

## Exploring the Etiologic Factors and Dynamics of Prescription Drug Abuse in Southwest Virginia

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### ABSTRACT

**Background:** Prescription drug abuse in Southwest Virginia is a serious problem affecting individuals, families, and communities. The aim of this study was to characterize and understand the extent of the prescription drug abuse problem in Southwest, Virginia as well as the dynamics that surround that abuse. More specifically, the study focused on learning the extent of the problem along with which prescription drugs are typically used prior to entering treatment, reasons for prescription drug and methadone abuse, and the sources for prescription drug use, misuse and abuse.

**Methods:** Mixed methodology was employed which included surveying methadone clinic consumers at two treatment clinics in Southwest, Virginia and seven focus field interviews of key community stakeholders.

**Results:** The extent of prescription drug abuse is high and that the demographics of prescription drug users are getting younger and now involve more males than females. Oxycodone, hydrocodone, methadone, and morphine were the most commonly used drugs prior to enrollment in the clinics with over one-half of methadone-maintained consumers reporting that they had abused benzodiazepines along with opioids. Focus groups and clinic consumer data highlighted the key etiological factors in prescription drug abuse: use (due to workforce related injuries) turning to abuse, wanting to get high, overprescribing and physician issues, lack of information, and cultural acceptance of drug taking as problem solving behavior. The two most common sources for the abused prescription drugs were physicians and street dealers.

**Conclusions:** A constellation of conditions have led to the epidemic of prescription drug abuse in Southwest Virginia, including poverty, unemployment and work-related injuries, besides, public health education programs on the dangers of prescription opiate misuse and abuse are urgently needed.

**Keywords:** Prescription drug abuse, Substance Abuse, Methadone, Drug treatment

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### Introduction

According to the White House Office of National Drug Control Policy, “*Prescription drug abuse is the Nation’s fastest-growing drug*

*problem*” [1]. The National Institute on Drug Abuse reported that in 2010, of the approximately seven million persons who were

current non medical users of prescription drugs, 5.1 million used pain relievers, 2.1 million used tranquilizers, 1.1 million used stimulants, and .4 million used sedatives [2].

In 2009, of the nearly 4.6 million drug-related emergency department visits in the United States, 45% involved drug abuse [3]. According to the Drug Abuse Warning Network DAWN, 12 million (27.1%) of emergency department (ED) visits involved nonmedical use of pharmaceuticals including hydrocodone (104,490 ED visits), oxycodone (175,949 ED visits) and methadone (70,637 ED visits) [4]. Further, 10.6% of rural treatment facility admissions were due to non-heroin opiates compared to 4% of urban treatment facility admissions [5]. Substance Abuse and Mental Health Services Administration reported that that in 2010 in the United States seven million citizens (2.8% of the population) had used prescription drugs for non-medical purposes in the past month [6].

Over the past decade it has become painfully obvious to physicians, pharmacists, pharmaceutical companies, teachers and school administrators, law enforcement agencies and legislators, as well as families, that prescription drug abuse is a serious and growing problem. Between 1992 and 2005 there was a 94% increase, from 7.8 million to 15.1 million in prescription drug abuse among those ages 12 and older [7]. This increase is greater than that found for abuse of illicit drugs during the same time period (five times greater than the increase in cocaine use and 60 times greater than the increase in heroin use). The population affected by prescription deaths has also changed since 1989, primarily by gender and age. In 1989, accidental prescription drug overdose deaths among males and females were evenly distributed, but in 2003, 71% of the accidental deaths were males. The prescription drugs used for abuse are also changing. In 1989, propoxyphene was the prescription drug causing the most accidental drug overdose deaths and in 2003 it was methadone [8].

***Prescription drug abuse by teenagers and young adults***

The Substance Abuse and Mental Health Services Administration reported that in 2009 nearly one third of people 12 and older who used drugs for the first time began by using a prescription drug with 70% of adolescents who abused prescription pain relievers reported receiving them from friends or relatives [6]. Hydrocodone was the most commonly used drug after alcohol and marijuana among 12<sup>th</sup> grade students.

As these statistics suggest, prescription drug abuse is a growing problem and one that is not isolated to any particular demographic group, however demographics appear to be changing. Substance Abuse and Mental Health Services Administration reports that between 1985 and 2002 there was an increase from approximately 200,000 to 1.2 million teenagers who started using painkillers to get high [9]. The number of teenagers who first abused prescription painkillers in 2002 represents nearly half (approximately 48%) of all persons who first abused painkillers in that year. Furthermore, the National Institute on Drug Abuse Report (2011) reported, that prescription and over-the-counter medications are the most commonly used illicit drugs by high school seniors in 2010. In 2008, 13% of rural teens reported nonmedical use of prescription drugs [10]. Use prescription drugs non-medically is even more alarming when one considers the correlations of non-medical prescription drug use with the use of other illicit substances. Joseph Califano stated that teens who abuse controlled prescription drugs are twice as likely to use alcohol, five times more likely to use marijuana, 12 times more likely to use heroin, 15 times more likely to use MDMA (ecstasy), and 21 times more likely to use cocaine than are their counterparts who do not abuse prescription drugs [7]. Furthermore, the average age of death due to accidental prescription drug overdose is getting lower. In 1989 the average age of death due to accidental prescription drug overdose was 43 years but in 2003 it was 36.8 years showing a general decline in the age of use and abuse of prescription drugs.

### ***Prescription drug abuse in Virginia***

Virginia has a long history of prescription drug diversion and abuse and was one of the first states to record extraordinary levels of Oxycontin™ diversion and abuse [8]. Data from a study of prescription drug overdose deaths reported an increase in the abuse of prescription drugs from 2000 to 2003 [8]. Powell's analysis of 217 Southwest Virginia drug related deaths in 2003 revealed that that 77.4% were the result of an accidental overdose of prescription drugs underscoring the severity of the prescription drug abuse problem [8]. Reviews of 893 prescription overdose deaths in Southwestern Virginia from 1997-2003 revealed that these deaths were more likely to occur in rural counties, that these deaths were accidental, that the decedents were likely to have multiple medications found through toxicology reports, and that prescription opioids were the most commonly identified medications in these overdose deaths [8].

### ***Severity and outcomes of prescription drug abuse***

Abusing prescription drugs carries with it significant health risks. Opioid abuse can lead to dependence and withdrawal symptoms that can include, if injected, higher risk of HIV and other blood borne diseases. Central nervous depressants, such as, benzodiazepines, can lead to addiction, severe respiratory depression, and death. Prescription stimulant abuse cannot only induce psychosis but also seizures and cardiovascular problems [8].

Powell's conclusions (Coalition on Appalachia Substance Abuse Policy) highlighted the need for a comprehensive evaluation within this region of Virginia to assess the prescription drug problem, its consequences to society, and the available resources and gaps in services to address the problem [8]. After exposing Oxycontin™ as a serious problem in Southwest Virginia, prescriptions for Oxycontin™ decreased and prescriptions for an alternate opioid, methadone, appeared to increase. What we

do know is that opioid abuse is alarming in Southwest Virginia but what we don't know is what specific opioids are being abused, why they are being abused and how are they being obtained. To follow up on Powell's conclusions and recommendations, we undertook a study that explores these issues. The research questions for this study are: (1) What is the extent of the prescription drug and methadone abuse problem in Southwest Virginia? ; (2) Which drugs did Opioid Treatment Clinic (OTC) consumers use prior to entry to the OTC program? ; (3) What are the most common reasons for prescription drug and methadone abuse? and (4) What are the sources for prescription drug procurement?

### **Materials and Methods**

In order to answer the research questions, both quantitative and qualitative research methodologies were used. Virginia Tech IRB approval was granted for all project methodology.

#### ***Treatment Centers***

Two OTC centers were in operation in Southwest Virginia that offered Methadone maintenance. The goal of the centers is to assist clients in achieving significant improvement in their quality of life through reduction or elimination of the use of illicit chemicals. Both clinics are licensed by the Commonwealth of Virginia, monitored by the Drug Enforcement Agency (DEA), and accredited by the Joint Commission on Accreditation of Healthcare Organizations. The clinics are open seven days a week, offer methadone maintenance therapy, maintenance to abstinence and long term medical withdrawal (detoxification) programs.

At the time of the study one center was treating approximately 400 clients and of these clients 58% were men and 42% were women, 99% Caucasian, 57% were employed and the average age was 32. The other treatment center was treating approximately 800 clients and 62% were men, 99% Caucasian, 65% employed, and an av-

erage age of 35. All of the clients were considered eligible to participate in the study.

### *Measures*

#### *Quantitative instrument*

##### *Drug use survey*

A survey, in English, was developed to be completed by Opioid Treatment Clinic consumers that consisted of a series of questions focused on what drugs were used prior to treatment, reasons for prescription drug use, and sources for obtaining prescription drugs for non-medical reasons. After the first draft of the survey was developed, two experts in addiction medicine were contacted and issues regarding the survey were discussed through emails as well as face-to-face meetings with clinic directors and the parent corporation to the health clinics. These informants provided valuable input in crafting the wording of questions and ensured that the Drug Use Survey had face validity. The final version of the Drug Use Survey consisted of ten questions that focused on gender, age, age of first use of opioids, opioids used prior to treatment, source of opioids abused, knowledge of risks of addiction, prior assessment by physician of prior problems with substance abuse, reasons for using opioids, number of physicians seen to procure prescriptions, and use of benzodiazepines along with opioids.

#### *Qualitative instrument*

##### *Focus group questions*

A series of questions were developed to ask focus group participants in order to more fully understand and explore the research questions for this study. Questions focused on their understanding of the abuse of methadone and prescription drugs in Southwest Virginia; what they believe are the main sources for obtaining methadone and other prescription drugs that are being abused; what they believe can be done to stem the current abuse of methadone and prescription drugs in Southwest Virginia; what are barriers to treatment; and what they believe should be done at the State level to

stem the current abuse of methadone and prescription drugs in Southwest Virginia?

### *Implementation*

#### *Quantitative implementation*

Clinic directors determined that the best way to distribute the survey was in the lobby area during dosing hours so staff could monitor and encourage survey completion thereby increasing responses rates. Between the two clinics, approximately 1200 clients had the opportunity to complete the survey. Client surveys and sealed collection boxes (so no one other than the researchers had access to completed surveys) were left at each clinic for a two-week period of time to allow clients to complete the surveys. Shortly after the two-week period was over, the researchers picked up completed surveys.

#### *Respondents to drug use survey.*

Clinic one returned 134 completed surveys and Clinic Two returned 586 surveys for a total of 720 completed surveys. This resulted in a 60% return rate based on the total number of clinic consumers. Of the respondents, 60% were men and 40% were women and the mean age of respondents was 31 years (range: 18-70 years). The mean age of when Opioid abuse was initiated differed between the two clinics with Clinic One having a mean age of their consumers' first use at 31 years (range from 18 to 70) and Clinic Two having a younger mean age of 21 years with a range from 12 to 47 years. The mean number of doctors visited to get prescription drugs was 2.4 to 3.0 and the highest reported number of doctors seen was 50.

#### *Qualitative Implementation*

The researchers identified Community Services Board's (CSB) staff, Health Coalition members, and methadone clinic staff as key organizations in dealing with the issue of prescription medication abuse and addiction. To gain their input, researchers contacted CSB directors, Health coalition leaders, and the Director of the two-drug treatment centers and encouraged them to invite all

appropriate personnel to participate in a focus group. In total seven focus groups were conducted, three with key community stakeholders in each targeted region and four at the two methadone clinics. Focus groups were conducted at a location of convenience for the participants including during coalition meetings, at various CSB offices, and within the methadone clinics. The focus groups lasted approximately one hour during which the participants completed a brief survey. The discussion was audio taped for later transcription. All participants consented to the process in accordance with Virginia Tech's Internal Review Board.

### ***Focus group participants***

Seven focus groups were conducted and 61 key informants participated in these focus groups. Focus group participants included seven CSB members (therapists, prevention specialists, and administrators), six mental health/substance abuse providers and administrators, four county school representatives, three prevention specialists (contracted with a CSB), four law enforcement representatives (Commonwealth Attorney, probation officers, and Southwest drug task force member), two government agency representatives (Department of Health and Department of Social Services), and, affiliated with the methadone clinics, seven nurses, 23 clinical staff, four administrators and support staff, and one physician. Participation in any one focus group ranged from eight to ten representatives.

### ***Data Analysis***

#### ***Quantitative data analysis***

All data from the Drug Use Survey was entered into SPSS and descriptive statistics were generated.

#### ***Qualitative data analysis***

A consultant transcribed the interviews with identifiers removed, and transcripts were reviewed for accuracy. A codebook was developed by the three researchers who initially coded one representative transcript. Codes were selected based upon the questions related to the larger needs assess-

ment and included: 1) Extent of drug use as a problem, 2) Who it effects and how, 3) Which drugs, 4) Where are they getting drugs, 5) Why using drugs, 6) Consequences of use, 7) Prevention efforts, 8) Treatment efforts, 9) Workforce development strategies, 10) Outcomes of efforts, 11) Barriers, and 12) Needs. Two researchers did coding of each focus group transcript manually. If coding inconsistencies occurred, they were reviewed until agreement on the coding was reached. For this particular study, analysis is limited to four codes related to etiology of prescription drug abuse: 1) Extent of drug use as a problem, 2) Which drugs, 3) Where are they getting drugs, and 4) Why using drugs. These codes were further synthesized for emerging themes, and these themes are cross-referenced with themes represented in the descriptive quantitative data. Representative quotes from within each of the themes are utilized to provide context and understanding around the quantitative data.

## **Results**

### ***Extent of the prescription drug and methadone abuse problem in southwest Virginia***

#### ***Increase in abuse***

It was agreed by all participants and respondents that prescription drug abuse, including methadone, is a major problem in Southwest Virginia. How extensive the problem, from the standpoint of those who both deal with the problem(s) and have been (or continue to be) a part of the problem, is important to gaining a full understanding of the multi-causal nature of this destructive behavior.

We've always had a drug problem as every place does, of course. But...we've [also] always had a prescription drug problem. ... starting in the late 90's, '97, '98, and then really the explosion [in abuse] in about 2000 of OxyContin, it's just completely changed our community. *CSB member*

Staff at the treatment center reported the large increase in how many methadone doses they were distributing in just the last

three years and CSB staff has also noted a very large increase in the problem. They were in general agreement that the problem started in the early 1990s and was largely noticed when OxyContin came on the market.

[In] 2003, we [used] 770 doses of pharmaceuticals; 2004, 1912 doses of pharmaceuticals; and year to date (March), [already] 1293 doses of pharmaceuticals. *Treatment Center Professional*

The worst problem that we're facing is the [explosion] of drug abuse. The rise of five to six years, seven years, has led to corresponding crime rate problems across the board. I think our whole community is aware of the problem, unfortunately because there is some national attention... Our number of (social work) cases have more than doubled in a five-year period of time. And the number of individuals incarcerated has doubled if not tripled in this period of time. *Social Worker*

Focus group discussions revealed the high use of OxyContin. The participants commented on the rapid nature of addiction to this substance and how it has changed their community.

In the past, you had the slow progression of drug use from alcohol or marijuana to maybe pills or cocaine or something. And through the criminal justice system, what we've seen the last five to seven years is people who have I'm sure they've smoked marijuana and so forth; but within a very short period of time, from the time they're 18, 19, 20 years old or whatever, they've progressed from using OxyContin primarily to being addicted to it to shooting it up and having a hard core addiction. *Police Officer*

OxyContin and Xanax.... There was a splurge there for a while (OxyContin); there was a lot of bad press; the Newsweek article or whatever

came out and so forth. And then seeing that the emphasis sort of shifted from OxyContin to other opiates. But it is still OxyContin here. *Treatment Center Professional*

However, with the increased publicity on the addictive nature of OxyContin, the drug has become less prescribed and as a result, focus group participants report, an increase in Lortab (hydrocodone) and methadone abuse as well as Xanax (alprazolam) and Valium (diazepam) [11].

But the doctors...see, the doctors get scared to write for [some of] the pain medicines so they'll back it down; in their minds, they'll back it down a little bit and maybe write for [other] pain [medications] as opposed to OxyContin. *Treatment Center Professional*

### *Changing demographics*

Further focus group discussions revealed that prescription drug abuse seems to be mostly an issue for those in their 20s and 30s although it is seen in adults in their 60s, 70s, and even 80s. Probation figures demonstrate that of the 1100 individuals on probation for prescription drug abuse, 800 are between the ages of 18 and 40 years [11].

I don't see a lot of prescription drugs in the schools here compared to the number of 20 year olds that are using. Why is that? Why suddenly when they're 18 and 19 do they start using? Is it because they don't have money? ...It really starts when they get right out of high school. *CSB member*

They're okay in school, then [there's suddenly] a breakdown. It could be a sense of hopelessness. You know, we build them up in ambition and everything; you go to high school, college, you know, great career waiting for you. And around here. . . *Teacher*

This does not mean that focus group participants have not noted increases in abuse among youth. In fact, many noted that the age of the abusers is getting younger, involving middle school students as well as

high school students. One focus group participant remarked on the growing trend of prescription parties among youth:

They're calling them Rx parties. And they go...each youth comes to wherever they're going to have this party. They bring their drugs out of the medicine cabinet. And they go and they dump them on the coffee table. And they don't know what's stuck out there, but they don't want to know. And they just all take a handful and take them. *Treatment Center Professional*

Earlier onset of alcohol, tobacco, and marijuana use appear to increase the likelihood of development of substance abuse in adulthood. A similar picture is emerged for early nonmedical use of prescription opioids. The concerns voiced by individuals in our region about youth abusing prescription drugs are warranted and supported. The adolescent has a rapidly developing young

brain, and exposure to psychoactive chemicals, like prescription drugs, may be associated with increased rates of addiction as adults.

***Drugs used prior to entry into Opiate Treatment Clinic***

Common types of prescription drugs that are currently abused include opioids used to relieve pain (e.g., oxycodone (Oxycontin™, Percocet™), hydrocodone (Vicodin™, Lortab™), propoxyphene (Darvocet™), and meperidine (Demerol™)); fentanyl, dilaudid, barbiturates or benzodiazepines (e.g., Valium™, Xanax™, Ativan™, Librium™) used to sedate and treat insomnia, anxiety, and seizure disorders; and stimulants used to treat asthma, obesity, narcolepsy, and attention deficit hyperactivity disorder (ADHD) (e.g., methylphenidate (Concerta™, Ritalin™), amphetamine (Adderall™)).

**Table 1:** What drugs were OTP Clinic consumers using prior to entry to the OTP program?

<b>Drug</b>	<b>% Combined Clinics</b>	<b>Number (n) of Clients for Combined Clinics</b>	<b>Percentage Clinic # 1</b>	<b>Number of Respondents (n) Clinic # 1</b>	<b>Percentage Clinic # 2</b>	<b>Number (n) of Respondents Clinic # 2</b>
Nasal oxycontin	63	453	62	363	67	90
Nasal hydrocodone	62	444	62	361	62	83
Oral hydrocodone	53	378	49	289	66	89
Oral methadone	41	296	32	189	43	58
IV oxycontin	41	296	43	252	33	44
Oral oxycontin	38	275	36	210	49	65
IV Morphine	33	239	34	199	30	40
Oral morphine	25	177	22	131	34	46
IV hydromorphone	23	166	24	140	3	4
Nasal morphine	22	156	20	118	28	38
IV heroin	20	143	20	118	19	25
IV meperidine	16	114	16	96	13	18
Oral meperidine	16	115	15	87	21	28
Oral hydromorphone	13	91	11	63	21	28
Oral fentanyl	11	82	11	64	13	18
Nasal heroin	11	79	11	64	11	15
IV fentanyl	10	74	11	62	9	12
IV fentanyl	10	74	10	62	9	12
Nasal hydromorphone	10	74	9	55	14	19
Nasal meperidine	9	67	10	59	6	8
Nasal methadone	8	54	6	35	14	19
Oral heroin	7	48	7	40	6	8

IV methadone	5	38	6	35	<1	2
IV hydrocodone	4	31	5	27	19	26
Nasal fentanyl	3	21	3	18	2	3

As seen in Table 1, oxycodone in all forms (nasal - 63%, oral - 38%, and IV - 41%, hydrocodone (nasal - 62%) and oral - 53%, as well as oral methadone (41%) and morphine (IV-33% and oral - 25%) are the prescription drugs most commonly used by clinic consumers prior to their enrollment in a treatment center. Drug cocktails of opioids and benzodiazepines were also perceived by treatment center's personnel and confirmed by methadone-maintained clinic consumers with 52% reporting that they had abused benzodiazepines along with opioids.

***Reasons for prescription drug and methadone abuse***

***Use turning to abuse***

Regional industry in Southwest Virginia is predominately logging and coal mining; both industries provide many work opportunities but also provide workers with injuries necessitating legitimate prescriptions for pain. Injuries that occur among workers in these industries may lead to chronic medical problems, including pain, the treatment of which includes prescription of medications with addiction potential. Because of the high rates of workforce related injuries, a lot of people in the area are considered physically disabled from work related accidents and are getting and using pain medications. Focus group participants perceive a link from this legitimate use of prescription drugs to prescription drug abuse, which may be the result of ineffective physician monitoring, inappropriate prescribing, and the disability system itself. Four percent of clinic consumers listed pain as a reason that they used misused prescription drugs. Given the potential abuse and addiction of prescription opioids, physicians must pay close attention to prescribing patterns to prevent diversion. Nonetheless, some medication will ultimately fall into the hands of individuals who will abuse, and sometimes, become addicted.

If you worked in the coalmines and you didn't have a college education and you got a back injury, you weren't likely to go to the college and get a degree and get a different job. You were going on disability. And if you go on disability, ...one of the things that they look at is your medication. So if you're trying to get disability and you've got a back problem, then your doctor's going to say, well you need these medications. So a lot of people get addicted to pain medications not because they choose to or because they want to, but because the system has kind of set it up.... Because if you want your disability, you better be showing that you're disabled. *CSB member*

Many clinic consumers indicated that they used prescription drugs to alleviate the symptoms of withdrawal. These individuals receiving treatment for their addiction have gone beyond their original motivations to alleviate pain or to cope with life and have reached a point where these drugs are abused in order to feel "normal."

***To get high***

When methadone-maintained patients were asked why they abused prescription drugs, 80% indicated it was to "get high." Other less reported reasons by these consumers were that using prescription drugs seemed safer than abusing non-prescription medications (9%), and 11% reported that it was a substitute for heroin that was not available to them. Focus group participants report a lack of after school programming and community activities in these depressed areas that may contribute to the problem of youth boredom leading to prescription drug abuse.

***Over prescribing and physicians.***

Focus group participants note a culture of unquestioned faith in physician judgment within their regions. If a drug comes from a physician, it is oftentimes

viewed as good and legitimate and patients don't question the doctors and may not be informed or aware of the addictive nature of their prescribed drug.

And people in this area have always idolized doctors; put them in a god-like situation. And I have people that I know



that if they went to the doctor and they'd say, take OxyContin; it will make you feel good. They wouldn't ask if it was addictive. They wouldn't ask if there was any problem. They'd just do it. But then what happens with the culture is that people want to be better, take the medicine. *Physician*

Treatment center staff believed that physicians might be further exacerbating the problem of opioid addiction. It was their perception that when physicians in the area medicate patients for pain they do not start with non-opioids but rather begin treating with opioids. The more patients sought pain relief, the more prescriptions for opioids were written.

They (opioids) are being prescribed readily and they are being used illegally also. For example, I had a patient that came in and he was getting (opioids) for low back pain from a local (doctor) – when I say local we're talking Southwest Virginia – from a local MD and the patient was getting Percocet and some kind of mixture of morphine for low back pain. That broke my heart...and so we detoxed the patient and, you know he's on different medications right now and doing well. *Treatment Center Professional*

Focus group participants also perceive pressure upon physicians to prescribe medications to their patients. The typical structure of a visit to the physician involves waiting, a brief exam, and a written prescription to cure what ails. There is an unspoken expectation that a visit to the doctor is not complete unless one walks out of the office with a prescription in hand. As an example, focus group participants mention the use of opioids and benzodiazepines as sedatives for patients who have symptoms of anxiety. It is so culturally accepted in the region that many refer to these drugs as “nerve pills.” According to those interviewed, the long term effects of these drugs include addiction and increased anxiety:

And when they are in active addiction, they're nervous all the time because they're thinking, “Where can I

find it (drugs)? Where can, you know, how far am I going to have to drive? Where am I going to come up with the money?” That's what they're thinking all the time and of course they're going to go to the doctor and say, you know, “I'm a nervous wreck all the time.” *Treatment Center Professional*

### ***Lack of information***

Based upon treatment center consumer data, many of these consumers were unaware of the addictive nature of these medications. Furthermore prescription misuse, which is taking more medication, than is prescribed, taking medications more often, or combining multiple prescriptions, put patients who are not actively seeking euphoria at risk for abuse, and sometimes addiction to prescription medications. Data from these consumers indicated that 60% (n=212) of the participants who received opioid drugs via a prescription from their physician did not have the risk of addiction explained to them. Furthermore an overwhelming 80% reported that their prescribing physician did not ask them if they had ever had a problem with substance abuse.

### ***Cultural acceptance***

Focus group participants observe a culture of acceptance of prescription drug use and a belief that there is a drug that can cure most everything—including stress, boredom, despair, and a lack of hope for the future. The culture accepts the use of these drugs to deal with psychosocial pain and does not discriminate between this type of pain and the physical pain for which the majority of these addictive prescription drugs were developed. Since the “culture” supports prescription drug use, focus group participants report that youth are exposed early and have access to these drugs through their family's medicine cabinets. The results are generations of illegitimate prescription drug use and general acceptance of recreational use of prescription drugs, particularly among teenagers.

I think some use with teenagers is always viewed as normal, it's acceptable, there's a certain amount of partying, wilding going on. And that they do those things, people really don't necessarily look down on them. I mean, there are only a few drugs if you try as a teenager that you're going to get serious stigma attached to you. *Health Coalition Member*

### ***To cope with stress***

Focus group participants perceive the greatest psychosocial risks within these regions as unemployment/poverty, lack of family cohesion, and boredom/stress. They feel that these risk factors directly correlate to increase use of prescription drugs as a coping mechanism. High unemployment rates contribute to the despair in these socio-economically depressed areas and focus group participants felt that unemployment correlates to the high prescription drug abuse rates experienced in Southwest Virginia.

In addition to high unemployment and poverty rates the region is also suffering from cracks in family cohesion and support. Child abuse and neglect for these regions exceed state averages by up to 52% [8]. Furthermore, archival social indicators demonstrate increases in the average daily rate of children (0-17) living in State-supervised, family-based foster care (1999-2002 data). Focus group participants perceive these declines in family cohesion as roots to initiation and perpetuation of prescription drug abuse.

I think one of the things is it becomes coping mechanisms for some people. I really think, in my observations, that that's a real issue. Because the makeup of the family is not traditional mom, dad, brother, sister, cat, dog anymore. The makeup of the family is grandmother raising grandkids or a single mom or a single dad or, you know, and those kinds of pressures and those, you know, kinds of things. And

somebody ends up on a pain management program and it becomes a coping mechanism...you know, we don't need it for the pain anymore; we need it to cope. *CSB Member*

### ***Sources for prescription drug procurement.***

The perception that youth are procuring prescription medications from family and friends reflect phenomena that are going on across the nation. Substance Abuse and Mental Health Services Administration, reported that 68% of those using prescription medications non-medically procured them from friends and family [9]. This was found to be true for this study as well. More than one-third (39%) of clinic consumers reported that they got their prescription drugs from a friend who had obtained the drug illegally, 14% reported that they got it from a family member who had a prescription for the drug, and 14% reported that they got it from a family member who had gotten it illicitly. However, the largest sources for getting prescription drugs used by clinic consumers were physicians and street dealers. More than one half (61%) of clinic consumers report that they have received a prescription for drugs from a physician for pain. Many of these clients were "doctor shopping" as evidenced by the large number of physicians they reported seeing. However, the vast majority (75%) of methadone clinic consumers reported that they have purchased their prescription drugs from a street source.

### **Discussion**

National Institute on Drug Abuse identified many factors responsible for the high prevalence of prescription drug abuse, many that we have confirmed in this study [3]. They include misperceptions about their safety, increasing availability, and varied motivations for their abuse. The White House Office expanded the National Drug Control Strategy with a Prescription Drug Abuse Prevention Plan to help address this prob-

lem [12]. Based on the study and what is known about prescription drug abuse, we make the following suggestions.

### ***Education and prevention efforts***

Education, and prevention efforts, both at the school and community levels, are needed to address this problem and to be most effective, should include parents, youth, patients, and healthcare agencies and organizations. Primary prevention is key to addressing this problem. Schools and community agencies, service providers need to be aware of the importance of primary prevention in protecting, promoting and improving the health of community members. This can be done through implementing comprehensive school health information, K-12, to create an awareness of the problems and to provide a strong organizational framework for coordinating all aspects of the school health program to work together in addressing the problem. In addition, health education K-12 with a focus on content related to substance use, misuse and abuse should prove helpful. Community agencies can coordinate services to provide education to citizens that will increase knowledge about pain and addiction and the problems associated with the recreational use of these powerful chemicals.

In addition community wide informational Interventions need to be developed and implemented. Community members, including law enforcement, judges, religious institutions, physicians, and state and local legislators need to be targeted for this information. The community needs to have a better understanding of the biology of addiction and how addiction is not a moral problem but a medical problem. To that end, religious leaders need to be educated regarding the biology of chemical dependence and more specifically the wide chasm between choice and dependence. Physicians must be educated regarding being more firm gatekeepers to prescribing opioids. Very little time in medical school is devoted to addiction medicine and so while most physicians feel they are helping their patients deal

with pain (and anxiety) they may be exacerbating the problem because of "doctor shopping" and the abusers access to multiple sources for procuring opioids (illegal, internet, and family). Finally, State and local legislators need to be educated regarding both the biology of dependence but also the important role of education and access to mental health services. Legislators can be helpful in promoting funding for more education and treatment facilities as well as providing more community activities for the youth. Using drugs because of boredom and to cope with increased pressures is also associated with youth abusing prescription drugs [13].

### ***Monitoring and Disposal***

Comprehensive monitoring programs will help to detect and prevent diversion and abuse of prescription drugs at the retail level. Support of legislation to decrease the diversion of these drugs is also needed for these efforts to work. Closely related to monitoring is the development and implementation of medical disposal of unused, unneeded or expired medications. Many communities in cooperation with their health coalitions and law enforcement are sponsoring drug disposal opportunities. Usually these occur on a weekend and citizens are informed of the disposal locations through local media. At the appropriate time, people will bring old prescription drugs to the disposal location and deliver them, no questions asked. The prescription drugs are then destroyed. These efforts have been popular, well publicized, and represent an effective community response to avoid diversion of prescription drugs.

### ***Enforcement***

Finally, more serious enforcement of those that doctor shop or are involved in drug trafficking are needed. Criminal diversion of prescription drugs includes street dealers, black market distribution, smuggling, and theft. Prescription drug seekers are known to go to other localities where drug dealers have access to particular drugs.

Drug dealers from other states (New York as one example given) also come to the area to sell their drugs. Organized crime is involved in much of the mass illegal distribution of prescription drugs [13]. Tactics include drug “laundering” through the Internet and smuggling from across the border with Mexico. In addition, due to high unemployment and poverty, patients sell opioids for income and hence divert the drugs from personal use to financial gain. There are reports that the street value of Oxycontin™ is ten times greater than its legitimate cost, and the financial reward for selling Oxycontin™ and other desirable prescription drugs, has led to an increase in prescription drug diversion by those who were prescribed these drugs [14].

### ***Intervention***

We also posit that while it is clear that education and prevention efforts are very important, a multidimensional problem-solving treatment approach is also needed to address the problem of prescription drug abuse. The findings clearly indicate that more treatment facilities, including inpatient and outpatient detoxification programs, are needed as well as addiction specialists and support groups for recovering addicts. When there is an understanding by the community of the problem, there must be opportunities for those who are affected to seek treatment.

### ***Limitations and Future Research***

This study represents a surveillance effort to explore prescription drug abuse in Southwest Virginia, which has long been identified as a high-risk area for prescription drug abuse. To that end, two important limitations need to be noted. First, this descriptive effort uses convenience. While it helps in identifying possible etiologies related to the etiology of prescription drug abuse, data are still gathered from those who chose to participate. Second, many factors related to prescription drug abuse were identified quantitatively and qualitatively, but no systematic in depth effort was made to learn more about such factors as workplace,

family, and community issues. Hence, more specific information will be needed in order to develop focused interventions designed to decrease prescription drug abuse.

Future research efforts need to include interviews from those who have overdosed on prescription drugs and survived. These interviews will provide much needed data regarding predisposing, reinforcing and enabling factors related to prescription drug abuse. Another research effort needs to focus on workforce injuries and prescription drug abuse. This would entail examination of the workplace, employee, and physician responses to a major factor identified in this study. Finally, family dynamics and the culture of drug taking in Southwest Virginia needs to be explored. It was found that families were very liberal in their diversion of drugs, not with criminal intent, but with the understanding that by providing drugs they were helping their relative or friend.

### **Conclusion**

In spite of the limitations of the study, this research effort was able to shed light on the questions it sought to explore. The extent of prescription drug and methadone abuse in Southwestern Virginia is high and communities are concerned. We posited numerous causes for this abuse along with how these drugs are procured. Lastly, we provided a multi-pronged discussion for combating this problem. Prescription drug abuse is real and multi causal and its solutions will require comprehensive efforts directed at education and treatment. If coordinated efforts are not implemented the problem will get worse and the result will continue to cripple communities for years to come.

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