H.225 Sample of Related Testimony, Articles and Studies
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Related Testimony, Articles and Studies and list of related studies
I quoted the articles and testimony fully and therefore referenced studies are as they were numbered in said testimony or articles. I put the reference list below each quote to address any confusion. When reading through dozens of studies to find those that were most relevant, the thing that stuck out in every single article and study was the finding that use of non prescribed buprenorphine is completely associated with lack access to treatment and also fairly overwhelmingly found to be a path to recovery. I included a few examples here but have many more. I want to note that we heard in testimony that 80% of people who enter treatment have been using non prescribed buprenorphine. That would indicate a gigantic gap in our treatment system if I am understanding these studies correctly as far as what that indicates. Far wider than I had realized before reading all of the relevant data.

1. **Demystifying buprenorphine misuse: Has fear of diversion gotten in the way of addressing the opioid crisis?**

   Molly Doernberg BA, Noa Krawczyk BA, Deborah Agus JD & Michael Fingerhood MD (2019): Demystifying buprenorphine misuse: Has fear of diversion gotten in the way of addressing the opioid crisis?, Substance Abuse, DOI: 10.1080/08897077.2019.1572052

   “Numerous studies have found that the majority of diverted buprenorphine is actually used to self-medicate for detoxification or to reduce withdrawal symptoms, rather than to “abuse” the drug or experience euphoria. Across multiple studies, few individuals report using buprenorphine as their primary drug of choice.41,42 One study found that most persons who had obtained nonprescription buprenorphine reported doing so to treat withdrawal symptoms (74%), to stop using other opioids (66%), and because they couldn’t afford proper treatment (64%).43 Another study reported that 91% of respondents used illicit buprenorphine to manage withdrawal symptoms, of whom 40% were waiting for treatment at the time of use. 44 Another found that nearly 60% of participants who had shared buprenorphine did so to help friends or partners who were in withdrawal.45 In a qualitative study, illicit buprenorphine users explained that buying buprenorphine on the street was often more practical than finding a prescribing doctor or having to pay insurance fees associated with the medication.41 Thus, using the potential for diversion as the primary reason for not providing evidence-based treatment is not only counter to public health efforts but also may actually exacerbate the illicit use of these medications. Indeed, there is evidence demonstrating that illicit buprenorphine use decreases when treatment seekers are able to obtain legal prescriptions.43,46,47”

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   [41] Allen B, Harocopos A. Non-prescribed buprenorphine in New York City: Motivations for use, practices of diversion, and experiences of stigma. J Subst Abuse Treat. 2016;70:81–86.

[42] Cicero TJ, Ellis MS, Surratt HL, Kurtz SP. Factors contributing to the rise of buprenorphine misuse: 2008-2013. Drug Alcohol
Depend. 2014;142:98–104.

[43] Bazazi AR, Yokell M, Fu JJ, Rich JD, Zaller ND. Illicit use of buprenorphine/naloxone among injecting and noninjecting opioid users. J Addict Med. 2011;5(3):175–180.

[44] Genberg BL, Gillespie M, Schuster CR, et al. Prevalence and correlates of street-obtained buprenorphine use among current and former injectors in Baltimore, Maryland. Addict Behav. 2013;38(12):2868–2873.

[45] Kenney SR, Anderson BJ, Bailey GL, Stein MD. The relationship between diversion-related attitudes and sharing and selling buprenorphine. J Subst Abuse Treat. 2017;78:43–47.

[46] Gwin Mitchell S, Kelly SM, Brown BS, et al. Uses of diverted methadone and buprenorphine by opioid-addicted individuals in Baltimore, Maryland. Am J Addict. 2009;18(5):346–355.

[47] Schuman-Olivier Z, Albanese M, Nelson SE, et al. Self-treatment: Illicit buprenorphine use by opioid-dependent treatment seekers. J Subst Abuse Treat. 2010;39(1):41–50.

2. I have attached Dr. Sharfstein from John's Hopkins University's full 2019 written testimony, but wanted to highlight here a few highlights of the concerns that he addressed in which the research counters concerns expressed by the health commissioner:

   "Concern: Will the availability of non-prescribed buprenorphine discourage people from seeking treatment?

   Response: This is unlikely, because as noted above, evidence points to the reverse conclusion: Non-prescribed buprenorphine is often used by people who may not have had experience with treatment or may not know where or how to access it, and trying non-prescribed buprenorphine may encourage them to seek treatment. In fact, those who have used non-prescribed buprenorphine before entering treatment have been found to have better treatment retention rates than those who did not. [24]

   Concern: Will more people become addicted to buprenorphine if possession of small quantities is decriminalized?

   Response: It is unlikely that decriminalization of small amounts of buprenorphine will lead more people to become addicted to buprenorphine. In settings where low level drug use has been decriminalized, such as Portugal, this policy has not been associated with increased use among the population. [25] It is particularly unlikely that decriminalization of possession of small amounts of buprenorphine will have this effect. Because of its partial agonist properties and "ceiling effect" on the opioid receptor, buprenorphine is

much less likely to cause euphoria than full agonist opioid medications and illicit opioids that are available in Vermont.

Concern: Buprenorphine is more potent than morphine. Does that mean it is more addictive than morphine?

Response: No. Potency refers to the amount of a substance that lead to its specific effect. Addictive potential depends on a number of factors including the likelihood to cause euphoria, which buprenorphine is less likely to do compared to full agonist opioids such as morphine. [26]

Concern: Is buprenorphine more likely to be injected than other opioids?

Response: No, buprenorphine is less likely to be injected than other opioids. This is because the most common formulation that is available, often known as Suboxone, is a combination of buprenorphine and naloxone that will precipitate withdrawal and block the euphoric effects if injected. , In fact, studies show participants who have tried injecting [27, 28] buprenorphine combined with naloxone report aversive reactions. [29]

Concern: Will decriminalizing possession of small amounts of buprenorphine incentivize current patients to sell their medications, undermining their treatment?

Response: We are not aware of evidence that suggests that this is likely. The proposed legislation does not change the criminal liability for selling buprenorphine, nor does it change the importance of clinical protocols to assure that patients are appropriately taking their medications.

Concern: Will the decriminalization of possession of small amounts of buprenorphine lead to the loss for opportunities for treatment within the criminal justice system?

Response: Vermont has made great strides to assure evidence-based treatment is available in jails and prisons. However, treatment in the criminal justice system should not be the main avenue into care; it should be a path of last resort. Far better (and much less expensive) for individuals to obtain care in the community without enduring the adverse effects of arrest and incarceration.

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[24] Alford DP, LaBelle CT, Kretsch N, et al. Collaborative care of opioid-addicted patients in primary care using buprenorphine: five-year experience. Arch Intern Med. 2011;171(5):425–431.

[25] Hughes CE and Stevens. A resounding success or a disastrous failure: Re-examining the interpretation of evidence on the Portuguese decriminalisation of illicit drugs. Drug and Alcohol Review. 2015; 31:101-113.

[26] Walsh SL, Eissenberg T. The clinical pharmacology of buprenorphine: extrapolating from the laboratory to the clinic. Drug and Alcohol Dependence. 2003 May 21;70(2):S13-27.

[27] Stoller KB, Bigelow GE, Walsh SL, Strain EC. Effects of buprenorphine/naloxone in opioid-dependent humans. Psychopharmacology. 2001 Mar 1;154(3):230-42.

[28]Yokell MA, Zaller ND, Green TC, Rich JD. Buprenorphine and Buprenorphine/Naloxone Diversion, Misuse, and Illicit Use: An International Review. Curr Drug Abus Rev. 2011;4(1):28-41.

[29] Moratti E, Kashanpour H, Lombardelli T, Maisto M. Intravenous Misuse of Buprenorphine. Clin Drug Investig. 2010;30(1):3-11.The majority who injected buprenorphine (53%) had a negative experience.

3. In Dr. Kimberly Blake's (prescribing doctor) House Testimony she addressed the concern as to if Buprenorphine was a "gateway drug"

"As buprenorphine acts as a partial agonist on the mu receptor, by occupying this receptor it helps prevent strong opiates like fentanyl from landing on this receptor. In a real sense being on buprenorphine prevents overdose. In fact, it was an old treatment for OD to place a film under the tongue of a patient who was overdosing.

Because buprenorphine does not produce euphoria in opiate dependent patients, it is not used to get "high". In fact, using an opiate while on maintenance therapy usually ends up "as a waste of money"

Suboxone is very safe, many experts call for it's declassification as a controlled substance. It is not a gateway drug. I asked several patients if teens used suboxone, the answer was "only if they need it" (to stave off withdrawal"

4. Dr. Shafer, MD, Prescribing Doctor in Townshend's Senate written testimony, he addresses, the use of buprenorphine non prescribed as well.

"We have seen many of our clients with serious opiate addiction histories successfully transition themselves to buprenorphine obtained from street sources. Some of them have been through detox programs which did not include buprenorphine induction, and they realized they could not maintain sobriety without medication-assisted therapy. Others put themselves through detox withdrawal from opiate pills or heroin/fentanyl after a terrifying overdose experience, and transitioned successfully to the buprenorphine. Their stories are individual but in each case the buprenorphine they obtained on the street was the lifeline to survival.

In our experience, those who have come to us after weeks or even months or years of self-medicating have proved to be our most committed and dependable patients. They have already demonstrated their commitment to sobriety. They have experienced the transformative normalcy of once daily dosing without sickening swings of withdrawal and relief. Many have already picked up the threads of their lives, pursuing education, reuniting with family, holding steady jobs…..

It is vital that you be aware that for anyone who is opiate tolerant, the "risk" of using a buprenorphine product is Zero. It does not matter what the dose or whether it is mixed with other drugs such as benzodiazepines, stimulants, hallucinogens --- the additive risk is Zero.

On the flip side, it is critical to remember that the price of heroin/fentanyl relapse is often death. Anything that obstructs access to buprenorphine for a recovering addict seriously raises the specter of overdose death."

5. The Next Stage of Buprenorphine Care for Opioid Use Disorder Stephen A. Martin, MD, EdM; Lisa M. Chiodo, PhD; Jordon D. Bosse, MS, RN; and Amanda Wilson, MD Journal: Annals Of Internal Medicine

   Full article attached: This full article is specifically related to what research has shown in terms of changes in understanding of the compound. This particular article does not address non prescribed use thoroughly, but is important to understanding how the data has changed how to use MAT in terms of what it is indicated for and safety profile, etc.

Table. Buprenorphine Care: Previous Approaches Compared With New Findings and Recommendations

Previous Approach	New Findings and Recommendations
A medical setting is needed for induction.	Home induction is also safe and effective (6).
Benzodiazepine and buprenorphine coprescription is toxic.	Buprenorphine should not be withheld from patients taking benzodiazepines (5).
Relapse indicates that the patient is unfit for buprenorphine-based treatment.	Relapse indicates the need for additional support and resources rather than cessation of buprenorphine treatment (43).
Counseling or participation in a 12-step program is mandatory.	Behavioral treatments and support are provided as desired by the patient (6).
Drug testing is a tool to discharge patients from buprenorphine treatment or compel more intensive settings.	Drug testing is a tool to better support recovery and address relapse (56).
Use of other substances is a sign of treatment failure and grounds for dismissal from buprenorphine treatment.	Buprenorphine treatment does not directly affect other substance use, and such use should be addressed in this context (43).
Buprenorphine is a short-term treatment, prescribed with tapered dosages or for weeks to months.	Buprenorphine is prescribed as long as it continues to benefit the patient (6).

6. The below article study highlighted the limitations of how much support can actually be offered in the criminal justice setting and the harm that it can cause. There have since been several other studies in multiple states that highlight the same problem.

   Missed opportunities: Arrest and court touchpoints for individuals who fatally overdosed in Philadelphia in 2016

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"**Methods**

Criminal court documents were obtained for all individuals who fatally overdosed in Philadelphia in 2016 from the Philadelphia Medical Examiner's Office. The characteristics of arrests and court hearings were abstracted to compile lifetime criminal histories. Latent class analysis was performed to identify whether these histories followed observably distinct patterns.

Results

In 2016, 907 people fatally overdosed in Philadelphia. Of these, 605 had at least one or more of 3,926 arrests and 3,822 hearings over their lifetime. There were 488 arrests and 533 hearings in the two years before death, with public disorder charges especially common closer to death. Less than 20% of these hearings resulted in custodial sentences. Of individuals with touchpoints, only nine participated in Drug Treatment Court, consistent with findings that most individuals were ineligible. Latent class analysis suggested five distinguishable patterns in age, timing, and characteristics of touchpoints."

7. The below study from Rhode Island highlighted that where diversion of buprenorphine exists and non prescribed use it indicates a serious problem with capacity to treat, treatment availability and barriers to accessing treatment. Indicating that in this legislation, it is a need for people in this population because they can not access the treatment that they need.

The More Things Change: Buprenorphine/naloxone Diversion Continues While Treatment Remains Inaccessible

Jennifer J. Carroll, PhD, MPH, Josiah D. Rich, MD, MPH, and Traci C. Green, PhD, MSc

"Results: A total of 128 individuals who use opioids non-medically participated in the 2016 study. Of these, 38% (n¼413) reported diverted buprenorphine/naloxone use in the past 2 months, similar to the pattern observed in 2009 (41%, n¼441). Common motivations for using diverted medication included the management of withdrawal symptoms (40%, n¼435) and self-treatment of opioid use disorder (39%, n¼434). Few reported using to "get high" (12%, n¼44). Seeking buprenorphine/naloxone treatment in the previous 12 months was positively associated with using diverted medication in the

past 2 months (odds ratio¼5.14, 95% confidence interval ¼1.0–26.5, P¼0.05). Participants of both studies reported the same barriers to care in 2009 and 2016.

Conclusion: The use of diverted/buprenorphine remains common among people who use opioids non-medically and indicates a severe shortage in treatment capacity and inaccessibility of existing services."

8. The below cited article is from the International Journal of Drug Policy and shows that use of non prescribed buprenorphine is strongly associated with lower overdose risk. In other words, those who are accessing non prescribed buprenorphine are

Unintentional drug overdose: Is more frequent use of non-prescribed buprenorphine associated with lower risk of overdose?

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"Results: Almost 89% of 356 participants were white, 50.3% were male, and 78.1% had high school or greater education. Over 27% (n = 98) reported experiencing an overdose in the past six months. After adjusting for confounding, greater frequency of non-prescribed buprenorphine use was significantly associated with lower risk of overdose (AOR=0.81, 95% CI=0.66, 0.98; p=.0286). Experiencing an overdose more than six months ago (AOR = 2.19, 95% CI = 1.24, 3.97); injection as the most common route of administration of heroin/fentanyl (AOR = 2.49, 95% CI = 1.36, 4.71); and frequency of methamphetamine use (AOR = 1.13, 95% CI = 1.02, 1.27) were strongly associated with increased risk of recent overdose in multivariable analysis.

Discussion: The findings support our hypothesis that higher frequency of non-prescribed buprenorphine use is associated with lower risk of drug overdose, a potential harm reduction consequence of diversion."