

QUANTITY DEPENDENT SENTENCING RANGES, THE DRUG EQUIVALENCY TABLE, AND “OXYCODONE (ACTUAL)”

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The sentencing ranges for controlled substance offenses in violation of federal law are largely dependent on the type and the quantity of the drug involved in the offense.¹ This dependence is followed with expanded coverage under the Sentencing Guidelines. For most controlled substance offenses involving opiates, including the opiate oxycodone, the guideline sentencing range is determined by application of the Drug Equivalency Table set forth in Application Note 8 (D) to USSG §2D1.1. This Table translates quantities of differing controlled substances into marijuana² equivalent quantities which, in turn, generate sentencing ranges

¹ Title 21 U.S.C. § 841(a) makes unlawful the knowing or intentional manufacture, possession for distribution, or distribution of any measurable amount of any “controlled substance.” Section 841(b) attaches penalties to § 841(a) unlawful conduct. For certain controlled substances the penalties include not only maximum but also mandatory minimum terms of imprisonment. The severity of the § 841(b) penalties are greatly dependent on facts beyond the generic controlled substance conduct described in § 841(a). These additional facts are, principally, the controlled substance type and quantity involved in the § 841(a) conduct and whether there was a resulting death or serious bodily injury. Section 841(a) covers only substantive violations, not attempts or conspiracies, and the § 841(b) penalties attach only to persons who violate § 841(a). However, 21 U.S.C. § 846 provides that anyone who attempts or conspires to commit “any offense defined in this subchapter shall be subject to the same penalties as those prescribed for the offense, the commission of which was the object of the attempt or conspiracy.” Controlled substance importation or exportation offenses and penalties are covered under 21 U.S.C. § 960(a) and § 960(b) and these provisions are counterparts to § 841(a) and § 841(b). The sentencing guidelines, advisory since *United States v. Booker*, 543 U.S. 220 (2005), set forth sentencing ranges within the offense statutory limits. The guideline ranges for all controlled substances are largely dependent on drug type and quantity involved in the offense.

² “Marijuana” and “marihuana” are alternative spellings. The “marihuana” alternative prevails in the relevant statutes and in the Sentencing Guidelines, but “marijuana” is otherwise the commonly used form. See *United States ex rel. Smith v. Lane*, 794 F.2d 287, 289 n. 1 (7th Cir. 1986) (noting that the Supreme Court has settled on the “marijuana” spelling). This paper will include both spelling forms — “marihuana” when quoting from or directly referring to statutory or other text employing that spelling form and “marijuana” otherwise.

through the §2D1.1(c) Drug Quantity Table. As the result of guideline amendments effective November 1, 2003, one gram of “oxycodone (actual)” is the equivalent for guideline sentencing purposes of 6.7 kilograms of marijuana. This “equivalence” is unreasonable and penalizes offenses involving oxycodone differently from and more harshly than offenses involving the other opiates.

A. Oxycodone, Opiates and the Drug Equivalency Table.

The genesis of the current federal criminal drug legislation is the Comprehensive Drug Abuse and Prevention and Control Act of 1970.³ One of the principal and enduring features of the 1970 Act is the classification of controlled substances by assignment to numbered schedules according to the chemical properties, psychological and physical effects, and abuse potential of the different substances.⁴ Oxycodone is classified as a schedule II opiate.⁵ Other schedule II

³ Pub. L. 91-513, 84 Stat 1236 *et seq.* (1970).

⁴ See H.R. Rep. No 1444, 91st Cong., 2d. Sess., *reprinted in* 1970 U.S. Code Cong & Ad News, 4566. The classification scheme involving schedules of individually identified substances was designed to facilitate an extremely important feature of the legislation, namely, the addition, subtraction or movement of particular substances from one schedule to another through administrative rather than legislative action under §§ 201 and 202 of Pub. L. 91-513, 84 Stat. 1243-1252, codified at 21 U.S.C. §§ 811 and 812. “Of key importance are the provisions authorizing the Attorney General to administratively add or remove substances from the schedules or to transfer substances between the various schedules, provided that the characteristics of the substance satisfy the criteria established for the schedule in which the substance is to be placed.” Statement of Rep. Hastings, 116 Cong. Rec. 33,309 (1970).

⁵ Title 21 U.S.C. § 802 (17)(A) identifies a “narcotic drug” as including “[o]pium, opiates, derivatives of opium and opiates” and their related isomers, esters, ethers, and salts. Title 21 U.S.C. § 802 (18) defines an “opiate” as “any drug or other substance having an addiction-forming or addiction-sustaining liability similar to morphine or being capable of conversion into a drug having such addiction-forming or addiction-sustaining liability.” Heroin is an opiate within the foregoing definition and is specifically listed in 21 U.S.C. § 812 as a schedule I “opium derivative.” See 21 C.F.R. § 1308-11. Schedule II(a)(1), as set forth in 21 U.S.C. § 812, includes all opiates and all opiate derivatives produced either directly or indirectly by extraction from substances of vegetable origin, independently by means of chemical synthesis, or by a combination of extraction and chemical synthesis. Oxycodone, morphine, hydrocodone, oxycodone, and fentanyl all fall within the 21 U.S.C. § 802(18) “opiate” definition and the 21 U.S.C. § 812, Schedule II (a)(1) description. They are all listed in 21 C.F.R. § 1308-12 as schedule II controlled substances. The principal difference between schedule I substances and

opiates include morphine, hydrocodone,⁶ oxycodone, and fentanyl.⁷ Heroin is a schedule I opiate.⁸ Oxycodone is not referenced specifically in 21 U.S.C. § 841(b) and its distribution has never been subject to statutory quantity dependent maximum or minimum mandatory penalties. Under 21 U.S.C. § 841(b)(1)(C), the first offense distribution of any amount of a schedule I or schedule II controlled substance, not specifically covered under §§ 841(b)(1)(A), 841(b)(1)(B), or 841(b)(1)(D), is punishable by a maximum period of 20 years imprisonment. As a statutory matter, therefore, any sentence within the 20 year maximum for first offense oxycodone distribution is a permissible sentence. Guideline sentencing ranges within this permitted 20 year maximum depend on quantity calculations under the USSG §2D1.1(c) Drug Quantity Table and/or Drug Equivalency Table.

The Drug Quantity Table does not generate quantity based guideline sentencing ranges for all controlled substances, but only for certain of the more common controlled substances.⁹ The Drug Equivalency Table serves two functions. First, it generates quantity based guideline sentencing ranges for controlled substances not specifically referenced in the Drug Quantity Table; and, second, it provides a common standard “equivalence” when differing controlled substances are involved in an offense.¹⁰ Guideline sentencing ranges for

schedule II substances is that the former have no “currently accepted medical use” and the latter have a “currently accepted medical use.” 21 U.S.C. § 812(1)(B) and § 812(2)(B).

⁶ Certain substances containing hydrocodone in limited quantity and combined with nonnarcotic ingredients were, until October 6, 2014, classified as schedule III substances, e.g., “not more than 15 milligrams” of dihydrocodeinone [hydrocodone] “per dosage unit, with one or more active nonnarcotic ingredients in recognized therapeutic amounts.” 21 U.S.C. § 812 Schedule III (d)(4). Effective October 6, 2014, the hydrocodone combination products in schedule III were rescheduled as schedule II substances. See 79 Fed. Reg. 49661, 49680 (August 22, 2014).

⁷ See note 5, *infra*.

⁸ See note 5, *infra*.

⁹ The common controlled substances specifically identified in 21 U.S.C. 841(b) and in the guideline Drug Quantity Table include heroin, cocaine, PCP, methamphetamine, fentanyl, LSD and marijuana.

¹⁰ See Application Note 8 (A) and (B) to USSG §2D1.1.

oxycodone offenses have never been derived from the §2D1.1(c) Drug Quantity Table itself because the Drug Quantity Table has never contained a reference to “oxycodone.”¹¹ Oxycodone, initially identified simply as “oxycodone” and since November 1, 2003, as “oxycodone (actual),” has been referenced only in, and guideline sentences for oxycodone offenses within the statutory maximum have been derived solely from, the Drug Equivalency Table.

Under the current guideline Drug Equivalency Table, one gram of “oxycodone (actual)” is equivalent to 6.7 kilograms of marijuana. The same Drug Equivalency Table equates one gram of heroin, a schedule I controlled substance, with one kilogram of marijuana. The comparison appears counter-intuitive. There is, however, a difference. For the great majority of controlled substances, including heroin and the other schedule I or II opiates except oxycodone, statutory and guideline quantity measurements include the weight of the carrier medium without regard for the percentage of the total weight attributable to the controlled substance alone. However, note (B) of the “Notes” to the USSG §2D1.1(c) Drug Quantity Table, identifies “oxycodone (actual)” as referring “to the weight of the controlled substance, itself, contained in the pill, capsule, or mixture.” This description suggests a difference in the manner of measuring oxycodone quantities and this apparent difference has thus far preserved from constitutional attack the substantial drug equivalency disparities between oxycodone and heroin.¹²

¹¹ Though the §2D1.1(c) Drug Quantity Table itself does not include the term “oxycodone” in any form, Note (B) of the “Notes to Drug Quantity Table” identifies “oxycodone (actual)” as referring “to the weight of the controlled substance, itself, contained in the pill, capsule, or mixture.”

¹² See, e.g., *United States v. Ekasala*, 596 F.3d 74 (1st Cir. 2010) and *United States v. Landron-Class*, 696 F.3d 62, 75-76 (1st Cir. 2012). *Ekasala* focuses on the appropriateness of responding to disproportions following from substantially differing pill weights of equivalent doses of oxycodone and expressly declines to consider the constitutionality of attaching a higher marijuana equivalent to oxycodone than to an equal weight of heroin. *Ekasala*, *supra*, at 75-76. *Landron-Class*, *supra*, at 76, cites *Ekasala* and proceeds to note that “unlike for many

However, and as more fully set forth in the pages that follow, the Drug Quantity Table description of “oxycodone (actual),” to the extent that it suggests, as it would appear to suggest, a measurement of “pure” oxycodone independent of the weight of a carrier medium, is false and misleading.

Whether or not there is constitutional “rationality” in the guideline sentencing distinctions between oxycodone and heroin, in the period after *United States v. Booker*, 543 U.S. 220 (2005) and *Kimbrough v. United States*, 552 U.S. 85 (2007), it has been clear that a sentencing court is free to vary from the guideline ranges based on policy disagreements with the guidelines.¹³ Although there may be a rational basis for making sentencing distinctions between different forms of quantity measurements, an analysis of the process leading to the Sentencing Commission’s application of a 6.7 kilogram marijuana equivalency to 1 gram of oxycodone (actual) will reveal that this “equivalence” has little, if anything, to do with oxycodone in its “actual” or “pure” state or with any reasonable “equivalence” comparison of oxycodone to heroin or to any other opiate.¹⁴

prescription drugs, when determining the guideline range for an oxycodone related offense, only the weight of the active ingredient (oxycodone) is used not the full pill weight.” The statement therein that “only the weight of the active ingredient (oxycodone) is used” is flatly wrong.

¹³ See, e.g., *United States v. Stone*, 575 F.3d 83, 89 (1st Cir. 2009) (“Thus, after *Kimbrough*, a district court makes a procedural error when it fails to recognize its discretion to vary from the guideline range in a categorical policy disagreement with a guideline.”).

¹⁴ Although, post-*Booker*, the guidelines are advisory rather than mandatory, they are hardly irrelevant. “The Guidelines provide a framework or starting point—a basis, in the commonsense meaning of the term—for the judge’s exercise of discretion.” *Freeman v. United States*, 131 S.Ct. 2685, 2692 (2011). “[A] district court should begin all sentencing proceedings by correctly calculating the applicable Guidelines range.” *Gall v. United States*, 552 U.S. 38, 49 (2007). Of perhaps more practical significance, there appears to be a convenient cognitive bias for judges to “anchor” their sentences to the calculated guideline range. See Mark W. Bennett, *Confronting Cognitive “Anchoring Effect” and “Blind Spot” Biases in Federal Sentencing: a Modest Solution for Reforming a Fundamental Flaw*, 104 J. Crim. L. & Criminology 489 (2014).

B. A Summary Description of The Pharmacology of Opioids.

An “opiate” is medically defined as “any preparation or derivative of opium.”¹⁵ The term “opioid” was originally used to distinguish synthetic opiate like compounds from opiates derived naturally from opium.¹⁶ The 21 U.S.C. § 802(18) definition of “opiate” embraces both synthetic “opioids” and “opiates” naturally derived from opium.¹⁷ The current medical literature appears to use the term “opioid” to cover both the synthetic and naturally occurring opium derivatives. Either term will be used herein interchangeably.

In addition to opium, the opioids of natural origin are primarily morphine, codeine and thebaine, all of which are derived from the seedpod of the poppy plant. Synthetic or semi-synthetic opioids include, *inter alia*, heroin, fentanyl, oxycodone, hydrocodone, hydromorphone and oxymorphone.

Numerous opioid medications are synthetic derivatives of morphine and thebaine, which are produced by relatively simple modifications of the parent molecule. Examples include transforming morphine into codeine by methyl substitution on the phenolic hydroxyl group; the transformation of morphine to diacetylmorphine by acetylation at the 3 and 6 positions (to produce heroin); and the transfer of morphine into hydromorphone, oxymorphone, hydrocodone, and oxycodone.¹⁸

Opioid medications can be placed into four groups, based on their activity at the opioid receptor site where they bind to produce their effect. The first group consists of drugs that bind to and activate

¹⁵ Stedman’s Medical Dictionary, 28th Edition (2006).

¹⁶ *Id.*

¹⁷ See note 5, *infra*.

¹⁸ MARVIN D. SEPPALA, M.D., PRESCRIPTION PAINKILLERS, HISTORY, PHARMACOLOGY, AND TREATMENT, (2010), page 139. The penultimate line of the quoted text includes the term “hydromorphone.” This is an erroneous spelling in the original text of “hydromorphone.” The subsequently quoted text paragraph from the same source includes the correct “hydromorphone” spelling.

opioid receptors in the brain, the agonists. It includes the natural opium derivatives morphine and codeine, the semisynthetic mu opioid derivatives such as hydromorphone (Dilaudid), oxymorphone (Numorphan), hydrocodone (Vicodin and others), oxycodone (OxyContin, Percocet, and others), and the synthetic opioids such as meperidine (Demoral), fentanyl (Sublimaze, Duragesic), methadone, and propoxyphene (Darvocet, Darvon).¹⁹

Heroin, fentanyl, morphine, oxycodone, hydrocodone, hydromorphone and oxymorphone are all opioid agonists binding at the μ opioid receptors which are found primarily in the brain stem and the medial thalamus. “Mu receptor activity is responsible for supraspinal analgesia (pain relief sensed in the brain), respiratory depression, euphoria, sedation, decreased movement in the stomach and intestines, and intoxication associated with physical dependence.”²⁰ All these opioid substances produce the same effect, albeit with somewhat differing degrees of pharmacological efficacy and differing speeds of passage through the blood brain barrier. “All pain relieving opioids stimulate the mu receptor and all opioids that are addicting do the same. There is a high degree of similarity between the opioid drugs . . . used for pain relief . . . They all act the same way, as mu receptor agonists.”²¹

Morphine, oxycodone, and hydrocodone have “approximate” pharmacological equivalences, i.e. equal doses produce the same effect.²²

¹⁹ SEPPALA, *supra*, at page 138.

²⁰ SEPPALA, *supra*, at page 140. Opioids work by mimicking the actions of naturally occurring opioids in the brain. “The opioid medications and the endogenous opioids both bind to the same opioid receptors; the difference is that opioid medications, in essence, overstimulate a natural internal opioid system and produce a far more powerful effect. Most, but not all, prescription opioids are opioid agonists — they fully activate the opioid receptor when they bind to it.” *Id.* at 137. See generally, GOODMAN & GILMAN’S THE PHARMACOLOGICAL BASIS OF THERAPEUTICS, Chapter 21, Eleventh Edition (2006).

²¹ SEPPALA, *supra*, at page 141.

²² See GOODMAN & GILMAN’S THE PHARMACOLOGICAL BASIS OF THERAPEUTICS, Chapter 21, Table 21-6 (“Dosing Data for Opioid Analgesics), page 580, Eleventh Edition (2006). With respect to the potency correspondence of oxycodone and hydrocodone, in connection with the

Hydromorphone is approximately six times more potent than morphine and oxycodone is approximately ten times more potent than morphine.²³ “Fentanyl is approximately 100 times more potent than morphine.”²⁴ Heroin is two²⁵ and perhaps three²⁶ times more potent than morphine.²⁷

C. Guideline Drug Equivalency Table History

rescheduling of hydrocodone combination products as schedule II controlled substances, the Administrator of the DEA, pursuant to 21 U.S.C. § 811(a) and 21 U.S.C. § 812(b)(2), found that “HCPs have a high potential for abuse. The abuse potential of HCPs is comparable to the schedule II controlled substance oxycodone.” 79 Fed. Reg. 49661, 49680 (August 22, 2014). In addition, “[t]he DEA, in agreement with the HHS review, considers the comparison of HCP’s to oxycodone products appropriate due to similarities between their pharmacological properties, therapeutic uses and patterns, as well as market history.” *Id.* at 49667. Similarly, in its December 16, 2013 recommendation that hydrocodone combination products be subject to control under schedule II, the Department of Health and Human Services noted — “When evaluating a product for scheduling, comparisons with other controlled substances in the same pharmacological class (e.g., opioids) are typically included as a part of the analysis to support assessment of the relative potential for abuse and for dependence. Therefore to assess the appropriate schedule to recommend for hydrocodone, FDA looked to compare its abuse liability with other opioids in Schedule II and III. FDA concurred with DEA that oxycodone products (Schedule II) were the most appropriate comparator for hydrocodone combination products, because of similarities in pharmacology, market history, and patterns and indications for use.” Available at <http://www.regulations.gov/#!documentDetail;D=DEA-2014-0005-0001>, page 5.

²³ See GOODMAN & GILMAN’S THE PHARMACOLOGICAL BASIS OF THERAPEUTICS, Chapter 21, Table 21-6 (“Dosing Data for Opioid Analgesics), page 580, Eleventh Edition (2006).

²⁴ GOODMAN & GILMAN’S THE PHARMACOLOGICAL BASIS OF THERAPEUTICS, Chapter 21, page 571, Eleventh Edition (2006).

²⁵ “A person would need to take 30 milligrams (“mg”) of oxycodone as opposed to 15 mg of heroin to have an equianalgesic dose of that drug.” *United States v. Vigil*, 832 F.Supp. 2d 1304, 1307 (D.NM. 2011) (Finding of Fact 10).

²⁶ “Heroin (diacetylmorphine) is three times more potent than morphine and is produced from morphine by a slight modification of chemical structure.” ROBERT M. JULIEN, CLAIRE D. ADVOKAT, AND JOSEPH E. COMATY, A PRIMER OF DRUG ACTION, page 339, Twelfth Edition (2011).

²⁷ These pharmacological equivalencies are expert estimates and not derived with mathematical certainty. The potency/efficacy levels are dependent on the pharmacokinetics of the drug and the method of its delivery. “The pharmacokinetics of a drug describes the rate at which the drug is absorbed into the body, distributed throughout the body, metabolized, and eliminated from the body. . . . Factors that affect drug pharmacokinetics include the chosen route of administration.” SEPPALA, *supra*, at page 121.

There were no minimum mandatory sentences in the original 1970 § 841(b); only sentences with a maximum term of imprisonment.²⁸ There were also no increased sentences based on the quantity, or purity, of the controlled substance involved in the § 841(a) conduct.²⁹ The § 841(a) distribution or manufacture of any amount of a scheduled controlled substance would generate the § 841(b) maximum penalty assigned to the schedule classification of that substance.³⁰ Drug quantities or purity levels were matters for the court to consider, or not to consider, in the course of sentencing discretion which was virtually unreviewable.³¹

²⁸ Under § 802(16) of the 1970 Act, the term “narcotic drug” was defined to encompass opiates, cocaine and their respective derivatives and analogues. Under the original § 841(b)(1)(A), the sentence for the first offense distribution of a controlled substance in schedule I or II which was a “narcotic drug” was “not more than 15 years.” Under § 841(b)(1)(B), the sentence for the first offense distribution of a controlled substance in schedule I or II which was not a “narcotic drug” or of a controlled substance in schedule III, was “not more than 5 years.” Under § 841(b)(2), for controlled substances in schedule IV, the sentence for a first offense conviction was “not more than 3 years;” and under § 841(b)(3), for controlled substances in schedule V, the sentence for a first offense conviction was “not more than one year.”

²⁹ Controlled substance “quantities” were sometimes relevant in schedule classification. Certain schedule III controlled substances and all the originally classified schedule V controlled substances were mixtures or compounds containing limited quantities of opiates or opium derivatives, i.e., schedule II controlled substances, but mixed with other substances for medicinal purposes. Whether the mixture constituted the schedule II controlled substance or a schedule III or V controlled substance depended upon the proportion of the opiate with other substances. For example, “[n]ot more than 1.8 grams of codeine,” a schedule II opium derivative, “per 100 milliliters or not more than 90 milligrams per dosage unit, with an equal or greater quantity of an isoquinoline alkaloid of opium” was a schedule III controlled substance. § 202(a), Schedule III (d)(1), Pub. L. 91-513, 84 Stat. 1251 (1970). And “[n]ot more than 200 milligrams of codeine per 100 milliliters or per 100 grams” of “one or more nonnarcotic active medicinal ingredients in sufficient proportion to confer upon the compound, mixture, or preparation valuable medicinal qualities other than those possessed by the narcotic drug alone” was a schedule V controlled substance. § 202(a), Schedule V (1), Pub. L. 91-513, 84 Stat. 1252 (1970). Until October 6, 2014, certain hydrocodone combination products were classified as schedule III controlled substances. See note 6, *infra*.

³⁰ There was an exception in the 1970 legislation which has not been altered. Title 21 U.S.C. § 841(b)(4) covers the distribution of a “small amount of marihuana for no remuneration,” and treats such a distribution as a misdemeanor.

³¹ “Tribunals passing on the guilt of a defendant always have been hedged in by strict evidentiary procedural limitations. But both before and since the American colonies became a nation, courts in this country and in England practiced a policy under which a sentencing judge

This sentencing structure and related broad sentencing discretion persisted until the mid-1980s.³² In 1984 the Controlled Substances Penalties Amendments Act of 1984³³ amended § 841(b) to create for the first time quantity dependent increases in the maximum penalties for § 841(a) conduct involving schedule I or II narcotic drugs, marijuana, hashish, PCP, and LSD.³⁴ The amendments also eliminated disparities caused by classifications of controlled substances as narcotic

could exercise a wide discretion in the sources and types of evidence used to assist him in determining the kind and extent of punishment to be imposed within limits fixed by law.” *Williams v. New York*, 337 U.S. 241, 246 (1949). In 1970, as part of the Organized Crime Control Act of 1970, Congress added, as Pub. L. 91-452, Title X, Sec. 1001(a), 84 Stat. 951, § 3577 to Title 18 of the U.S. Code — “No limitation shall be placed on the information concerning the background, character, and conduct of a person convicted of an offense which a court of the United States may receive and consider for the purpose of imposing an appropriate sentence.” The provision is now located at 18 U.S.C. § 3661.

³² There was an exception. In 1980 a provision added as a rider to the Infant Formula Act of 1980, Pub. L. 96-359, 94 Stat. 1194 (1980) amended § 841(b) by creating a new subparagraph, namely, § 841(b)(6). In relevant part the new subparagraph provided that “[i]n the case of a violation of subsection (a) involving a quantity of marihuana exceeding 1,000 pounds, such person shall be sentenced to a term of imprisonment of not more than 15 years.” Pub. L. 96-359, § 8(c), 94 Stat. 1194 (1980). Under 21 U.S.C. § 812(c)(1970), marihuana was listed as a schedule I controlled substance. Marihuana, however, was not a “narcotic drug” within the meaning of 21 U.S.C. § 802(16)(1970). Until the 1980 amendment, the maximum penalty for the distribution of marihuana in any amount was five years imprisonment. 21 U.S.C. § 841(b)(1)(B). The 1980 amendment, therefore, increased the maximum penalty from 5 years to 15 years, “in the case of” a § 841(a) violation “involving” more than 1000 pounds of marihuana.

³³ Pub. L. 98-473, Title II, Ch. V, § 501, 98 Stat. 2068 (1984). This Act was Ch. V of the Comprehensive Crime Control Act of 1984, Pub.L. 98-473, Title II 98 Stat. 1837, *et seq.* (1984). The Sentencing Reform Act of 1984, which spawned the guidelines, was also part of Pub. L. 98-473, at Ch. II § 211 *et seq.*, 98 Stat. 1987 *et seq.* (1984).

³⁴ The 1984 amendments added a new § 841(b)(1)(A) to cover the quantity dependent increases in the maximum penalty for schedule I or II narcotic drugs, PCP and LSD. The new maximum penalty for a first offense conviction was 20 years. The previous § 841(b)(1)(A) was redesignated as § 841(b)(1)(B) and was amended to cover controlled substances in schedule I and II, “except as provided in subparagraphs (A) and (C).” The maximum penalty under the new § 841(b)(1)(B) was 15 years. This was an increase from 5 years for schedule I and II controlled substances that were not narcotic drugs and were not covered in an amended § 841(b)(1)(C). Under the amended § 841(b)(1)(C), cases involving less than 50 kilograms of marijuana, 10 kilograms of hashish, or one kilogram of hashish oil or in the case of any controlled substance in schedule III” the maximum penalty was 5 years imprisonment. See Pub. L. 98-473, Ch. V, § 502, 98 Stat. 2068 (1984), codified at 21 U.S.C. § 841(b) (1982 Ed. Supp. II).

or non-narcotic and the penalty increases were relatively modest. Moreover, the quantity measurements were based on the weight of the pure substance, not on the weight of the entire mixture containing the substance.³⁵

In 1986, the Narcotic Penalties and Enforcement Act of 1986³⁶ again amended § 841(b) by substantially increasing maximum penalties, continuing and increasing quantity dependent maximum penalties, and adding quantity dependent minimum mandatory sentences. The § 841(b) quantity dependent sentencing ranges attached to a limited number of controlled substances, namely, heroin, cocaine, PCP, LSD, fentanyl and marihuana.³⁷ With one exception,³⁸ however, the

³⁵ “The 1984 amendments were intended ‘to provide a more rational penalty structure for the major drug trafficking offenses,’ S.Rep. No. 98-225, p. 255 (1983), U.S. Code Cong. & Admin News 1984, pp. 3182, 3437 by eliminating sentencing disparities caused by classifying drugs as narcotic and nonnarcotic. *Id.* at 256. Penalties were based instead upon the weight of the pure drug involved.” *Chapman v. United States*, 500 U.S. 453, 460-461 (1991) (emphasis added).

³⁶ Pub. L. 99-570, § 1002, 100 Stat. 3207-2 (1986).

³⁷ The 1986 amendments added new §§ 841(b)(1)(A) and 841(b)(1)(B). Each section covered the same limited number of controlled substances, but in differing threshold amounts. Meeting the § 841(b)(1)(A) thresholds produced for a first offense conviction a maximum life sentence and a minimum mandatory 10 year sentence. Meeting only the § 841(b)(1)(B) thresholds produced for a first offense conviction a 40 year maximum sentence and a minimum mandatory 5 year sentence. Under a new § 841(b)(1)(C), there was a 20 year maximum sentence, but no minimum mandatory sentence, for first offense convictions for the distribution of any schedule I or II controlled substance in any amount, excepting marijuana, and except to the extent otherwise covered in §§ 841(b)(1)(A) or 841(b)(1)(B). A redesignated § 841(b)(1)(D) covered marijuana related controlled substances in quantities not covered in §§ 841(b)(1)(A) or 841(b)(1)(B) and schedule III controlled substances with maximum penalties for first offense convictions limited to 5 years. Pub.L. 99-570, Title I, §§ 1002 and 1003, 100 Stat. 3207-2-3207-5 (1986).

³⁸ The exception was phencyclidine (PCP). The 1986 amendment, Pub.L. 99-570, 100 Stat. 3207-2, as codified at 21 U.S.C. § 841(b)(1)(A)(iv), attached a minimum mandatory 10 year sentence and a life term maximum to “100 grams or more of phencyclidine (PCP) or 1 kilogram or more of a mixture or substance containing a detectable amount of phencyclidine (PCP).” This was the only schedule I or II controlled substance with a § 841(b) statutory quantity dimension based at least in part on drug purity in the 1986 amending legislation. In the Anti-Drug Abuse Amendments Act of 1988, Pub.L. 100-690, Title VI, §§ 6470(g) and 6470(h), 102 Stat.4371 (1988), § 841(b) was amended by adding subparagraphs § 841(b)(1)(A)(viii) and § 841(b)(1)(B)(viii) to provide methamphetamine with similar “purity” treatment. PCP and methamphetamine remain the only two controlled substances with § 841(b) statutory penalties based, at least in part, on “purity” calculations. See also, note 29, *infra*, regarding schedule classification based on controlled substance quantities within certain compounds.

quantities were measured, not by the weight of the pure controlled substance involved, but by the weight of the mixture containing a “detectable” amount of the controlled substance without regard for the percentage of the actual substance within the mixture.³⁹

These two sets of amendments, except to the extent the latter set required the imposition of a minimum mandatory sentence, did not affect a court’s broad sentencing discretion, but simply increased the range within which the court could exercise that discretion. For example, the 1984 amendments raised the maximum quantity dependent penalties under § 841(b)(1)(A) for first offense convictions to twenty years while the 1986 amendments set a ten year minimum mandatory floor and a life maximum for such convictions. The fact that there was a significant increase in the range within which a court could exercise its sentencing discretion did not necessarily require proportional increases in the sentences actually imposed. The Sentencing Guidelines, however, filled in the additional maximum sentencing space with a series of mandatory (pre-*Booker*) sentencing ranges based primarily on drug type and carrier medium quantity.

The guidelines first went into effect on November 1, 1987. There was a note attached to the original §2D1.1(c) Drug Quantity Table as follows —

The scale amounts of all controlled substances refer to the total weight of the controlled substance. Consistent with the provisions of the Anti-Drug Abuse Act, if any mixture of a compound contains any detectable amount of a controlled substance, the entire amount of the mixture or compound shall be considered in measuring the quantity. If a mixture or compound contains a detectable amount of more than one controlled substance, the most serious controlled substance shall determine the categorization of the entire quantity.

Although the guideline drug quantity measurements followed the 1986 statutory lead by weighing the entire carrier medium along with the controlled

³⁹ Pub.L. 99-570, 100 Stat. 3207-2 -3207-4 (1986).

substance within the medium, the decision to do so was not logically required. The Parole Commission Offense Severity Index, utilized in setting appropriate periods of imprisonment prior to parole consideration, measured the severity of opiate and cocaine offenses on the basis of purity levels. “Equivalent amounts for the cocaine and opiate categories may be computed as follows: 1 gram of 100% pure is equivalent to 2 grams of 50% pure and 10 grams of 10% pure, etc.”⁴⁰

The original 1987 §2D1.1 Drug Equivalency Table for schedule I or II opiates was based on heroin equivalents, not marijuana equivalents. For the most part, the “equivalences” of the various opiates in relation to heroin tended to match the pharmacological equivalence referenced in the preceding section of this paper. Thus under the original Drug Equivalency Table, one gram of each of morphine, oxycodone, and hydrocodone was the equivalent of one half a gram of heroin. Because of the Sentencing Commission’s deference to the statutory quantity distinctions, however, and as reflected in Application Note 10 to the original §2D1.1, the “ratios in the Drug Equivalency Tables do not necessarily reflect dosages based on pharmacological equivalents.”⁴¹ Nonetheless, it was clear that the Drug Equivalency Table, at least with respect to schedule I and II opiates, was

⁴⁰ 28 C.F.R. § 2.20, Note (2) to Ch. 9, §§ 921 *et seq.* (1985).

⁴¹ For example, the Narcotics Penalties Enforcement Act of 1986, Pub. L. 99-570, 100 Stat. 3207-2 (1986), amended 21 U.S.C. § 841(b)(1)(A) to provide the same minimum mandatory and maximum penalties for the distribution of 1 kilogram or more of a mixture containing heroin as for the distribution of 400 grams or more of a mixture containing fentanyl. See, respectively, § 841(b)(1)(A)(i) and § 841(b)(1)(A)(vi). As noted, *infra*, fentanyl is estimated to be up to 100 times more potent than heroin. The original 1987 guideline Drug Quantity Table offense levels matched the statutory ratios between heroin and fentanyl, i.e., 1 to 2.5, but the original Drug Equivalency Table equated 1 gram of fentanyl with 31.25 grams of heroin. The Drug Equivalency Table was amended, effective November 1, 1989, to equate 1 gram of fentanyl with 2.5 grams of heroin — “to conform the equivalency for fentanyl . . . to that set forth in the Drug Quantity Table and statute.” See Reason for Amendment, Federal Sentencing Guidelines Manual, Appendix C, Amendment 126 (1989). Despite a pharmacological potency for fentanyl greatly exceeding two and one-half times that of heroin, that ratio persists in both the current statute and the current guidelines.

designed to reflect a pharmacologically accurate potency equivalence of the opiate in question with heroin. It is, of course, anomalous, in the absence of proportionally uniform carrier medium weights, to measure drug quantities by the total weight of the carrier medium that includes the substance and at the same time employ pharmacological equivalences, which necessarily assume equivalent purity levels, when applying the Drug Equivalency Table. It does not make a lot of sense, but it was consistent. The anomaly touched virtually all the controlled substances.

The Drug Equivalency Table was amended effective November 1, 1991,⁴² to reference conversion to a single substance, marijuana, rather than to the previous four substances.⁴³ In its Reason for Amendment, the Commission noted that “the use of one referent rather than four makes no substantive change but will make the required computations easier and reduce the likelihood of computational error.”⁴⁴ The ratios of the other opiates to heroin remained the same. For example, one gram of heroin was equivalent to one kilogram of marijuana, while one gram of each of morphine, oxycodone, and hydrocodone was equivalent to 500 grams of marijuana. The marijuana quantities were not pharmacological equivalents, but simply sentencing slots. The pharmacological potency relationships of these other opiates to heroin remained constant.

⁴² Federal Sentencing Guidelines Manual, Appendix C, Amendment 396 (1991).

⁴³ In the original Drug Equivalency Table, there were four referent “equivalents” — heroin for the schedule I and II opiates; cocaine for the schedule I and II stimulants; heroin or PCP for LSD, PCP and the other schedule I or II hallucinogens; and marijuana/heroin for the remaining controlled substances. USSG §2D1.1 Drug Equivalency Table Federal Sentencing Guidelines Manual (1987).

⁴⁴ Federal Sentencing Guidelines Manual, Appendix C, Amendment 396 (1991). The Reason for Amendment also reinforced the intended pharmacological equivalences of the schedule I and II opiates indicating that “the equivalencies for Schedule III substances are not statutorily based, nor are the pharmacological equivalencies as clear as with Schedule I or II substances.” (Emphasis added).

Despite the statutory quantification of LSD to include the weight of the carrier medium and the approval of this measurement method in *Chapman v. United States*, 500 U.S. 453 (1991), effective November 1, 1993, the Sentencing Commission amended the §2D1.1(c) notes following the Drug Quantity Table so that LSD quantities were to be measured by dosage unit without the weight of the carrier medium, i.e.. “to treat each dose of LSD on the carrier medium as equal to 0.4 mg of LSD for the purposes of the Drug Quantity Table.”⁴⁵ In the “Reasons for Amendment,” the Commission noted that it found that the weights of LSD carrier media “vary widely and typically far exceed the weight of the controlled substance itself. . . . As a result, basing the offense level on the entire weight of the LSD and carrier medium produces unwarranted disparity among offenses involving the same quantity of actual LSD but different carrier weights, as well as sentences that are disproportionate to those for other, more dangerous controlled substances.” (Emphasis added).⁴⁶ The guideline amendment, now set forth in Note (G) following the §2D1.1(c) Drug Quantity Table, has no effect on § 841(b) statutory quantification which includes the weight of the LSD carrier medium.⁴⁷ For guideline purposes, however, there is Commission acknowledgement that sentencing based on carrier weight is imperfect.

Effective November 1, 1995, the Commission modified the §2D1.1(c) Drug Quantity Table to alter the method for determining offense levels for schedule I and II depressants and schedule III, IV, and V controlled substances —

. . . by applying the Drug Quantity Table according to the number of pills, capsules, or tablets rather than by the gross weight of the pills, capsules or tablets. Schedule I and II Depressants and Schedule II, IV and, V substances are almost always in pill, capsule, or tablet form.

⁴⁵ See Federal Sentencing Guidelines Manual, Appendix C, Amendment 488 (1993).

⁴⁶ *Id.*

⁴⁷ See *Neal v. United States*, 516 U.S. 284 (1996).

The current guidelines use the total weight of the pill, capsule or tablet containing the controlled substance. This method leads to anomalies because the weight of most pills is determined primarily by the filler rather than the controlled substance. Thus, heavy pills lead to higher offense levels even though there is little or no relationship between gross weight and the potency of the pill. Applying the Drug Quantity table according to the number of pills will both simplify guideline application and more fairly assess the scale and seriousness of the offense. (Emphasis added).⁴⁸

Schedule I and II opiates, even the prescription medications in pill, capsule, and tablet form, were not included.⁴⁹ Nonetheless, as with LSD, there is Commission acknowledgement that setting offense levels based on gross weight including fillers rather than on the weight of the controlled substance active ingredient is hardly satisfactory.⁵⁰

D. The One Gram “Oxycodone (Actual)” Conversion to 6.7 Kilograms of Marijuana Is Unreasonable.

The current §2D1.1(c) Drug Equivalency Table, attaching 6.7 kilograms of marijuana to one gram of oxycodone (actual), is the product of amendments to the

⁴⁸ Federal Sentencing Guidelines Manual, Appendix C, Amendment 517 (1995).

⁴⁹ There are schedule III and schedule V opiates which are mixtures or compounds containing limited quantities of opiates or opium derivatives, i.e., schedule II controlled substances, but mixed with other substances for medicinal purposes. Whether the mixture constitutes the schedule II controlled substance or a schedule III or V controlled substance depends upon the proportion of the opiate with the other substances. At the time of this amendment, 21 U.S.C. § 812, Schedule III (d)(4) identified “[n]ot more than 15 milligrams [of dihydrocodeinone] per dosage unit, with one or more active, nonnarcotic ingredients in recognized therapeutic amounts.” “Dihydrocodeinone” is a synonym for “hydrocodone.” There were no such hydrocodone combination products in excess of 10 mg. Vicodin is hydrocodone and acetaminophen. Until October 6, 2014, a 10 milligram Vicodin was a schedule III controlled substance covered under the 1995 amendment. Percocet is oxycodone and acetaminophen. Despite its equivalent opioid pharmacological equivalence to Vicodin, Percocet was not a schedule III substance in any amount and is not covered under the 1995 amendment. See also, notes 6 and 29, *infra*.

⁵⁰ See text at pages 14-15, *infra*, and the Commission’s rationale in Amendment 488 for quantifying LSD for guideline purposes by dosage unit and without regard for carrier medium weight.

guidelines made effective on November 1, 2003.⁵¹ The rationale for the amendments modifying the oxycodone equivalence is fully disclosed in the “Reason for Amendment” section of the Sentencing Commission’s “Official Text” of those amendments, quoted at length in the accompanying note.⁵² The

⁵¹ Federal Sentencing Guidelines Manual, Appendix C, Amendment 657 (2003).

⁵² As “Official Text,” the following “Reason for Amendment” text is available at http://www.ussc.gov/sites/default/files/pdf/amendment-process/official-text/20030501_Amendments.pdf. See also, Federal Sentencing Guidelines Manual, Appendix C, Amendment 657 (2003) —

“This amendment responds to proportionality issues in the sentencing of oxycodone trafficking offenses. Oxycodone is an opium alkaloid found in certain prescription pain relievers such as Percocet and OxyContin. This prescription drug generally is sold in pill form and, prior to this amendment, the sentencing guidelines established penalties for oxycodone trafficking based on the entire weight of the pill. The proportionality issues arise (1) because of the formulations of the different medicines; and (2) because different amounts of oxycodone are found in pills of identical weight.

“As an example of the first issue, the drug Percocet contains, in addition to oxycodone, the non-prescription pain reliever acetaminophen. The weight of the oxycodone component accounts for a very small proportion of the total weight of the pill. In contrast, the weight of the oxycodone accounts for a substantially greater proportion of the weight of an OxyContin pill. To illustrate this difference, the Percocet pill containing five milligrams (mg) of oxycodone weighs approximately 550 mg with oxycodone accounting for 0.9 percent of the total weight of the pill. By comparison, the weight of an OxyContin pill containing 10 mg of oxycodone is approximately 135 mg with oxycodone accounting for 7.4 percent of the total weight. Consequently prior to this amendment, trafficking 364 Percocet pills or 1481 OxyContin pills resulted in the same five year sentence of imprisonment. Additionally, the total amount of the narcotic oxycodone involved in this example is vastly different depending on the drug. The 364 Percocets produce 1.8 grams of actual oxycodone while the 1,481 OxyContin pills produce 14.8 grams of oxycodone.

“The second issue results from differences in the formulation of OxyContin. Three different amounts of oxycodone (10, 20, and 40 mg) are contained in pills of identical weight (135 mg). As a result, prior to this amendment, an individual trafficking in a particular number of OxyContin pills would receive the same sentence regardless of the amount of oxycodone contained in the pills.

“To remedy these proportionality issues, the amendment changes the Drug Equivalency Tables in §2D1.1 . . . to provide sentences for oxycodone offenses using the weight of the actual oxycodone instead of calculating the weight of the entire pill. The amendment equates 1 gram of actual oxycodone to 6,700 grams of marijuana. This equivalency keeps penalties for offenses involving 10 mg OxyContin pills identical to levels that existed prior to the amendment, substantially increases penalties

amendment was prompted by a disproportion in the guideline sentencing ranges resulting from the differing pill weights of two oxycodone medications — Percocets and OxyContin. Percocets were compounds of oxycodone with acetaminophen. A Percocet pill containing 10 mg of oxycodone weighed 550 mg. Less than 1% of the weight was attributable to the 10 mg. oxycodone active ingredient. OxyContin pills, whether containing 10 mg, 20 mg, or 40 mg of oxycodone, each weighed 135 mg. In the 10 mg OxyContin, 7.4% of the weight was attributable to the oxycodone active ingredient.⁵³ Prior to the amendment, oxycodone quantities were measured by the total weight of the carrier medium that included the oxycodone — “Consequently prior to this amendment, trafficking involving 364 Percocet pills or 1,481 OxyContin pills resulted in the same five year sentence of imprisonment.”⁵⁴ Though the Sentencing Commission resolved the disproportion between different formulations of oxycodone, specifically Percocets and OxyContin, in the process it created a unique “equivalency” for oxycodone offenses that was neither based on “actual” oxycodone content nor rationally related to any pharmacological or other equivalence among oxycodone and the other opiates.

Though, as already noted, there is anomaly in a process that on the one hand calculates quantities to include the weight of the carrier medium as well as the controlled substance in which it is contained and on the other hand engages an equivalency table which assumes pharmacological equivalent purity,⁵⁵ one would

for all other doses of OxyContin, and decreases somewhat the penalties for offenses involving Percocet.”

⁵³ Since the 20 mg and the 40 mg OxyContin pills each also weighed 135 mg, the weight attributable to the oxycodone active ingredient was, respectively 14.8% and 29.6%.

⁵⁴ See note 52, *infra*.

⁵⁵ This disconnect was noted in the 1995 amendments which altered the method for determining offense levels for schedule I and II depressants and schedule III, IV, and V controlled substances. See text at pages 15-16, *infra*.

expect that in apparently deciding to calculate oxycodone quantities on an “actual” active ingredient content basis, there would be an attempt to make at least some comparison with the other opiates in their respective “actual” active ingredient states. But there was none of that. Rather the 6.7 kilogram marijuana equivalence for oxycodone was produced by calculating the weight of the one hundred 10 mg OxyContin pills necessary to constitute one gram of the actual oxycodone active ingredient. Since each 10 mg pill weighed 135 mg, the weight of the 100 pills necessary to produce the one gram oxycodone active ingredient was 13.5 grams. The Commission’s next step was the application of the prior marijuana equivalence to the 13.5 gram weight of the 100 OxyContin 10 mg pills. The pre-amendment equivalence was one gram of oxycodone to one half a kilogram of marijuana. Thus prior to the amendment, the 13.5 gram weight of one hundred 10 mg oxycodone pills would translate to 6.75 kilograms of marijuana. With a bit of an unexplained discount, the new one gram “oxycodone (actual)” became the equivalent of 6.7 kilograms of marijuana. Only in this manner, could the penalties for offenses involving 10 mg OxyContin pills be kept “identical to levels that existed prior to the amendment.”⁵⁶ However, only 7.4% of oxycodone (actual) was contained in each of the 10 mg OxyContin pills used to create the new equivalence. As a result, only 7.4% of the 13.5 grams was the weight of the actual oxycodone. “Oxycodone (actual)” under the guidelines is, therefore, a 7.4% oxycodone content that is attached to all oxycodone formulations. Because there was no such “actual” level attached to heroin or other opiates and no comparative weights of common quantity mixtures containing heroin or other opiates, the new oxycodone (actual) equivalence is limited to oxycodone formulations. Though it provides a common standard for the various oxycodone formulations, it eliminates any appropriately

⁵⁶ See note 52, *infra*.

comparative relationship of oxycodone to heroin, to the other opiates, or, for that matter, to any other controlled substance.

Had the Commission used the 20 mg OxyContin pill, which also weighed 135 mg and thus contained 14.8% of oxycodone actual, the translation would have produced a 3.35 kilogram marijuana equivalence per gram oxycodone actual. Using the equally weighted 40 mg OxyContin pill, 29.6% of which was oxycodone (actual), would have halved the marijuana equivalence once again to 1.67 kilograms per gram oxycodone (actual). The selection of the 10 mg OxyContin pill, with only a 7.4% oxycodone (actual) content, rather than the 20 mg or 40 mg pill, is arbitrary. The selection of any one of them, even the Percocet,⁵⁷ would have resolved the guideline sentencing disproportion between Percocet trafficking and Oxycontin trafficking. But none of such measurements would constitute a meaningful translation of comparative opiate potency. At base there was simply a weighing of pills in one oxycodone formulation to create a pseudo “purity” for all formulations with an actual measured purity level of only 7.4%. In contrast, “PCP (actual),” “methamphetamine (actual),” and “amphetamine (actual),” are identified in Note (B) to the §2D1.1(c) Drug Quantity Table as “refer[ring] to the weight of the controlled substance, itself, contained in the mixture or substance.” The same Note similarly identifies “oxycodone (actual).” However, there is an explanatory example added only to the PCP, methamphetamine, and amphetamine “(actual)” definition, i.e.,— “For example, a mixture weighing 10 grams containing PCP at 50% purity contains 5 grams of PCP (actual).” Thus these controlled substances “(actual)” are measured at 100% purity. Oxycodone (actual) is not so measured.

⁵⁷ It would have taken 550 ten milligram Percocets to produce one gram of oxycodone (actual). The weight of those pills would be 55 grams. The Percocets would have translated into a new marijuana equivalence of 27.5 kilograms for each one gram oxycodone (actual).

The treatment of oxycodone is unique and the “(actual)” suffix inappropriate and misleading.⁵⁸

After the amendment, one gram of pure heroin remained the equivalent of only one kilogram of marijuana. There was also no alteration in the marijuana equivalents for the other opiates which remained tied to comparative pharmacological equivalence with heroin.⁵⁹ Heroin, of course, is normally not found or used in pure form, packaged with uniform purity levels, or labeled to reflect the actual heroin content. It is, therefore, conveniently calculated as it is found, that is, on the basis of its own weight and the weight of its carrier medium. Nonetheless, statistics, drawn primarily from retail and dealer level undercover purchases and government seizures, reveal the average purity of packaged heroin at the retail and dealer stages of its distribution.

Established in the Executive Office of the President is an Office of National Drug Control Policy (“ONDCP”).⁶⁰ The ONDCP is charged, *inter alia*, with assessing and measuring changes in the price and purity of heroin.⁶¹ It publishes Data Supplements updating annually national level drug prices and purity trends

⁵⁸ The Minutes of the March 26, 2003 U. S. Sentencing Commission Public Meeting during which a motion to promulgate the amendments was passed unanimously are available at <http://www.ussc.gov/amendment-process/public-hearings-and-meetings/20030325-26/minutes-march-26-2003>. The minutes suggest that the Commission might not have fully grasped the consequences of the amendment. Vice Chair Steer “stated that he is very pleased with this proposed amendment because he believes it is a rational approach to focus on the controlled substance itself and provide for proportional guideline penalties based on the amount of the controlled substance, rather than the way the substance is formulated,” Ex Officio Commissioner Jaso noted “that this proposed amendment brings proportionality by basing oxycodone penalties on the amount of the active ingredient rather than the delivery substance.” It is interesting that the representative of the Department of Justice, Ex Officio Commissioner Jaso, limited the “proportionality” to “oxycodone penalties” only, while Vice Chair Steer matched “proportionality” with “controlled substances” generally.

⁵⁹ In the case of the opiate fentanyl, however, the ratio to heroin was based on the statute. See note 41, *infra*.

⁶⁰ 21 U.S.C. § 1702(a).

⁶¹ 21 U.S.C. § 1705(a)(2)(A)(vi)(V).

for three controlled substance types, one of which is heroin. Table 63 of the National Drug Control Strategy, Data Supplement 2013⁶² is entitled “Average Price and Purity of Heroin in the United States, 1981-2011 (2011 Dollars).” The Table 63 figures for the last 5 year period listed —from 2007 through 2011— indicate that the average heroin purity for retail level heroin “packages” of 1 gram or less was 31.2%.⁶³

The oxycodone purity of the 10 mg OxyContin pills used in producing the 6.7 kilogram marijuana equivalence was 7.4%. Average heroin “package” purity at street level quantities of 1 gram or less revealed in the Data Supplement 2013 Table 63 is over four times that amount. In addition, heroin is a schedule I controlled substance without any acceptable medical use, is pharmacologically twice as potent as oxycodone, and, unlike prescription medications such as oxycodone, heroin “packages” are distinctly susceptible to hidden and deadly

⁶² Available at http://www.whitehouse.gov/sites/default/files/ondcp/policy-and-research/2013_data_supplement_final2.pdf. The drug price and purity trends are the product of ONDCP commissioned studies. “DEA’s System to Retrieve Information on Drug Evidence (STRIDE) is the primary source of data for this study. STRIDE provides laboratory analyses of street-level drug purchases and of drugs removed from the marketplace where DEA participated in the seizure(s). The system also provides analyses of drug evidence and their physical and chemical attributes to determine geographic origins. Regional price and purity trends are weighted by DAWN data to calculate a national-level estimate. These estimates became available in July 2008, prepared by the Institute of Defense Analyses. In 2012, the same methodology was applied to data through 2011. Price data are expressed in current dollars.” *Id.* at page 10.

⁶³ Table 63 of the 2013 Data Supplement also indicated that the average heroin purity over the same period for purchases greater than 1 gram and up to 10 grams was 30% and for seizures and purchases greater than 10 grams it was 64.4%. There is a more recent Data Supplement, the National Drug Control Strategy, Data Supplement 2014, available at http://www.whitehouse.gov/sites/default/files/ondcp/policy-and-research/ndcs_data_supplement_2014.pdf. The corresponding Table in the 2014 Data Supplement is Table 67. In the 2014 Table, however, the retail purchase figures begin at purchases of 10 grams or less, and thus not all of such purchases are likely to constitute street level user “packages.” In any event the last five year average — 2008 through 2012 — the purity level at this 10 grams or less quantity was 28.6%. For purchases greater than 10 grams and up to 100 grams the corresponding average purity was 38.2%, and for seizures greater than 100 grams the corresponding average purity was 61.8%.

adulteration.⁶⁴ From any perspective, heroin is more dangerous than oxycodone. Comparatively, however, guideline sentencing ranges for oxycodone offenses are more severe than guideline sentencing ranges for heroin offenses. Whether or not there are valid reasons for punishing illegal prescription opiate distribution harshly,⁶⁵ there were no such reasons motivating the Commission decision to attach a marijuana equivalence of 6.7 kilograms to each gram of purported “oxycodone (actual).”⁶⁶ A sentence for an oxycodone offense that is based on a sentencing range so calculated can only be a reasonable sentence accidentally.⁶⁷

⁶⁴ In 2011 there were 258,482 emergency room visits associated with heroin use and 151,218 such visits associated with oxycodone use. See Substance Abuse and Mental Health Services Administration, *Drug Abuse Warning Network, 2011: National Estimates of Drug-Related Emergency Department Visits*. HHS Publication No. (SMA) 13-4760, DAWN Series D-39. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2013, available at <http://www.samhsa.gov/data/2k13/DAWN2k11ED/DAWN2k11ED.htm>.

⁶⁵ Although there have been recent dramatic increases in prescription opiate abuse, the suggestion that oxycodone or similar opiates are automatic gateways to heroin and an otherwise avoidable life of addiction is hardly clear. The problem of opiate “addiction” is somewhat more complex.

“The study by Inciardi and colleagues indicates that the abuse of prescription opioids such as OxyContin may lead to heroin abuse among individuals who have shown signs of drug abuse or dependence before they began abusing prescription opioids. It is much less likely that a person without previous drug or alcohol abuse will progress to heroin from OxyContin or other prescription opioid abuse. These conclusions by Inciardi and his colleagues have also been reached repeatedly in other studies: The abuse of OxyContin is rarely the initiating factor leading to the abuse of other drugs (Sees, et al. 2005); patients diagnosed with OxyContin dependence have high rates of substance abuse that predated the use of OxyContin (Potter et al. 2004); and people without a history of drug or alcohol abuse are unlikely to become addicted to prescription painkillers when they are prescribed for legitimate purposes (Edlund et al. 2007).”

SEPPALA, *supra*, at 108.

⁶⁶ See note 52, *infra*.

⁶⁷ The courts tend to be oblivious to the fact that “oxycodone (actual)” is hardly “actual” oxycodone. The cases challenging the equivalence are both surprisingly few and also lacking in meaningful analysis. A common response to such challenges is the fundamentally inaccurate note that “unlike for many prescription drugs, when determining the guideline range for an oxycodone related offense, only the weight of the active ingredient (oxycodone) is used, not the full pill weight.” *United States v. Landron-Class*, 696 F.3d 62, 75-76 (1st Cir 2012). See also, e.g., *United States v. Lewis*, 521 Fed.Appx. 109, 111 (4th Cir, 2013) (“only the active ingredient in . . . oxycodone is used”); *United States v. Nassar*, 373 Fed.Appx. 564, 565 (6th Cir. 2010)

E. Hydrocodone and Oxycodone.

Certain formulations containing hydrocodone — a schedule II opiate pharmacologically equivalent to oxycodone⁶⁸ — but in limited quantity and combined with nonnarcotic therapeutic ingredients, were, until October 6, 2014, classified as schedule III substances, e.g., those formulations that comprise “not more than 15 milligrams” of dihydrocodeinone [hydrocodone] “per dosage unit, with one or more active nonnarcotic ingredients in recognized therapeutic amounts.” 21 U.S.C. § 812 Schedule III (d)(4). Since amendments effective November 1, 1995, guideline sentencing ranges for such schedule III hydrocodone combination products were determined under the §2D1.1(c) Drug Quantity Table on the basis of the number of “units” rather than on the carrier medium inclusive weight or active ingredient purity level. None of the schedule III hydrocodone combination products, per unit, contained more than 10 milligrams of hydrocodone,⁶⁹ and, like Percocets, they generally included acetaminophen as the therapeutic addition. As with Percocets, the weight of acetaminophen in the unit,

(“oxycodone is converted using its actual pure weight”). One case in which the equivalence was challenged in detail, *United States v. Vigil*, 832 F.Supp.2d 1304 (D. NM 2011), is long on conclusory statements but very short on reasoned analysis. There is an erroneous focus on marijuana as the pharmacological comparator and there is no apparent recognition that the “oxycodone (actual)” in any formulation is only 7.4% pure. Notwithstanding the case’s factual detail, the *Vigil* court also treats “oxycodone (actual)” as if it were in fact “actual,” — “[o]ther opiate offenses focus on the total weight of the mixture or substance when calculating the drug amount while oxycodone offenses focus on the weight of the actual drug.” *Id.* at 1328. Apparently in this era of 97+% guilty pleas, plea agreements, and the post-*Booker* judicial discretion to disagree with the guidelines, sentencing hearings tend to be anticlimactic and the oddities surrounding “oxycodone (actual)” of *de minimus* import.

⁶⁸ See generally, pages 5-8, *infra*. See also, note 22, *infra*.

⁶⁹ A listing of the hydrocodone combination products approved by the Federal Drug Administration may be found in the FDA Orange Book of Approved Drug Products available at <http://www.accessdata.fda.gov/scripts/cder/ob/docs/queryai.cfm>. Excluding the recently approved single entity Zohydro ER, none of the products exceed 10 mg per dose.

usually 325 mg, greatly exceeded the weight of the active hydrocodone ingredient.⁷⁰

Effective October 6, 2014, hydrocodone combination products were rescheduled from schedule III to schedule II.⁷¹ As a result, guideline sentencing ranges for the hydrocodone combination products previously classified as schedule III substances will be determined under the §2D1.1(c) Drug Equivalency Table on the basis of the full unit weight and with a marijuana equivalence of 1 gram to one-half a kilogram of marijuana. This will produce an immense increase in the guideline sentencing ranges for the distribution of hydrocodone combination products.⁷²

Prior to October 25, 2013, FDA approved hydrocodone products were limited to the schedule III combination products, none of which exceeded a hydrocodone active ingredient content of 10 mg.⁷³ On October 25, 2013, the FDA approved Zohydro ER, a single entity hydrocodone extended release substance in capsule form. The approved dosages were 10 mg, 15 mg, 20 mg, 30 mg, 40 mg, and 50 mg. The respective full capsule weights were 104 mg, 132 mg, 158 mg, 214 mg, 279 mg, and 340 mg.⁷⁴ It follows that commencing October 6, 2014, there

⁷⁰ *Id.* The FDA Orange Book listing includes the weight of the product combined with hydrocodone in the hydrocodone combination products.

⁷¹ See 79 Fed. Reg. 49661, 49680 (August 22, 2014) (to be codified at 21 C.F.R. pt. 1308).

⁷² The FDA approved 10 mg hydrocodone combination products include, almost uniformly, 325 mg acetaminophen. There are surely other fillers as well. Assuming conservatively that the weight of the 10 mg hydrocodone combination product is 335 mg, it will take approximately three such units to weigh one gram. Thirty thousand such units would weigh 10,000 grams and under the Drug Equivalency Table would be equivalent to 5000 kilograms of marijuana. This would produce an offense level 34 and, in criminal history category I, a sentencing range of 151 to 188 months imprisonment. If such hydrocodone combination products were to remain schedule III substances with sentencing ranges measured by the number of “units,” the offense level under the Drug Quantity Table would be level 18 and the criminal history category I sentencing range 27 to 33 months imprisonment.

⁷³ See note 69, *infra*.

⁷⁴ A representative of Zogenix Inc., the manufacturer of Zohydro ER, provided the full capsule weights to the writer in a telephone communication.

will be sentencing disproportions between hydrocodone combination products, previously classified as schedule III substances, and the Zohydro ER single entity products similar to the disproportions between the comparable Percocet and OxyContin products that produced the 2003 Sentencing Commission creation of “oxycodone (actual).”

A “hydrocodone (actual)” adjustment similar to the 2003 “oxycodone (actual)” adjustment would be equally inappropriate. Prescription opiates, unlike heroin “packages” distributed at the street level, are likely to identify the content of the active ingredient controlled substance in the carrier medium. The Drug Equivalency Table was initially designed to measure the various opiates against heroin. Perhaps the recent rescheduling of hydrocodone combination products will encourage the Sentencing Commission to reconsider the Drug Equivalency Table as it applies to opiate offenses. Given the current trend of increasing opiate abuse, it may well be appropriate for the Sentencing Commission to reconsider guideline ranges for offenses involving opiates. To the extent that the differing opiates warrant differing guideline sentencing treatment, as has been the historical case, the suggestion here is an equivalency measurement of the actual active ingredient content of prescription opiates, such as oxycodone and hydrocodone, in their numerous formulations against an “average” purity level of street level heroin packages.