The Rise of Illicit Fentanyl

By Dr. John D. Lilly

Deaths due to all opioids have continued to increase and even accelerate over the last few years. Deaths due to prescription pain relievers (opioids) from 2014 to 2016 increased 14% from 17,158 to 19,633. Over those same three years, deaths due to illicit fentanyl increased 635% from 2,128 to 15,646. These numbers are from my own calculations using the Centers for Disease Control and Prevention (CDC) Wonder database.[1]

In all of their publications, the government continues to either misrepresent or avoid correctly classifying and quantifying illicit fentanyl. Table 1 shows the various categories of drugs, both prescription and illegal. In table 1, the drugs in lines 1 and 4 are manufactured from natural opiates. The drugs in lines 2 and 3 are synthetic and not manufactured from natural opiates. The drugs in lines 1, 2, and 3 are prescription medications with the recent exception of fentanyl. Fentanyl has a prescription formulation that comes in a patch. The drug is absorbed into the bloodstream through the skin. The problem is with the T40.4 ICD-10 classification.

Table 1

	Drug Category	ICD-10 Code	Drugs
1	Natural and semi-synthetic opioid analgesics (aka “other opioids”)	T40.2	Morphine, Oxycodone, Hydrocodone, Hydromorphone
2	Methadone	T40.3	Methadone
3	Synthetic opioid analgesics, excluding methadone (aka “Other synthetic narcotics”)	T40.4	Fentanyl, Meperidine
4	Heroin	T40.1	Heroin
5	Cocaine	T40.5	Cocaine
6	Other or unspecified narcotic	T40.6	

Historically, deaths due to T40.4 have been almost exclusively due to prescription fentanyl. Since 2013, there has been a surge in illicit fentanyl. The CDC’s Morbidity and

Mortality Weekly Report of Aug 26, 2016, covered the increase in illicit fentanyl deaths.[2] The graph on page 840 shows the number of fentanyl prescriptions decreasing at the same time that the deaths increased from 3,105 in 2013 to 5,544 in 2014. The increase was due to illicit fentanyl manufactured in China and Mexico, primarily mixed with heroin, and smuggled into the United States. Fentanyl and its analogues are preferred because of their efficacy and the fact that no natural source of an opiate is needed for their manufacture.

I submitted a query to the CDC Wonder website, "Does the ICD-10 code T40.4 (synthetic opioids other than methadone) include prescription medication as well as similar illegal drugs?" The reply was, "ICD-10 code T40.4 classifies deaths due to poisoning by a class of similar synthetic opioid compounds, other than compounds classified by ICD-10 codes T40.2 (Other opioids) or T40.3 (Methadone), with no distinction on whether a compound or formula was obtained or manufactured legally or illegally."

The National Institute on Drug Abuse (NIDA) continues to list prescription drug opioid deaths only under T40.2 and T40.3. They completely ignore prescription fentanyl. They refer to T40.4 as synthetic opioids other than methadone. They have never been able or willing to differentiate prescription fentanyl deaths from illicit fentanyl deaths.

The first step in calculating the number of deaths due to illicit fentanyl is found in my research paper that was published in the Journal of American Physicians and Surgeons. In that paper, I showed the initial step in how to separate illicit fentanyl from prescription fentanyl for the years 2014 to 2016. Could some of those illicit fentanyl deaths also include prescription opioids? Using the CDC Wonder website, the deaths due to the other prescription opioids (T40.2 or T40.3) AND T40.4 were extracted by forming a Boolean query. The number of deaths due to the concurrent use of prescription opioids and fentanyl are shown on line 4 of table 2. The baseline of prescription opioid deaths is the blue area of figure 1, and the illicit fentanyl deaths above the baseline for 2014 to 2016 is the green area. The actual numbers for the green area are on line 6 in table 2.

When this is placed in the total cause of death graph, the numbers become clear. The green area in figure 1 is the green area in figure 2. This area is the number of deaths that were due to both prescription opioids (T40.2 or T40.3) and illicit fentanyl.

All illicit fentanyl deaths include the red and green areas of figure 2 and are shown in line 8 in table 2. Those deaths due to only illicit fentanyl is the red area of figure 2 and are shown on line 7 in table 2. All prescription drug deaths include the blue and green areas of figure 2 and are shown on line 10 in table 2. Those deaths due to only prescription drugs is the blue area of figure 2 and are shown on line 9 in table 2.

FIGURE 1

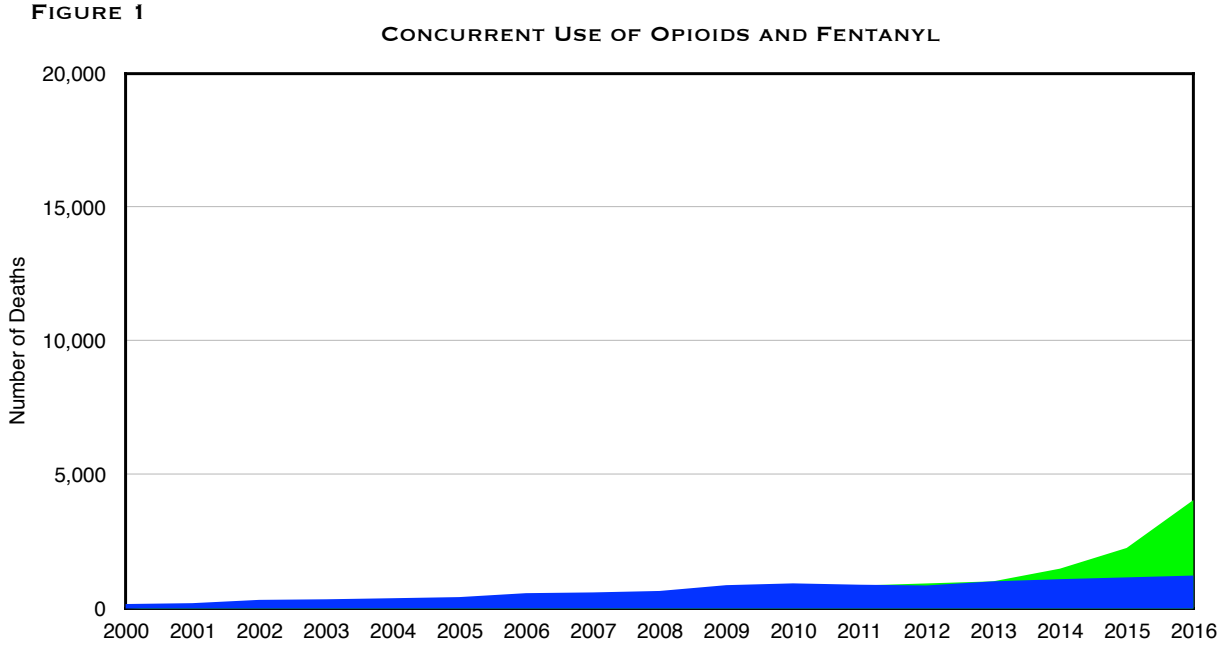

FIGURE 2

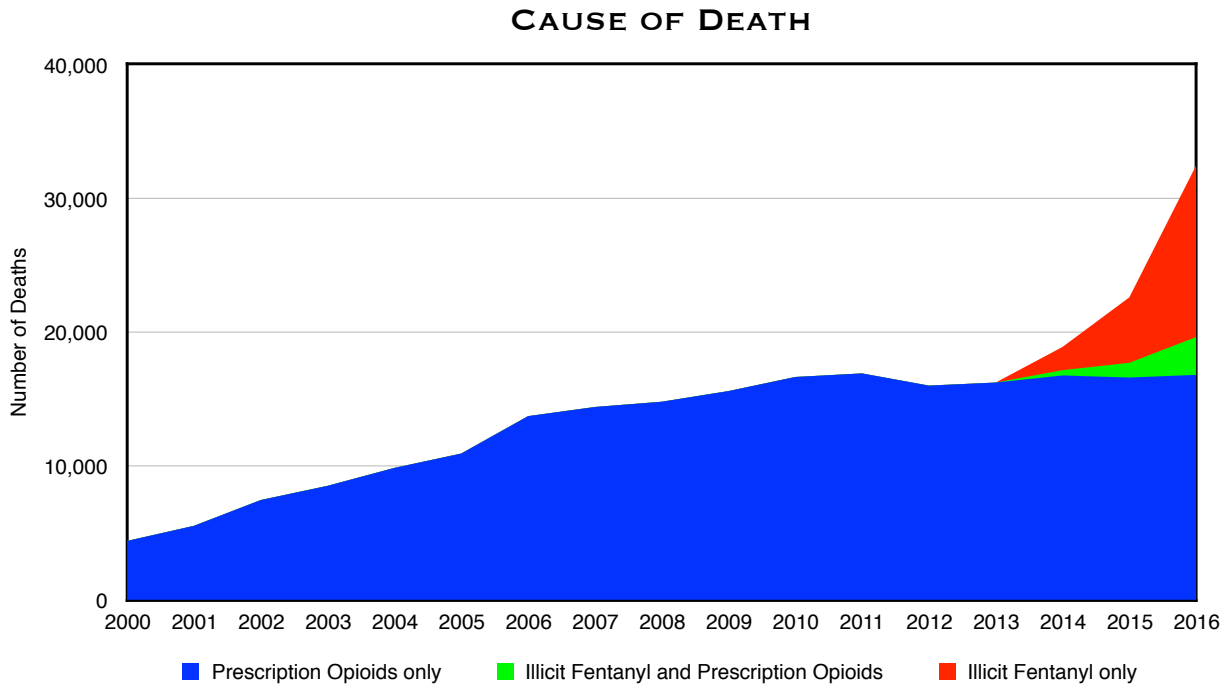

Table 2

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

Table 3 shows the number that the government uses and the actual number from my calculations. The actual prescription opioid death are both less than and greater than the government prescription opioid deaths. The difference is the concurrent deaths due to prescription drugs and illicit fentanyl. The government shows the 2016 synthetic opioid deaths (19,413) as being greater than the 2016 prescription drug deaths (17,087), because they ignore the prescription fentanyl deaths that are included in T40.4. The government numbers show an increase of illicit fentanyl (synthetic opioid deaths) from 2014 to 2016 of 250% (5,544 to 19,413). The actual increase in illicit fentanyl is 635% (2,128 to 15,646). The government is either unable or unwilling to quantify the actual illicit fentanyl deaths.

TABLE 3

Drug Class	2014	2015	2016
Government Prescription Opioid Deaths	**14,838**	**15,281**	**17,087**
Actual All Prescription Opioid Deaths	**17,158**	**17,710**	**19,633**
Actual Only Prescription Opioid Deaths	**16,765**	**16,610**	**16,809**
Government Synthetic Opioid Deaths	**5,544**	**9,580**	**19,413**
Actual All Illicit Fentanyl Deaths	**2,128**	**5,988**	**15,646**
Actual Only Illicit Fentanyl Deaths	**1,735**	**4,888**	**12,822**

Disclaimer: Any views expressed in this paper are solely mine and do not necessarily reflect the positions of any business or organization with which I am affiliated.

[1] Centers for Disease Control and Prevention. CDC Wonder database. Available at: http://wonder.cdc.gov. Accessed: May 19, 2018.

[2] Gladden RM, Martinez P, Seth P. Fentanyl law enforcement submissions and increases in synthetic opioid–involved overdose deaths—27 states, 2013–2014. MMWR 2016;65:837-843.

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