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Original Research Article

Prescription Opioid Abuse and Diversion in an Urban Community: The Results of an Ultrarapid Assessment

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ABSTRACT

Objective. Prescription-drug diversion is a topic about which comparatively little is known, and systematic information garnered from prescription-drug abusers and dealers on the specific mechanisms of diversion is extremely limited.

Design. A pilot ultrarapid assessment was carried out in Wilmington, Delaware, during December 2006 to better understand the scope and dynamics of prescription-drug abuse and diversion. This involved focus groups with prescription-drug abusers and key informant interviews with police, regulatory officials, prescription-drug dealers, and pill brokers.

Setting and Patients. The research team recruited focus group participants from the two residential substance abuse treatment programs in Wilmington reporting the highest proportions of prescription drug abusing clients. A total of six focus groups were conducted with 32 patients in these two programs. Dealers were recruited from the same treatment facilities, and three in-depth interviews were completed. In-depth interviews were also conducted with two prescription pill brokers recruited through the authors' existing contacts in the drug abusing community. Six in-depth interviews were conducted with representatives from a number of Delaware agencies—the Attorney General's Office, the Department of Professional Regulation, the State Police; the Wilmington Police Department, and the Newark Police Department.

Measures. In-depth interview and focus group guides were developed for each of the target populations. The in-depth interviews with police and regulatory officials focused on the extent of prescription drug abuse and diversion in the community, the types of drugs most commonly diverted, and mechanisms being used to channel the drugs to the illicit market. The focus group areas of inquiry with prescription drug abusers included general perceptions of the prescription drug problem in Delaware, sources and mechanisms of access to prescription drugs, popularity and prices of prescription medications on the street, as well as the initiation and progression of prescription and illicit drug abuse.

Results. The primary sources of prescription drugs on the street were the elderly, patients with pain, and doctor shoppers, as well as pill brokers and dealers who work with all of the former. The popularity of prescription drugs in the street market was rooted in the abusers' perceptions of these drugs as 1) less stigmatizing; 2) less dangerous; and, 3) less subject to legal consequences than illicit drugs. For many, the abuse of prescription opioids also appeared to serve as a gateway to heroin use.

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Conclusion. The diversion of prescription opioids might be reduced through physician education focusing on 1) recognizing that a patient is misusing and/or diverting prescribed medications; 2) considering a patient's risk for opioid misuse before initiating opioid therapy; and 3) understanding the variation in the abuse potential of different opioid medications currently on the market. Patient education also appears appropriate in the areas of safeguarding medications, disposal of unused medications, and understanding the consequences of manipulating physicians and selling their medications.

Key Words. Diversion; Rapid Assessment; Opioid Abuse; Doctor Shopping; Pill Brokers

Introduction

Prescription-drug abuse has been a topic of widespread commentary since the mid-1990s [1–4], and diversion—the transfer of a prescription drug from a lawful to an unlawful channel of distribution or use [5]—has received conspicuously targeted consideration during the past 10 years [1]. Although much of the recent attention given to these topics has focused on opioids and stimulants [6–10], existing data suggest that the abuse of many different prescription drugs has been escalating since the early to mid-1990s. For example, the National Survey on Drug Use and Health found that the numbers of new, nonmedical users of prescription opioids (primarily products containing codeine, hydrocodone, and oxycodone) increased from 600,000 in 1990 to over 5.2 million in 2006, marking it as the drug category with the largest number of new users in 2006 [11]. Benzodiazepines were also mentioned in over 100,000 drug abuse emergency department (ED) visits during 2002, the most frequent psychotherapeutic drug mentioned. Overall, benzodiazepine mentions increased by 41% from 1995 to 2002, with most incidents (78%) involving more than one drug [12]. An estimated 1,658,000 young adults aged 18–25 reportedly abused benzodiazepines during 2004 [13]. In addition, reports from the Drug Abuse Warning Network indicate that abuse-related ED visits involving prescription opioids increased by 153% from 1995 through 2002 and by an additional 24% through 2005 [14]. Similar increases are reflected in drug abuse treatment admissions data [14,15].

For well over a decade, the Drug Enforcement Administration has estimated that prescription-drug diversion for the purpose of abuse is a $25-billion-a-year industry [16,17], and it has been suggested that diversion occurs along all points in the drug delivery process, from the original manufacturing site to the wholesale distributor, the physician's office, the retail pharmacy, or the patient [18]. More specifically, diversion occurs in many ways, including the illegal sale of prescriptions by physicians and pharmacists; "doctor shopping" by individuals who visit numerous physicians to obtain multiple prescriptions; theft, forgery, or alteration of prescriptions by health care workers and patients; robberies and thefts from manufacturers, transport companies, distributors, and pharmacies; and thefts of institutional drug supplies. Furthermore, there is growing evidence that the diversion of significant amounts of prescription opioids and benzodiazepines occurs through residential burglaries as well as cross-border smuggling at both retail and wholesale levels [1]. In addition, recent research has documented diversion through such other channels as "shorting" (undercounting), pilferage, and recycling of medications by pharmacists and pharmacy employees; medicine cabinet thefts by cleaning and repair personnel in residential settings; theft of guests' medications by hotel repair and housekeeping staff; and Medicare, Medicaid, and other insurance fraud by patients, pharmacists, and street dealers [1]. Moreover, it would appear that many pill-abusing youths and young adults are obtaining their drugs from friends and relatives through medicine cabinet thefts, medication trading at school, and thefts and robberies of medications from other students [11]. In addition, a few observers consider the Internet to be a significant source for illegal purchases of prescription drugs [19,20].

Although national surveys and monitoring systems are documenting the widespread abuse of prescription drugs, and numerous scientific articles over the years have discussed the problems associated with diversion [6,15,21–26], information garnered from prescription-drug abusers and dealers on the specific mechanisms of diversion is

limited. Within this context, this article presents the findings of an ultrarapid assessment of prescription-drug abuse and diversion in Wilmington, Delaware.

Methods

Ultrarapid Assessment

The World Health Organization defines rapid assessment as a series of strategies for ascertaining, understanding, and characterizing the nature and extent of health and social problems in a particular locale and for suggesting ways in which those situations can be improved [27]. Rapid assessment investigations speed up the usual process of behavioral science and epidemiologic research, reducing the time needed to just a few months of investigation, surveys, and interviews and then linking assessments with action. An important characteristic of rapid assessment is that it aims to prioritize realistic outcomes over scientific ones [28,29]. Rapid assessment builds upon existing information and embraces several different research methods, including applied research and medical and emergency responses. Ultrarapid assessments abridge the time frames even further by limiting the inquiries to the fewest number of sources necessary to generate the most useful and focused information on the targeted problem.

Rapid assessment methods and procedures are constructed to appropriately suit the specific research issue being examined [30]. A rapid assessment study may include such techniques as surveys, key informant interviewing, direct observation, focus groups, or even intercept interviewing. In addition, quantitative methods in epidemiology and behavioral science, particularly risk factor approaches and prevalence estimation, are sometimes utilized [28,31,32].

A mix of several methods can be tailored to fit the research question. Often referred to as "triangulation," this mix emphasizes the use of several sources and methods to cross-check and validate data and to assure a balanced perspective [33]. Through the use of several methods and the participation of sources from different disciplines, a more complete and accurate picture of the situation can be achieved, allowing for the best possible intervention. Once the magnitude and character of the problem at a given location are determined, researchers and interventionists can suggest ways to improve the situation and implement possible prevention programs [34].

To determine the potential usefulness of the technique, a pilot ultrarapid assessment was carried out in Wilmington, Delaware during December 2006. Wilmington, the largest city in Delaware and having a population of almost 73,000 in 2006, was chosen for this investigation for several reasons. First, throughout 2006, media reports repeatedly noted the problems of prescription opioid abuse and diversion throughout the state, and particularly in Wilmington [35–38]. Second, diversion is a topic about which little is known, and the primary goal of our investigation was to gather descriptive information to better understand the spectrum of illicit sources and mechanisms of access to prescription drugs. And, finally, the authors were familiar with the Wilmington area and already had a number of key informant contacts in the prescription-drug-abusing community.

Research Team

The assessment team for this study was composed of four individuals with extensive experience in conducting field-based research. The team was diverse with respect to training and expertise, consisting of a research psychologist, a neuropharmacologist, a certified substance-abuse counselor, and a medical sociologist with an extensive background in law enforcement. In addition, two members of the team have considerable experience at facilitating focus groups with drug-involved populations, and two have conducted ethnographic studies of drug abusers in a variety of contexts.

Three members of the assessment team have long-standing affiliations with the University of Delaware and have participated in numerous research and evaluation projects with substance-abuse treatment programs across the State of Delaware. As such, the team has established contacts with the major drug treatment programs in the area, as well as access to a variety of key informant contacts in the drug-using community. Through these existing contacts, one member of the team arranged to interview the directors of four large residential treatment programs in Wilmington regarding prescription-drug abuse among their client populations. Although there are 12 drug-abuse treatment programs and one methadone-maintenance program in Wilmington, the team arranged to recruit focus group participants in the two residential programs reporting the highest proportions of prescription-drug-abusing clients.

Data Collection

A total of six focus groups were conducted, with 32 patients in these two programs. Each of the focus groups was recorded and lasted approximately 90 minutes. The focus group areas of inquiry included general perceptions of the prescription-drug problem in Delaware, sources and mechanisms of access to prescription drugs, popularity and prices of prescription medications on the street, as well as the initiation and progression of prescription- and illicit-drug abuse.

Dealers were recruited from the same treatment facility sources described above. However, because pill brokers were not active substance users and, hence, not in treatment, they were referred for interviewing by dealers known to one of the team members who has substantial experience conducting street-based recruitment in drug-using communities.

In-depth interviews with three prescription-drug dealers and two prescription pill brokers were conducted and focused on understanding the sources of access to prescription drugs. According to the focus group participants, dealers are typically drug abusers who hustle prescription medications and other drugs whenever and however they can to help support their own drug habits. The practice of selling drugs to support one's drug habit has been a consistent theme in the drug-abuse literature and has been well documented in numerous studies [39–43]. By contrast, pill brokers tend to be more organized than dealers, and most are not abusers. Many pill brokers specialize in only one or two drugs, while others buy and sell any type of prescription medication. Moreover, pill brokers regularly work with a consistent crew of people—such as a given set of "doctor shoppers," patients with pain, pharmacists, or even physicians. These definitions were corroborated by one member of the rapid assessment team who has more than 20 years experience working with street and treatment populations of drug abusers in Wilmington. The interviews with the dealers and pill brokers lasted approximately 30 minutes.

Law enforcement contacts were facilitated by the assessment team members' ongoing conduct of a nationwide study of prescription-drug diversion that involves quarterly surveys of more than 300 police and regulatory agencies [44]. Three Delaware law enforcement agencies were active reporters in the survey at the time the rapid assessment was conducted and were contacted to arrange face-to-face interviews in order to gather more detailed information on prescription-drug diversion in Delaware. Cold calls were also made to the Office of Professional Regulation in Dover, Delaware in order to arrange an interview with an appropriate agency representative. This state agency handles drug diversion cases among health care workers and was important to include in order to obtain a broad picture of the prescription-drug abuse and diversion scene in the state. Given the assessment team's affiliation with the local university and history with statewide initiatives in Delaware, two representatives agreed to participate in face-to-face interviews.

Ultimately, in-depth interviews were conducted with individuals affiliated with a number of Delaware agencies—the Attorney General's Office, the Department of Professional Regulation, the State Police, the Wilmington Police Department, and the Newark (Delaware) Police Department—a college community just south of Wilmington. The focus of all of these contacts was on the extent of prescription-drug abuse and diversion in the community, the types of drugs most commonly diverted, and mechanisms being used to channel the drugs to the illicit market.

Participation in all interviews and focus groups was voluntary. For the opioid abusers and dealers, informed consent procedures were rigorously followed, identifying information was not collected, and all were paid a small monetary stipend for their participation. The protocols were approved by the University of Delaware's Institutional Review Board on November 28, 2006. Pill brokers gave verbal consent to be interviewed and they, too, were paid a stipend for their participation.

Analysis

Because these data were collected as part of an ultrarapid assessment, the analyses that were undertaken were circumscribed to accommodate the purposes, goals, and time sensitivity required by this approach. Unlike qualitative analyses that are designed for the purposes of scientific theory building and that take months to accomplish, the goals of our rapid assessment initiative and subsequent analyses were to obtain a snapshot of the prescription-drug abuse and diversion scene in Delaware from the varied perspectives of users, dealers, health professionals, and law enforcement officials.

Three primary steps were taken to analyze the textual data elicited in the focus group and in-depth interview sessions. These included 1)

initial verbatim transcription and verification of session audiotapes; 2) focused readings of these transcripts conducted independently by two members of the assessment team; and 3) the construction and application of a detailed coding scheme based on readings of the transcripts.

Full transcription of focus group and in-depth interviews were completed within 8 days of data collection. The transcriptions were entered into standard word-processing files and verified by the team members. The word-processing files were then converted into files compatible with the qualitative software package N6 (QSR International, Victoria, Australia). N6 is designed for the storage, coding, retrieval, searching, and analysis of text [45].

Descriptive codes were then independently applied to the transcripts, based on the in-depth readings of two research team members. This open-coding technique produced a series of coding nodes, which reflected recurring patterns or themes in the data. The analysis then focused on identifying the most salient aspects of prescription-drug diversion, including patterns in the onset of prescription-drug abuse, motivations for the abuse of prescription drugs, and the frequency and consistency of access to prescription drugs through specific types of sources. The most important dimension of the analysis phase was the comparison of codes across data sources to identify systematic patterns, that is, the extent to which findings in one focus group were either corroborated by or negated in subsequent groups or in dealer and broker interviews. Themes that were endorsed in multiple data sources and by multiple participants within a particular data source were considered especially salient and noteworthy in this descriptive analysis of prescription-drug abuse and diversion.

Results

Preparation time for setting up the interviews and focus groups took approximately 1 week; field interviewing and focus groups were conducted over a 3-day period; transcriptions of the recorded interviews and focus groups were completed in 8 days; and data analyses and synthesis were accomplished in 1 week's time.

Although the police, prosecutors, and regulatory agency representatives had extensive knowledge about the prescription-drug cases they were working on and how best to investigate them, the broadest picture of the prescription-drug "scene" in the Wilmington area came from the users, dealers, and pill brokers. The latter three groups are part of the prescription-drug subculture and possess extensive "insider" knowledge about its structure and operations. As such, the findings of this research focus primarily on the information gathered from these "cultural insiders."

The focus group participants were 50% women and 50% men; they had a mean age of 25.9 years; 78.1% were white, 9.4% were African American, and 12.5% were Hispanic; 69.2% had at least a high-school education. All of the focus group participants had histories of prescription opioid abuse, and 87.5% had used prescription opioids in the past year to get high, while 90.6% had also abused benzodiazepines in the past year. In addition, in the past year, the use of illicit drugs was also widespread, including marijuana (87.5%), heroin (84.4%), powder cocaine (75.0%), crack cocaine (78.1%), and methamphetamine (40.6%). All of these individuals, furthermore, had histories of arrest.

The three dealers were young, ranging in age from 20 to 24 years; two were white, one was African American, and all were male with at least a high-school education. In addition to dealing, all reported actively abusing prescription opioids and sedatives in the past year in addition to a variety of illegal drugs, including cocaine, crack, and heroin. The pill brokers were older, aged 49 and 50 years; both were African American and were involved in pill brokering as a financial activity. Neither were active substance abusers.

Three specific aspects of the findings are addressed: 1) the sources of prescription drugs; 2) the popularity and street prices of prescription drugs; and 3) the role of prescription drugs as "gateway" drugs (those drugs that allegedly lead to the abuse of other substances).

Sources of Prescription Drugs

In the opinion of the police, prosecutors, and regulatory personnel, the major prescription drug subject to diversion and abuse was hydrocodone, and the biggest diverters were doctor shoppers, followed by students bringing drugs in from out of state. These agency individuals were unable to provide any additional information, given the focused nature of their investigations. This estimation of who the diverters are might be contrasted with the contentions of the focus group participants, who also included the elderly and

patients with pain as major sources of their drugs. Other sources included pill brokers and dealers, doctor and (emergency room) shoppers, open-air drug markets, family and friends, "script docs" (physicians who knowingly violate the law by writing prescriptions for opioids and other drugs for a fee and without a physical exam), and nurses. Although a handful of participants had some form of medical insurance, virtually all of the drug purchases from pharmacies, script doctors, and dealers were made with cash.

The Elderly

A consistent theme among the focus group participants was that many members of the elderly population in Wilmington were in the business of deceiving their physicians because they could complain of pain (whether they were in pain or not) and get prescriptions they wanted. Some of these elderly individuals were reportedly abusing their drugs, but the overwhelming majority were diverting their medications for economic reasons. Some sold their prescriptions on their own initiative, while others would work in conjunction with a dealer or pill broker. It was clear from the focus groups with prescription-drug abusers that the elderly generally were not drug dealers but filled their prescriptions and sold part or all to a few abusers known to them, as well as to dealers or pill brokers for much less than the street value of the drugs. For example, one female prescription-drug abuser in her early 30s explained,

> In my neighborhood we have a lot of . . . old people . . . who get these pills prescribed; they get methadone prescribed; they get needles and all that, and that's how they make their money. I have 20 different old people that I can go to [to get prescription opioids].

Similarly, a young male polydrug abuser echoed,

> [The elderly] have a lot of 80 milligram Oxys [ER oxycodone]; everybody got the big green pills, and everybody had Xanax. There were old people that were, especially this lady, that was doing like 5 or 6 doctors . . . and getting all kinds of prescription pills. They were just giving them to her. She was just selling them.

And yet another explained,

> I've seen a lot of . . . older people who don't have a lot of money get addicted to getting the money from the pills that they sell . . . and they'll go from doctor to doctor, shopping for pills to sell to people.

Patients with Pain

Another prominent theme among the focus group participants, dealers, and pill brokers was that many patients who were suffering from serious pain would use part of their medications and sell the rest because of a need for cash. Some were dependent on street drugs and would sell/exchange prescription drugs for heroin or crack. Several patients would reportedly ask for additional prescriptions from their pain management specialists, which they would fill and sell to an abuser, a drug dealer, or a pill broker. Also common in this group was selling supplies of unused medications. For example, one male dealer in his early 20s explained,

> The people that I knew that had [fentanyl patches and fentanyl lollipops]. They had them for like back pain, or they were in an accident or something, and a lot of them were addicts but they wouldn't take their patches and stuff. They would trade them off for other drugs like crack or something.

Also,

> I was buying my fentanyl patches from somebody who was getting them prescribed because of back problems. And sometimes they want their crack money so they're going to get rid of their pain pills . . .

Dealers, Brokers, and Drug Markets

As noted earlier, prescription-drug dealers are typically abusers who hustle prescription medications and other drugs whenever and however they can, to help support their own drug habits. Pill brokers, on the other hand, tend to specialize in only one or two drugs. A few, however, buy and sell any type of prescription medication. It was consistently reported in the focus groups with prescription-drug abusers that pill brokers develop name, address, and medication lists of individuals who they know are willing to sell their medications. They also maintain a roll of elderly individuals who are willing to deceive their physicians, have their prescriptions filled by certain local pharmacists, and then sell their pills back to brokers at only a small percentage of their street value. In the in-depth interviews, pill brokers themselves confirmed the sophistication of their brokering operations, such as tracking when their contacts' various prescriptions run out, maintaining a network for contacting these individuals, and arranging for doctor's visits, refills, and transportation as needed. As one prescription-drug abuser in his early 20s explained,

> Once people [pill brokers] know you take them [prescription opioids] they'll start calling you. "Oh, it's this time of the month." Then they . . . wait for that person to get their script. They know exactly in their head what day the script's getting ready to come so they got the patterns down.

Pill brokers and dealers reported congregating in open air drug markets—typically strip mall and pharmacy parking lots, and outside methadone clinics—to buy, sell and trade prescription drugs. These markets were reported to involve a variety of transactions, including the purchase of prescription drugs for cash, as well as trades for crack and heroin. Pill brokers also reported the purchase of used fentanyl patches from nurses who have stolen them from pain patients or from disposal containers in hospitals. Some individuals frequenting the drug markets also barter their oxycodone for other opioids or benzodiazepines, typically alprazolam.

Doctor Shopping

Focus group participants indicated that, even in a small state like Delaware, doctor shopping appeared to be fairly easy. The vast majority of abusers reported obtaining medications through doctor shopping, and most reported frequenting at least four physicians in order to obtain sufficient amounts of their desired medications. Occasionally, clinics and hospital emergency rooms were reported as locations for doctor shopping as well. Regardless of location, the most common scenario reported by abusers was to present to a physician with complaints about pain. Back pain was reported by participants to be the most common ruse intended to deceive physicians because it was fairly easy to simulate or, as one individual commented, "you don't even have to be a good actor." There was a general consensus, furthermore, that the majority of physicians were easy to manipulate. For example, one young male polydrug abuser explained,

> I actually rode up here [Wilmington] with [this lady] one night, and she was getting a lot of bottles of pills. This woman was going to five or six doctors and was manipulating them—pain management doctors and psychologists. How in the world does a 130 pound woman that's in her sixties needs ninety Xanax "bars" [2-mg oblong pills] for a month. She got a bottle full of bars that day.

Similarly, one heavy prescription-drug abuser indicated,

> Along with that accident that I was just telling you about, then came the whole pain killer thing. Like he [another focus group member] was saying about the doctors, it's out of control. I had 8 doctors that would give me four or five different kinds of painkillers at one time.

Many also suggested that the most common targets for doctor shopping were elderly physicians. For example, a male dealer in his early 20s explained:

> I used to go to this guy [physician] in a good neighborhood, and I used to tell him my back hurts . . . and this old doctor would just give me Vicodin, Percs, Somas, Xanaxes. He was saying I had to take three one-milligram Xanax bars a day. I'm like, that's a lot of Xanax, you know, and then I would just sell them.

"Script Docs" and Nurses

A few focus group participants reported visits to local "script docs," but such a pattern did not appear to be widespread. A few mentioned that they had purchased opioids from nurses who had stolen medications from the hospitals and physicians offices where they worked, but this, too, was uncommon among participants. The finding that script doctors and nurses were not common sources of access was corroborated to some extent through interviews with officials from the Delaware Department of Professional Regulation, who reported that only two physicians and seven nurses had been investigated for diversion during 2006.

Other Sources of Prescription Medications

Less common sources of prescription drugs included friends and family members. For example, many focus group participants reported that "medications are everywhere," that "lots of people have left over meds that they don't need," and that "there is a lot of stealing from medicine cabinets." Others spoke of small shipments of opioids from out of state, and none of the pill brokers, dealers, or focus group participants reported obtaining drugs through the Internet.

Popularity and Prices of Prescription Drugs

All of the focus group participants agreed that prescription drugs are popular on the street because they are considered to be more acceptable, less dangerous, and less subject to legal consequences than illicit drugs. In addition, most felt that it was easier to rationalize the abuse of prescription medications. For example, in terms of safety, one 23-year-old African American male emphasized,

> I always liked that prescription stuff more because I know what I'm getting; I know the quality, it's predetermined. I know what's in it. I don't have to worry about what I'm snorting or shooting or any of that.

With regard to acceptability, a female abuser in her early 20s added,

> When you're on the street, the person that's doing heroin is a "junkie." If you look at a person that's doing Percocets they would just say, "Well I just do

> Percocets." You know what I mean? For a long time when I did Percocets and didn't do dope, I looked at people as if they were junkies, but I wasn't.

And yet another participant reiterated,

> I thought it was a safer drug because it was legal. So who cares if I'm abusing it, it's legal, so what are they going to do?

As for what was considered the most desirable and most sought-after prescription opioid on the street in Wilmington, the majority of focus group participants reported that it was the fentanyl transdermal patch. The popularity of the patch was based not only on its potency but also on the number of different ways that it could be used. Most commonly, the medication would be extracted from the patch and then injected or snorted. A few abusers reported that they would simultaneously apply several patches transdermally. However, the focus group participants emphasized that the fentanyl patch was generally less available than other prescription drugs. This was substantiated by both the police and regulatory personnel interviewed, indicating that the patches were rarely seen in their drug investigations. The limited availability of the patches was reflected in their street prices, which ranged from $30 to $50, depending on the strength and whether they were new or used. Also highly sought after, but not often seen, were hydromorphone tablets.

Although not always available, the branded extended-release (ER) oxycodone was the next most sought-after prescription opioid, ranging in price from $.40 to $1 per milligram, depending on whether it was branded or generic. By contrast, the most common and almost always available opioid was immediate-release oxycodone, selling for $5–10 per pill, regardless of whether is was a branded or generic formulation. Another prominent theme among the focus group participants was that the least expensive and most available prescription drugs on the street were benzodiazepines such as alprazolam and clonazepam, ranging in price from $1 to $3 per pill. These assertions contradicted the opinions of the police officers interviewed who repeatedly maintained that hydrocodone was the most available prescription drug on the street. Focus group participants expressed little interest in hydrocodone, preferring the more potent types of prescription opioids.

Several focus group participants indicated that, because of the media attention being given to the abuse of ER oxycodone, a number of physicians were no longer prescribing it. Instead, they were writing prescriptions for other opioids, particularly the fentanyl transdermal patch, not understanding its potency and abuse potential. For example, one young male abuser of the fentanyl patch stated,

> I guess doctors stopped prescribing OxyContin and they started prescribing patches, and so the same people that were selling Oxys last year are selling patches now. I know a couple of people that that did happen to, and their doctor put them on fentanyl patches . . . I guess they [physicians] didn't know too much about fentanyl either.

Another focus group participant added,

> I know for a couple of the guys that would constantly come to me with Oxys to trade told me that their doctors switched them to the patches because they thought they were addicted to Oxys. So they put them on the patches for the time release so all they had to do was wear them.

Prescription Drugs as "Gateway" Drugs

There has been some speculation in both the scientific literature and the media that, for many abusers, prescription drugs served as a first step or initial "gateway" to careers in substance abuse [46–48]. This contention was not supported by the focus groups participants because all reported that they had abused alcohol and marijuana well before they began experimenting with prescription drugs. However, most reported that prescription opioids were indeed their gateway to heroin use. All of the focus group participants also indicated that they began using prescription drugs because of easy access. They stated that drugs were around the house, in medicine cabinets, or were prescribed directly to them for pain. As for ready availability, one 22-year-old African American prescription-drug abuser noted,

> At your Grandma's, there might be a whole script. There's like 50, and you can take like 10 of them and they won't even notice.

An African American heroin user in her late 20s added,

> My Grandma had cancer, brain cancer, and the nurses would bring over morphine. The nurse had to come twice a week to check the morphine to make sure they were giving her the amount that they were supposed to give her. So my cousin stole the morphine . . .

The focus group participants reported that, although they were not drug naïve when they began experimenting with prescription opioids, for the vast majority, hydrocodone, oxycodone, and morphine did indeed serve as their "gateway"

to heroin use. For example, one male heroin user in his early 20s stated,

> I started with Percocets and ended up shooting 10 bags of heroin a day.

Another 23-year-old male reported,

> It led me into heroin. When I was in junior high my grandfather had cancer and he had Percocet and morphine pills, and after he died my Grandma still had a lot of his pill bottles around. I . . . started taking them, and . . . after that I was hooked.

This theme was indicated by others as well:

> They [prescription pills] are like just as strong as dope and weed. They are really gateway drugs. They get you there. They get you into that scene.

It was also explained by several focus group participants that the movement from prescription drugs to heroin was due to the high cost of prescription opioids on the street. For example, a female heroin user in her early 30s explained,

> When I first started doing drugs I started taking the pills, like Xanax, Oxys, Percocets, anything that was prescription. After that I progressed into heroin and cocaine because . . . sometimes the prescription drugs are real expensive. Most pills like an Oxy can be $40. So it was just getting too expensive for me.

And a male in his early 20s added,

> I never really considered myself an addict, . . . but the OxyContin—that's what led me into an addiction with heroin. After a couple months I thought I was OK with them, but I finally found out I was junkie.

Discussion

The results of this ultrarapid assessment study indicate that prescription medications are diverted through a number of channels. In the case of Wilmington, Delaware, the primary sources of prescription drugs on the street included the elderly, pain patients, and doctor shoppers, as well as pill brokers and dealers who work with all of the former. In many instances, pill-brokering operations were characterized as highly organized and sophisticated enterprises involving a network of patients diverting medications acquired through physicians' prescriptions.

The popularity of prescription drugs in the street market was rooted in the abusers' perceptions of these drugs as being 1) less stigmatizing; 2) more controlled and therefore less dangerous; and 3) less subject to legal consequences than illicit drugs. In the Wilmington area, the fentanyl transdermal patch was the most sought-after prescription drug on the street (although it was often unavailable), followed closely by ER oxycodone.

For many individuals, the abuse of prescription opioids also appeared to serve as a gateway to heroin use. More than four-fifths of the focus group participants had histories of heroin use, and, for the majority of these, the abuse of prescription opioids had preceded the initiation of heroin use.

These findings are based on ultrarapid assessment methods, which have practical applications for better understanding the scope and dynamics of abuse and diversion in a particular locale and for structuring interventions appropriate for addressing the problems uncovered. The Food and Drug Administration requires that pharmaceutical companies develop and implement risk management programs to ensure that medications are appropriately used and to institute measures to reduce the risk of their misuse, abuse, and diversion [49]. Although these risk management programs are not necessarily limited to drugs with psychoactive effects, it would appear that the most widely abused and diverted medications are those with such properties, particularly prescription opioids and benzodiazepines [50]. A number of comprehensive risk management programs are currently monitoring the abuse of a variety of opioids and their diversion to the illegal marketplace [49,50], and among the strengths of these programs is their ability to determine specific locations where rates of abuse and diversion are high. Media reports, however biased and unsystematic, have also been used to identify communities encountering problems with prescription drugs. Important steps in the risk management process include verifying that abuse and diversion are occurring, assessing the nature and extent of the abuse and/or diversion, and determining if interventions are needed and how they might be accomplished. An ultrarapid assessment is one possible approach for accomplishing these tasks.

Rapid and ultrarapid assessments have many strengths. The major ones include their ability to quickly collect contextual data about a problem and the geographic area in which it is situated and their flexibility and adaptability for studying many different issues and problems. Rapid assessments also make it possible to swiftly implement harm reduction or intervention measures, therefore making them more effective. Also, rapid assessments help to understand the social environment in which the public health concern is occurring. By better understanding the environment, the people, and the beliefs that are involved, an appropriate and effective response tailored to the population's specific needs can be developed. Rapid assess-

ments also have limitations. They provide only a "snapshot" of the current situation in a particular locale and can take time to set up in communities that the research team may be unfamiliar with. This study had a number of additional limitations. First, given that the focus group participants were recruited from drug-treatment programs, they are not necessarily representative of all prescription-drug abusers in the Wilmington area. The second limitation was related to the use of self-reports of prescription-drug abuse and diversion. Although reliance on self-reports is somewhat controversial, a variety of controlled studies have documented that, when questioned about drug use in a non-threatening environment, drug users provide reliable information and are truthful to the best of their recollection [51–53]. We would suggest that these findings, combined with assurances of confidentiality and the use of experienced focus group facilitators, served to mitigate the potential deficiencies in reliance on self-report data.

Despite these limitations, the findings of this ultrarapid assessment suggest that the diversion of prescription opioids in the Wilmington, Delaware area might be reduced through physician education focusing on 1) recognizing that a patient is misusing and/or diverting prescribed medications; 2) considering a patient's risk for opioid misuse before initiating opioid therapy; and 3) understanding the variation in the abuse potential of different opioid medications currently on the market.

Our finding that physicians' prescriptions play a prominent role as a source of prescription drugs to get high is a serious concern. This may reflect the fact that primary-care physicians, who prescribe most of the opioid analgesics in the United States, are often unable to distinguish legitimate patients from those trying to deceive them. No matter what the contributing factors may be, our findings strongly indicate that physicians, at least those visited by the abusers interviewed in this study, are inadvertently serving as one significant source of abused prescription opioids and benzodiazepines. There is clearly a strong need for more education about substance abuse. There are currently several available resources for physicians regarding substance abuse in their pain patients [54,55], and the results of this ultrarapid assessment represent an extension of these efforts.

Patient education might also be considered in the areas of safeguarding medications, disposal of unused medications, and understanding the consequences manipulating physicians and selling medications. Implementation of a prescription-monitoring program in the State of Delaware might also reduce the levels of doctor shopping.

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