, then having the prescriptions filled at two or more pharmacies, raising suspicion of intention to sell or abuse the medication.[3,4] The database is a resource for physicians and pharmacists to determine whether an individual has purchased similar prescription drugs at other pharmacies.

Methods

The CDC Wonder website was used to extract data on prescription opioid deaths from 2000 to 2017 and illicit fentanyl deaths from 2014 to 2017.[1] The National Survey on Drug Use and Health that is performed annually by the U.S. Department of Health and Human Services, Center for Behavioral Health Statistics and Quality, was used to determine the percentage of individuals who misused prescription pain medicine from 2011 to 2017.[5]

The same ICD-10 codes used by the National Institute on Drug Abuse (NIDA) in the CDC Wonder database website were used in this article.[6] The supporting documents can be downloaded from the NIDA website. The causes of death include: unintentional drug poisoning (X40-X44), suicide drug poisoning (X60-X64), homicide drug poisoning (X85), and drug poisoning

of undetermined intent (Y10-Y14), as coded in the International Classification of Diseases, 10th Revision.

The ICD-10 codes for opioid pain relievers (other opioids, methadone, other synthetic narcotics) include: T40.2, T40.3, and T40.4. The data for the death rate per 100,000 population, age adjusted, was extracted for each year from 2000 through 2017.

The death rate for opioid pain relievers was difficult to determine from 2014 to 2017 because of the surge of illicit fentanyl, which started in 2013. In a previous article,[7] the deaths due to a concurrent use of illicit fentanyl and a prescription opioid (T40.2 or T40.3) were not included in the calculations. These numbers were initially small, but increased significantly in 2016 and again in 2017. The updated calculations are used here (Tables 1 and 2).

The U.S. Department of Health and Human Services performs an annual National Survey on Drug Use and Health. This survey is the primary source of information and statistics on the use of illicit drugs, alcohol, and tobacco in the civilian, non-institutionalized population of the U.S. The sample size for the 2017 survey was 68,032. Historically, the sample size is always at least 67,500. The data from two of the tables in the report (Tables 6.53B and 6.54B) was used to evaluate the source of misused prescription pain medicine, which includes medications "from more than one doctor" (doctor shopping). These data were to obtain the trend in doctor shopping since 2011.

Table 3. Table 6.53B from the National Survey on Drug Use and Health

Table 6.53B Source Where Pain Relievers Were Obtained for Most Recent Misuse among Past Year Misusers Aged 12 or Older, by Age Group: Percentages, 2016 and 2017

Source for Most Recent Misuse among Past Year Misusers of Pain Relievers	Aged 12+ (2016)	Aged 12+ (2017)	Aged 12-17 (2016)	Aged 12-17 (2017)	Aged 18+ (2016)	Aged 18+ (2017)	Aged 18-25 (2016)	Aged 18-25 (2017)	Aged 26+ (2016)	Aged 26+ (2017)
GOT THROUGH PRESCRIPTION(S) OR STOLE FROM A HEALTH CARE PROVIDER	37.5	36.6	26.3	31.6	38.4	36.9	28.4	27.4	41.3	39.8
Prescription from One Doctor	35.4	34.6	21.2	28.1	36.5	35.0	25.9	24.9	39.7	38.2
Prescriptions from More Than One Doctor	1.4	1.5	3.6	1.9	1.3	1.4	1.4	1.5	1.2	1.4
Stole from Doctor's Office, Clinic, Hospital, or Pharmacy	0.7	0.5	1.5	1.6	0.6	0.5	1.1	1.0	0.4	0.3
GIVEN BY, BOUGHT FROM, OR TOOK FROM A FRIEND OR RELATIVE	53.0	53.1	57.4	57.0	52.7	52.8	61.2	57.4	50.2	51.4
From Friend or Relative for Free	40.4	38.5	38.8	38.0	40.6	38.5	43.1[a]	37.6	39.8	38.8
Bought from Friend or Relative	8.9	10.6	9.1	12.3	8.9	10.5	11.7	12.3	8.1	10.0
Took from Friend or Relative without Asking	3.7	4.0	9.5	6.8	3.2	3.8	6.4	7.5	2.3	2.7
BOUGHT FROM DRUG DEALER OR OTHER STRANGER	6.0	5.7	9.4	5.5	5.8	5.7	7.3	9.4	5.4	4.5
SOME OTHER WAY[1]	3.4	4.6	6.9	5.8	3.1	4.5	3.2[a]	5.8	3.1	4.2

* = low precision; -- = not available; da = does not apply; nc = not comparable due to methodological changes; nr = not reported due to measurement issues.
NOTE: Respondents were asked to choose one of eight sources as their best answer. Respondents with unknown data on Source for Most Recent Misuse and respondents with unknown or invalid responses to the corresponding other-specify questions were excluded from the analysis.
NOTE: Misuse of prescription psychotherapeutics is defined as use in any way not directed by a doctor, including use without a prescription of one's own; use in greater amounts, more often, or longer than told; or use in any other way not directed by a doctor. Prescription psychotherapeutics do not include over-the-counter drugs.
[a] The difference between this estimate and the 2017 estimate is statistically significant at the .05 level. Rounding may make the estimates appear identical.
[b] The difference between this estimate and the 2017 estimate is statistically significant at the .01 level. Rounding may make the estimates appear identical.
[1] Some Other Way includes write-in responses not already listed in this table or responses with insufficient information that could allow them to be placed in another category.
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2016 and 2017.

Table 4. Table 6.54B from the National Survey on Drug Use and Health

Table 6.54B Source Where Friend or Relative Obtained Pain Relievers among Past Year Misusers Aged 12 or Older Who Obtained Most Recently Misused Pain Relievers from a Friend or Relative for Free in Past Year, by Age Group: Percentages, 2016 and 2017

Source Where Friend or Relative Obtained Pain Relievers	Aged 12+ (2016)	Aged 12+ (2017)	Aged 12-17 (2016)	Aged 12-17 (2017)	Aged 18+ (2016)	Aged 18+ (2017)	Aged 18-25 (2016)	Aged 18-25 (2017)	Aged 26+ (2016)	Aged 26+ (2017)
GOT THROUGH PRESCRIPTION(S) OR STOLE FROM A HEALTH CARE PROVIDER	86.6	85.9	72.2	72.4	87.6	86.7	78.7	78.6	90.4	89.0
Prescription from One Doctor	85.0	83.0	64.1	70.4	86.4	83.7	77.1	74.7	89.4	86.3
Prescriptions from More Than One Doctor	0.8[a]	2.6	3.1	*	0.6[b]	2.7	1.0	2.7	0.5[a]	2.7
Stole from Doctor's Office, Clinic, Hospital, or Pharmacy	0.8	0.3	5.1	*	0.5	0.3	0.6	1.2	0.5	0.0
GIVEN BY, BOUGHT FROM, OR TOOK FROM A FRIEND OR RELATIVE	10.2	9.9	14.5	18.4	9.9	9.4	15.1	13.9	8.2	8.1
From Friend or Relative for Free	4.8	6.0	3.9	8.6	4.8	5.8	6.7	7.9	4.2	5.2
Bought from Friend or Relative	4.3	3.3	3.9	4.3	4.3	3.2	7.1	5.0	3.4	2.7
Took from Friend or Relative without Asking	1.1	0.6	6.7	5.4	0.7	0.3	1.4	*	0.5	0.1
BOUGHT FROM DRUG DEALER OR OTHER STRANGER	1.9	1.8	5.2	3.8	1.7	1.7	4.0	4.9	0.9	0.8
SOME OTHER WAY[1]	1.4	2.4	8.0	5.4	0.9	2.2	2.2	2.7	0.5	2.1

* = low precision; -- = not available; da = does not apply; nc = not comparable due to methodological changes; nr = not reported due to measurement issues.
NOTE: Respondents were asked to choose one of eight sources as their best answer. Respondents with unknown data on Source for Most Recent Misuse and respondents with unknown or invalid responses to the corresponding other-specify questions were excluded from the analysis.
NOTE: Misuse of prescription psychotherapeutics is defined as use in any way not directed by a doctor, including use without a prescription of one's own; use in greater amounts, more often, or longer than told; or use in any other way not directed by a doctor. Prescription psychotherapeutics do not include over-the-counter drugs.
[a] The difference between this estimate and the 2017 estimate is statistically significant at the .05 level. Rounding may make the estimates appear identical.
[b] The difference between this estimate and the 2017 estimate is statistically significant at the .01 level. Rounding may make the estimates appear identical.
[1] Some Other Way includes write-in responses not already listed in this table or responses with insufficient information that could allow them to be placed in another category.
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2016 and 2017.

Results

As shown in Figure 1, opioid-related death rates have been rising since 2000, with no noticeable decreases with the establishment of more PDMPs.

Figure 1 is derived from data and calculations in Tables 1 and 2 of the number of deaths due to prescription opioids, illicit fentanyl, and the concurrent use of prescription opioids and illicit fentanyl. The difference between the "All" and "Only" numbers in lines 7-10 in the tables is shown as the green area in Figure 1.

The 2017 National Survey on Drug Use and Health[5] shows the sources of analgesic prescriptions for most recent misuse among past year users aged 12 and older. Table 3[5, p 1571] shows that the percentage of prescriptions from more than one doctor was 1.5%. If the primary source was from a friend or relative for free (38.5%), the survey also asked where the friend or relative obtained the pain medication, using the same questions. Table 4[5, p 1573] shows that the friend or relative's source of the prescription was more than one doctor in 2.6% of cases. The total percentage of misusers who obtained the pain relievers from more than one doctor was thus 2.5% (2.6% x 38.5% + 1.5% = 2.5%).

Figure 2 shows the source of misused pain medication in 2017: 85.0% of the misused pain medicine came from one doctor; 12.5% did not go through a doctor; only 2.5% were obtained through doctor shopping.

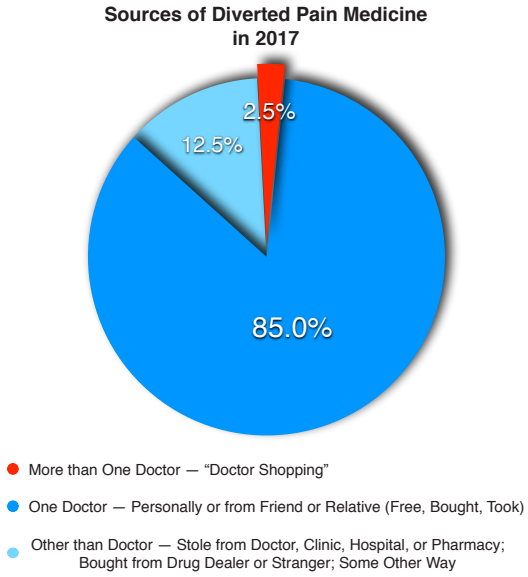

Figure 2. Sources of Diverted Pain Medicine in 2017

The survey also shows that the PDMPs can not stop doctor shopping. In 2011, 3.6% persons who misused pain medications said they obtained them from more than one doctor. That percentage increased to 3.7% in 2012, 4.3% in 2013, and 4.8% in 2014. The 2015 survey changed the question from lifetime misuse to misuse in the last 12 months, so the 2015 survey response of 2.3% could not be compared to previous years. In 2016, the response decreased to 1.7%, but in 2017 it again increased to 2.5%. In four of the five years that can be compared, the percentage of individuals who

misuse prescription pain medicine and obtained it by doctor shopping actually increased (Figure 3).

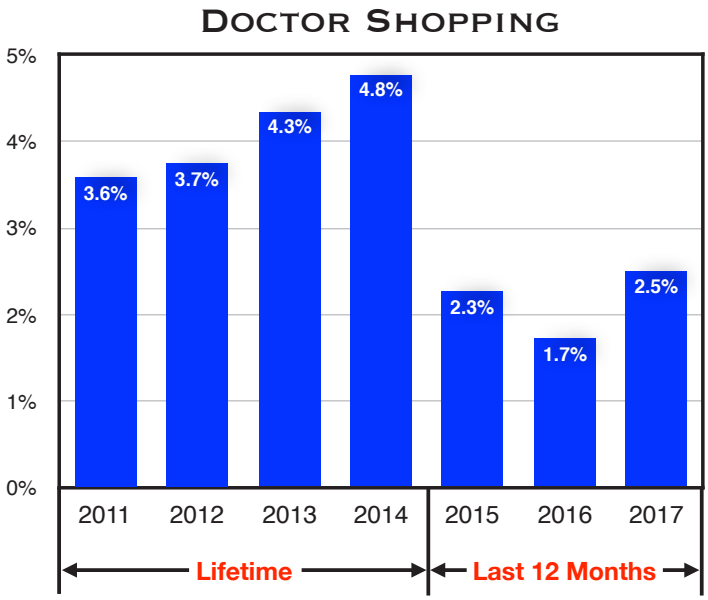

Figure 3. Percentage of Misused Prescription Pain Relievers

Discussion

The "opioid crisis" is the increase in deaths due to illicit fentanyl, from 2,128 in 2014 to 24,524 in 2017, as shown in Table 1. PDMPs have no effect on illicit fentanyl. The real cause of increased overdose deaths in the last four years is not doctor shopping, but the surge of illicit fentanyl coming from China and Mexico.

PDMPs conflict with the state constitutional prohibition of unreasonable searches and seizures. In the Missouri Constitution, this is in Article I Section 15. Prescription databases for insurance companies and government programs like Medicare and Medicaid are voluntary programs. When you agree to use the insurance policy or government program you agree to having your prescriptions in their database. PDMPs, however, are mandatory, involuntary databases that affect the liberty of millions of citizens.

PDMPs create a national prescription database. This is likely to be their true purpose as well as their effect. They cannot and do not achieve the ostensible purpose of stopping the misuse of opioid pain medicine.

Conclusions

The PDMP is supposed to catch the doctor shopping that purportedly makes opioid medications readily available to the public. Since doctor shopping was the source of only 2.5% of misused pain medicine in 2017, it is clear that the problem is not doctor shopping. Even with the entire country under a PDMP, this small percentage is increasing, but 97.5% of the misused opioids will never be identified by a PDMP.

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