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Prescription Drug Abuse and Provider-Patient Communication: A Qualitative Analysis of the Perspectives of Prescribers and Patients

Stephanie M. Mathis
East Tennessee State University

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by

Stephanie M. Mathis

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Dr. Robert Pack, Chair

Dr. Nicholas Hagemeier

Dr. Katie Baker

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ABSTRACT

Prescription Drug Abuse and Provider-Patient Communication: A Qualitative Analysis of the Perspectives of Prescribers and Patients

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Stephanie M. Mathis

Prescription drug abuse is a public health problem of epidemic proportions in the United States. Provider-patient communication underpins many initiatives aimed at preventing and reducing the public health burden of prescription drug abuse. The characteristics of and factors contributing to this interpersonal process, however, have not been fully explored.

The purpose of this research was to examine: 1) the overall problem of prescription drug abuse and provider-patient communication about prescription drug abuse from the patient perspective; and 2) provider-patient communication about prescription drug abuse from the prescriber perspective. In 2014-2015, semi-structured interviews were conducted with 20 patients from primary care and addiction medicine and 10 prescribers from multiple health professions and medical fields in Central and South Central Appalachia. The interviews were audio-recorded and transcribed verbatim. Thematic analysis, facilitated by qualitative data analysis software, was used to generate themes.

Patients perceived prescription drug abuse as a problem, both in terms of its prevalence and contribution to negative consequences. Patients connected abuse to accessibility, identifying routes of access, routine practices, and rationales involved in the acquisition and distribution of prescription drugs for abuse. With regard to provider-patient communication, patients reported

different levels of engagement in prescription drug abuse-related communication with healthcare providers—active, passive, and no/limited. Prescribers likewise reported different patterns of prescription drug abuse-related communication with patients—informative, counteractive, and supportive. Collectively, patients and prescribers described a range of factors—personal and environmental—that positively and negatively influence provider-patient communication and, by association, prescriber delivery and patient receipt of healthcare related to prescription drug abuse. When comparing the perspectives of patients and prescribers, multiple similarities in their prescription drug abuse-related communication perceptions and behaviors were identified.

The findings of this research have implications for: 1) clinical practice to mitigate prescription drug abuse and improve patient prescription drug abuse-related communication behaviors; 2) patient- and prescriber-targeted interventions to improve provider-patient communication about prescription drug abuse; and 3) future research to continue to advance understanding of provider-patient communication about prescription drug abuse.

DEDICATION

To my family, for your unwavering support, endless encouragement, and unconditional love. Without each and every one of you, this dissertation—and all that paved the way for it—would never have been possible.

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CHAPTER 1

INTRODUCTION

Background of the Problem

Prescription drug abuse (PDA) is contributing to a serious burden of premature mortality and morbidity in the United States (U.S.) (Centers for Disease Control and Prevention [CDC], 2011b; Office of National Drug Control Policy [ONDCP], 2011; Rudd, Aleshire, Zibbell, & Gladden, 2016; U.S. Department of Health and Human Services [HHS], 2013). Prescription drugs are second only to marijuana as the most abused category of illicit drugs in the nation, an underlying factor in an escalating epidemic of drug overdose deaths (Center for Behavioral Health Statistics and Quality [CBHSQ], 2015b; CDC, 2011b; Rudd, Aleshire, et al., 2016). Drug overdose deaths are now the leading cause of injury death, with the number of deaths attributed to drug overdose surpassing the number of deaths attributed to motor vehicle accidents and firearms since 2008 (Drug Enforcement Administration [DEA] & U.S. Department of Justice [DOJ], 2015). Given the scale of the problem, the CDC deemed PDA and overdose a top health threat, while the DEA deemed controlled prescription drugs one of the most significant drug threats in the nation (CDC, 2013; DEA & DOJ, 2015).

In response, multi-level strategies to facilitate PDA prevention, identification, and treatment have been put forth by national, state, and local entities (Alexander, Frattaroli, & Gielen, 2015; Association of State and Territorial Health Officials; Compton, Boyle, & Wargo, 2015; ONDCP, 2011; 2015; HHS, 2013). Healthcare providers (HCPs) and patients are two primary populations targeted by many of the strategies, and appropriately so. Both populations are inextricably connected not only to solution-based strategies, but also to the problem. A significant quantity of abused prescription opioids can in fact be traced back to the prescribing

and dispensing practices of HCPs and the medicine cabinets of patients (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). Among HCPs, prescribers and pharmacists are perhaps most closely connected to PDA and associated mitigation strategies given their roles and responsibilities in prescribing and dispensing prescription drugs with abuse potential, respectively. Notably, evidence suggests HCPs and the public consider PDA to be a problem (Barry et al., 2016; Hagemeier, Gray, & Pack, 2013; Hagemeier, Murawski, Lopez, Alamian, & Pack, 2014; Hwang, Turner, Kruszewski, Kolodny, & Alexander, 2015, 2016). In turn, HCPs and patients could be increasingly poised for engagement in PDA prevention, identification, and treatment strategies. Simply put, HCPs—prescribers and pharmacists in particular—and patients represent important intervention points for mitigating PDA in the healthcare setting and beyond (Hagemeier, Murawski, et al., 2014).

Statement of the Problem

Research demonstrates communication in the healthcare setting can have a significant influence on patients, HCPs, and healthcare systems (Dingley, Daugherty, Derieg, & Persing, 2008; Glanz, Rimer, & Viswanath, 2008; Ha & Longnecker, 2010; Schiavo, 2014; van Servellen, 2009). Interpersonal communication between HCPs and patients is particularly central to the delivery of healthcare and patient outcomes (Duggan, 2006; Ha & Longnecker, 2010; Makoul, 2003). Similarly, interpersonal communication underpins many multi-level strategies targeted toward HCPs and patients for PDA prevention, identification, and treatment. In other words, on some level, HCP and patient engagement in the strategies commonly involves the exchange of PDA-related information between HCPs and patients (i.e., provider-patient communication). The characteristics of and factors contributing to provider-patient communication about PDA, however, have not been fully explored. Further research on provider-patient communication

about PDA is needed to generate a more complete understanding of this complex, yet critical interpersonal process. Importantly, the findings could inform the development of communication interventions to improve provider-patient communication about PDA in the healthcare setting.

Purpose of the Research

The purpose of this research was twofold: 1) to examine the overall problem of PDA and provider-patient communication about PDA from the patient perspective; and 2) to examine provider-patient communication about PDA from the prescriber perspective. To accomplish this purpose, thematic analyses of qualitative data collected through semi-structured interviews with patients and prescribers were conducted. Briefly, the specific objectives of this research were to:

1. Explore patient perceptions of the scale and context of the problem of prescription drug abuse.
2. Examine patient perceptions and behaviors concerning prescription drug abuse-related communication with HCPs, specifically prescribers and pharmacists.
3. Examine prescriber perceptions and behaviors concerning prescription drug abuse-related communication with patients.

Setting of the Research

This research was conducted as part of a larger, mixed-methods study on provider-patient communication about PDA in Central and South Central Appalachia, two subregions of the Appalachian Region. Collectively, the subregions encompass 167 counties across five states—Kentucky, North Carolina, Tennessee, Virginia, and West Virginia (Figure 1.1.) (Appalachian Regional Commission [ARC], 2009). Central and South Central Appalachia, and Appalachia as a whole, have been acutely impacted by PDA, a tragic reality perhaps most clearly illustrated by the opioid overdose epidemic (Rudd, Aleshire, et al., 2016; Rudd, Seth, David, & Scholl, 2016;

HHS, 2013; Zibbell et al., 2015). In 2014, the age-adjusted drug overdose death rate in the U.S. was estimated at 14.7 deaths per 100,000 population (Rossen, Bastian, Warner, Khan, & Chong, 2016). In the same year, the age-adjusted drug overdose death rate in over half of the counties in Central and South Central Appalachia was estimated at over 20 deaths per 100,000 population, with very few counties experiencing an estimated age-adjusted drug overdose death rate at or below 12.1-14 deaths per 100,000 population (Rossen et al., 2016). Given the magnitude of drug overdose deaths alone, Central and South Central Appalachia were, and continue to be, priority settings for conducting research centered on PDA.

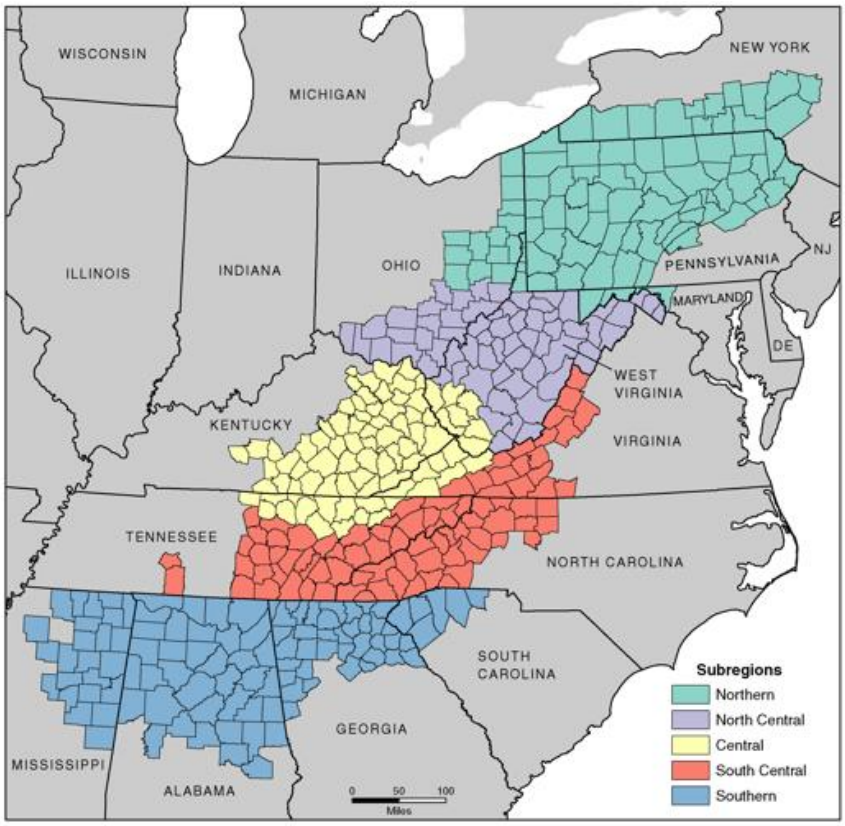

Figure 1.1. Map of the Appalachian Region. Reprinted from *Subregions in Appalachia*, by the Appalachian Regional Commission (ARC), November 2009, retrieved from http://www.lib.sfu.ca/help/cite-write/citation-style-guides/apa/tables-figures

Within Central and South Central Appalachia, this research was conducted in the 21-county service area of the Appalachian Research Network (AppNET). A rural, primary care

practice-based research network, AppNET is comprised of 17 clinic groups and more than 80 HCPs (i.e., physicians and mid-level providers). Moreover, the establishment of AppNET was supported by funding from the Health Resources and Services Administration (HRSA). This is noteworthy in part because programs funded and operated by HRSA (2017) deliver healthcare to individuals who are "geographically isolated, economically or medically vulnerable," yielding sociodemographic context for the Appalachian counties served by AppNET (p. 1). Further, rurality and economic disadvantage are factors that have been associated with higher rates of abuse of prescription drugs, opioids in particular, and drug overdose deaths (CDC, 2012; Faul et al., 2015; Keyes, Cerdá, Brady, Havens, & Galea, 2014; O'Brien, 2015; Paulozzi, 2012; HHS, 2013).

Theoretical Framework of the Research

Social Cognitive Theory

Social Cognitive Theory (SCT) served as a central guiding theoretical framework for this research (Bandura, 1986). Developed by Albert Bandura, SCT is an interpersonal-level theory focused on triadic reciprocal causation (Figure 1.2.) (Bandura, 1986, 2001b; Crosby, Salazar, & DiClemente, 2013; Glanz et al., 2008; National Cancer Institute [NCI], HHS, & National Institutes of Health [NIH], 2005). It postulates human behavior results from a dynamic and continuous interaction between behavioral patterns, personal factors (i.e., cognitive, affective, and biological), and environmental factors (i.e., social and physical) (Bandura, 1986, 2001a, 2001b; Glanz et al., 2008; NCI et. al., 2005). SCT thus takes into consideration both personal and socio-structural determinants of health (Bandura, 1998). In addition, it is comprised of multiple core constructs, including knowledge, self-efficacy, outcome expectations, goal formation, and sociostructural factors (i.e., perceived facilitators and impediments) (Bandura, 2004; Crosby et

al., 2013). Self-efficacy (i.e., "beliefs about personal ability to perform behaviors that bring desired outcomes") and outcome expectations (i.e., "beliefs about the likelihood and value of the consequences of behavioral choices"), however, are considered two of the primary determinants of behavior (Crosby et al., 2013; Glanz et al., 2008, p. 171). As one of the most robust theories of behavior, SCT has been extensively applied to advance understanding of diverse health issues and behaviors and to develop interventions in the fields of public health and medicine (Davis, Campbell, Hildon, Hobbs, & Michie, 2015; Glanz et al., 2008; NCI et. al., 2005). Given that PDA is a major public health problem and provider-patient communication about PDA is characterized by interpersonal behaviors in the healthcare setting, SCT provides a solid and promising foundation for research aimed at understanding the characteristics of and factors contributing to provider-patient communication about PDA.

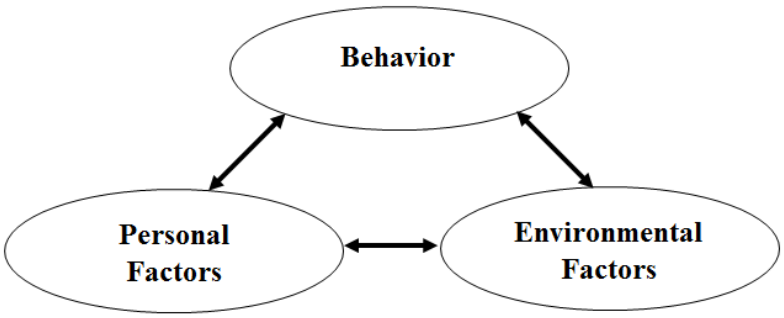

Figure 1.2. Illustration of triadic reciprocal causation as posited by Social Cognitive Theory

Constructs from Communication Theory Research

In and of itself, SCT arguably offers a solid foundation for research on provider-patient communication about PDA; however, it has been proposed that combining theories and/or constructs from multiple theories, as opposed to a single theory approach, can be more impactful and may produce stronger public health interventions (Glanz & Bishop, 2010; NCI et. al., 2005). Accordingly, this research was informed by three additional, and highly correlated, constructs from research on communication theory—communication apprehension (CA), self-perceived

communication competence (SPCC), and willingness to communicate (WTC)—hypothesized by the researchers to interact with and influence the PDA-related communication behaviors of prescribers and patients (McCroskey, 1997). Moreover, if the constructs are considered in combination with SCT, they could represent distinct personal factors that influence, and are influenced by, the PDA-related communication behaviors and environments of prescribers and patients. For clarity, the constructs are defined and discussed briefly below.

First, CA is "an individual's level of fear or anxiety associated with real or anticipated communication with another person or persons" (McCroskey, 1997, p. 82). Prior research has explored CA both as a trait of an individual and as a response to the situational characteristics of a communication transaction (McCroskey, 1997). A consistent, negative correlation has been found between the level of CA and communication behavior, both in terms of its quality and quantity (Allen & Bourhis, 1996). In other words, communication declines as apprehension grows, with avoidance of and withdrawal from communication being the most typical behavioral reactions to a high level of CA (Allen & Bourhis, 1996; McCroskey, 1997; Richmond V.P., Smith R.S., Heisel A.M., & McCroskey J.C., 1998). Second, SPCC is an individual's self-perception of his or her ability to "pass along or give information; the ability to make known by talking or writing" (McCroskey J.C. & McCroskey L.L., 1988, p. 109; McCroskey, 1997). Findings suggest individuals choose to initiate communication on the basis of self-perceptions of communication competence or skill, as opposed to their actual communication competence or skill (McCroskey, 1997). Lastly, WTC is as a "personality-type trait" that refers to "an individual's predisposition to initiate communication with others" (McCroskey, 1997, p. 77). In comparable conditions, it can offer an explanation for why one individual is willing to initiate communication, but another individual is not (McCroskey, 1997). WTC has been described as

the “best predictor of actual communication approach/avoidance behavior,” with CA and SPPC playing a significant role in determining the extent to which an individual is willing to initiate communication (McCroskey, 1997, p. 105).

Significance to Public Health

PDA is a public health problem in the U.S. and the Appalachian Region specifically, resulting in devastating and deadly consequences for individuals, families, and communities. Interpersonal communication between HCPs and patients underpins many strategies aimed at PDA prevention, identification, and treatment (Hagemeier et al., 2013; Hagemeier et al., 2016). Research on provider-patient communication about PDA can provide critical insight into its characteristics and contributing factors. More importantly, the findings could inform the development of patient- and prescriber-targeted communication interventions to improve provider-patient communication about PDA. The concurrent and complementary focus of this research on patients and prescribers could be particularly advantageous. Provider-patient communication is an interpersonal and reciprocal process, characterized by multiple functions that could necessitate the engagement of both HCPs and patients (e.g., formation of a “good” interpersonal relationship and information exchange) (D'Agostino et al., 2017; King & Hoppe, 2013; Ong, de Haes, Hoos, & Lammes, 1995; Rao, Anderson, Inui, & Frankel, 2007). Further, research to understand and, ultimately intervene on, provider-patient communication about PDA could help to optimize strategies aimed at PDA prevention, identification, and treatment. Simply put, communication is a leverage point for mitigating PDA in the healthcare setting and beyond, thereby warranting further research on provider-patient communication about PDA as a means of reducing the significant morbidity and mortality associated with PDA.

Human Subjects Protection

As noted previously, this research was conducted as part of a mixed methods study on provider-patient communication about PDA. Participation in the study was voluntary. Patients and prescribers provided written informed consent prior to the conduct of the interviews. The study was reviewed and approved by the East Tennessee State University Institutional Review Board.

Prescription Drug Abuse Terminology

To promote clarity in terminology, Table 1.1. provides definitions for terms relevant to research on PDA.

Table 1.1.

Prescription drug abuse terminology

Term(s)	Definition(s)
Prescription drugs	"Pharmaceuticals dispensed by a pharmacist on the presentation of a prescription written by a physician, dentist, or other health care provider who is legally authorized to write prescriptions."[a]
Prescription drug abuse	"Use of a medication without a prescription, in a way other than as prescribed, or for the experiences or feelings elicited."[c]
Abuse	"Self-administration of medications to alter one's state of consciousness ("get high"). This is an intentional, maladaptive pattern of use of a medication (whether legitimately prescribed or not) leading to significant impairment or distress—such as repeated failure to fulfill role obligations, recurrent use in situations in which it is physically hazardous, multiple legal problems, and recurrent social and interpersonal problems—occurring over a 12-month period."[a]
Diversion	"Redirection of a prescription drug from its lawful purpose to illicit use; can be done with criminal intent."[a]
Tolerance	"A state of adaptation in which exposure to a given dose of a drug induces changes that result in diminution of one or more of the drug's effects over time."[b]
Physical dependence	"Physical dependence is a state of adaptation that is manifested by a drug class specific withdrawal syndrome that can be produced by abrupt cessation, rapid dose reduction, decreasing blood level of the drug, and/or administration of an antagonist."[b]

Table 1.1. (continued)

Term(s)	Definition(s)
Addiction	"Addiction is a primary, chronic, neurobiological disease, with genetic, psychosocial and environmental factors influencing its development and manifestations. It is characterized by behaviors that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving."[b]
Substance use disorder	"A condition involving the intoxication, withdrawal, abuse or dependence upon a substance with defined abuse or dependence potential and meeting the criteria for clinical diagnosis defined by the current Diagnostic and Statistical Manual (DSM) and/or the current International Classification of Diseases (ICD)."[a]
Withdrawal	"A variety of unpleasant symptoms (e.g., difficulty concentrating, irritability, anxiety, anger, depressed mood, sleep disturbance, and craving) that occur after use of an addictive drug is reduced or stopped."[a]

Note. For the purposes of this research, the term prescription drug abuse is synonymous with nonmedical use.

Sources: [a]American College of Preventive Medicine. (2011). Use, abuse, misuse & disposal of prescription pain medication clinical reference: A resource from the American College of Preventive Medicine. Retrieved from http://www.acpm.org/?UseAbuseRxClinRef#Terminology. [b]American Academy of Pain Medicine, American Pain Society, & American Society of Addiction Medicine. (2001). Definitions related to the use of opioids for the treatment of pain: Consensus statement of the American Academy of Pain Medicine, the American Pain Society, and the American Society of Addiction Medicine. Chevy Chase, MD: American Society for Addiction Medicine. [c]National Institute on Drug Abuse. (2011). Prescription drug abuse. (NIH Publication Number 11-4881). Bethesda, MD: National Institute on Drug Abuse, National Institutes of Health, U.S. Department of Health and Human Services.

Prescription Drug Abuse in the United States

PDA has evolved into a public health crisis of epidemic proportions in the U.S. (ONDCP, 2011). Defined as "the use of a medication without a prescription, in a way other than as prescribed, or for the experience or feelings elicited," PDA, or nonmedical use, has been deemed the fastest growing drug problem in the nation (NIDA, 2011, p. 1; ONDCP, 2011). According to the National Survey on Drug Use and Health (NSDUH), an estimated 6.5 million persons aged 12 years or older abused a prescription drug in the past month (CBHSQ, 2015b). In addition, an estimated 54.4 million persons aged 12 years or older have abused a prescription drug at least once in their lifetimes, a number that equates to more than 20% of the population aged 12 years or older (CBHSQ, 2015a). While multiple classes of prescription drugs possess abuse potential, prescription opioids are among those most commonly abused (NIDA, 2011). Approximately two-thirds of persons with a history of PDA have abused prescription opioids specifically, with nearly two million persons aged 12 years or older meeting diagnostic criteria for prescription opioid abuse or dependence (CBHSQ, 2015b).

Adverse consequences from PDA, especially the abuse of prescription opioids, have increased dramatically in the past two decades. Drug overdose deaths involving prescription opioids have quadrupled since 1999, accounting for more than 165,000 deaths from 1999 to 2014 (CDC, 2016b). In other words, over 40 individuals die each day from drug overdoses involving prescription opioids (CDC, 2016c). Similar trends have been found in substance abuse treatment admissions and emergency department visits related to PDA. The proportion of substance abuse treatment admissions related to primary non-heroin opiates, including prescription opioids, increased three-fold from 2003 to 2013, and emergency department visits related to prescription opioids increased 153% from 2004 to 2011 (SAMHSA, 2013; SAMHSA, CBHSQ, 2015). PDA

has been associated with striking increases in many other negative outcomes as well, including neonatal abstinence syndrome (NAS), infectious diseases, and heroin use (Compton, Jones, & Baldwin, 2016; Suryaprasad et al., 2014; Tolia et al., 2015; Zibbell et al., 2015). Compounding the health-related impacts are economic costs, which were estimated at $78.5 billion in 2013 alone (Florence, Zhou, Luo, & Xu, 2016).

PDA, and its many consequences, represent a complex public health problem. While the problem is rooted in a multitude of contributing factors, one of the foremost factors driving its morbidity and mortality is the massive quantity of opioids prescribed and dispensed in the U.S. in recent decades (Compton et al., 2015; Paulozzi, Mack, & Hockenberry, 2014; Volkow, 2014). At the national-level, the number of opioid prescriptions dispensed by retail pharmacies has nearly tripled, from 76 million opioid prescriptions in 1991 to almost 207 million prescription opioids in 2013 (Volkow, 2014). The increase in supply has been paralleled by increases in associated consequences, including drug overdose deaths, treatment admissions, and emergency department visits involving prescription opioids (CDC, 2011b; Volkow, 2014). At the state-level, rates of prescription opioid sales and abuse have been found to correspond to rates of drug overdose deaths, such that states with higher rates of sales and abuse tend to have higher rates of deaths (CDC, 2011a; 2011b). In short, problematic prescribing and dispensing of prescription opioids coupled with factors like aggressive marketing by pharmaceutical companies and a consumer culture open to prescription drugs as the remedy for illness have generated a vast environmental supply of prescription opioids for potential abuse and diversion (Maxwell, 2011; NIDA, 2011; Volkow, 2014).

Prescription Drug Abuse in Appalachia

PDA has gained increasing attention as a public health issue across the U.S.; however,

the burden of PDA has been disproportionately realized in defined regions of the nation, one of which is Appalachia (HHS, 2013; Zibbell et al., 2015). According to ARC (n.d.-b), Appalachia spans 205,000 square miles from New York to Mississippi along the spine of the Appalachian Mountains. Further, it encompasses 420 counties across 13 states and has an estimated 25 million residents, with more than 40% of the Appalachian population characterized as rural compared to 20% of the U.S. population (ARC, n.d.-b).

Despite substantial gains over the past half-century, a sizable portion of the Appalachian population still struggles with socioeconomic hardship and poor health (Center for Regional Economic Competitiveness [CREC], & West Virginia University [WVU], 2015). The regional poverty rate exceeded the national rate (17.2% versus 15.6%) in 2010-2014; disparities also exist within the Region as the poverty rate ranged from a high of 25.4% in Appalachian Kentucky to a low of 13.7% in Appalachian Pennsylvania in the same time period (ARC, n.d.-c). In addition, Appalachia trails the nation on a number of other socioeconomic indicators, such as labor force participation, population growth, and educational attainment (CREC & WVU, 2015). The gap between the proportion of adults in Appalachia compared to adults in the nation with a college degree, for example, has widened, with 21.3% of adults over 25 years in Appalachia holding a bachelor's degree or higher compared to 28.5% of adults in the nation (CREC & WVU, 2015). In parallel to socioeconomic disparities, health disparities are equally well-documented (Borak, Salipante-Zaidel, Slade, & Fields, 2012; CREC & WVU, 2015). Appalachia has higher rates of all-cause and cause-specific mortality, obesity, diabetes, and various substance use and mental health disorders, among other health outcomes (Borak et al., 2012; CREC & WVU, 2015; National Opinion Research Center & ARC, 2008). Simply put, Appalachia has been, and at times

continues to be, characterized by "disproportionately poor health and increased risks of adverse health outcomes" compared to the rest of the nation (Borak et al., 2012, p. 146).

Against a backdrop of significant social, economic, and health disparities, PDA has emerged as a particularly serious and urgent problem in Appalachia. While there is state- and county-level variation in the rates of prescribing and dispensing of prescription opioids, many of those with the highest rates are affiliated with Appalachia (HHS, 2013; McDonald, Carlson, & Izrael, 2012; Paulozzi et al., 2014). In 2012, four of the five highest prescribing and dispensing states—Alabama, Tennessee, West Virginia, and Kentucky—were affiliated with the Region (Paulozzi et al., 2014). To further illustrate the geographic variation, prescription opioids were prescribed and dispensed at a rate of roughly 1.43 prescriptions per person in Alabama and Tennessee in 2012, compared to a national rate of only 0.83 prescribers per person (Paulozzi et al., 2014). The significant supply of prescription opioids, coupled with risk factors common to Appalachia, like persistent poverty, high unemployment, and rurality, may have played a central role in fueling prescription drug-related morbidity and mortality to unprecedented levels in the Region.

Drug overdose deaths have increased exponentially across the U.S., yet Appalachia has incurred many of the most striking increases (Buchanich, Balmert, & Burke, 2017; CDC, 2016a; 2016). In 2015, three of five states with the highest age-adjusted drug overdose death rates were affiliated with Appalachia—West Virginia (41.5 per 100,000), Kentucky (29.9 per 100,000), and Ohio (29.9 per 100,000) (CDC, 2016a). The magnitude of drug overdose deaths is even more evident when considering temporal trends at the county-level as a growing number of counties in and near the Region have experienced age-adjusted drug overdose death rates over 20 deaths per 100,000 population since 1999 (Figure 1.3.) (Rossen et al., 2016). Rural residence and high

community prescribing rates, both applicable descriptors for a large portion of Appalachia, have been associated with drug overdoses involving prescription drugs as well (ARC, n.d.-b; Paulozzi, 2012; Paulozzi et al., 2014). In other words, persons living in rural communities are more likely to overdose on prescription drugs, specifically opioids, than their urban counterparts, with the opioid-related overdose death rate approximately 45% higher in rural communities (Faul et al., 2015; O'Brien, 2015). Along with epidemiological data, media coverage of drug overdose deaths in Appalachia further illustrates not only the devastation across the Region, but to individuals, families, and entire communities within the Region as well (e.g., Park & Bloch, 2016).

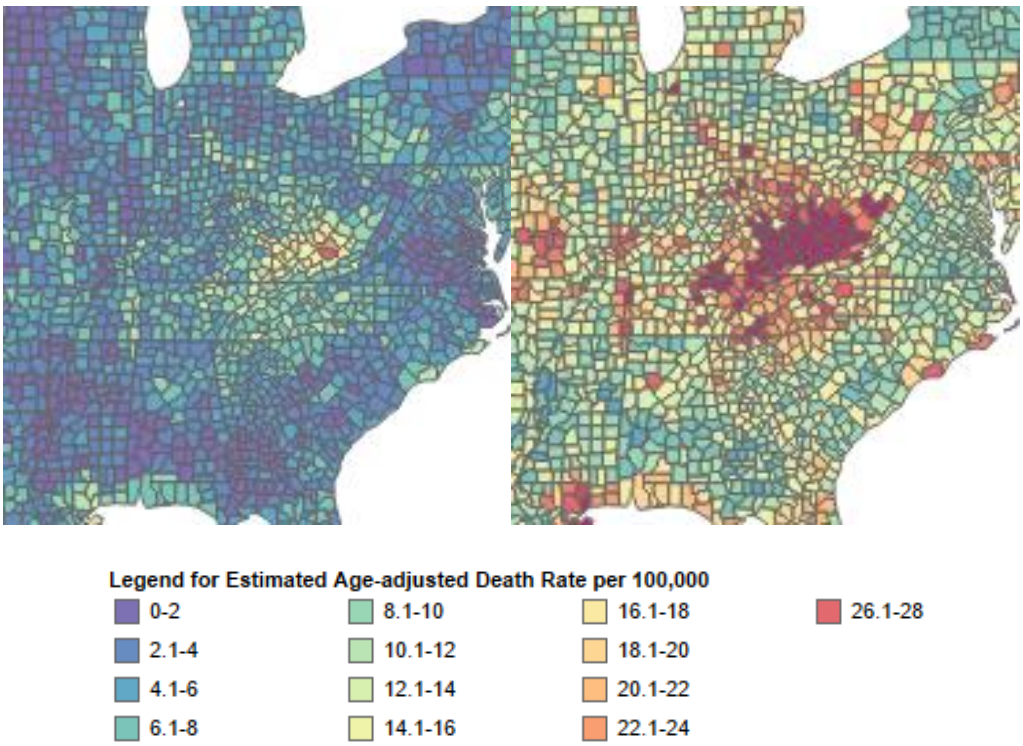

Figure 1.3. County-level trends in age-adjusted drug overdose death rates in and near the Appalachian Region: 1999 (left map) versus 2014 (right map). Adapted from *Drug poisoning mortality: United States, 1999–2014*, by L. Rossen, B. Bastian, M. Warner, D. Khan, and Y. Chong, 2016, retrieved from http://blogs.cdc.gov/nchs-data-visualization/drug-poisoning-mortality/.

Similar to the trends in drug overdose deaths, a number of additional adverse outcomes related to the use and abuse of prescription drugs are disproportionately high in Appalachia. One such outcome is NAS, a drug withdrawal syndrome experienced by newborns exposed in utero to drugs, often opioids (Patrick, Davis, Lehman, & Cooper, 2015; Warren, Miller, Traylor, Bauer, & Patrick, 2015). Geographic variation in the incidence of NAS has been found, with the East South Central Division of the nation—the states of Alabama, Kentucky, Mississippi and Tennessee—having the highest incidence rate (16.2 per 1,000 hospital births) in 2012 (Patrick et al., 2015). Considering a large portion of Appalachia is rural, it is also noteworthy the incidence of NAS increased disproportionately in rural counties compared to urban counties from 2004 to 2013 (ARC, n.d.-b; Villapiano, Winkelman, Kozhimannil, Davis, & Patrick, 2016). Accordingly, NAS was a topic of interest at the June 2015 Appalachian Health Policy Advisory Council, an advisory council for ARC (ARC, n.d.-a). Designated an emerging epidemic, another escalating issue in the Region is acute hepatitis C among young persons (aged ≤30 years), one suspected to be driven by a transition from oral prescription opioid abuse to opioid injection (Suryaprasad et al., 2014; Valdiserri et al., 2014; Zibbell et al., 2015). Many of the states and counties with the most dramatic increases in incidence from 2006 to 2012 and highest incidence rates in 2012 were concentrated in or near Appalachia (Suryaprasad et al., 2014). Collectively, the aforementioned outcomes illustrate not only the reach and repercussions of PDA in Appalachia, but the extent to which the Region is at the center of a public health problem at times referred to as a crisis and an epidemic (Kolodny et al., 2015; Manchikanti et al., 2012; Maxwell, 2011; ONDCP, 2011).

Healthcare Provider and Patient Roles in Prescription Drug Abuse

HCPs and patients are closely connected to the PDA problem, including the distribution and diversion of prescription opioids for abuse (Hagemeier et al., 2016). Specifically, HCPs and

patients are often the primary sources of prescription opioids that are eventually abused. According to the NSDUH, most persons aged 12 years or older who abuse prescription drugs obtain prescription opioids for abuse from friends and relatives, with 53.0% of persons obtaining them free and 14.6% of persons buying or stealing them (SAMHSA, 2014). Although the immediate source of abused prescription opioids is frequently friends and relatives, HCPs are often the original source. More than 85% of abused prescription opioids obtained from friends or relatives are initially obtained from one or more prescribers, while approximately 24% of abused prescription opioids are directly obtained from one or more prescribers (SAMHSA, 2014). In addition to implications for HCPs, these data illustrate patients can be the direct consumers of abused prescription opioids as well as liaisons for prescription opioids that are eventually abused by others. Ultimately, HCPs and patients have important roles in propagating the PDA problem through a complex combination of direct and indirect routes.

Although HCPs and patients may contribute to the problem, they are a fundamental part of the solution as well. In many of the national, state, and local strategies being proposed and implemented to mitigate PDA, HCPs and patients are often the target audiences and, in turn, those anticipated to take action steps to promote PDA prevention, identification, and treatment (Alexander et al., 2015; Association of State and Territorial Health Officials; Compton et al., 2015; NIDA, 2011; ONDCP, 2011; 2015; HHS, 2013). Strategies targeted toward HCPs have included: 1) increased education and training on proper opioid prescribing and dispensing, pain management, and substance abuse; 2) increased usage of clinical practice tools (e.g., prescription drug monitoring programs [PDMPs] and guidelines; 3) increased attention to prescription drug disposal and support for community-based disposal programs; and 4) increased substance abuse screening and treatment services. On the other hand, strategies toward patients have included: 1)

increased awareness of and education about PDA; 2) increased education on appropriate use, safe storage, and proper disposal of prescription drugs; 3) increased education and training on overdose prevention; and 4) encouraging patients to inform their HCPs about prescription and other drug use (NIDA, 2011; ONDCP, 2011; HHS, 2013). As a whole, the strategies encompass a range of activities and clinical and community endpoints; however, a common theme is the central role of HCPs and patients in PDA prevention, identification, and treatment.

Interpersonal communication between HCPs and patients underpins many of the strategies aimed at PDA prevention, identification, and treatment, irrespective of whether they are targeted toward HCPs or patients (Hagemeier et al., 2013; Hagemeier et al., 2016). Among HCPs, prescribers (e.g., physicians, physician assistants, nurse practitioners, and dentists) and pharmacists are naturally positioned to be engaged in PDA-related communication and mitigation strategies (Hagemeier, Murawski, et al., 2014). Several strategies, for example, focus on appropriate prescribing and dispensing of prescription drugs with abuse potential (e.g., training and clinical practice tools), practices that correspond to the roles and responsibilities of prescribers and pharmacists, respectively. Hence, pathways for interpersonal communication specific to PDA can be conceptualized as a triad of six dyadic interactions involving patients, prescribers, and pharmacists—patient-prescriber, patient-pharmacist, prescriber-pharmacist, prescriber-patient, pharmacist-prescriber, and pharmacist-patient (Figure 1.4.) (Hagemeier et al., 2013). These pathways, however, are unstudied despite their underlying role in mitigating PDA.

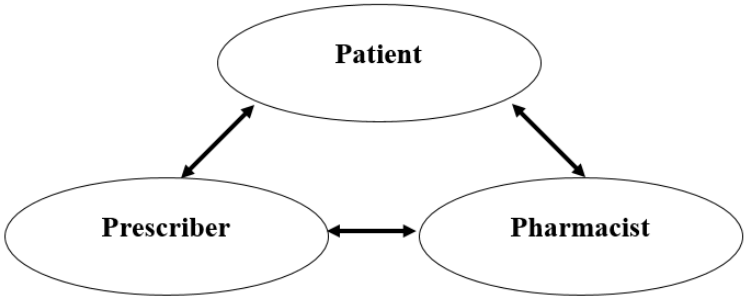

Figure 1.4. Conceptual pathways for interpersonal communication about prescription drug abuse in the healthcare setting.

Communication in the Healthcare Setting

Communication is a fundamental aspect of human life and social order, rooted in the need to share meanings and ideas (Rimal & Lapinski, 2009; Schiavo, 2014; van Servellen, 2009) In fact, an estimated 75% of each day is dedicated to communication (Tubbs, 2013). At its most basic, communication can be defined as "a process by which information is exchanged between individuals through a common system of symbols, signs, or behavior" or more broadly as the "sharing of experience" ("Communication [Def. 3] ", 2017; Tubbs, 2013, p. 9). Communication serves multiple functions, satisfying physical, identity, social, and practical needs (Adler & Rodman, 2006). A product of the effect of physiological, psychological, and environmental factors, communication is a multifaceted, dynamic, and continuous process (Adler & Rodman, 2006; van Servellen, 2009). Major dimensions of the process include: the sender (encodes and transmits), the message (content), the channel (medium used to transmit the message), the receiver/audience (decodes communication for meaning), and the effect (outcome of the process) (Glanz et al., 2008). It is thus an interactive process, with effects potentially moving between senders and receivers through different forms of feedback and influence (Glanz et al., 2008). Communication occurs in diverse contexts and on multiple levels—intrapersonal, interpersonal, small group, public, and mass communication (Adler & Rodman, 2006). Likewise, it can assume

diverse forms, including verbal and nonverbal communication as well as vocal and non-vocal communication (Adler & Rodman, 2006). In short, communication is a complex and powerful phenomenon in human life and, by extension, human health (Glanz et al., 2008; van Servellen, 2009).

Communication is increasingly being recognized as an important and highly influential factor in individual and population health. Accordingly, it holds a pivot role in the healthcare setting, functioning as the foundation of healthcare delivery and exerting influence across the continuum of healthcare—health promotion and disease prevention to assessment and diagnosis to treatment and disease-management (Ahmed, 2012; Makoul, 2003; Schiavo, 2014; van Servellen, 2009). Communication is not only fundamental to the interactions of HCPs and patients, but it also serves countless other functions in the healthcare setting, such as facilitating coordination among HCPs, encouraging broad utilization of best practices and application of scientific breakthroughs, and supporting the management of multi-sector healthcare systems (Ha & Longnecker, 2010; Schiavo, 2014). Although all levels of communication could be pertinent in the healthcare setting, interpersonal communication (i.e., communication between two or more individuals) is frequently at the forefront as the "linchpin of medical practice" (Adler & Rodman, 2006; Duggan, 2006; Hagemeier, Hess, Hagen, & Sorah, 2014; Makoul, 2003, p. 79). Likewise, it has been postulated that "in no other professions are interpersonal communication skills more important than in the health professions" (van Servellen, 2009, p. 1).

Provider-Patient Communication

Over the years, provider-patient communication has become a prominent field of study and area of focus in the healthcare setting (Ahmed, 2012; Glanz et al., 2008; Murad, Chatterley, & Guirguis, 2014; Schiavo, 2014; Shah & Chewning, 2006). The growing emphasis on provider-

patient communication is underscored by its inclusion in the Codes of Ethics for HCPs, medical and pharmaceutical education and training initiatives, and select objectives from *Healthy People 2020* (American Medical Association, 2016; American Pharmacists Association, 1994; Duffy et al., 2004; Frantsve & Kerns, 2007; Schiavo, 2014; Shah & Chewning, 2006; Spitzberg, 2013; Wallman, Vaudan, & Sporrong, 2013; Zolnierek & Dimatteo, 2009). However, the responsibility of provider-patient communication does not rest solely on HCPs as active patient engagement is inherent in successful communication (Duggan, 2006; Murad et al., 2014; Rao et al., 2007; Whaley, 2000). Descriptive models of provider-patient communication suggest the level of patient engagement can be conceptually represented as a continuum, ranging from completely passive to highly active (Glanz et al., 2008). In recent decades, provider-patient communication and relationships in general have trended toward the active side of the continuum, with patients tending to assume a more visible and collaborative role in their healthcare (Frantsve & Kerns, 2007; Schiavo, 2014). Perhaps more importantly, communication represents a cornerstone of the provider-patient relationship. For example, the elements of the patient-physician relationship can be summarized as: verbal and nonverbal communication; effective questioning and conveying of information; demonstrations of empathy and concern; and partnership and shared decision-making (Zolnierek & Dimatteo, 2009). Thus, provider-patient communication is a foundational interpersonal process in the provider-patient relationship and, in turn, delivery of healthcare.

Effective provider-patient communication is associated with a plethora of positive outcomes for patients, HCPs, and healthcare systems (Glanz et al., 2008; van Servellen, 2009). Evidence suggests it can positively impact patient satisfaction, safety, and adherence; patient health; healthcare use and retention; HCP job satisfaction; and malpractice suits and costs (Ahmed, 2012; Chisholm-Burns et al., 2010; Ha & Longnecker, 2010; Mazurenko & Hearld,

2015; Schiavo, 2014; Shah & Chewning, 2006; van Servellen, 2009; Zolnierek & Dimatteo, 2009). Specific to patient health, it has been posited that provider-patient communication could enhance patient health through a series of direct and indirect causal pathways, with indirect pathways likely serving as the most frequent causal route (Figure 1.5.) (Glanz et al., 2008; Street, 2013). For example, effective communication could increase patient understanding of treatment options and physician understanding of patient preferences, leading to better access to healthcare and self-care and, in turn, impacts on survival (Glanz et al., 2008; Street, 2013). Collectively, the findings illustrate the importance, yet inherent complexity of provider-patient communication.

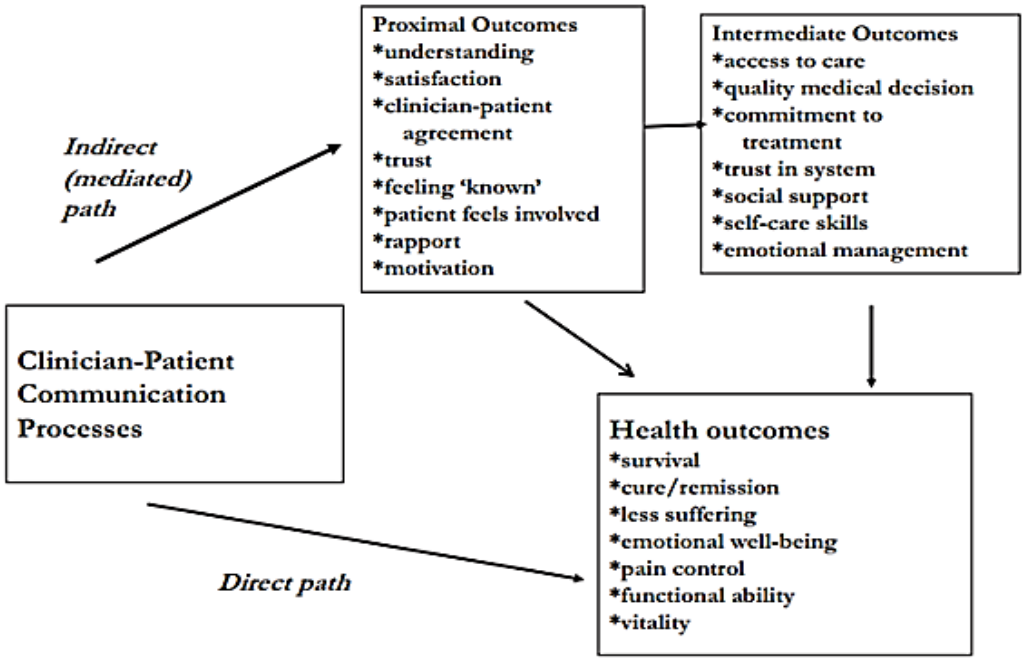

Figure 1.5. Direct and indirect pathways from provider-patient communication to patient health outcomes. Reprinted from "How clinician-patient communication contributes to health improvement: Modeling pathways from talk to outcome," by R. L. Street, Jr., 2013, *Patient Education and Counseling, 92*(3), p.288., Copyright (2013), with permission from Elsevier

A focal area of research has been determining the principal components of effective provider-patient communication; however, a gold standard does not yet exist and decades of work have not generated major theoretical breakthroughs identifying the components (Deledda,

Moretti, Rimondini, & Zimmermann, 2013; Glanz et al., 2008; Spitzberg, 2013; Street, 2013). Generally speaking though, effective communication can be defined as when "the stimulus as it was initiated and intended by the sender, or source, corresponds closely to the stimulus as it is perceived and responded to by the receiver" (Tubbs, 2013, p. 24). Hence, communication is effective when the meaning of the sender is equivalent to the meaning of the receiver (i.e., the complete sharing of meaning) (Tubbs, 2013).

While a clear understanding of the building blocks of effective provider-patient communication may be lacking, what is clearer is the purpose and functions of provider-patient communication. The purpose is to enable patients and HCPs to achieve a level of understanding that will facilitate patient-centered care by the HCP coupled with health and disease management by the patient or, simply put, to improve the health and care of the patient (Ha & Longnecker, 2010; van Servellen, 2009). In accordance with this purpose, the functions of provider-patient communication include: fostering interpersonal relationships; exchanging/managing information; authenticating and reacting to emotions; handling uncertainty; decision-making; and supporting patient self-management (Ahmed, 2012; Glanz et al., 2008). Taken as a whole, provider-patient communication is a multipurpose process with influence that stretches across many aspects of patient care and health.

Despite recognition of the utility of provider-patient communication in the healthcare setting, evidence suggests it is often suboptimal and in need of improvement (Blackstone & Pressman, 2016; Duffy et al., 2004; Schiavo, 2014; Zill et al., 2014). Accordingly, it has been posited that "poor communication is perhaps one of the most prevalent problems in medicine" (Taran, 2011, p. 86). Complaints about HCPs commonly stem from communication difficulties and an inability to listen, rather than issues with competence or technicalities (Ahmed, 2012;

Berry, 2006; Ha & Longnecker, 2010). Evidence suggests patients not only express a desire for more effective communication with HCPs, but can also express the communication behaviors they expect from their HCPs (Deledda et al., 2013; Duffy et al., 2004). On the contrary, HCPs often overestimate their competence in communication (Ha & Longnecker, 2010). For example, one seminal study found that the average patient spoke just 18 seconds prior to being interrupted by the HCP and that only a minority of patients completed their opening statements (Beckman & Frankel, 1984). Unfortunately, provider-patient communication may often transpire as a one-way exchange largely dominated by the HCP, rather than a two-way, joint exchange in which both HCPs and patients openly contribute.

The quality of provider-patient communication in the healthcare setting reflects the impact of numerous direct and indirect contributing factors (Schiavo, 2014). In particular, a number of multi-level barriers to effective provider-patient communication have been identified. First, at the patient-level, examples of barriers include: cognitive deficiencies; demographic characteristics; disease-related stress; education and health literacy; inadequate understanding of medical or scientific terminology; language issues; and power differentials (Institute of Medicine [IOM], 2013; Schiavo, 2014). Second, at the provider-level, examples of barriers include: demographic characteristics; conflicting attitudes; concerns over repercussions; impractical patient expectations and misunderstood patient preferences; insensitivity to the informational, cultural, and emotional needs of patients; insufficient knowledge, skills, and training; provider discomfort and avoidance behavior; and time constraints and work load (Ha & Longnecker, 2010; IOM, 2013; Keshishian, Colodny, & Boone, 2008; Schiavo, 2014; Travaline, Ruchinskas, & D'Alonzo, 2005). Third and finally, at the healthcare system- or setting-level, examples of barriers include: breakdowns in coordination, feedback, and quality improvement; characteristics

of the practice setting; and dimensions of the external environment (Keshishian et al., 2008; Lakin et al., 2016; Mazurenko & Hearld, 2015; Murad et al., 2014). Taken together, multiple patient-, provider-, and system- or setting-level factors have the potential to impede effective communication between HCPs and patients.

Provider-patient communication in the healthcare setting has received substantial attention in research and practice, yet many aspects of this complex and critical interpersonal process remain poorly understood (Glanz et al., 2008). For example, a sizable portion of the research has focused exclusively on patient-physician communication (Glanz et al., 2008). In turn, patient communication with HCPs other than physicians (e.g., pharmacists) is understudied in comparison, despite the expanding clinical roles of many such HCPs (Keshishian et al., 2008; Murad et al., 2014). In the end, provider-patient communication is one of the most significant uses of communication in the healthcare setting, and the healthcare encounter is one of the most valuable opportunities "to have a major impact on reducing morbidity and mortality of chronic disease, through personalized information exchange" (Lukoschek, Fazzari, & Marantz, 2003, p. 209; Schiavo, 2014). As such, provider-patient communication in the healthcare setting remains an area ripe for further research.

Provider-Patient Communication about Prescription Drug Abuse

Although the importance of provider-patient communication in the healthcare setting is recognized, research on provider-patient communication specific to PDA remains limited and, at times, inconsistent. More importantly, further research on provider-patient communication about PDA is warranted for at least two reasons: 1) PDA has the potential to impose a distinct, and possibly inhibiting, layer of situational complexity to the existing challenges of provider-patient communication; and 2) provider-patient communication is inseparable from many strategies

aimed at mitigating PDA. As discussed previously, provider-patient communication involving prescribers and pharmacists is of primary interest herein since the roles and responsibilities of these HCPs often place them on the frontlines of preventing, identifying, and treating PDA in the healthcare setting (Hagemeier et al., 2016). Hereafter, research on provider-patient communication about PDA is reviewed. To streamline the review, sections are organized according to the perspective of study participants—patient, prescriber, and/or pharmacist—followed by a section that cuts-across perspectives on strategies aligned with PDA prevention, identification, and treatment.

Prescriber and Pharmacist Perspectives. Several studies have examined provider-patient communication about PDA from the dual perspectives of prescribers and pharmacists, yielding a valuable opportunity to understand and compare their respective perceptions and behaviors. A study of pharmacists and prescribers (n=89) in Tennessee found the majority perceived PDA as a problem in their practice settings and agreed improved patient-prescriber/patient-pharmacist communication could deter it (Hagemeier et al., 2013). Yet, only 25% of prescribers and 13% of pharmacists strongly agreed they felt confident in discussing PDA issues with patients, and only 21% of prescribers and 4% of pharmacists strongly agreed they felt confident in discussing options for addiction treatment facilities with patients (Hagemeier et al., 2013). These findings suggests that although prescribers and pharmacists may agree better provider-patient PDA communication is needed, intrapersonal factors, namely self-efficacy beliefs, may limit the extent to which they initiate and sustain PDA communication with patients (Hagemeier et al., 2013).

In South Central Appalachia, a study assessed the perceptions and behaviors of prescribers and pharmacists (n=35) regarding PDA communication (Hagemeier et al., 2016). The

quantitative findings suggested the majority, irrespective of profession, agreed communication behaviors corresponding to multiple PDA prevention and treatment strategies were important (Hagemeier et al., 2016). Despite all being perceived as important, prescribers and pharmacists reported they most often engaged in the following PDA-related communication behaviors: discussing the results of a PDMP query; discussing concerns about patient drug-taking behaviors; and discussing the abuse potential of prescription drugs (Hagemeier et al., 2016). The qualitative findings identified multiple factors that can impact PDA-related communication and prescribing/dispensing behaviors. Factors included: patient information (e.g., subjective nature of pain versus objective results of a urine drug screen); lack of patient information among pharmacists; patient relationships (e.g., new versus established patient); fear of patient responses; extent of training/experience; practice setting barriers (e.g., time); and individual and practice setting policies (e.g., patient limits) (Hagemeier et al., 2016). Approaches for communicating with patients also emerged, such as the use of standard operating conversations, communication based on consequences and contracts, and avoidance of communication to evade challenging or argumentative circumstances with patients (Hagemeier et al., 2016). Overall, prescribers and pharmacists perceive communication with patients concerning PDA as valuable; however, it remains "uncomfortable, variable, multifactorial, and often avoided" (Hagemeier et al., 2016, p. 9).

Prescriber Perspective. Provider-patient communication about PDA has been explored, albeit briefly, in the literature from the prescriber perspective. In a study of primary care physicians about opioid dependence (n=35) in New York, physicians reported significant concerns about tolerance, physical dependence, and/or addiction in patients treated for chronic pain with prescription opioids (Keller et al., 2012). Simultaneously, physicians reported low

knowledge of and comfort in treating/managing chronic pain and discussing opioid dependence with patients (Keller et al., 2012). Among palliative medicine fellows (n=57), a study focused on managing prescription opioid misuse similarly found only 39.3% agreed they know how to discuss a positive urine drug screen with a patient and only 35.7% agreed they communicate effectively with patients with substance use disorders (Childers & Arnold, 2012). The overall limited competency of the fellows in caring for patients at risk for opioid misuse was nicely summed up in the response: "I feel uncomfortable 'calling a patient out' on their potentially aberrant drug-take behaviors" (Childers & Arnold, 2012, p. 257). Finally, a landmark survey of physicians (n=979) found nearly half of physicians had difficulty discussing PDA with their patients (The National Center on Addiction and Substance Abuse [CASA], 2005). Specifically, only about half (53.8%) asked about PDA when taking the health history of a patient (versus 93.6%, 93.1%, and 83.8% for tobacco, alcohol, and illegal drug use, respectively), and only about half always counseled each patient about the risks of physical dependence (52.7%) and addiction (45.9%) when initially prescribing controlled substances (CASA, 2005).

Lastly, PDA has emerged as a point of discussion in several studies focused on provider-patient communication about pain and prescription opioids. Although PDA was not the primary research focus, these studies are still pertinent as they offer another avenue to understand, at least in part, the prescriber perspective of provider-patient communication about PDA. In a study of primary care providers in Illinois (n=20) on chronic pain care, providers described challenges in caring for patients with chronic pain, including concerns over diversion and difficult interactions due to "doctor shopping" and lack of adherence (Matthias et al., 2010). Findings pointed to the need for improved patient-centered communication as one means of improving patient care and reducing provider burden (Matthias et al., 2010). Similarly, in a study of chronic opioid therapy

with patient-physician dyads in primary care (n=21) in Rhode Island, addiction was a topic of discussion among both patients and physicians, with the findings as a whole again demonstrating a need for more effective provider-patient communication (Esquibel & Borkan, 2014).

Pharmacist Perspective. A growing body of research has examined provider-patient communication about PDA from the pharmacist perspective. A study of community pharmacists (n=640) in Tennessee found most perceived prescription opioid abuse as a problem in their practice settings; however, few agreed they received sufficient training about it (Hagemeier, Murawski, et al., 2014). Similar to other research, most agreed improving patient-prescriber and patient-pharmacist communication could deter prescription opioid abuse (Hagemeier et al., 2013; Hagemeier, Murawski, et al., 2014). However, less than 20% strongly agreed they felt confident in discussing patient prescription opioid abuse issues, counseling patients regarding prescription opioid addiction, and discussing treatment facility options, all of which suggest many community pharmacists may lack strong self-efficacy for provider-patient communication about PDA (Hagemeier, Murawski, et al., 2014). As for communication barriers, job-related time constraints was most commonly cited (Hagemeier, Murawski, et al., 2014). Gender differences in communication barriers were also noted, with female pharmacists more often ranking fear of patient response and male pharmacists more often ranking fear of prescriber response as a primary barrier (Hagemeier, Murawski, et al., 2014). Similar findings concerning self-efficacy were found in a study of pharmacists (n=454) in Florida, with just under half reporting they felt most confident in and had much/very much knowledge regarding intervention and counseling patients about substances with addictive potential (Lafferty, Hunter, & Marsh, 2006). Further, nearly 30% indicated they never counsel and 18.6% indicated they rarely counsel patients about prescription drug dependency (Lafferty et al., 2006).

In a study of pharmacists (n=739) in Texas and Utah, 57% and 46%, respectively, reported currently discussing potential prescription opioid misuse with patients (Cochran, Field, Lawson, & Erickson, 2013). In a subsequent secondary data analysis, pharmacists who reported screening for prescription opioid misuse and wanting to help patients misusing prescription opioids were most likely to discuss prescription opioid misuse (Cochran, Field, & Lawson, 2015). In contrast, a Texas study found pharmacists (n=261) were neutral about counseling patients regarding addiction if abuse was suspected (Fleming et al., 2014). Only 15% reported always asking patients about other controlled substance use when dispensing controlled substances, while nearly 40% reported never discussing medication-assisted treatment (i.e., buprenorphine or buprenorphine/naloxone) with patients or prescribers if opioid addiction was suspected (Fleming et al., 2014). Likewise, a national survey of pharmacists (n=1,030) found 61% of pharmacists did not regularly inquire about whether a patient was taking other controlled substances when dispensing a controlled substance; however, the vast majority reported always or usually asking if the patient had questions and providing instructions for use (CASA, 2005). In short, pharmacist-specific studies suggest provider-patient PDA communication is generally perceived as important, but communication engagement is highly variable due to the influence of multi-level factors.

Patient Perspective. Compared to the volume of studies on the perspectives of prescribers and pharmacists, studies exclusively focused on the perspective of patients of provider-patient communication about PDA remain sparse. Several studies have explored dimensions of PDA communication, often indirectly, as it transpires in patient counseling, pain management, and opioid prescribing. Considering these studies could provide a starting point for understanding PDA communication between patients and HCPs, a discussion of the most relevant ones follows.

First, a study of patients (n=149) in Georgia and Illinois receiving a new prescription for opioid-acetaminophen found verbal counseling from HCPs, namely physicians/nurses and pharmacists, was seldom recalled by patients and rarely reinforced at both points of HCP contact (McCarthy et al., 2014). For example, few or no patients recalled physicians/nurses, pharmacists, or both discussing potential risks for addiction or abuse (9.4%, 1.3%, and 0%, respectively), and none openly recalled communication about safe drug storage or disposal (McCarthy et al., 2014). When counseling was recalled, it most often involved prescription details, activities to avoid, and side effects (McCarthy et al., 2014). Overall, patient recall of counseling was uncommon and incomplete, including on topics like abuse and overdose potential (McCarthy et al., 2014).

Second, small studies on pain management and opioid prescribing in the emergency department setting offer additional insights into provider-patient communication about PDA. A study of emergency department patients (n=23) found patients were aware and fearful of the risk for opioid dependence/addiction, with unofficial channels (e.g., media) often the source for their information on opioids (McCarthy & Kim, 2016; Smith, Rhodes, et al., 2015). Patients described poor communication about pain management and opioid risk with providers coupled with poor care coordination; however, patients expressed a desire to be more engaged in the treatment plan (McCarthy & Kim, 2016; Smith, Rhodes, et al., 2015). In addition, consistent communication with the healthcare team was often described by patients with positive experiences concerning pain management (Smith, Rhodes, et al., 2015). Another study of emergency department patients (n=41) used the Medication Communication Index (MCI), a five-point index that allocates points for communication, to examine provider communication about opioids compared to non-opioids (McCarthy, Cameron, Courtney, Adams, & Engel, 2015). The average MCI score was significantly higher for opioids compared to non-opioid (4.05 vs. 3.02), with patients receiving

opioids being more apt to be counseled on duration of medication use and adverse effects than those receiving non-opioids (McCarthy et al., 2015). Irrespective of the drug class, information on dosing frequency and amount was discussed less often than the medication name and purpose (McCarthy et al., 2015). Somewhat paradoxically, the extent of counseling declined significantly as the number of prescribed medications increased (McCarthy et al., 2015). Together, these studies highlight inconsistencies in the quantity and quality of provider-patient communication concerning prescription opioids, including potential risks.

Third and finally, a pilot study of primary care patients with chronic pain (n=30) used recorded primary care visits and patient interviews to examine provider-patient communication about prescription opioids (Matthias et al., 2013). Findings revealed uncertainties in the use of prescription opioid treatment for chronic pain, especially misuse and addiction, occupy a central role in provider-patient communication about pain treatment (Matthias et al., 2013). In response to the uncertainties, three patterns of communication were noted: 1) reassurance directed at the patient or the provider; 2) avoiding use of prescription opioids; and 3) gathering additional information via conversation (Matthias et al., 2013). In contrast to evidence suggesting that prescription opioids are a source of frustration and conflict and that communication about chronic pain is poor, the findings indicated HCPs and patients can engage in communication and collaboration to manage uncertainties associated with prescription opioid treatment, including misuse and addiction (Matthias et al., 2013). Simultaneously, they underscore the importance of communication skills among HCPs and patients (Matthias et al., 2013).

Prescription Drug Abuse Prevention, Identification, and Treatment. A limited body of research has explored communication between HCPs and patients related to specific strategies to prevent, identify, or treat PDA. PDMPs—state-level databases designed to reduce PDA and drug

diversion by electronically transmitting prescribing and dispensing data to authorized users—have been a focus area of such research (Prescription Drug Monitoring Program Training and Technical Assistance Center, n.d.). One study found physicians (n=35) used multiple approaches to share PDMP results with patients, including open and non-judgmental discussion of possible addiction or safety concerns, avoiding the discussion, and approaching the discussion in a confrontational manner (Hildebran et al., 2014). Similarly, a study of physicians in Oregon (n=33) identified several strategies used to share PDMP results, including open sharing, questioning patients without disclosing knowledge of PDPM information, and avoiding direct discussion (Hildebran et al., 2016). Policies and procedures in the practice setting were found to affect PDMP-related communication. For example, policies could serve to normalize PDMP use across all patients and to support HCPs in having challenging conversations by providing a reason for not prescribing controlled substances (Hildebran et al., 2016). On a positive note, a study of emergency medicine physicians (n=61) found they described using the PDMP to facilitate provider-patient communication and patient education on various topics, including addiction (Smith, Kilaru, et al., 2015). Overall, these studies illustrate the potential for provider-patient communication related to PDMP use to transpire in diverse ways (e.g., direct versus indirect and confrontational versus collaborative) and to serve diverse purposes.

Another focal area of research has centered on strategies to intervene upon PDA through PDA identification and treatment. For example, one study of pharmacists (n=739) in Texas and Utah found those who described feeling awkward about asking patients about prescription opioid misuse as a barrier to working with patients misusing prescription opioids were less likely to screen patients for prescription opioid misuse (Cochran et al., 2015). As for treatment-related communication, one study of community pharmacists (n=637) in Tennessee found stronger self-

efficacy beliefs for discussing addiction treatment facility options were significantly associated with past provision of addiction treatment information to patients (Hagemeier, Alamian, Murawski, & Pack, 2015). Given such findings, the confidence of HCPs in provider-patient communication about PDA may influence the extent to which it occurs and, in turn, the extent to which PDA is identified and treated in the healthcare setting.

Summary. A small, yet growing body of research has examined prescriber and pharmacist PDA communication with patients. Across the studies, the majority of prescribers and pharmacists perceived provider-patient communication as important for reducing PDA; however, it was more often than not described as an uncommon and uncomfortable process for many to engage in with patients. To help bridge the divide between perceptions and behavioral engagement, research to further conceptualize the characteristics of and factors contributing to provider-patient communication about PDA is needed. With regard to patients, studies on provider-patient communication about PDA from the patient perspective are lacking, despite being the counterpart to HCPs in this interpersonal process. Importantly, the few related studies discussed herein revealed patients often did not recall or receive clear, consistent information from HCPs about the risks of prescription opioids. Alongside HCPs, research focused on patients is warranted to generate a more balanced and comprehensive understanding of provider-patient communication about PDA.

CHAPTER 2

"IT'S TOOK OVER THIS REGION": PATIENT PERSPECTIVES OF PRESCRIPTION DRUG ABUSE IN APPALACHIA

Stephanie M. Mathis[1], Nicholas Hagemeier[2], Kelly N. Foster[3], Katie Baker[1], and Robert P. Pack[1]

[1]Department of Community and Behavioral Health, College of Public Health, East Tennessee State University, Johnson City, Tennessee

[2]Department of Pharmacy Practice, Bill Gatton College of Pharmacy, East Tennessee State University, Johnson City, Tennessee

[3]Department of Sociology and Anthropology, College of Arts and Science, East Tennessee State University, Johnson City, Tennessee

Address for correspondence:

Stephanie M. Mathis

1213 Stonecrest Court, Johnson City, Tennessee 37604

Phone: 386-624-2536

Email: mathiss@etsu.edu

Keywords: Prescription drug abuse, Prescription drug misuse, Opioid, Patient

Abstract

Background: Prescription drug abuse is a public health problem in the United States and the region of Appalachia specifically. Primary care and addiction medicine—as possible points of access to prescription drugs with abuse potential and points of intervention for prescription drug abuse—are among the medical fields at its forefront. Little is known, however, about perceptions of prescription drug abuse across the two patient populations.

Objective: The objective of this qualitative analysis was to explore perceptions of the scale and context of prescription drug abuse among primary care and addiction medicine patients in Appalachia.

Methods: As part of a mixed methods study, twenty semi-structured interviews were conducted with patients from primary care and addiction medicine in Central and South Central Appalachia from 2014 to 2015. The interviews were audio-recorded and transcribed verbatim. Thematic analysis was used to identify themes.

Results: Three themes were identified: 1) *pervasiveness of prescription drug abuse*, describing perceptions of its high prevalence and negative consequences; 2) *routes and routine practices for prescription drug acquisition and distribution*, describing perceptions of routes of access to prescription drugs and behaviors exhibited to acquire and distribute prescription drugs for abuse; and 3) *rationales for prescription drug acquisition and distribution*, describing perceptions of the two underlying reasons for these processes—tolerance/addiction and revenue source.

Conclusions/Importance: Perceptions of prescription drug abuse among primary care and addiction medicine patients in Appalachia are multifaceted, especially regarding prescription drug acquisition and distribution. Clinical practice implications for prescription drug abuse mitigation are discussed.

Background

In the United States, dramatic increases in the prescribing and dispensing of prescription drugs—opioids in particular—have been paralleled by increases in adverse outcomes, including misuse, abuse, and overdose, during recent decades (Centers for Disease Control and Prevetion [CDC], 2011; McHugh, Nielsen, & Weiss, 2015). The 2015 National Survey on Drug Use and Health (NSDUH) estimated 18.9 million persons 12 years of age or older misused prescription drugs in the past year, with 2.7 million persons classified as having a prescription drug use disorder (Hughes et al., 2016). According to the Substance Abuse and Mental Health Services Administration (SAMHSA), prescription drug misuse and abuse constitute a "growing national problem" (2015, para.1).

Terminology in prescription drug misuse and abuse research can be complicated, in part because of inconsistency in the operationalization and application of terms (Barrett, Meisner, & Stewart, 2008; Compton & Volkow, 2006). To simplify, and in accordance with past research, prescription drug abuse (PDA) will be used hereafter to denote any nonmedical use, including use without a prescription, at higher doses or frequencies than prescribed, or for the feeling or experience produced (SAMHSA, 2015; McHugh et al., 2015).

Although PDA is a public health concern across the nation, it has profoundly impacted Appalachia. Briefly, Appalachia encompasses 420 counties across 13 states; 42% of residents are characterized as rural, 83% as non-Hispanic white, and 17% as living in poverty (versus 20%, 62%, and 16% in the U.S., respectively) (Appalachian Regional Commission, n.d.; Pollard & Jacobsen, 2017). These demographic characteristics are noteworthy because they have been associated with increased PDA and overdose rates (CDC, 2016b; Kaye et al., 2017; Paulozzi, 2012). The opioid-related overdose death rate, for example, is 45% higher in rural areas (Faul et

al., 2015; O'Brien, 2015). Moreover, prescription opioids are prescribed and dispensed at high rates across much of Appalachia. Four of five states with the highest opioid prescribing and dispensing rates in 2012 were affiliated with the region—Alabama, Kentucky, Tennessee, and West Virginia (Paulozzi, Mack, & Hockenberry, 2014). Likewise, three of five states with the highest age-adjusted drug overdose death rates in 2015 were affiliated with the region—Kentucky, Ohio, and West Virginia (CDC, 2016a).

Primary care (PC)—"provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community"—is critical to the healthcare system and potentially at the forefront of the PDA problem (Bachhuber, Weiner, Mitchell, & Samet, 2016; Institute of Medicine, 1996, p. 31). PC is a possible point of access to prescription drugs with abuse potential, prescribing almost half of dispensed opioids (Levy, Paulozzi, Mack, & Jones, 2015). Individuals with substance use disorders could not only present in PC, but opioid misuse and dependence could be more common among opioid therapy patients than anticipated (Kaye et al., 2017; Shapiro, Coffa, & McCance-Katz, 2013). With a vast unmet need for treatment, PC could hold a critical role—perhaps "unparalleled opportunities"—in addressing substance abuse, including opioid abuse and opioid use disorder (Bachhuber et al., 2016; Centers for Substance Abuse Treatment, 1997, p. xvii; Lipari, Park-Lee, & Van Horn, 2016; Miller & Druss, 2013). For example, roughly 37% of physicians with a Drug Enforcement Administration (DEA) waiver to prescribe buprenorphine for the treatment of opioid use disorder practice in PC (Rosenblatt, Andrilla, Catlin, & Larson, 2015). Further, PC could be pivotal in rural areas where there are frequently extensive barriers and limited access to mental health and substance use treatment (Hancock et al., 2017; Xierali et al., 2013).

Similar to PC, addiction medicine (AM)—"prevention, evaluation, diagnosis, treatment, and recovery of persons with the disease of addiction, of those with substance-related health conditions, and of people who show unhealthy use of substances"—is potentially at the forefront of the PDA problem (American Board of Medical Specialties [ABMS], 2016, para. 3). AM was formerly recognized as a medical subspecialty in 2015, an act anticipated to substantially impact access to healthcare for individuals in need of intervention and treatment and the capacity of the healthcare system to address addiction (ABMS, 2016). Specific to the treatment of opioid use disorder, approximately 33% of physicians with a DEA waiver to prescribe buprenorphine have a certification as an addiction specialist (Arfken, Johanson, di Menza, & Schuster, 2010). AM could also hold a role not entirely separate from that of PC in addressing substance abuse. For example, if needed, PC providers could refer patients to or receive consultation from addiction specialists (O'Connor, Sokol, & D'Onofrio, 2014). Collectively, PC and AM—possible points of access to prescription drugs and points of intervention for PDA—are compelling medical fields from which to investigate PDA.

A growing body of research has used qualitative methods to explore patient PDA-related perceptions and experiences. Studies among patients of PC have largely been limited to areas germane to patient care, such as pain management and opioid therapy (e.g., Frank et al., 2016; Hurstak et al., 2017), naloxone prescriptions (e.g., Behar, Rowe, Santos, Murphy, & Coffin, 2016), and understanding of terms (e.g., McNeely, Halkitis, Horton, Khan, & Gourevitch, 2014). General perceptions of PDA thus remain largely unknown in this patient population. As for AM, several studies among patients of substance abuse treatment programs and clinics have explored the abuse and diversion of prescription drugs (e.g., Inciardi, Surratt, Cicero, & Beard, 2009; Inciardi, Surratt, Kurtz, & Cicero, 2007). Few, if any, studies have concurrently explored general

perceptions of PDA among PC and AM patients. A concurrent exploration, however, could foster the inclusion of patients similarly engaged with medical fields at the forefront of the PDA problem, yet potentially at different points on the continuum of prescription and other drug use (e.g., non-use and severe substance use disorder). Subsequently, the knowledge generated could inform clinical practice efforts to mitigate PDA among patients across the continuum and across healthcare settings (e.g., PC and AM clinics).

The purpose of this qualitative analysis was therefore to examine perceptions of the scale and context of PDA among PC and AM patients in Appalachia. The data were collected through semi-structured interviews as part of a mixed methods study on provider-patient communication about PDA.

Methods

Study Setting and Sample

Purposive sampling was primarily used to identify and recruit patients. Eligible patients were 18 years or older, could provide informed consent, and lacked a cognitive impairment or other condition warranting non-participation. Patients were selected at the judgment of clinic and study staff for: 1) familiarity with the PDA problem or residential proximity to counties with a high prevalence of PDA; and 2) willingness to discuss the PDA problem. They were recruited from PC clinics affiliated with a rural, PC practice-based research network, an AM clinic, and a recovery center in Central and South Central Appalachia. A two-pronged recruitment approach was used, including study flyers posted in the clinics and recommendations from clinic staff of patients to contact for participation. Snowball sampling was ultimately integrated after a patient recommended by clinic staff supported the recruitment of three patients, all of whom were staff at a recovery center. Table 2.1. summarizes the sample characteristics (n=20).

The East Tennessee State University Institutional Review Board approved this study. Before the interviews, one researcher (RP) explained the study and informed consent document and obtained written consent. Patients received $50 as compensation for participation.

Table 2.1.

Sample characteristics (n=20)

Characteristic	Category	Number (%)
Age	18-41 years	11 (55)
	42-65+ years	9 (45)
Gender	Female	10 (50)
	Male	10 (50)
Medical field	Primary care	15 (75)
	Addiction medicine	5 (25)

Data Collection

An interview guide was developed based on Social Cognitive Theory (SCT) (Bandura, 1986) and communication theory research (McCroskey, 1997). The questions aimed to examine patient perceptions and experiences regarding PDA, among other aspects of provider-patient communication. In October 2014-July 2015, one male researcher (RP) with qualitative research training and PDA expertise conducted the interviews in private settings within the clinics and recovery center from which patients were recruited. A second researcher or research assistant took field notes. The interviews were audio-recorded and, on average, 54 minutes in length. The researchers and research assistants transcribed the interviews verbatim. The transcripts were de-identified and imported into QSR International's NVivo 9 Software (2010).

Data Analysis

Thematic analysis involving a blended inductive and deductive approach was used to identify themes and subthemes (Braun & Clarke, 2006, 2012). Initial codes were developed based on the interview guide and study aims. One researcher (KF) with qualitative methods

expertise performed a line-by-line reading of a randomly selected subset of transcripts (n=5) to refine the initial codes and identify emergent codes. Next, the codes were defined and organized to generate a coding frame. A process of independent review and open discussion was used to clarify and revise the coding frame until consensus was reached. Two research assistants with qualitative methods training double coded the transcripts (Boyatzis, 1998). Modifications to the coding frame were made as needed to integrate emergent codes. Overall interrater reliability was calculated using unweighted Cohen's kappa (κ) and found to be adequate (i.e., $\kappa \geq 0.40$) (Viera & Garrett, 2005). Using the coded data, one researcher (SM) identified common and recurrent themes and subthemes. In parallel, direct quotes exemplifying the themes and subthemes were selected.

Results

Three themes, each described below, were identified: 1) pervasiveness of PDA; 2) routes and routine practices for prescription drug acquisition and distribution; and 3) rationales for prescription drug acquisition and distribution.

Theme One: Pervasiveness of Prescription Drug Abuse

The majority of patients perceived PDA to be a widespread problem as evidenced by their descriptions of its prevalence and severity. Blunt and definitive statements like "it's bad" and "it's a problem" were common. As patients described the scale of PDA, they frequently did so in a local or regional context. For example, one stated, "especially around this area man pain pill usage is bad . . . it's really bad." In terms of prevalence, most patients perceived PDA to be highly prevalent and, at times, ubiquitous. One noted, "Everybody's doing Opana® around here. You can drive pretty much anywhere and see just people walking around looking like zombies. It's took over this region." Most patients estimated the prevalence to be at least 50%, often

markedly higher, if asked to quantify it. One said, “For the younger ones, it’s probably about 80% in [rural city].”

When characterizing the severity of PDA, many patients elaborated on the negative consequences they associated with it. Cited consequences largely clustered around two domains: 1) overdose and overdose deaths; and 2) personal and social costs, or “loss[es].” Describing the local incidence of overdose, one patient said, “That’s how it is down here. You hear them ODing all the time.” Personal and social costs were generally perceived as equally extensive, ranging from the loss of relationships to the loss of stability to imprisonment. One patient expressed the extent of the losses suffered by a friend: “she lost her husband, he divorced her, she lost her home, umm her nursing license, driver’s license, vehicle, everything.” Speaking from personal experience, another said:

> Started shooting up morphine and Oxycontin® a lot and um within a few months . . . if I didn't have a couple hundred dollars a day I mean, I was sick. I just kept going downhill, um, in and out of jails.

Patients commonly differentiated among prescription drugs as they described PDA and related consequences. Prescription opioids were most frequently mentioned. Patients at times referred generally to “pain pills,” “pain killers,” or the like, while at others they referred to a specific prescription opioid by name. One patient recalled, “Um started with lower dose um narcotics such as Lortab® and . . . um preceded to go up into higher like OxContin® and uh, Robaxacet®, Opana®.” Prescription opioids identified by name were not limited to those associated with the treatment of pain, but also included those associated with the treatment of opioid use disorder, especially buprenorphine products. According to one patient, “Suboxone® is just as wildly abused as the OxyContin® used to be.” Although less frequent than prescription

opioids, benzodiazepines or “nerve pills” were mentioned. Patients often referred specifically to Xanax® and, at times, in combination with prescription opioids. One patient said, “It’s bad down there. He said the pharmacist said that he should just put a gumball machine. Two of em’. One with uh Xanax® and one with Lortab®.”

Theme Two: Routes and Routine Practices for Prescription Drug Acquisition and Distribution

PDA was perceived by most patients to be closely connected with the accessibility of prescription drugs. They identified multiple routes of access—legitimate and illegitimate—by which prescription drugs are acquired. Simultaneously, many patients noted routine practices, or behaviors, involved in not only the legitimate and illegitimate acquisition of prescription drugs, but the illegitimate distribution of prescription drugs for abuse as well. It was not uncommon for patients to describe more than one route or routine practice. Further, the supply of prescription drugs accessible for abuse through these processes was usually perceived to be sizable. As one patient said, “You can get ‘em anywhere.”

Most patients pinpointed the healthcare system, namely prescriptions generated by “doctors” and healthcare facilities, as a central route of access to prescription drugs. Remarks about individuals “going to the doctors and getting their prescriptions” were prevalent, with some patients specifically identifying the use of the emergency room or specialty care clinics. Among the specialty care clinics noted were those associated with the treatment of pain and opioid use disorder, designated by many patients as “pain clinics” and “Suboxone® clinics,” respectively. One patient stated, “A lot of people get and abuse from the Suboxone® clinics,” while another said, “Everybody's going to pain clinics . . . that's where the problem's at . . . bags and bags of pills.”

Behaviors exhibited by individuals attempting to obtain prescription drugs from the healthcare system were described by multiple patients, with one referring to them as "the manipulation process with medical professionals." Specifically, such behaviors were framed as a means to obtain prescription drugs for personal abuse or distribution on the street, often both. Irrespective of the endpoint, many patients described the high rate at which individuals seeking prescription drugs interface with the healthcare system. Frequent office visits and use of multiple doctors or clinics, including those distantly located, were among the commonly cited behaviors. One patient describing a family member stated, "She goes from doctor to doctor to doctor, gets her pills." Another explained, "Yeah, that's definitely a big thing, people drive to different states, and like driving to Florida, you know two or three times a month." Many patients also mentioned behaviors aimed at deceiving a doctor at the point of contact to "write a prescription." Feigning symptoms and supplying a "fake" magnetic resonance imaging (MRI) report were among those described. One patient said:

> I do know people that do go and uh you know get medicine like that and they you know they always tell 'em usually they're worse than what they are . . . they know how to play it you know to get what they want.

Some patients characterized these behaviors not only as effective, but also relatively effortless. A patient speaking from personal experience said, "In the community here it was as eas[y] as going and buying a loaf of bread at the store."

Many patients perceived street-level transactions as a common route of access to prescription drugs. Statements about behaviors—sales, purchases, and trades—associated with the illegitimate distribution of prescription drugs on the street, or "black market," were prevalent. As an example, a patient describing a family member stated, "He also sells 'em [pain medicine]

too. And he buys ‘em too.” The remarks of several patients suggested street-level transactions were regarded a regular event that resulted in the distribution of a large volume of prescription drugs. One patient recalled, “You had I mean lots, a large quantity of pills and thousands upon thousands of OxyContin® in one home that they would just be distributing daily.”

Some patients elaborated on street-level transactions, offering details about the methods used to obtain prescription drugs. They described the types of transactions (e.g., sales and trades) and “forms of currency” used in the transactions. Among those mentioned were cash, food stamp cards and other goods, and various services. One patient stated, “I know about the food stamp card thing and umm and just buying, you know, just buying them straight cash and I’m sure you know sexual favors for . . . pills too.”

When describing the healthcare system and street-level transactions as routes of access, multiple patients identified points of overlap in the operations of the two routes. Prescription drugs involved in street-level transactions were commonly traced back to the healthcare system, suggesting it was an early point in the distribution chain. One patient stated:

> I heard about people gettin' prescribed you know for a month’s time like 60 or 90 pills or whatever . . . And sellin’ ‘em on the streets and stuff . . . I know personally five people that go to a doctor like this and there’s nothing wrong with them. They just go for the pills and sell them on the street.

A more complex level of interaction between the two routes was also described, with several patients alluding to a vicious, self-perpetuating cycle. One explained:

> His drug dealers they’ll sell them and do them, when they they go to the doctor, they’ll sell them to go to the doctor. To get the money to go to the doctor if they run out they go buy more from other people they know. So it’s just constant.

Multiple patients commented on the roles of social contacts, or "connections," in the acquisition and distribution of prescription drugs, especially family and peers. They identified them as a direct route of access to prescription drugs, whether for personal abuse or distribution on the street. Overt behaviors used to obtain prescription drugs in the possession of social contacts were noted, like requests, sharing, and collaboration. One patient recalled, "I had somebody inside of a pharmacy that would give me really whatever I wanted . . . I never really had to go to a doctor you know. I skipped the doctor and went to the pharmacy." More covert behaviors were also described, like theft. One patient stated, "The medicine he [family member] stoled from my aunt . . . And he stole all her pills, and she had just took one before she went to the hospital." Alternatively, some patients perceived social contacts as a facilitator of access, rather than a direct route. In this role, they represented a source of inside information, capitol, or other support that enabled individuals to obtain prescription drugs via various routes. One patient said:

> We had of course just found out hey we can go to the doctor and we don't have to pay this high street dollar . . . we would get together and help each other pay for the doctor visits.

Theme Three: Rationales for Prescription Drug Acquisition and Distribution

Perceptions of underlying reasons for the acquisition—legitimate or illegitimate—and the illegitimate distribution of prescription drugs for abuse were embedded in patient narratives. Two subthemes within a theme of rationales for prescription drug acquisition and distribution were identified: 1) tolerance/addiction; and 2) revenue source.

Tolerance/Addiction. Tolerance and addiction were perceived by many patients as rationales for the acquisition and, at times, distribution of prescription drugs. Distribution was

specifically conveyed as a means of obtaining a prescription drug of choice or ensuring adequate access to prescription drugs for personal needs. With tolerance, several patients either explicitly or implicitly described the development of "tolerance" to prescription drugs, including a need for larger doses. As for addiction, multiple patients not only overtly identified the role of addiction, but expounded on signs or symptoms associated with addiction, such as craving and impaired control. One patient said, "No longer did I make a profit . . . I was a consumer now, so the only reason I went to pain clinics was to be able to feed my own addiction." Another more elaborately explained:

> It's just something so easy to get wrapped up in you know cause it does take the pains away as we say for a while but then once it controls you and you're addicted then it's a whole different ball game and people just do whatever it takes . . . to give up that need.

Revenue Source. Many patients grounded the acquisition and subsequent distribution of prescription drugs in economic terms, perceiving the process as a revenue source. As one patient explained, "It was also a money maker . . . because now instead of having to go purchase other people's prescriptions we had our own prescription and . . . you had plenty of customers." Some patients characterized it further as a primary revenue source or as a supplemental revenue source, referred to at times as "extra money." It was not uncommon for connections to be made between economic conditions and the need for a revenue source, whether primary or supplemental. One patient said, "It goes back to I think just being in a poor area. People got to make money, and they're using this as a vehicle to do so." Another similarly noted, "And with this economy . . . I can sorda see how somebody desperate enough would. Like you know a lot of elderly people got to doin' that because social security wasn't makin' ends meet and everything."

Related to revenue source, several patients detailed the "street value" of prescription

drugs, normally per pill/milligram or per month. Sizable monetary profits from prescription drug sales were often reported. One patient said, "One guy . . . he was on disability and getting more selling his Suboxone® prescription than he was from his disability benefits. And I think he was getting 7 or 800 bucks a month." Likewise, another reported:

> We were all coming back with you know a few thousand dollars' worth of pain medications street value . . . an investment of a dollar fifty and you are bringing back you know 30 dollars, so pretty good investment on your money 28 dollars or 28.50 on every pill you sell.

Discussion

This qualitative analysis is among the first to examine PDA from the perspective of PC and AM patients. Patients perceived PDA as prevalent and pernicious in this Appalachian region. PDA was seldom characterized in isolation. Rather, patients described it within the context of dynamics perceived to be involved in the acquisition and distribution of prescription drugs for abuse. Multiple routes of access to prescription drugs were noted, along with routine practices, or behaviors, exhibited in their acquisition and distribution. Rationales underlying these processes were also identified. Collectively, these findings have potential implications for clinical practice to mitigate PDA.

Consistent with recent research on the views of the American public, the findings suggest patients viewed PDA as a problem (Barry et al., 2016). This was in part related to perceptions of its prevalence. The numerical estimates and narratives of patients indicate PDA was considered highly prevalent, with many maintaining a large proportion of the population engages in PDA. Conversely, roughly 90% of the population aged 12 years or older did not abuse prescription drugs in the past year according to results from the 2015 NSDUH (Hughes et al., 2016). Given

the incongruence, it is possible patient perceptions reflect an overestimation of the prevalence of PDA among the general population, a tendency similarly reported in prior studies (e.g., McCabe, 2008; Silvestri & Correia, 2016).

The findings indicate patients perceived prescription drugs to be accessible through legitimate and illegitimate routes, including the healthcare system (e.g., doctors), street-level transactions (e.g., purchases), and social contacts (e.g., family). These align with the results of prior research demonstrating that abused prescription drugs are obtained from multiple sources (Inciardi, Surratt, Cicero, Kurtz, et al., 2009). Of the routes, the illegitimate ones—street-level transactions and social contacts—are especially concerning. Prescription drugs are presumably taken in the absence of counseling and medical oversight, potentially amplifying risk for adverse outcomes. While perceptions of the relative volume of prescription drugs acquired through the different routes could not be quantified, a large portion potentially has its origin in the healthcare system. Patients framed the healthcare system as a route to obtain prescription drugs for not only personal abuse, but also distribution on the street. National estimates similarly suggest many prescription drugs accessible through social contacts, namely family and friends, likely originate from the healthcare system (SAMHSA, 2014). Thus, the findings here further substantiate the healthcare system can be a direct route of access and an indirect route of access by way of street-level transactions and social contacts.

In parallel to multiple routes of access to prescription drugs, patients perceived multiple behaviors to be exhibited in their acquisition and distribution. Specific to the healthcare system, frequent office visits and use of more than one doctor or clinic were among those noted. These findings are interesting given a growing body of evidence that indicates state prescription drug monitoring programs (PDMPs)—electronic databases that collect data on the dispensing of

controlled prescription drugs—are effective in identifying and reducing such behaviors, namely "doctor shopping" (Prescription Drug Monitoring Program Center of Excellence at Brandeis University, 2014; The Pew Charitable Trusts & Institute for Behavioral Health, 2016). PDMP effectiveness in this regard has been bolstered by initiatives aimed at facilitating their enactment and enhancement, particularly in recent years. Patient perceptions could thus be more congruent with behaviors exhibited before, rather than after these initiatives. Alternatively, patient perceptions could reflect the multi-state region in which the study was conducted and, by extension, a limitation in PDMP effectiveness related to insufficient data sharing across states.

Patients perceived two primary rationales to underlie the acquisition and distribution of prescription drugs—tolerance/addiction and revenue source. These align with the dichotomous motives examined among drug-seeking patients in previous studies, specifically attempting to deceive a physician for a prescription for abuse or financial reasons (Sanders, Eassey, Stogner, & Miller, 2016; Stogner, Sanders, & Miller, 2014). They also correspond to the connotation of diversion (i.e., transfer of a prescription drug from a legitimate to an illegitimate channel of distribution or use) as a "for-profit industry" (Inciardi et al., 2007, p. 2; Rigg, Kurtz, & Surratt, 2012). These findings, when coupled with those on routes of access, point to patient awareness of both sides of the "drug abuse supply-and-demand equation" (Twillman, Kirch, & Gilson, 2014, p. 369).

As noted in the methods, patient interviews were guided in part by SCT, which explains behavior as a triadic, reciprocal interaction of personal, behavioral, and environmental factors (Bandura, 1986). It suggests the likelihood a given behavior is completed is influenced by self-efficacy beliefs and outcome expectations (Niaura, 2000). Although self-efficacy may not be substantiated, the findings on rationales could substantiate the influence of positive outcome

expectations—physical outcome expectations in particular—on behaviors related to prescription drug acquisition and distribution (Bandura, 2004). First, tolerance/addiction is consistent with an expectation of pleasurable effects, specifically from a prescription drug (Bandura, 2004). It has been posited expectations of prompt and often positive effects from a substance mediate urges or cravings as well (Niaura, 2000). Similarly, revenue source is consistent with an expectation of material benefits, specifically money (Bandura, 2004). Money has indeed been characterized as a "dependable and durable generalized reinforcer of behavior" (Bandura, 1971, p. 23). Consistent with SCT, these findings therefore suggest explicit outcome expectations are potentially among the psychosocial determinants of prescription drug-related behaviors.

This qualitative analysis has several limitations. Patients were recruited from a single geographic region, limiting generalizability to other regions. Future research should examine the perceptions of patient populations in other regions. Since this analysis concentrated on a region characterized by rurality and a high burden of PDA, it may be fruitful to concentrate on regions characterized by urbanity or a low burden of PDA to facilitate comparisons. In addition, this analysis is susceptible to biases inherent in the use of purposive sampling (e.g., researcher bias), interviews (e.g., interviewer bias), and self-reported data (e.g., recall bias). Patient perceptions potentially could have been explored more comprehensively since this analysis was conducted as part of a study on provider-patient communication about PDA, rather than general perceptions of PDA. Finally, patients may have described PDA using dissimilar, possibly erroneous definitions as one was not provided.

Despite these limitations, the findings highlight opportunities in clinical practice to prevent and reduce PDA. First, given the depth of findings on the illegitimate acquisition and distribution of prescription drugs, they support patient counseling on the proper use, storage, and

disposal of prescription drugs with abuse potential. It could be beneficial to specifically discuss the possible risks of intentional (e.g., sharing) and unintentional (e.g., theft) distribution. Patient counseling may also hold promise for countering potential perceptions that could promote patient engagement in PDA, like overestimating the prevalence. Second, the findings suggest healthcare providers should be attentive to various types of deceptive behaviors that could be exhibited by patients attempting to acquire prescription drugs from the healthcare system. Screening patients for substance use disorders could be particularly useful as tolerance/addiction might underlie an attempt to acquire prescription drugs. Finally, they support the routine monitoring of patients on prescription drugs with abuse potential, given that patients potentially obtain prescription drugs through multiple routes or distribute them.

Conclusions

The themes identified by this qualitative analysis indicate perceptions of PDA among PC and AM patients in Appalachia are multifaceted. Patients considered PDA to be highly prevalent and a source of negative consequences. Patients connected abuse and accessibility, identifying routes, routine practices, and rationales involved in prescription drug acquisition and distribution. Clinically, the findings suggest counseling patients on the proper use, storage, and disposal of prescription drugs with abuse potential, screening patients for substance use disorders, and monitoring patients on prescription drugs with abuse potential could mitigate PDA—both directly among patients and indirectly among non-patients through reducing prescription drug distribution by patients.

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CHAPTER 3

PROVIDER-PATIENT COMMUNICATION ABOUT PRESCRIPTION DRUG ABUSE: THE PESPECTIVE OF PATIENTS

Stephanie M. Mathis[1], Nicholas Hagemeier[2], Katie Baker[1], Kelly N. Foster[3], and Robert P. Pack[1]

[1]Department of Community and Behavioral Health, College of Public Health, East Tennessee State University, Johnson City, Tennessee

[2]Department of Pharmacy Practice, Bill Gatton College of Pharmacy, East Tennessee State University, Johnson City, Tennessee

[3]Department of Sociology and Anthropology, College of Arts and Science, East Tennessee State University, Johnson City, Tennessee

Address for correspondence:

Stephanie M. Mathis

1213 Stonecrest Court, Johnson City, Tennessee 37604

Phone: 386-624-2536

Email: mathiss@etsu.edu

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Abstract

Provider-patient communication could be instrumental in mitigating prescription drug abuse in the context of healthcare encounters. Despite being an interpersonal process, previous research on provider-patient communication about prescription drug abuse has primarily concentrated on healthcare providers (HCPs). The primary objective of this qualitative analysis was to examine patient perceptions and behaviors concerning prescription drug abuse-related communication with HCPs. In 2014-2015, semi-structured interviews were conducted with twenty primary care and addiction medicine patients in the Appalachian Region of the United States. The interviews were audio-recorded, transcribed verbatim, and imported into QSR International's NVivo 9 Software. Thematic analysis was used to identify themes. Patients reported varying levels of engagement—active, passive, and no/limited—in prescription drug abuse-related communication with HCPs. Moreover, patients described personal and environmental factors that positively and negatively influence prescription drug abuse-related communication with, and healthcare received from, HCPs. These findings have potential implications for: 1) clinical practice and patient-targeted communication interventions to improve patient prescription drug abuse-related communication behaviors; and 2) future research to improve theoretical understanding of patient prescription drug abuse-related communication behaviors.

Introduction

Prescription drug abuse (PDA) is a well-documented public health problem in the United States (Hughes et al., 2016; Office of National Drug Control Policy [ONDCP], 2011; U.S. Department of Health and Human Services [HHS], 2013). Interpersonal communication between healthcare providers (HCPs) and patients could be instrumental in preventing and reducing PDA and associated consequences. Provider-patient communication underpins clinical practice (Ha & Longnecker, 2010; Travaline et al., 2005); it similarly underpins clinical strategies to mitigate the problem (ONDCP, 2011; HHS, 2013). Strategies target the supply-side (e.g., increased prescription drug disposal education) and demand-side (e.g., increased substance abuse screening and treatment services) of the problem (Twillman et al., 2014). Further, they correspond to multiple phases of the behavioral health continuum of care model (e.g., prevention and treatment), highlighting provider-patient communication has the potential to mitigate PDA at multiple intervention points (Substance Abuse and Mental Health Services Administration, 2016).

Given the public health implications, there is a need for effective communication about PDA between HCPs and patients. This need is underscored by evidence demonstrating that provider-patient communication is positively associated with multiple patient outcomes, including recall, understanding of information, and adherence to treatment recommendations (Ha & Longnecker, 2010; King & Hoppe, 2013; Ong et al., 1995; Travaline et al., 2005). Provider-patient communication represents a reciprocal and interactive exchange, characterized by functions contingent on the engagement of HCPs and patients (e.g., giving/seeking information) (D'Agostino et al., 2017; King & Hoppe, 2013; Ong et al., 1995; Rao et al., 2007). However, previous research on provider-patient communication about PDA has primarily focused on one-

side of the exchange—HCPs. A growing number of studies have explored multiple aspects of HCP engagement in PDA-related communication with patients (e.g., Cochran et al., 2013; Hagemeier et al., 2014; Hagemeier et al., 2016; Lafferty et al., 2006). To our knowledge, no studies have correspondingly explored patient engagement in PDA-related communication with HCPs. Further research focused on the patient perspective is warranted, particularly given consensus among experts that interpersonal communication is "most validly evaluated from the patient's perspective" (Beaulieu et al., 2011, 111).

The primary objective of this qualitative analysis was to characterize the perceptions and behaviors of patients concerning PDA-related communication with HCPs. With regard to HCPs, it centered on two professions—prescribers and pharmacists. Provider-patient communication about PDA aligns with the clinical responsibilities of prescribers and pharmacists in prescribing and dispensing prescription drugs with abuse potential, respectively.

Theoretical Exploration

Social and behavioral science theories can provide a foundation for understanding human behaviors and the contexts in which they transpire (Davis et al., 2015; Glanz & Bishop, 2010). The secondary objective of this qualitative analysis was therefore to explore the utility of Social Cognitive Theory (SCT) (Bandura, 1986) and select constructs of communication theory research (McCroskey, 1997) for understanding patient PDA-related communication behaviors in the context of healthcare encounters.

SCT is an interpersonal-level theory that explains behavior as a function of reciprocal determinism in which personal, behavioral, and environmental factors interact (Bandura, 1986; Glanz et al., 2008). Although SCT includes multiple constructs, self-efficacy and outcome expectations are two primary constructs, or factors, posited to determine behavior (Crosby et al.,

2013). SCT has been extensively applied—in whole and in part (i.e., select constructs)—in research on multiple behaviors, including patient communication behaviors (e.g., Capone & Petrillo, 2014; Clayman et al., 2010; Davis et al., 2015)

Provider-patient communication about PDA is a highly specific communication situation, including in terms of its context, content, and senders/receivers. Accordingly, the constructs of communication theory research (McCroskey, 1997)—communication apprehension (CA), self-perceived communication competence (SPCC), and willingness to communicate (WTC)—are consistent with understanding patient engagement in situational communication about PDA with HCPs. These communication constructs are discrete, yet correlated; WTC is posited to predict communication approach-avoidance behavior, while CA and SPCC are posited to be antecedents of WTC (McCroskey, 1997). They have been evaluated in research across communication contexts, including interpersonal communication between HCPs and patients (e.g., Ayres J. et al., 1996; McCroskey, 1997; Richmond V.P. et al., 1998; Wright et al., 2007)

Methods

Study Design, Setting, and Sample

This qualitative analysis was conducted as part of a mixed methods study on provider-patient communication about PDA. The qualitative arm, reported on herein, involved 20 semi-structured interviews with patients, and the quantitative arm is ongoing. Patients were recruited from primary care clinics affiliated with a practice-based research network (PBRN), an addiction medicine clinic, and a recovery center in Central and South Central Appalachia. Collectively, these Appalachian subregions include 167 counties across five states (Appalachian Regional Commission, 2009), with the PBRN present in 21 of these counties.

Purposive sampling was primarily used to identify and recruit patients. At the judgment

of study and clinic staff, patients were selected for their familiarity with PDA (e.g., personal or familial experience) or residential proximity to counties with a high prevalence of PDA and their willingness to discuss PDA. Recruitment strategies included study flyers posted in the clinics and recommendations by clinic staff of patients to contact for participation. Snowball sampling was incorporated after one patient who was recommended by clinic staff facilitated the recruitment of three additional patients, all of whom were staff at a recovery center. Table 3.1. presents sample characteristics, including age, gender, and medical field from which patients received healthcare services (i.e., primary care or addiction medicine). Medical field was verified for 90% of the sample, but inferred from the interviews for 10% of the sample.

Table 3.1.

Sample characteristics (n=20)

Characteristic	Category	Number(%)
Age	18-41 years	11(55)
	42-65+ years	9(45)
Gender	Female	10(50)
	Male	10(50)
Medical field	Primary care	15(75)
	Addiction medicine	5(25)

Data Collection

The interviews were conducted in October 2014-July 2015 using a guide grounded in SCT and communication theory research. One section focused on soliciting patient reviews of and reactions to four quantitative instruments. Three instruments were validated and measured CA (McCroskey J.C., 1978), SPCC (McCroskey J.C. & McCroskey L.L., 1988), and WTC (McCroskey J.C., 1992). The fourth, a researcher-developed instrument, measured the frequency with which patients engage in communication with HCPs on topics relevant to PDA prevention, identification, and treatment (e.g., abuse potential of prescribed medications) and the perceived

importance of doing so. The instruments were included to enhance the interviews and collect data to guide the: 1) adaptation of the validated instruments to situational PDA communication; and 2) improvement of the researcher-developed instrument.

One male researcher (RP) with interviewing experience and PDA expertise conducted the interviews in private settings at the primary care clinics, addiction medicine clinic, and recovery center from which patients were recruited. Another researcher or research assistant took field notes. The interviews were audio-recorded and generally 60 minutes or less in duration. The researchers and research assistants transcribed the interviews verbatim. The transcripts were de-identified and imported into QSR International's NVivo 9 Software (2010).

Data Analysis

Thematic analysis involving a blended inductive and deductive approach was used to identify themes (Braun & Clarke, 2006, 2012). Preliminary codes were developed based on the study aims and interview guide. One researcher (KF) with qualitative research expertise reviewed a random selection of transcripts (n=5) to refine the codes and identify emergent codes. The resulting codes were defined and organized to form the coding frame, followed by a process of independent review and group discussion to refine the coding frame. Two research assistants with qualitative research experience doubled coded the transcripts (Boyatzis, 1998). Coding frame modifications were made as needed to integrate emergent codes identified during coding. Overall interrater reliability was calculated with Cohen's kappa (κ) and found to be acceptable (i.e., $\kappa \geq 0.40$) (Viera & Garrett, 2005). One researcher (SM) identified common and recurrent themes in the coded data. This involved a repetitive process of refinement whereby themes were reviewed in relation to the coded data and complete dataset. Lastly, one researcher (SM) defined the themes and selected representative quotes.

Ethical Considerations

The East Tennessee State University Institutional Review Board approved this study. Before each interview, one researcher (RP) explained the study and informed consent document and obtained written consent. Patients received $50 as compensation.

Results

Two themes were identified: 1) patient engagement in communication with HCPs; and 2) factors influencing patient communication with and receipt of healthcare from HCPs.

Theme One: Patient Engagement in Communication with Healthcare Providers

Patients described varying levels of engagement in PDA-related communication with HCPs. Three subthemes were identified.

Active Engagement. Some patients reported active engagement in PDA-related communication with HCPs, particularly prescribers. First, some patients reported providing information. Multiple topics were noted, including medical, medication, and family history, medication effects and side effects, and psychosocial issues. One patient said:

> I have got myself a doctor where um I told him everything upfront about, how much I have been on, how many years I have been on the best that I could remember. How I get off on the methadone and how then I stopped cold turkey for those months there and then went back to the doctor and he prescribed me uh some 10 milligrams Lortab® and then from that point on I have done very well.

Another stated, "I tell her [physician] my family's all on it . . . I said 'they're all addicts, most of them.'" Second, some patients reported seeking information from HCPs. One patient said, "I ask questions . . . I ask if they [physicians] know of any uh side effects, any interactions with other medications," while another said, "I've had some people that I've been concerned about [PDA].

I've asked him [physician] questions about how I can help." Lastly, and least commonly, a few patients reported asserting "need[s]," preferences, or decisions to HCPs. One patient said:

> I was on Ambien® . . . I went back to him [physician] this month and I said 'take me off it,' you know said 'I don't see it really doing much of any good, not really working good for me, just take me off it.'

Passive Engagement. Many patients reported passive engagement in PDA-related communication with HCPs. They described two forms, one of which was receiving information. Patients generally reported receiving verbal information from prescribers and written information from pharmacists. When referencing prescribers, some patients mentioned receiving instructions on use of a prescribed medication and, to a lesser extent, information about the abuse potential of a prescribed medication. One patient said:

> When my dad had lung cancer . . . he [physician] sit down and explained him, 'You've got to be careful if people know that you're sick and you've got to keep your medicine locked up. You've got to make sure you don't drive if you're takin' this medication. If you start feelin' any adverse reactions to it you need to call me. If you think you're having an allergic reaction you need to call me.'

Another stated:

> Anytime that I've ever [had] anything like Lortab® . . . they'll [physician] tell you, you know you can get addicted to 'em . . . they explained [the abuse potential].

Moreover, some patients noted receiving information about treatment plan components from prescribers. Pharmacological interventions, non-pharmacological interventions, and prescriber "expectations" were among those noted. One patient said, "Docs say it's best to just take three [buprenorphine tablets] because it is easier to taper down when you do that." Another explained:

> Every doctor here [addiction medicine clinic] is different um and everybody has their own way of . . . treating patients um and some people demand that you know you go to [a recovery] meeting right after . . . some doctors don't . . . some require [patients] to do something outside and bring proof that they have done it and then others just basically are like that I am going to entrust . . . you are gonna do something else to manage.

When referencing pharmacists, multiple patients mentioned receiving "inserts" or "papers" with information about a dispensed medication. "Warnings" and "side effects and stuff" were among the characterizations of information contained in such materials.

As for the second form of passive engagement, some patients reported responding to questions from HCPs. When referencing prescribers, they often described questions associated with gathering information on medical, medication, or psychosocial history or the treatment plan. One patient stated:

> I was really struggling with wanting to do the right thing, just breaking down and telling 'em [physician] what's really going on with my life . . . by the time I got into here [addiction medicine clinic] um there were a lot of rough questions asked, not, not in any invasive way just about my real life.

Another said:

> She's the one [physician] that will ask . . . 'is it [pain medication] controlling your pain . . . is the medication umm providing the relief that you need?' Umm, making sure that you're not getting uh high or buzzed type feeling umm, that you're not selling it, or uh giving it away, or taking anything else that uh somebody else might have. Umm and not using the medication in any other route besides oral . . . then she'll, she'll just say okay, 'well do you have any questions?' Cuz I'm like 'no I'm not selling it, I'm not giving it

away . . . nothing like that.'

Conversely, when referencing pharmacists, patients often noted questions focused on soliciting information needs, including information needs regarding a dispensed medication or "anything" in general. One patient said:

> Usually when I go, you know, and get my medicine that I take, you know, they'll ask you if want to see a pharmacist or ask any questions or anything, which I tell 'em 'no' because I've been takin' it for a long time. I don't need to. But they'll always ask you know if you need to talk to any of 'em about anything.

No/Limited Engagement. Many patients reported no or limited engagement in PDA-related communication with HCPs, including prescribers and pharmacists. If asked directly about a "conversation with a doctor about prescription drug abuse," "conversation with a pharmacist about prescription drug abuse," or similar experience, patients often responded "no." Moreover, some patients described no engagement in communication on topics relevant to PDA mitigation. Responding to items on the researcher-developed instrument, one patient said:

> Discussing the abuse potential of prescribed medications—I would say that [I] very rarely ever discuss that with my physician. Discussing appropriate storage of drugs with abuse potential—never. Exploration of personal histories with drug, drug abuse—never. Having a risk assessment or drug abuse screening done—never. Discussing referral for drug abuse treatment—never. Discussing how the results of the prescription drug monitoring program query or use—never. Discussing any provider's concerns about community levels of abuse—never. Discussing your feelings or coping strategies you use with your illness—never.

Similar to no engagement, some patients reported limited engagement in PDA-related

communication with HCPs. One patient said, “He [physician] told me to just be careful when I you know use them [pain medication] . . . that was about it.” When asked about communication specific to medication storage with prescribers, another said, “I don’t think some people do. I really don’t.” Moreover, several patients mentioned patient and HCP engagement is “probably not” enough or could be “improved.” One patient said, “They’re [physicians] not talkin’ to their patients enough . . . [and] I don’t think that people talk to their doctors like they should. Tellin’ ‘em what they feel or anything ‘bout drugs or anything.” Comparing communication about prescription antibiotics and pain medication, another explained:

> About the only thing that was like really clearly spelled out was when I was taking that Z-Pak®. . . I mean you’re like one in the morning, one at lunch . . . everything else was normally like ‘oh when you’re in pain, just take one’ or something like that . . . [with] your wisdom teeth or with my shoulder . . . that can definitely be improved about like the warnings . . . being like really clear and, and have that . . . preventive uh conversation.

Theme Two: Factors Influencing Patient Communication with and Receipt of Healthcare from Healthcare Providers

Patients described factors influencing the dynamics of PDA-related communication with HCPs. The communication included past and potential communication and verbal and written communication. Moreover, patients described factors influencing not only communication, but healthcare received from HCPs as well. Six subthemes were identified; representative quotes are presented in Table 3.2.

Patient Perception of Need. Many patients described the influence of a personal “need” for communication related to PDA and addiction as a factor. Patients indicated communication with HCPs can be impeded by the absence of an explicit, personal need to do so. Many rationales

considered to support the absence of a personal need were cited, such as a lack of history of drug abuse (e.g., "unless you've shown some kind of past history"), lack of evidence of drug abuse (e.g., "always passed" pill counts), length of prescription medication use (e.g., "takin' it for a long time"), and legitimate prescription medication use (e.g., "only time that I have ever took like a Xanax® or a pain pill . . . I've had to have 'em"). Similarly, a couple of patients described the influence of the absence of a personal need as illustrated by apathy toward—or a lack of "care" for—communication with HCPs, especially pharmacists. Referring to the "handout" with a dispensed pain medication, one patient posited, "But who reads those all the time?"

Patient Willingness to be Honest. Some patients identified honesty and openness in communication related to PDA and addiction with HCPs, particularly prescribers, as a factor. Several patients described not only the importance of "open" communication between patients and HCPs, but the "responsibility" of and precedence for patients to "just be honest" with HCPs as well. Moreover, several patients reported "bein' honest" in communication—verbal and written—with HCPs. With regard to written communication, they commented on willingness to release "medical records" or "paperwork" to HCPs. However, several patients expressed doubt that other patients would give "honest answers" or be "truthful" in communication with HCPs, including when completing a risk assessment for and discussing a history of drug abuse.

Patient Outcome Expectations. Some patients noted outcomes expected to result from communication related to PDA and addiction as a factor. They commonly indicated expectations of negative or undesired outcomes could not only hinder communication with HCPs, but also contribute to apprehension in or avoidance of communication. Among the negative or undesired outcomes mentioned were: 1) refusals or reductions in prescribing practices associated with the treatment of addiction or pain by prescribers; and 2) judgment by or questions from prescribers

and pharmacists. For example, one patient said “they won’t tell ‘em [physicians] if they have uh personal histories” to avert a reduction in prescribing, while another described her discomfort in communication with a prescriber regarding a tapering protocol as she “wasn’t interested in doing it.” Similar to expectations, several patients described outcome expectancies. One patient, for instance, mentioned communication specific to medication storage is “especially [important] if you have children in the house.”

Healthcare Provider Motives and Practices. Many patients described the motives—or “motivation at heart”—and clinical practices of HCPs, particularly prescribers, as a factor in communication and healthcare related to PDA, addiction, and pain. They often differentiated between HCPs on the basis of motives or clinical practices, characterizing some as “good” or “great” and others as “bad” or “poor.” With regard to motives, multiple patients considered some HCPs to possess motivation for “really helping people” and “want[ing] to take care of their [patients’] problems.” Conversely, multiple patients considered some HCPs to be “in it for the money,” viewing “the patient as a paycheck” and not “giv[ing] a shit.” As for clinical practices, multiple patients described the diagnostic or treatment practices of HCPs, especially prescribing practices. They reported some prescribers “just write a prescription,” whereas others “sit down and talk,” weigh “every option,” or “try not to give people pain medication . . . unless they really need it.” Further, multiple patients linked clinical practices—in particular prescribing practices—to “making a lot of money.” “Money” was depicted as not only a motive to engage—or not—in clinical practices, but also an outcome.

Patient Relationship with a Healthcare Provider. Multiple patients identified the relationship with a HCP as a factor. Patients indicated dimensions of the relationship could facilitate and, at times, impede communication related to PDA and addiction. Some patients

reported the influence of the duration of relationship. While a few patients described feelings of apprehension or discomfort "at first," multiple patients connected an established relationship to competence, comfort, or openness in communication. For example, one patient explained he was "comfortable talking" and "wouldn't have any problem discussing anything" with his physician since he "had known him for a long time." Several patients further reported the duration of the relationship could influence the "depth" of communication on various topics, including history of drug abuse and abuse potential of prescribed medication. In addition, some patients described dimensions underlying the relationship, including concordance, confidentiality, knowledge, and trust. Similar to the duration of the relationship, multiple patients connected these dimensions to competence or comfort in communication. For example, one patient reported "no problem" in communication with "doctors" due to a "confidential" relationship, but "problems" with "regular people" and "a pharmacist" in particular.

Patient Experience of Stigma with a Healthcare Provider. Some patients indicated stigma and discrimination can negatively influence communication and healthcare related to PDA, addiction, and pain. They described previous experiences, often personal, involving stigma or discrimination when seeking or receiving healthcare. For example, several patients reported being "stereotype[ed]" based on personal characteristics and "treated like a drug seeker" by prescribers, while several patients reported being "talked to just with utter disrespect" and "look[ed] at . . . like a drug addict" by pharmacists. Similarly, several patients mentioned the influence of anticipated or perceived stigma and discrimination, especially on communication. For example, they described how the label of "junkie" or perception of "singling us ["addicts"] out" could contribute to avoidance of or resistance to communication.

Table 3.2.

Representative quotes for theme two: Factors influencing patient communication with and receipt of healthcare from healthcare providers

Subtheme(s)	Representative quote(s)
Patient perception of need	I don't talk, usually talk to my doctor 'bout drug abuse or anything. 'Cause I don't think it applies to me 'cause . . . if I don't take my medicine I'll end up dyin' . . . And the only thing I take is ibuprofens 'cause everything else I'm allergic to.
	RP: In this setting [primary care clinic], have you ever seen any literature . . . about um addictions or, or addiction treatment or anything like that? Patient: Mmm. RP: Like flyers? Patient: Probably. RP: Okay. Patient: It's probably up there in that book thing. I'm not gonna read it though. I don't need to look at that. I know it's just a waste of time. Them drugs addicts ain't gonna look at that . . . They put it there for people like us that readin' up, not people on drugs.
	When you've gotten prescriptions, the pharmacy and the pharmacist may say 'you're, you're aware of the side effects?' And you say 'yeah.' Just kind of blow it off and go on because you're in a hurry, but you're also again you don't care because . . . you had some . . . you're not looking you know to take drugs so you yeah, 'I'm aware of the risk and I know I'm going to take [it] every day or so and I'm done.'
Patient willingness to be honest	The counseling and, and talking to real life situations in your life is just the most important thing with the provider and you've got to talk, you've got to have open communication.
	Me and doc talked in depth my first visit . . . I just laid it on the table, I said 'this is what I need.' I said 'look I'm bein' honest with you, here it is' ya know. And he was just like 'are you serious?' And I said 'yeah and I'll bring my paperwork and show you everything I'm tellin' you. I'm not lyin' to you man.'
	When I got out [of jail] I absolutely did nothing and I was very honest with my doctor, maybe almost . . . too honest.
	It [risk assessment] is important but I don't really believe you're going to get any honest answers on that.
Patient outcome expectations	Patient: But I don't talk to my uh doctor 'bout this stuff [drug abuse]. RP: Mkay. Patient: And I doubt anybody else does either. RP: Really? That's helpful. Why not? Patient: Usually because if they do have a problem, they think that they'll find out they have it a problem with it and they'll end up takin' all their medicine away. Their painkillers and stuff.

Table 3.2. Continued

Subtheme(s)	Representative quote(s)
Patient outcome expectations	Patient: Exploration [of] personal histories [of drug abuse]. A lot of people are not going to mention it . . . I did not mention to my doctor about the problem I had after my surgery. RP: Why? Patient: Because . . . I feel that I needed it [pain medication], well he did too 'cause like I said he prescribed it without me asking for it. But I'm not going to be in that situation where I have to go to work to feed my children and like I said, it wasn't recreational. It was to get me through a work day. To get a paycheck.
	[Patients] just don't understand even though the doctor explains it and you get this five page paper with all of your medicine. It's got big words that they don't understand . . . And then some people are afraid to ask their doctor, I'm sure. They don't want their doctor to think they are stupid, ya know?
	You don't want people thinking you have a problem [with addiction] . . . and then [you] feel like yeah, you're just on the spot all the time . . . questioned about everything.
Healthcare provider motives and practices	There's doctors that are just in it for the money and they really don't care how you're gonna be doing or you know it's all about the money for them. And they'll prescribe.
	I don't think because I tell you I'm hurtin' that I should just automatically get a pain pill . . . I don't. But, they [physicians] give them to 'em . . . like it ain't nothing.
	[Tennessee] passed this law that if a doctor thinks you're an abuser, he's supposed to refer you, instead of writing you a prescription, he's supposed to refer you to a drug abuse center . . . But a lot of doctors ain't gonna do that . . . because that's money. Money, money, money keeps comin' in for them.
	I've always just seen one doctor here [primary care clinic] . . . he's great . . . He makes sure he goes through every option he can with you before he'd give you a drug.
	I know there are really conscientious, good doctors out there and nurse practitioners that um will really try not to give people pain medication . . . not unless they really need it.
Patient relationship with a healthcare provider	I've been comin' down here [primary care clinic] for several years and uh I feel like that I can tell 'em you know what I need to tell 'em or ask 'em and you know at the pharmacy too.
	There really wasn't any conversation per se. Was okay I'm gonna prescribe this medication, take it for X amount of days, X amount of times per day until the uh prescription runs out. But uh I don't ever recall him asking me about any past history . . . or um how often . . . I'd been prescribed drug medication . . . they'll always ask . . . if you're under, under any uh medications right now. But I don't really remember any physicians going in depth. And it could just be appearance . . . I've been with the same doctor for years.

Table 3.2. Continued

Subtheme(s)	Representative quote(s)
Patient relationship with a healthcare provider	Patient: It took time to build up that rapport and coming in every single month at first and then there will be urine test and going through this kind of stuffs . . . RP: So an underlying, if I may, an underlying um issue is trust is it not? Patient: Oh yeah . . . You better be able to trust him as much as he is to trust you.
Patient experience of stigma with a healthcare provider	Discussing re—referral for drug abuse screening. I don't think many people will really want to talk about that because the stigma. You're a junkie you know.
	I've called with questions about my [buprenorphine] prescription, whatever trying to find a place [pharmacy] and I have been talked to just with utter disrespect and then it's been you know there's been those few [pharmacists] that are really nice and have treated me like I was any other patient with any other medicine . . . but it's so much . . . that you know at times there was this barrier like we were those people coming into the door . . . or those people call me.
	I once went to the doctor for heartburn, and very first she walked in and said 'let me guess, you are here for pain pills'—that was my—like our first interaction . . . and I knew her . . . she was close friends with . . . the family that I was friend[s] with . . . you know it bothered her, just what the people she was seeing . . . and what they was wanting . . . I think . . . she was stereotyping me . . . my age and where I was from and—I guess that was the typical age and what I looked like—and dressed and everything . . . I guess she was used to that type of patients and what they wanting.
	Patient: He [ER physician] already knew in his mind umm that I was there for . . . drug seeking because . . . I was 28 years old. Young, healthy, umm in appearance and I come in for uh back pain . . . [but] I was actually standing right, up-right, where earlier in the day, before I, I was given a shot of um Decadron®, uh steroids, to help get rid of the inflammation umm around my spine . . . RP: . . . How did that make you feel when you spoke to him? Other than uh, angry? Or? Patient: More like belittled.

Discussion

This qualitative analysis examined provider-patient communication about PDA from the patient perspective, adding to a growing body of research that has examined this interpersonal process from the HCP perspective.

Similar to provider-patient communication in general (Glanz et al., 2008), the findings suggest patient engagement in provider-patient communication about PDA varies along a

continuum, ranging from active to none. First, patients reported active engagement, a patient-driven communication style typified by providing and seeking information and asserting healthcare needs, preferences, or decisions. This is promising, especially given the connection between active engagement, or participation, and positive healthcare outcomes (D'Agostino et al., 2017; Harrington et al., 2004; Street et al., 2005). Nevertheless, only a minority reported behaviors illustrative of active engagement. Also, even within this minority, reports of behaviors illustrative of active engagement that could be "critical" to patient understanding and recall, yet necessitate more advanced communication skills (e.g., summarizing information), were lacking (D'Agostino et al., 2017, 1248). Second, patients reported passive engagement, a provider-driven communication style typified by receiving information and responding to questions. Patients commonly make minimal contributions to healthcare encounters beyond responding to HCP questions (Harrington et al., 2004); however, patient passivity in provider-patient communication about PDA contrasts with the transition from a paternalistic approach toward a patient-centered approach to healthcare in recent decades (D'Agostino et al., 2017; Levinson et al., 2010). From a clinical practice perspective, this finding simultaneously highlights the importance of active HCP engagement in provider-patient communication about PDA.

Third and finally, patients reported no or limited engagement, a (non-)communication style typified by the absence of and insufficiency in PDA-related communication between HCPs and patients. This suggests gaps in provider-patient communication about PDA are common, a concerning finding as gaps could impede PDA mitigation. Provider-patient communication about substance use, for example, is linked to reduced substance use and increased receipt of substance use treatment services (Ray et al., 2013). Previous research also suggests communication gaps are common as HCPs report not only variability in, but avoidance of engagement in provider-

patient communication about PDA (Hagemeier et al., 2016). Considering communication is an "interpersonal and interdependent process" (e.g., HCP and patient communication behaviors influence each other), evidence of communication gaps across HCPs and patients could illustrate reciprocal, mutual influence (Kenny et al., 2010, 764; Rao et al., 2007; Street et al., 2007). In other words, the level of engagement—including lack thereof—by one person (e.g., patient) in provider-patient communication about PDA may contribute to a similar level of engagement by the other (e.g., HCP).

In accordance with SCT and previous research on provider-patient communication (e.g., Joseph-Williams et al., 2014; Street et al., 2005; Willems et al., 2005), patients reported multiple factors—personal and environmental—influencing PDA-related communication with and, at times, receipt of healthcare from HCPs. Perception of need, willingness to be honest, and outcome expectations were among the personal factors noted. While SCT posits self-efficacy and outcome expectations are two main determinants of behavior, patients generally did not overtly identify self-efficacy as a personal factor. Outcome expectations, though, could be determined in part by self-efficacy beliefs (Bandura, 2004; Pajares, 1997). Considering patients commonly identified outcome expectations they perceived as negative or undesired, this could indicate low self-efficacy to engage with HCPs; however, this interpretation may extend beyond the data. As for the environmental factors, motives and practices of a HCP, relationship with a HCP, and experience of stigma with a HCP were among those noted. While the environment includes physical and social aspects, the common emphasis on HCPs underscores the perceived influence of the social environment. Simultaneously, it highlights opportunities for HCPs to facilitate patient engagement in provider-patient communication about PDA through clinical practice. For example, building a trusting, therapeutic relationship with a patient and delivering patient-

centered and, when appropriate, recovery-oriented care could be beneficial. Collectively, the findings support the utility of SCT in understanding patient PDA-related communication behaviors. They could inform future quantitative analyses with larger samples to continue to advance understanding of the explanatory utility of SCT.

Although patients generally did not identify the communication constructs—CA, SPCC, and WTC—as discrete factors influencing PDA-related communication with HCPs, there are findings suggestive of their influence. Negative or undesired outcome expectations (e.g., "afraid" of HCP judgment), a new relationship with a HCP, or a stigmatizing experience with a HCP, for example, may contribute to higher patient CA. In contrast, an established or "good" relationship with a HCP, for example, may contribute to lower patient CA and higher patient SPCC. Since WTC has been defined as "the intention to *initiate* communication" and predicts communication approach-avoidance behavior (MacIntyre et al., 2001, 369; McCroskey, 1997), the level of patient engagement could correspond to the level of patient WTC. Active patient engagement may indicate high patient WTC, whereas passive or no/limited patient engagement may indicate low patient WTC. Collectively, these findings build on previous research with HCPs that found support for the utility of communication theory—and CA, SPCC, and WTC specifically—in understanding HCP PDA-related communication behaviors (Hagemeier et al., 2016). These communications constructs, though, are personal factors. While further research is needed, they could make an explanatory contribution complementary to, yet unique from SCT constructs. A combined theoretical framework for patient PDA-related communication behaviors based on the findings is presented in Figure 3.1.

According to prior research, communication is "highly modifiable, so it should be a target of intervention studies" (Ang et al., 2013, 216). The findings here could inform PDA

communication interventions targeted toward patients. Irrespective of the level of patient engagement, they suggest there is area for improvement in patient PDA-related communication behaviors. Hence, communication interventions could aim to improve the overall level of active patient engagement, potentially focusing on PDA-related communication behaviors that could require both basic and advanced communication skills. Prior research supports communication interventions as a means of improving active patient engagement, or participation, in healthcare encounters (D'Agostino et al., 2017). Moreover, multiple factors that may be amenable to change and potential intervention points were identified, including: 1) increasing perception of need; 2) increasing positive or decreasing negative outcome expectations; 3) increasing self-efficacy; and 4) increasing WTC, potentially by increasing SPCC or decreasing CA. Given the theoretical alignment, the bodies of research that have amassed on SCT and the communication constructs could guide intervention strategies to achieve such changes. A theoretical foundation may also advance the larger field of research since patient-targeted communication interventions are often atheoretical (D'Agostino et al., 2017). Nevertheless, the findings indicate an exclusive focus on PDA-related communication behaviors could be insufficient for active patient engagement, in part due to stigma. Previous research similarly suggests stigma can be a barrier to engaging in healthcare and substance abuse treatment services (Livingston et al., 2012); however, opportunities to address this barrier within communication interventions may exist. For example, including intrapersonal-level intervention strategies to reduce negative effects from stigma—past or potential—may hold promise (Cook et al., 2014).

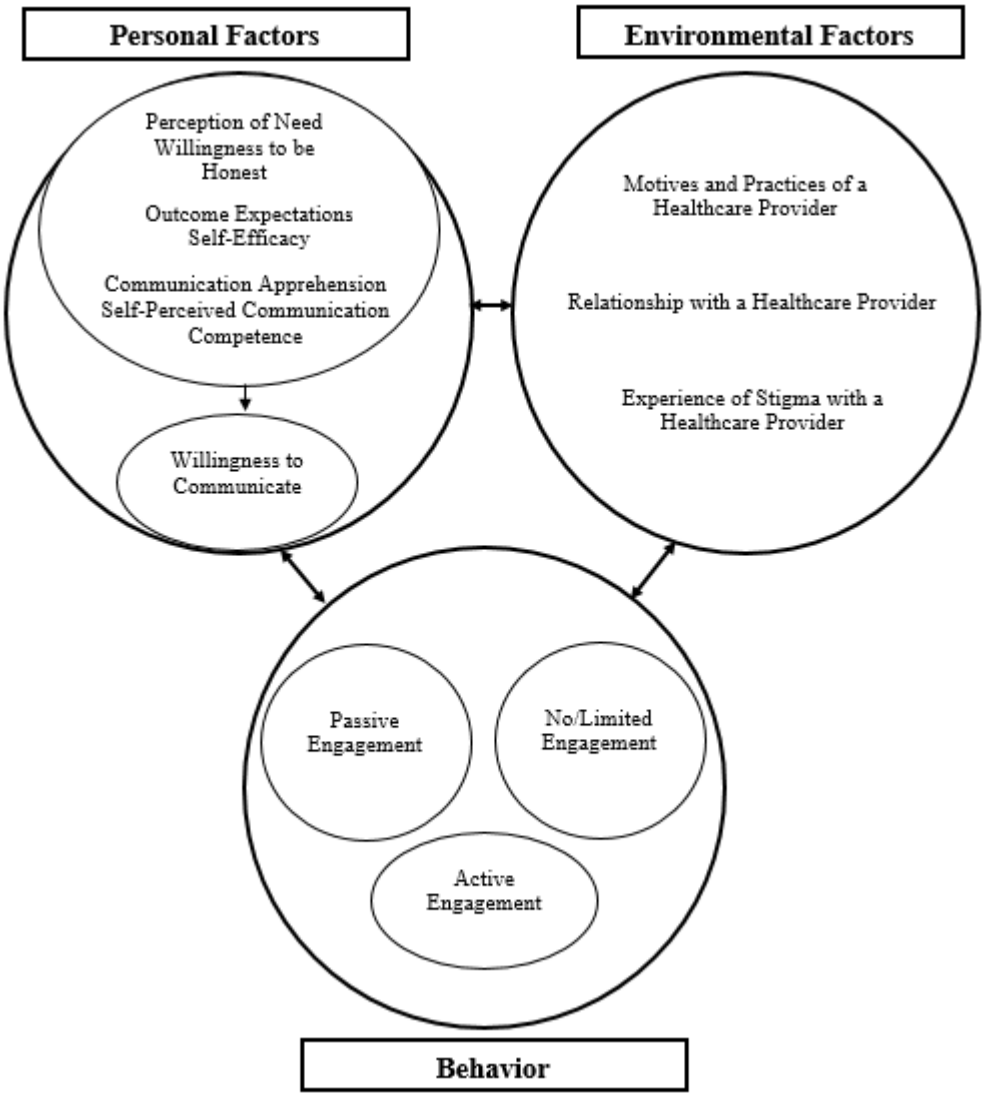

Figure 3.1. Combined theoretical framework for patient prescription drug abuse-related communication behaviors.

Limitations

Since patients were recruited from one geographic region, the findings may not represent the perceptions and behaviors of patients in other regions. Minimal data were collected on demographic characteristics, clinical diagnoses, and drug abuse history, precluding an extensive description of the sample. Moreover, this arm of the mixed methods study was not designed to make comparisons between patients with and without a history of drug abuse or between patients from primary care and addiction medicine; however, these comparisons could be important areas

for future research. Lastly, the findings are subject to limitations inherent in purposive sampling and self-reported data (e.g., selection and recall bias).

Conclusions

A foundational component of clinical practice, provider-patient communication about PDA, could be pivotal in preventing and reducing PDA in the context of healthcare encounters. The themes identified by this qualitative analysis suggest patient engagement in PDA-related communication is variable, ranging from active to none. Moreover, they indicate personal and environmental factors—many amenable to change and potential intervention points—influence patient PDA-related communication with and receipt of healthcare from HCPs. Finally, they suggest SCT and constructs from communication theory research could enhance theoretical understanding of patient PDA-related communication behaviors.

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CHAPTER 4

PROVIDER-PATIENT COMMUNICATION ABOUT PRESRIPTION DRUG ABUSE: THE PERSPECTIVE OF PRESCRIBERS

Stephanie M. Mathis[1], Angela Hagaman[2], Nicholas Hagemeier[3], Katie Baker[1], and Robert P. Pack[1]

[1]Department of Community and Behavioral Health, College of Public Health, East Tennessee State University, Johnson City, Tennessee

[2]College of Public Health, East Tennessee State University, Johnson City, Tennessee

[3]Department of Pharmacy Practice, Bill Gatton College of Pharmacy, East Tennessee State University, Johnson City, Tennessee

Address for correspondence:

Stephanie M. Mathis

1213 Stonecrest Court, Johnson City, Tennessee 37604

Phone: 386-624-2536

Email: mathiss@etsu.edu

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Abstract

Provider-patient communication underpins many initiatives aimed at reducing the public health burden of prescription drug abuse in the United States. The purpose of this qualitative analysis was to examine the characteristics of provider-patient communication about prescription drug abuse from the perspective of prescribers. From 2014 to 2015, ten semi-structured interviews were conducted with a purposive sample of prescribers from multiple health professions and medical specialties in Central and South Central Appalachia. The interviews were audio-recorded and transcribed verbatim. Thematic analysis, facilitated by QSR International's NVivo 10 Software, was utilized to generate themes and subthemes. Prescribers described three primary communication patterns with patients related to prescription drug abuse—informative, counteractive, and supportive. In addition, prescribers reported multiple factors, personal and environmental, that affect provider-patient communication and, by association, delivery of patient care related to prescription drug abuse. Overall, the findings of this qualitative analysis have: 1) theoretical implications for understanding provider-patient communication about prescription drug abuse and; 2) intervention implications for strengthening provider-patient communication about prescription drug abuse.

Prescription drug misuse and abuse (i.e., use without a prescription, other than as prescribed, or for the experience or feelings caused) is a public health crisis in the United States (Office of National Drug Control Policy [ONDCP], 2011; Substance Abuse and Mental Health Services Administration [SAMHSA], 2015). Nearly 15 million persons aged 12 years or older misused prescription drugs in the past year in 2014 (Center for Behavioral Health Statistics and Quality [CBHSQ], 2015). The proportion of substance abuse treatment admissions for non-heroin opioids, including prescription opioids, increased 200% from 2003 to 2013 (SAMHSA, CBHSQ, 2015). Likewise, the number of drug overdose deaths involving prescription drugs increased 295% from 1999 to 2015, with roughly 300,000 additional deaths forecasted to occur over the next five years (Buchanich, Balmert, & Burke, 2017; National Institute on Drug Abuse [NIDA], 2017).

National, state, and local entities have responded with initiatives to reduce the public health burden of prescription drug misuse and abuse—hereafter "prescription drug abuse" (PDA) (Alexander, Frattaroli, & Gielen, 2015; Association of State and Territorial Health Officials; ONDCP, 2011; U.S. Department of Health and Human Services [HHS], 2013). Many initiatives have targeted the clinical knowledge and practices of healthcare providers (HCPs), a population optimally positioned for PDA prevention, identification, and treatment. Examples include: 1) increased pain management and substance abuse education; 2) increased use of clinical practice tools (e.g., prescription drug monitoring programs [PDMPs]); and 3) increased substance abuse screening and treatment services. The emphasis on HCPs across initiatives underscores their importance to an effective public health response.

Health communication between HCPs and patients underpins many HCP-targeted initiatives aimed at mitigating PDA and, ultimately, improving public health. Provider-patient

communication is an essential clinical function (Ha & Longnecker, 2010; Ong, de Haes, Hoos, & Lammes, 1995). Effective provider-patient communication is associated with positive outcomes for HCPs (e.g., reduced job-related stress) and patients (e.g., improved satisfaction) (Ha & Longnecker, 2010; King & Hoppe, 2013; Stewart et al., 1999). Yet, communication problems are common (Simpson et al., 1991; Stewart, 1995). Ineffective provider-patient communication is concerning as it could contribute to negative outcomes, such as malpractice claims against HCPs and missed chances for self-management by patients (King & Hoppe, 2013; Stewart et al., 1999).

Given the implications of provider-patient communication, there is a need for effective, situational communication about PDA between HCPs and patients. Correspondingly, evidence suggests HCPs agree PDA communication with patients is important and, if improved, could deter PDA (Hagemeier, Gray, & Pack, 2013; Hagemeier et al., 2016). Among HCPs, PDA communication is particularly salient to those licensed to prescribe controlled prescription drugs (CPDs) (i.e., prescribers). A substantial portion of HCP-targeted initiatives likewise impact or necessitate action from prescribers (Kennedy-Hendricks et al., 2016). For example, initiatives aim to curtail prescribing practices as overprescribing is posited to be a factor contributing to PDA and associated harms (Compton, Boyle, & Wargo, 2015; Manchikanti et al., 2012). Further, NIDA (2016) asserted prescribers—doctors specifically—are not only in a "unique position" to recognize PDA and prevent progression to substance use disorders in patients, but also to help patients recognize substance abuse problems, provide or refer patients to treatment, and form patient goals for recovery (p. 21).

Provider-patient communication about PDA is an important, yet understudied area of research, especially from the prescriber perspective. Multiple studies have used survey methods to examine prescriber perceptions and behaviors regarding PDA communication with patients

(e.g., Childers & Arnold, 2012; Hagemeier et al., 2013; Keller et al., 2012; The National Center on Addiction and Substance Abuse [CASA], 2005). Qualitative methods could contribute to a fuller understanding of this complex, interpersonal process; however, few studies have used qualitative methods (Hagemeier et al., 2016). To our knowledge, none have focused exclusively on prescribers. Hence, this qualitative analysis examined the characteristics of provider-patient communication about PDA with data collected through prescriber interviews.

Methods

Study Design and Setting

This study used a qualitative design involving semi-structured interviews with prescribers in Central and South Central Appalachia—Appalachian subregions comprised of 167 counties in five states (Appalachian Regional Commission, 2009). Considering PDA has acutely burdened Appalachia (HHS, 2013), the region is a timely setting for PDA research.

Study Sample

HCPs prescribing CPDs and practicing in the service area of the Appalachian Research Network—a practice-based research network in Central and South Central Appalachia—were eligible for participation. Purposive sampling was predominantly used to identify and recruit prescribers, with snowball sampling integrated after an enrolled prescriber recommended another prescriber for participation. Prescribers were selected at the judgment of study staff for: 1) their understanding of the PDA problem or the geographic proximity of their clinics to counties with a high prevalence of PDA; and 2) their willingness to discuss provider-patient communication about PDA. Recruitment involved an electronic communication inviting identified prescribers to participate, followed by a telephone call to prescribers interested in participating. The sample (n=10) included three female and seven male prescribers from multiple health professions (i.e.,

dentistry, medicine, and nursing) and medical fields (e.g., addiction, family, and pain medicine).

Data Collection

In May 2014-April 2015, interviews were conducted using a guide grounded in Social Cognitive Theory (SCT) (Bandura, 1986) and communication theory research (McCroskey, 1997). The interviews examined prescriber perceptions, behaviors, and experiences regarding PDA-related communication with patients, along with general perceptions of PDA. A portion of the interviews concentrated on soliciting prescriber perceptions of four quantitative instruments. Three were validated instruments that measure constructs from communication theory research posited by the researchers to influence patient engagement in situational communication about PDA with HCPs—communication apprehension (CA) (McCroskey J.C., 1978); self-perceived communication competence (SPCC) (McCroskey J.C. & McCroskey L.L., 1988); and willingness to communicate (WTC) (McCroskey J.C., 1992). The fourth, a researcher-developed instrument, measured the frequency with which patients engage in communication with HCPs on topics pertinent to PDA prevention, identification, and treatment (e.g., abuse potential of prescribed medications) and the perceived importance of doing so. The target audience for these instruments is therefore patients; however, they were incorporated to enrich the interviews and collect data to inform: 1) adaptation of the validated instruments to situational communication about PDA; and 2) refinement of the researcher-developed instrument.

One male researcher (RP) with qualitative interviewing experience and PDA expertise conducted the interviews in a private setting selected by the prescriber, often the clinic where he/she practiced. Another researcher or research assistant took field notes. The interviews were audio-recorded and 65 minutes in length on average. The researchers and research assistants transcribed the interviews verbatim. The transcripts were de-identified and imported into QSR

International's NVivo 10 Software (2012).

Data Analysis

Inductive thematic analysis was used to generate themes (Braun & Clarke, 2006, 2012). The researchers (AH, NH, RP, SM) engaged in an iterative process of independent transcript review and open dialogue to generate preliminary codes. One researcher (SM) refined and finalized the codes, to include defining and organizing them into a coding frame. An initial subset of transcripts (20%) was randomly selected and independently coded by two researchers (AH, SM) to evaluate coding consistency and coding frame reliability (Joffe, 2012). Consensus discussion was used to resolve coding inconsistencies and modify the coding frame for improved reliability. The remaining transcripts were then independently coded by the researchers (AH, SM). Overall interrater reliability was calculated using unweighted Cohen's kappa (κ) and found to be acceptable (i.e., $\kappa \geq 0.40$) (Viera & Garrett, 2005). One researcher (SM) compared and combined codes to generate themes, to include a repetitive process whereby the themes were assessed in relation to the coded data and full dataset. Finally, the themes were defined and representative quotes were chosen.

Ethical Considerations

The East Tennessee State University Institutional Review Board approved this study. One researcher (RP) explained the study and informed consent document and attained written consent before the interviews. Prescribers received modest compensation.

Results

Two themes and nine subthemes were generated (Figure 4.1.). Specifically, theme one—prescriber communication patterns with patients—included three subthemes, and theme two—factors affecting prescriber communication with and care of patients—included six subthemes.

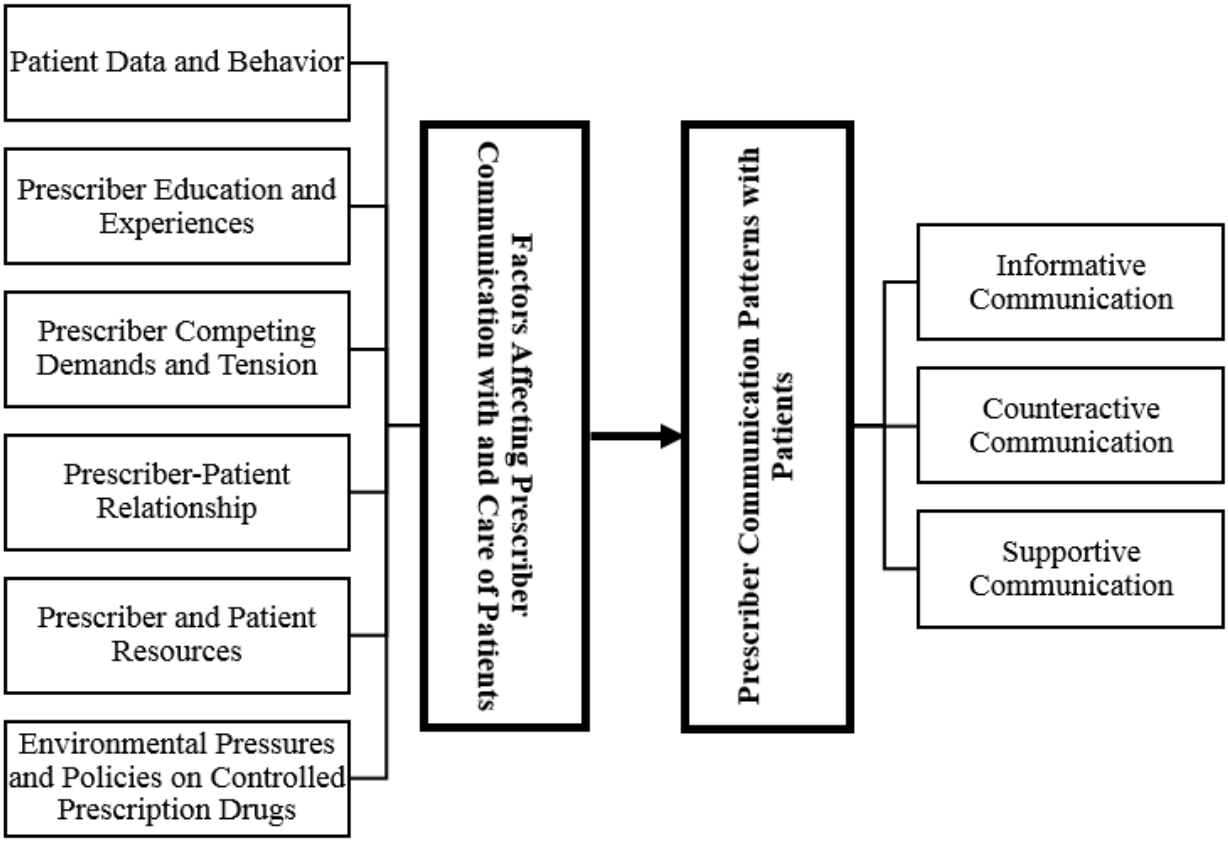

Figure 4.1. Thematic map of the themes and subthemes identified in provider-patient communication about prescription drug abuse from the prescriber perspective.

Theme One: Prescriber Communication Patterns with Patients

Prescribers described multiple communication patterns with patients related to PDA. The three subthemes identified are described below.

Informative communication. Most prescribers described informative communication, which refers to a communication pattern that provided PDA-related information, instructions, or explanations to patients. They often conveyed it as one-way communication in the context of prescribing CPDs for the treatment of pain and, to a lesser extent, addiction. Some prescribers reported informing patients of the abuse potential of prescribed CPDs or providing patients with instructions on the "proper way to take" prescribed CPDs. One prescriber said, "When I write a narcotic I discuss the side effects and possibility of . . . addiction." Another stated, "'Don't take

any other medicines or alcohol or drive or operate any machinery' that's what I say to every one of them I write a prescription." Some prescribers also mentioned informing patients of various components of the treatment plan or protocol, including the stipulations for and duration of CPD prescriptions. Several prescribers reported giving "contracts" to patients, while another recalling a past situation with a patient said:

> I went through everything on that [researcher-developed instrument] practically about why we shouldn't be going here [prescribing CPDs]. . . I finally just said, 'Fine, this is what you're getting' . . . Signed the prescription, but you know I made my goals clear, cut off clear.

Conversely, many prescribers described informative communication in the context of refusing to prescribe CPDs, especially "narcotics." They reported multiple explanations given to patients as justification for a refusal, such as a patient history of addiction, clinic policies, and state laws. One prescriber said, "I really use . . . the state laws now because I tell people that I'm not gonna be a pain clinic so I'm not going to be writing." Several prescribers noted the presence of clinic signs informing patients of "no narcotic" policies as well. In reference to a network of school- and community-based clinics, one prescriber stated, "They don't prescribe . . . They have signs saying they don't prescribe."

Counteractive communication. Many prescribers noted counteractive communication. It denotes a communication pattern that involved "confront[ing]" and "address[ing]" PDA-related "problems" with patients. Cited problems included not only PDA and addiction, but also patient behaviors like diversion and drug seeking. Prescribers frequently framed it as reactive communication in the context of patient problems that were suspected or verified by observation or "data." One prescriber stated:

> It's typically initiated by . . . some trigger that has led me to think that they have an issue with [PDA]. Whether that's requesting prescriptions early . . . a pharmacy calling me to tell me that you know they're getting from multiple pharmacies . . . the controlled substance database . . . when I do feel like there's an issue then I certainly will address it.

Another reported, "Discussing the results of PDMP query . . . yeah I have . . . when I actually found something. I don't discuss it with them when there's no problem, when they only have what they're supposed to." When addressing patient problems, some prescribers noted two-way communication that entailed seeking more information from patients. In reference to phone calls by individuals alleging a patient of PDA, one prescriber said, "I . . . confront the patient and say, 'Hey, you know I'm getting some phone calls. Here's what they're telling me. Tell me why I shouldn't believe this, 'cause you don't look so hot right now." Moreover, several prescribers indicated a more austere approach when addressing patient problems—dismissal. One stated, "When they do fail their drug screen and you know that they've brought in urine . . . were done with them . . . 'It wasn't my urine! I'll pee again!' We're sorry, we're done."

While more commonly described as a response to patient problems, some prescribers mentioned counteractive communication that may preempt problems. One prescriber reported, "And in fact we tell them if you go to the ER, then you'll be kicked outta here." Apart from clinical repercussions, several prescribers reported warning patients through oral or written communication of legal repercussions, especially related to diversion. One prescriber stated, "I had to a get letter from the Sherriff and posted it in every exam room saying that . . . you will be prosecuted if you are found selling or distributing."

Supportive communication. Some prescribers noted supportive communication with patients, which refers to a communication pattern that supplied social support to patients. The

social support consisted of multiple types, including informational, emotional, and instrumental. It was often described in the context of concerns and treatment needs related to PDA, addiction, and pain, including those expressed by patients. One prescriber said:

> I get patients that say, 'I'm addicted.' And I will say, 'Why do you say you're addicted?' And they will say, 'Well 'cause I missed a dose and god I felt terrible . . . I took a dose and then I was okay.' And I have to explain to them that's dependence . . . And they feel better about themselves.

Another stated:

> What I tell a patient, 'if you've been doing great and . . . your brother-in-law . . . had this Roxicet®, and you took it . . . for me personally, that's not a relapse . . . that's a bad damn decision'. . . If I immediately go, 'you've relapsed.' It's going to be like . . . 'what's the use, I'm back to square one.' I go look, 'you're not under a bridge with a needle in your arm . . . So, let's learn from those' . . . instead of knocking them back down.

Moreover, a few prescribers mentioned supportive communication specific to facilitating the seeking or receipt of treatment among patients, including specialty care for chronic pain and addiction. One prescriber said, "I've had a conversation with multiple patients to, to say . . . I don't do chronic pain management . . . I'll make your referral one time to a pain clinic." Another stated:

> I'll say, 'look, man . . . you might have . . . some drug issues . . . But if I can help you, I'm on your team and I want to help you. So what I'm going to do is I'm going to tell you where to go to a Suboxone® clinic where they have counselors' . . . and I give them one of these pamphlets . . . where the AA and the NA meetings are.

Theme Two: Factors Affecting Prescriber Communication with and Care of Patients

Prescribers reported multiple factors that affect patient communication and care. Patient communication and care were not limited to PDA and addiction, but extended to the intersection of PDA with the evaluation and treatment of pain, particularly the prescribing of CPDs. The six subthemes identified are described below, and Table 4.1. presents representative quotes.

Patient data and behavior. Most prescribers identified patient data as a significant factor, including data from direct and self-reported measures. They indicated patient data may not only influence and, at times, initiate patient communication and care related to PDA and addiction, but also influence the prescribing of CPDs. Many prescribers noted "signs" and "red flags" considered indicative of PDA, addiction, or related problems. Among those noted were: failed urine drug screens and pill counts; PDMP query results; telephone calls to clinics; patient inquiries into and requests for CPD prescriptions, including early refills; and patient self-reports of drug abuse, addiction, and unintentional diversion (e.g., "medications being stolen"). Further, multiple prescribers reported not only the influence of patient data, but the collection of data through patient monitoring, especially patients on CPDs. Terms such as "monitor," "police," and "track" were common.

Concerning patient behavior, many prescribers noted the role of patient deception and manipulation. They not only indicated patients could be "deceiving" and "pretending and hiding" drug abuse, but will "manipulate" and "try to trick" prescribers for CPD prescriptions. Some prescribers suggested connections between the behaviors and challenges in pain evaluation and treatment, including an inability to "measure [pain] quantitatively" and having to "trust" patients are in pain. Moreover, several prescribers described deceptive behaviors as possible barriers to drug abuse and addiction communication. For example, one prescriber expressed doubt "people

are really willin' to be honest" about drug abuse histories, while another reported patients "try not to answer" questions about drugs other than tobacco. Further, several prescribers indicated experiences involving these behaviors may contribute to residual effects, including apprehension about the legitimacy of patient problems and "lower confidence" in patient communication.

Prescriber education and experiences. Most prescribers identified education and training as a factor in patient communication and care related to PDA and addiction. Multiple prescribers reported limited or inadequate education and training on addiction or pain, including in medical school and residency. A few prescribers similarly described the impact of education and training, including not "enough education," on specific areas of clinical practice, like drug abuse screening. Moreover, some prescribers noted the influence of the amount of time since the completion of education and training. For example, a few described challenges in addressing PDA and addiction related to "first start[ing]," while another described the "different mindset" of an "older practitioner" and a "newer practitioner" as "medicine and dentistry has all changed."

Along with education and training, several prescribers described the role of personal and familial experiences on patient care related to addiction and pain. For example, one prescriber reporting personal experience with addiction indicated it promoted the attainment of addiction information and specialization in addiction medicine, while another reporting familial experience with addiction suggested it limited the strength and dosage of CPDs prescribed for pain.

Prescriber competing demands and tension. Many prescribers reported competing demands—the multiple "demand[s]" on a "provider's time"—as a factor. They generally posited competing demands could limit patient communication and care related to PDA and addiction. Multiple prescribers specifically described the role of competing demands in face-to-face patient interactions, such as "a ton of other things to talk about" with patients, contrasting priority health

issues between prescribers and patients, and contrasting treatment goals and preferences between prescribers and patients. Treatment goals and preferences were commonly conveyed as particularly impactful. Multiple prescribers indicated patients not only "expect" and "want pain medications," but can be resistant to "taking them away." Moreover, they suggested not fulfilling or aligning with patient treatment preferences and goals—such as by refusing to prescribe CPDs to patients, not prescribing CPDs at dosages that satisfy the perceived needs of patients, or discussing drug abuse histories with patients—could contribute to the realization of negative or unwanted outcome expectations (e.g., monetary repercussions or patient phone calls). Although less common, several prescribers described the role of competing demands outside of patient interactions, such as administrative and other "time consuming" tasks.

Similar to competing demands, many prescribers reported experiencing tension related to CPD prescribing, primarily "narcotics." Prescribers described difficulties and "internal battle[s]" inherent in a decision to prescribe CPDs and feelings of discomfort and concern for patients on CPDs, especially patients on "higher doses." Further, some prescribers noted tension related to contributing to the realization of negative outcome expectations by prescribing CPDs, including addiction, relapse, and overdose in patients.

Prescriber-patient relationship. Many prescribers described characteristics of the prescriber-patient relationship as a factor. First, some prescribers indicated the influence of the quality and "dynamic" of the relationship on patient communication and care related to PDA and addiction. Multiple elements of the relationship were mentioned, including knowledge, trust, and the balance of power between prescribers and patients. Second, some prescribers commented on the length of the relationship, especially its influence on patient communication and care related to CPDs. For example, several prescribers described the "initial visit" and "get[ting] patients

under the care of other providers" as conditions that may increase the likelihood of prescribing, while another prescriber connected being a "new provider[]" in a clinic with a higher volume of patients seeking "pain medications." Finally, some prescribers noted, at times with frustration, the influence of cyclic relationships with chronic pain patients, particularly on CPD prescribing. They reported referring patients to specialty care for pain management, or "pain clinics," only for patients to "come back," often because they were "fired," "discharged," or "stabilized."

Prescriber and patient resources. Many prescribers identified "resources" as a factor, including those of prescribers and patients. With regard to prescriber resources, they commented on not only the available clinical resources, but also the lack of clinical resources that if available would facilitate patient communication and care related to PDA and pain. Risk assessment and communication tools, "ancillary staff," and mental health professionals (e.g., "psychologist") were among those noted. Similarly, some prescribers noted the influence of deficits in multiple types of patient resources, including "money," health insurance, and social support. Prescribers often described the deficits as impediments to patient communication and care, such as referring patients to specialty care for addiction and chronic pain. Concurrently, several prescribers noted actions taken to compensate for the deficits and facilitate patient care (e.g., offering services "for free" and creating a clinic-based storage program to control patient CPD consumption).

Environmental pressures and policies on controlled prescription drugs. Multiple prescribers noted the influence of "external pressures" or "voices" as a factor. Several prescribers described pressures to "treat pain," including those from healthcare accreditation organizations, accrediting patient experience surveys, and other sources. Prescribers suggested such pressures not only influenced CPD prescribing, but also amplified treatment seeking and expectations for pain relief among patients. Similarly, some prescribers commented on pressures informing and

regulating CPD prescribing, like clinical guidelines, state laws, and state and federal actions. Several prescribers indicated such pressures have contributed to reductions in prescribing, while others simultaneously indicated they can "make it harder and more stressful" and contribute to prescribers "getting out of the pain medicine business."

Related to pressures, some prescribers highlighted the role of clinic policies. As one prescriber explained, "There's external pressures on doctors . . . We in turn are applying that pressure to all of our patient populations." Prescribers mentioned multiple clinic policies, many of which standardized CPD prescribing. They suggested clinic policies not only influenced CPD prescribing, but at times informed patient communication related to PDA and pain as well. Clinic policies establishing processes for new prescriptions (e.g., requiring "contracts") and prescription refills (e.g., no "early refill[s]") and prohibiting CPD prescribing (e.g., "strict no narcotic policy") were among those noted.

Table 4.1.

Representative quotes for theme two: Factors affecting prescriber communication with and care of patients

Subtheme(s)	Representative quote(s)
Patient data and behavior	I'll also look at the medical history for recent or uh, surgeries and, and when I look I'll say . . . 'You're taking Percocet® couple times a day, okay you're on benzos to sleep right now, okay. Or you're taking Xanax® and you take two a day right now.' I'm looking for the benzos, I'm looking for the opiates. I'm looking to see their medical history . . . then I'm a bit skeptical if the next thing out of their mouth is now uhh, 'When you do this crown prep here you gonna give me a prescription for drugs?'
	We track those patients [on chronic pain management], we've got a log, we track them, it's part of our QI process. We keep a close eye on them and we bring them in for randomized pill counts, randomized drug screens . . . we've got a very straight protocol that we follow.

Table 4.1. Continued

Subtheme(s)	Representative quote(s)
Patient data and behavior	Pain is a subjective data point. And you know our best efforts for the pain scales and everything else I mean it's not uncommon at all that I'll work in the ER and be talkin' to someone who says they have 10 out of 10 pain, texting on their cell phone not paying attention to me with a perfectly flat face while I'm doing it. Like you know so even when we try to apply the objective points to it, it's not well received and you know and there's no, no way to measure it quantitatively and so patients will tell us what they want to tell us.
	Pain medication or other drugs that are more stigmatized than tobacco people tend to be more defensive, they don't want to talk about it. Tobacco anybody will answer what they do, other drugs most people try to not answer exactly— and will get more defensive.
	[We've] all been burned by someone that was either using or diverting and um so you uh there's always you know a voice in the back of your head when you're prescribing you know okay this looks legit but I've been you know burned before. Um. It's just there's a level of uh, of um uneasiness in a relationship I think at times.
Prescriber education and experiences	We were never really taught how to treat pain . . . it has been kind of on the fly.
	Conducting a risk assessment or drug abuse screen. Yeah, I mean, that is the thing where I feel I'm not as qualified . . . as I should . . . I don't feel that I've had enough education in that regard . . . ideally you would do that um but the reality is . . . I don't feel very confident in exactly how to do that.
	I self-reported . . . had the struggles that most addicts have with this, trying to gain, you lose control . . . that's when I went to rehab in and that's . . . when I first got any kind of information on the pathophysiology and biology of addiction. Wasn't taught that in medical school, and I was fascinated . . . I said, you know, there are not accidents and there are no coincidences, there is a purpose in this and that helped, fueled me wanting to do addiction medicine.
Prescriber competing demands and tension	I tell [patients] it's often because then the entire focus of all their issues is about your pain medicine you know. You've got diabetes, hypertension, high cholesterol, and COPD and all you wanna talk about is your Lortab® . . . I've got other things I need to focus on you know. And not, not that I'm trying to be negative toward your pain but of all these things, this will kill you, this won't. You know I've got to focus on these first and all you wanna talk about is your pain medicine and so we've got to get away from that and I've got to talk about your other issues first . . . It's difficult.
	When I get somebody . . . what they expect is a narcotic. They, they expect that and you know I'm in a business and if I don't give it to 'em, I know I'm gonna lose 'em as I a client . . . that is a point for a lot of people, uh so a lot of people just write you know they think uh you know tramadol's not that bad or 5 milligrams hydrocodone just to appease the patient because they know that's what they want.

Table 4.1. Continued.

Subtheme(s)	Representative quote(s)
Prescriber competing demands and tension	In our location it's a challenge [with prescription drug monitoring programs] because we've got three other states . . . and you know we can do Virginia on the same website you know which is helpful as the Tennessee but you have to have a separate log in for North Carolina and I just not even bother with it anymore. It's just you, you have less and less time to do more and more administrative work . . . and less patient care.
	Those are always the difficult decisions um because you know my compassion doesn't allow me to just say well 'I can't ever give [pain medication] to you.' But then on the other hand it's very um, very, very difficult to do that in a way that doesn't put them right back into uh an addiction.
Prescriber-patient relationship	You can have a totally different approach and level of giving, uh, with certain patients versus other patients. Like you might just cut yourself off 'okay, I've given you two tries, I'm moving on to the third, forget it, I'm out of here.' Whereas, a patient that's very important to you, you have a great relationship, you know, I'm going to try number four, to number five and then pushes to number six. 'I know, you have to be hearing me. I know you are.' You know, sometimes you just really go that far with a patient that you have such a relationship with.
	I've seen providers feel like they're powerless over the patient . . . And they feel like that the patient is more in charge than they are. And that they have no control [in a situation involving drug seeking behavior] . . . And it's like well no, you do have control . . . And you don't have to [prescribe]. You can say to the patient, 'No, I'm not comfortable with this.'
	As far as prescription pain meds . . . when I first moved here especially, the most frequent visit I would get would be back pain. People who wanted umm treatment for back pain, which has slowed down now a little bit. I think just because I have been here a little bit longer. I think at first people try new providers to see if they get pain medications from them.
	I've got patients that have been to those pain clinics . . . and the pain clinics want to put 'em, escalate their [pain medication] and the patients don't want to escalate it and then they get fired from the pain clinic and then they come back to me sayin' you know 'I'm perfectly fine takin 5 milligrams 3 times a day but I didn't want to get put on morphine or whatever and they fired me.' You know then it puts the burden back on me.
Prescriber and patient resources	We have care managers here, people who are experienced, know who to look for, know the resources in the community . . . I think those people are helpful to connect people who are here and want help [for prescription drug abuse] to help.
	What . . . would be great is if we had . . . a psychologist on board with us who could help us . . . make sure um that we pick the right people for chronic narcotics uh, you know have a profile, know whether this person . . . has an addictive personality . . . and then also help with pain management.

Table 4.1. Continued.

Subtheme(s)	Representative quote(s)
Prescriber and patient resources	[Our] patients that are . . . uninsured, limited access . . . specialists won't see them because they are uninsured. And they won't, they won't see our patients like this . . . even the pain clinics will tell them they want two hundred and fifty dollars, up front, and they don't have that kind of resources and that kind of money.
	I say, 'I know you got a toothache right here and I know it's hurting right now and I'm gonna take it out.' And I've even taken them out for free because generally most addicts are usually they're like lower income they don't have any money and I said 'I'm going to take it out at no charge to you.'
Environmental pressures and policies on controlled prescription drugs	I think Joint Commission, the sixth uh vital sign . . . all of that just pushed [to treat pain]. I can't tell you how many people we had, once that notice was up front from Joint Commission that you had to post saying . . . 'We'll treat your pain.' You know, just out of the wood work. Come in say, 'Oh yeah, doc I come because I have so much pain.' And it's like, okay. I've been doing this and for how long and I don't remember that every patient, or every other patient I see, is 'Oh doc, I'm here because I'm having pain' . . . And all of a sudden you were having this.
	Prescriber: Well a lot of [patients] come to us, especially nowadays saying 'My doctor won't write pain meds for me anymore.' Pretty much every patient is saying that nowadays. RP: So why won't their doctor write them pain medicine anymore? Prescriber: Because they know about the pain medicine abuse epidemic in this region. And they think that the feds are gonna be knockin' on their doors any moment. And they are just in quote getting out of the pain medicine business.
	So we don't refill narcotics now without a visit you know as a policy . . . If you need a narcotic you have to come in. There may be individual doctors that on certain occasions will write one and leave it up front or something else, but you know as a policy we say we don't.

Discussion

This qualitative analysis examined provider-patient communication about PDA from the prescriber perspective. Prescribers reported different communication patterns with patients and multi-level factors that affect communication with and care of patients. By advancing knowledge of these patterns and factors, the findings could inform interventions to improve provider-patient communication about PDA.

Three communication patterns were identified. First, prescribers reported informative communication, characterized by prescribers giving PDA-related information, instructions, or

explanations to patients. Though most reported at least one form of informative communication, prescribers generally did not report communication behaviors to verify patient understanding. Considering such behaviors have been deemed "critical to many aspects of clinical care," this finding could highlight an important communication gap and potential area for communication improvement (Rao, Anderson, Inui, & Frankel, 2007, p. 346). Second, prescribers reported counteractive communication, characterized by prescribers addressing PDA and related problems with patients. Although a common function, prescribers described different approaches. One dimension on which the approaches differed was the extent to which they were patient-centered (PC). While the approaches of some prescribers aligned more closely with PC communication and care (e.g., seeking information from patients), the approaches of others aligned far less (e.g., patient dismissal). By extension, the approaches underscore opportunities—often missed—for PDA identification and treatment. Third, prescribers reported supportive communication, characterized by prescribers supplying social support to patients. Despite its potential positive implications, supportive communication was less common than informative and counteractive communication. Similar to provider-patient communication overall, these findings suggest provider-patient communication about PDA could have a stronger orientation toward being prescriber-directed and biomedical relative to PC and psychosocial (Roter et al., 1997). This disparate distribution is of interest, especially given the growing emphasis on PC communication and care by the public, healthcare organizations, funding agencies, and others (Epstein et al., 2005; Levinson, Lesser, & Epstein, 2010).

Similar to communication patterns, prior qualitative research identified approaches for PDA communication with patients among HCPs (i.e., prescribers and pharmacists) (Hagemeier et al., 2016). Along with approaches describing behavioral engagement in PDA communication,

a distinct approach describing non-engagement was identified—communication avoidance. Though not distinct patterns, there are findings in informative and counteractive communication consistent with avoidance of and withdrawal from communication (McCroskey, 1997). Posting signs and letters in clinics and providing contracts to patients, for example, could indicate avoidance of communication. Specifically, written communication could be a means of avoiding oral communication with patients related to PDA. Alternatively, patient dismissal and refusal to prescribe patients CPDs, for example, may reflect withdrawal from communication. Specifically, prescribers could be "talking only as much as absolutely required" to minimize further interactions with patients (McCroskey, 1997, p. 101). Given that avoidance of and withdrawal from communication denote a decrease in WTC and that CA and SPCC are antecedents of WTC (Figure 4.2.), this suggests these findings are consistent with previous qualitative research and the communication theory research that partially guided interviews (Hagemeier et al., 2016; McCroskey, 1997). Further, they substantiate how provider-patient communication about PDA commonly deviates from a PC orientation.

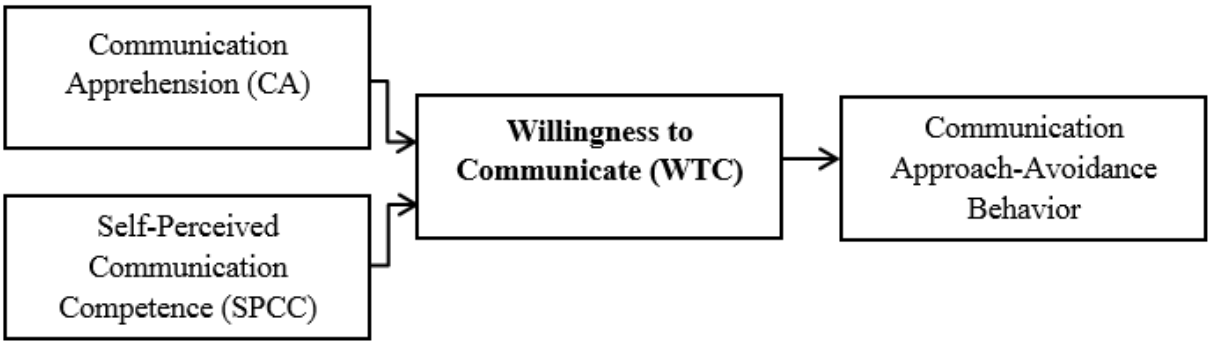

Figure 4.2. Illustration of theoretical relationships between constructs from communication theory research.

Prescribers described multiple factors that affect provider-patient communication and, by association, delivery of patient care related to PDA. This aligns with prior research on provider-

patient communication about PDA and provider-patient communication in general (e.g., Cooper & Roter, 2003; Epstein et al., 2005; Ha & Longnecker, 2010; Hagemeier et al., 2016; Quill, 1989). Prescribers reported personal and environmental factors, illustrating the perceived role of factors at different levels of influence. Prescriber education, experiences, and tension, for example, denote personal factors. Conversely, competing demands originating from patients, the prescriber-patient relationship, prescriber and patient resources, and pressures and policies on CPDs, for example, denote social and physical environmental factors. Previous research indicates the behavioral engagement of prescribers in provider-patient communication about PDA is variable (Hagemeier et al., 2016; CASA, 2005). These findings add to this research by further elucidating prescriber-specific factors—perceived or real—potentially underlying the variability. They are also consistent with a central tenet of SCT, a behavioral science theory that partially guided interviews (Bandura, 1986). Specifically, they are consistent with reciprocal triadic causation—"perhaps the single most important aspect of SCT"—describing the interplay between behavior, personal factors, and environmental factors (Crosby, Salazar, & DiClemente, 2013, p. 178). Notably, within prescriber-reported factors, there were additional findings consistent with SCT constructs. For example, low self-efficacy, or "confidence," in patient communication was linked to insufficient education and experiences with deceptive patient behaviors, while negative or unwanted outcome expectations were linked to competing demands and tension. While these findings may not substantiate SCT in totality (i.e., all constructs), they provide support for its utility in understanding the PDA communication behaviors of prescribers and a theory-based direction for future research.

Research indicates interventions can improve prescriber communication behaviors during patient interactions (e.g., Rao et al., 2007). The findings here could inform interventions specific

to PDA communication. First, considering PC communication is a trait (i.e., general practice style) and a state (i.e., behaviors in certain interactions), they suggest interventions to increase state-like PC communication behaviors in PDA-related patient interactions could be beneficial (Epstein et al., 2005). This is supported by the emphasis on PC communication and its relevance to the findings and PDA problem (Epstein et al., 2005; Levinson et al., 2010). For example, it aims to "build trust and understanding" between HCPs and patients, a relevant feature as the prescriber-patient relationship was found to be an influential factor (Levinson et al., 2010, p. 1311). Patients could be more willing to discuss sensitive information, like PDA, with HCPs they trust, potentially facilitating PDA identification and treatment (Thom, Hall, & Pawlson, 2004). Similarly, PC communication is linked to improved chronic disease self-management, a relevant feature since addiction is a "chronic, relapsing brain disease" (Levinson et al., 2010; NIDA, 2014, p. 5). Although further research is needed, these examples illustrate the possible benefits of state-like PC communication behaviors in PDA-related patient interactions.

Second, given general consistency between the findings and SCT, the utility of SCT could extend from understanding to changing the PDA communication behaviors of prescribers. Specifically, SCT could inform intervention development by clarifying what to target (e.g., mutable determinants of PC communication behaviors) and how to do so (e.g., techniques to increase PC communication behaviors) (Michie, Johnston, Francis, Hardeman, & Eccles, 2008). Rationales supporting the use of theory in intervention development are well-documented (e.g., Glanz & Bishop, 2010).

Limitations

Prescribers were recruited from one region and represented multiple health professions and medical fields. The findings may not represent the diversity of perspectives of prescribers in

general, or the perspectives of prescribers in a specific profession or field. Given the biases associated with self-reported data and that HCPs could overestimate competence in patient communication (Ha & Longnecker, 2010), some prescribers may have described communication with patients as more frequent or positive than that which transpires. Lastly, while nonverbal communication plays a role in provider-patient communication, only verbal communication was examined. Future research could address these limitations and use the findings to inform quantitative and theory-based research on provider-patient communication about PDA.

Conclusions

Provider-patient communication about PDA underpins many initiatives aimed at curbing the PDA-related public health burden. A comprehensive understanding of this interactive process is important for optimizing these initiatives. The findings of this qualitative analysis suggest it is multidimensional and dynamic, characterized by multiple communication patterns and factors at different levels of influence. They support the application of SCT as a theoretical foundation for understanding, and ultimately intervening on, the PDA communication behaviors of prescribers. Finally, they suggest enhancing state-like PC communication behaviors in PDA-related patient interactions could be beneficial.

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CHAPTER 5

DISCUSSION

Thematic analyses of qualitative data collected through semi-structured interviews with patients and prescribers were conducted to examine: 1) the overall problem of PDA and provider-patient communication about PDA from the patient perspective; and 2) provider-patient communication about PDA from the prescriber perspective. Although the body of research on provider-patient communication about PDA is growing, qualitative research exclusively focused on patients and prescribers remains limited. Thus, the findings of this qualitative research could contribute to this body of research and advance understanding of the communication perceptions and behaviors of both patients and prescribers. A summary of the findings across patients and prescribers is presented hereafter (Figure 5.1.).

First, patients perceived PDA as a serious problem, both in terms of its prevalence and contribution to detrimental, often deadly, consequences. Patients also perceived abuse of and access to prescription drugs as connected phenomena, identifying both health- and economic-based rationales for the acquisition—legitimate and illegitimate—and illegitimate distribution of prescription drugs for abuse. Second, patients reported different levels of engagement in PDA-related communication with HCPs—active, passive, and no/limited. At the same time, patients identified personal and environmental factors that influence provider-patient communication and, at times, receipt of healthcare related to PDA. Finally, prescribers reported different patterns of PDA-related communication with patients—informative, counteractive, and supportive. Like patients, prescribers identified personal and environmental factors that influence provider-patient communication and, by association, delivery of healthcare related to PDA.

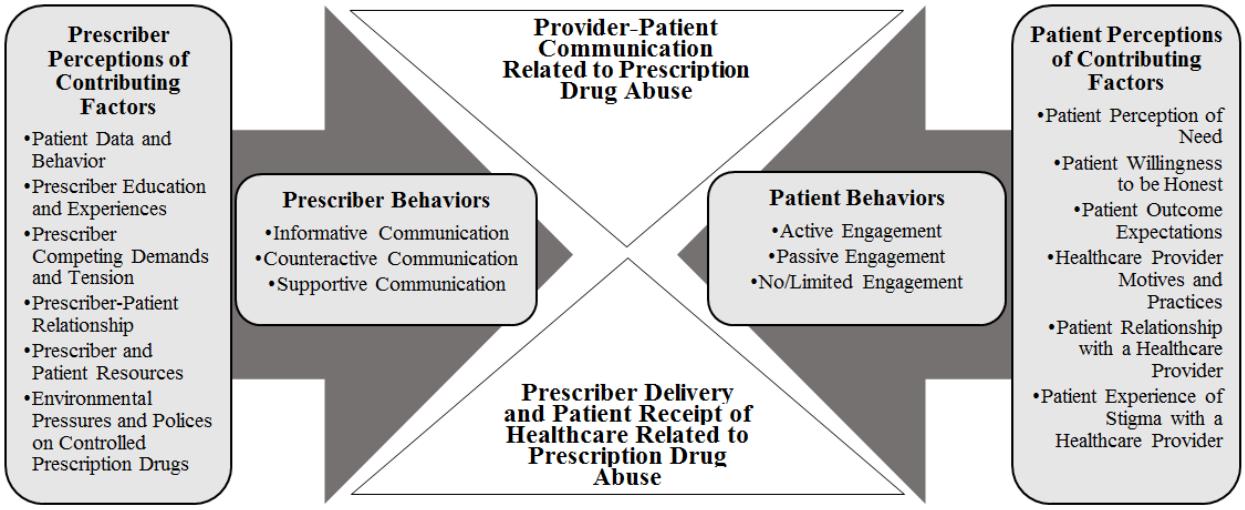

Figure 5.1. Illustration of the collective influence of prescriber perceptions and behaviors and patient perceptions and behaviors on provider-patient communication and healthcare related to prescription drug abuse.

Interestingly, multiple similarities in the perspectives of patients and prescribers were identified. Specifically, similarities both within this research and between this research and the larger body of associated research were identified. Patients and prescribers, however, frequently differ in their perceptions of healthcare encounters, with previous research even describing their perceptions "as being so different that they appear to be from different worlds" (Kenny et al., 2010, p. 766). Hence, findings suggestive of similarities are of particular interest and therefore are discussed hereafter.

Perceptions of Prescription Drug Abuse

The findings of this research suggest patients perceive PDA as a problem, especially in the Appalachian subregions of Central and South Central Appalachia. Multiple studies likewise suggest prescribers, often physicians, perceive the abuse of prescription drugs and, in particular, the abuse of prescription opioids as a problem on a practice- and community-level (Hagemeier et al., 2013; Hwang et al., 2016; Kennedy-Hendricks et al., 2016). For example, a nationally representative survey of primary care physicians found the entire sample believed PDA was a

problem in their communities (Hwang et al., 2016). Interestingly, when patient perceptions are compared more closely to prescriber and pharmacist perceptions, the findings suggest patient perceptions of the prevalence of PDA are potentially more consistent with those of pharmacists. In this research, patients were often found to estimate the prevalence of PDA at 50% or higher. On the other hand, in prior research, prescribers and pharmacists were found to estimate the prevalence of PDA—specifically the percentage of patients abusing prescription opioids—at 41% and 17%, respectively (Hagemeier et al., 2013). Nevertheless, the findings overall suggest patients and prescribers similarly consider PDA to be problem. Given that patients and prescribers are potential target populations for communication interventions, this similarity could have intervention implications. More specifically, perceptions of PDA as a problem could positively influence the acceptability and, ultimately, the effectiveness of patient- and prescriber-targeted communication interventions. Previous research, for example, posits "the more severe the problem, the more acceptable the treatment" (Elliott & Treuting, 1991, p. 43).

Provider-Patient Communication about Prescription Drug Abuse

Within this research, several similarities were identified in the findings on patient and prescriber PDA-related communication behaviors. First, the communication content described by patients in the context of passive communication engagement with HCPs at times paralleled that described by prescribers in the context of informative communication with patients. Specifically, patients reported receiving information and prescribers reported providing information on: 1) the use and abuse potential of prescribed medications; and 2) treatment plan components. However, patient and prescriber reports of behaviors that could promote and verify patient understanding of such information, respectively, were lacking. Second, patients and prescribers described PDA-related communication behaviors that may have positive implications for the mitigation of PDA;

however, these behaviors, relative to others, were least commonly reported in both samples. Specifically, patients reported active communication engagement with HCPs, while prescribers reported supportive communication with patients. Lastly, and perhaps of greatest concern, the narratives of patients and prescribers suggest gaps in provider-patient communication about PDA could be common. Specifically, patients reported no/limited communication engagement with HCPs, and prescribers, in the context of informative and counteractive communication, reported behaviors indicative of avoidance of and withdrawal from communication with patients. Overall, the similarities suggest provider-patient communication about PDA, regardless of the perspective from which it is examined (i.e., patient or prescriber), may not be optimal. Simultaneously, they suggest communication interventions targeted toward patients *and* prescribers could be necessary to optimize provider-patient communication about PDA and, in turn, prevention and reduction of PDA. In other words, considering these findings and that provider-patient communication is an interpersonal process, communication interventions targeted toward patients *or* prescribers may not be sufficient for optimal provider-patient communication about PDA (Rao et al., 2007).

Several similarities were identified in the findings on patient and prescriber PDA-related communication perceptions as well. In particular, they were identified in the factors perceived to influence provider-patient communication and, by association, prescriber delivery and patient receipt of healthcare related to PDA. First, and in accordance with SCT, patients and prescribers analogously described the influence of the behavior of the other individual. Patients reported the influence of the clinical practices of HCPs, especially prescribers, while prescribers reported the influence of the behavior and healthcare-related demands of patients. Notably, from a theoretical perspective, this similarity further substantiates the utility of SCT in understanding patient and prescriber PDA-related communication behaviors. Second, despite variation in the terminology,

patient reports of the influence of patient honesty are conceptually consistent with prescriber reports of the influence of patient deception. In other words, patients and prescribers generally described the influence of a similar patient-level factor, but from contrasting angles (i.e., honesty versus deception). Finally, patients and prescribers reported the influence of the provider-patient relationship, suggesting mutual acknowledgment of its significance. Perhaps more importantly, similar perceptions regarding the influence of patient honesty/deception and the provider-patient relationship could have potential implications for patient- and prescriber-targeted communication interventions. More specifically, the similarities could illustrate common intervention points. For example, regardless of the target population, the inclusion of intervention strategies to strengthen the provider-patient relationship could be advantageous. Further, if communication interventions are concurrently developed and implemented to address intervention points common and unique to both patients and prescribers, it is intriguing to consider the impact at scale such an approach could have on provider-patient communication about PDA.

Recommendations for Future Research

This research was conducted as part of a mixed methods study on provider-patient communication about PDA. The findings of the qualitative analyses described herein may inform the future quantitative analyses of the study, including those underpinning the refinement and validation of a patient survey instrument to test precursors of provider-patient communication about PDA. While these quantitative analyses represent one logical and recommended direction for future research, additional recommendations for three future studies are discussed hereafter.

Future Study One: Qualitative Exploration of Patient Perspectives in Non-Appalachia

One set of recommendations for a future study centers in part on addressing several limitations of this research. Hence, a future study could use a qualitative approach to explore the

problem of PDA and provider-patient communication about PDA from the patient perspective; however, several methodological modifications are recommended to extend this research. First, given the limited generalizability of the findings due in part to the geographic-specificity of the research setting (i.e., Central and South Central Appalachia), the study should be conducted in a non-Appalachian region. Second, given the limited description of the patient sample, the study should collect sufficient data on patients to enable a thorough description of the sample. The data could include, but are not limited to, demographic characteristics, health status, and drug abuse history. One potential strategy to collect the data could involve the use of a series of brief, self-administered instruments during the collection of the qualitative data, such as valid instruments to screen for drug abuse (e.g., Drug Abuse Screening Test [DAST-10]) and to measure health and dysfunction (e.g., Duke Health Profile) (Parkerson, Broadhead, & Tse, 1990; Skinner, 1982; Yudko, Lozhkina, & Fouts, 2007). Careful consideration, however, should be given to the timing of instrument administration in order to minimize measurement reactivity. If feasible during the recruitment phase, the study could consider collecting select data on patients who are invited, yet refuse to participate (e.g., demographic characteristics and reason for non-participation) as well. This research did not, nor was it designed to, collect these data; however, they could facilitate comparisons between participating and non-participating patients. Apart from addressing several limitations of this research, the study could build a stronger foundation for the development and implementation of patient-targeted communication interventions. By advancing understanding of the perspectives of patients from different settings, its findings, especially when coupled with the findings of this research, could enhance the applicability and transferability of patient-targeted communication interventions across settings (Wang, Moss, & Hiller, 2005).

Future Study Two: Longitudinal Examination of Patient Perceptions and Behaviors

This research—similar to previous research—used a cross-sectional design, exploring the characteristics of provider-patient communication about PDA from the perspectives of patients and prescribers at a single time point. The findings, however, suggest the characteristics of this interpersonal process may change over time. Specifically, prescribers and patients described the influence of multiple dimensions of the provider-patient relationship, many of which could be further conceptualized as direct or indirect reflections of the influence of time. For example, the duration of the relationship could be a direct reflection, whereas knowledge and trust could be indirect reflections considering these dimensions may take time to develop. Consistent with the claim that "longitudinal designs are well suited for investigating phenomena that change over time" (Plano Clark et al., 2015, p. 1), a future study should use a longitudinal design to examine the potential for change over time in the characteristics of provider-patient communication about PDA. While this research made progress in promoting a more balanced understanding of this interpersonal process, the study should focus on patient perceptions and behaviors because research on provider-patient communication about PDA remains disproportionately focused on prescriber perceptions and behaviors. To facilitate a more in-depth understanding of change over time, a mixed methods approach that collects data at three or more time points is recommended (Plano Clark et al., 2015). Preferably, and in accordance with the findings of this research, the sample would consist of new patients from one or more clinics. This could position the study to capture change over time that may parallel the transition from new to established patient. For example, the time points could include: 1) within one month of the initial visit; 2) 6-12 months after the initial visit; and 3) 12-18 months after the initial visit. Importantly, when determining the timing and type of data collection methods, consideration should be given to the level of

burden on the patients and the potential influence of the collection of qualitative data on repeated measures of quantitative data (Plano Clark et al., 2015). With regard to the type of clinic, addiction medicine clinics could be a logical and feasible setting from which to conduct the study. Given that addiction is a chronic, relapsing disease, this could promote the retention of patients in clinical care over time and, by extension, collection of data from patients over time (American Academy of Pain Medicine et al., 2001). Also, if the sample consists of new patients, the likelihood of capturing data on the characteristics of provider-patient communication specific to PDA could be higher among new patients of addiction medicine clinics as compared to new patients of primary care clinics, potentially enhancing the breadth and depth of study findings.

Future Study Three: Evaluation of Prescriber Behaviors Using Standardized Patients

Research on provider-patient communication about PDA, including that reported herein, has focused primarily, if not completely, on verbal communication. Non-verbal communication, however, is an "important variable" in provider-patient interactions, with approximately 60-65% of interpersonal communication transpiring through nonverbal communication (Foley & Gentile, 2010; Silverman & Kinnersley, 2010, p. 76). Moreover, much of the research on provider-patient communication about PDA has used indirect methods of evaluation and self-reported data, with the findings potentially subject to limitations inherent in both (Siminoff et al., 2011). The use of standardized patients could provide a more direct and objective method to evaluate the verbal and nonverbal communication behaviors of prescribers. Specifically, a standardized patient can be defined as "a healthy subject or an actual patient who has been trained to present accurately and consistently a particular case and to report or judge the behavior of the physician based on fixed criteria" (Beullens, Rethans, Goedhuys, & Buntinx, 1997, p. 58). Standardized patients have been used by researchers to investigate a variety of areas (e.g., communication, medical

history and decision-making, and physical exams) and in medical education to evaluate HCP competence (Beullens et al., 1997; Fiscella, Franks, Srinivasan, Kravitz, & Epstein, 2007; Siminoff et al., 2011). Previous research further asserts "unannounced standardized patients (USPs) is the method of choice to measure the effect of patient or physician characteristics on communication and decision making behaviors and to capture real-time physician-patient communication" (Siminoff et al., 2011, p. 2). Hence, a future study should use standardized patients to evaluate the PDA-related communication behaviors—verbal and nonverbal—of prescribers. In addition to standardized patients conducting a post-visit "rating," or evaluation, of the PDA-related prescriber communication behaviors, the visits could be covertly audio-recorded as a supplemental method of data collection (Fiscella et al., 2007; Siminoff et al., 2011).

Provider-patient communication about PDA has the potential to encompass an array of topics aligned with PDA prevention, identification, and treatment. The applicability of a topic, however, could depend in part on the situation with a given patient. For example, prescriber engagement in communication concerning the abuse potential of a prescribed medication could be contingent on a patient being prescribed a medication with abuse potential, whereas prescriber engagement in communication concerning a referral to drug abuse treatment could be contingent on a patient having symptoms/signs indicative of or screening positive for drug abuse. More than one standardized patient role should thus be developed to facilitate the evaluation of prescriber communication behaviors in distinct PDA-related situations with patients. For example, one role could aim to evaluate prescriber communication behaviors consistent with PDA prevention, whereas another could aim to evaluate prescriber communication behaviors consistent with PDA identification or treatment.

Conclusions

PDA is a leading public health problem in the U.S., one that is contributing to substantial morbidity and mortality. Provider-patient communication underpins many of the current and proposed strategies aimed at preventing and reducing the public health burden stemming from PDA. The themes generated by the qualitative analyses of this research suggest provider-patient communication about PDA is multidimensional, characterized by different levels of patient communication engagement with HCPs and different patterns of prescriber communication with patients. Moreover, they suggest personal and environment factors—common and unique to patients and prescribers—positively and negatively influence provider-patient communication and, by association, prescriber delivery and patient receipt of healthcare related to PDA. From an intervention perspective, the themes could inform PDA-specific communication interventions targeted toward patients and prescribers, including the identification of mutable factors that may represent intervention points. From a theoretical perspective, they provide support for the utility of SCT and communication theory constructs as a theoretical basis for understanding provider-patient communication about PDA. Finally, further research is warranted to continue to advance understanding of this complex, yet critical interpersonal process, with a goal of optimizing PDA prevention, identification, and treatment in the healthcare setting.

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APPENDICES

Appendix A

Semi-Structured Interview Guide: Patients

Introduction

The purpose of this interview is to gather your perceptions of multiple aspects of prescription drug abuse and misuse and the communication that occurs, or has the potential to occur, between patients, physicians, and pharmacists. The interview is being audio-taped and will be transcribed verbatim without identifying information included in the transcript. Your participation in this interview is voluntary, and the resulting audio recordings and transcripts are strictly confidential.

Prescription Drug Abuse and Misuse: Defining and Assessing the Construct (Attitudes)

- What is prescription drug abuse?
- What is prescription drug misuse?
- How much of this do you see in your community?
    - How frequently?
    - Describe the "typical" abuser
- How prevalent do you perceive PDA/M to be?
    - What percentage of your friends and neighbors do you perceive to be abusing prescription drugs?
        - Which drugs are the most commonly abused?
    - What about other people around here who aren't necessarily your friends. Can you describe prescription drug abuse for them?
        - Which drugs do you think they most commonly abuse?
    - What percent of your community do you perceive to be addicted to prescription drugs?
        - To which drugs are folks most commonly addicted?
    - What percent of people you are familiar with do you perceive to be diverting (describe term) their prescription drugs?
    - Is it more or less prevalent around here than it is in Appalachia in general?
    - How do you evaluate how much abuse there is? What factors play a role in your estimation?
- What role does communication between you and your doctor or other prescribers play in combatting PDA/M?
- What role does communication between you and pharmacists play in combatting PDA/M?

PDA/M communication (Attitudes; Self-Efficacy; Subjective Norms)

- How would your friends describe you in regards to the way you communicate?
    - Quiet, talkative, reserved?
- What types of people do you truly enjoy talking with, if any?
- What types of people do you truly dread talking with, if any?
- How frequently have you had a conversation with a doctor about prescription drug abuse or addiction?

    - What do those conversations sound like?
- How frequently have you had a conversation with a pharmacist about prescription drug abuse or addiction?
    - What do those conversations sound like?
- How frequently do you think your friends and family members have prescription drug abuse or addiction conversations with their health care providers?
    - How do you feel when preparing to engage a health care provider in this type of conversation?
    - How would you describe your communication skills in these types of conversations?
    - Can you think of a time when you probably should have engaged a health care provider in a conversation about PDA/M or an addiction, about our self or others, but chose not to do so?
        - Describe the situation
        - What factors played a role in your decision not to communicate with this provider?
    - How is engaging a healthcare provider in a conversation about prescription drug abuse different than engaging a healthcare provider in a conversation about smoking cessation? How about a conversation about weight loss?
    - What are the barriers that you see to engaging health care providers in conversations specific to prescription drug abuse or addiction?
    - What do you know about the Controlled Substance Monitoring Database?
- Do you think pharmacies and doctors offices communicate frequently about abuse or addiction concerns?
    - About patients?
    - About the problem in the community?
    - What are the potential advantages for you and your health care provider of engaging them in conversation about PDAM, if any?
- How many prescribers in your community would you estimate you know on a first name basis?
    - How were these relationships initially developed, if applicable?
- How many pharmacists in your community would you estimate you know on a first name basis?
    - How were these relationships initially developed, if applicable?
- How would you describe your confidence in your ability to speak with your doctor about a prescription drug abuse concern?
    - Explain what it is that makes you confident
- How would you describe your confidence in your ability to speak with your pharmacist about a prescription drug abuse concern?
    - Explain what it is that makes you confident

<u>The Environment</u>

- Briefly describe your community with regard to the following characteristics
    - Average number of patients seeking pain pills in the waiting room at the doctors office
    - Number of pain pill users that you know of (legitimate in your estimation)

    - Number of pain pill users that abuse them
    - Number of pain pill users that sell them
    - Proportion of prescribers that are getting wealthy prescribing pain pills that aren't needed.
    - Proportion of good doctors that are doing their best adequately treat pain and minimize the PDAM problem.
    - Amount of literature you have seen on prescription drug abuse in your health care settings (doctor, dentist, pharmacists, etc)?
    - What types of addiction treatment facility information do you know about?
    - How do you know about it?
- Do you feel like time pressures influence your doctor or pharmacists decision to engage in PDA/M with patients?

<u>Communication Instruments</u>

The communication literature indicates at least three constructs play a role in an individual's communicative behaviors. You reviewed three assessments to start this interview that represent the three constricts mentioned. Our objective is to develop three instruments that can be used to assess communication behaviors specific to prescription drug abuse. In order to do that, we need to capture the thoughts of individuals such as you regarding PDA/M communication.

- Communication Apprehension (CA)
    - What does communication apprehension mean to you?
    - How does communication apprehension relate to PDA/M conversations with prescribers?
    - How does communication apprehension relate to PDA/M conversations with pharmacists?
    - What makes communicating with a doctor about hypertension different than communicating with the same doctor about prescription drug abuse?
    - If you were asked to measure a friend's communication apprehension, how would you measure it?
    - Compared to your friends, how would you describe your communication apprehension when communicating with health care providers about PDA/M and addiction topics?
    - Almost all, if not all of us, have some situations in which we feel anxious or apprehensive when talking to one or more people. With which type of audience would you say your apprehension is the highest? In what context would you say your apprehension is the highest?
- Self-Perceived Communication Competence (SPCC)
    - What does SPCC mean to you?
    - How does SPCC relate to PDA/M conversations with doctors?
    - How does SPCC relate to PDA/M conversations with pharmacists?
    - If you were asked to measure a friend's SPCC, how would you measure it?
    - Compared to your friends, how would you describe your SPCC specific to communication with doctors and pharmacists about PDA/M and addiction topics?
- Willingness to Communicate (WTC)
    - What does WTC mean to you?

- How does WTC relate to PDA/M conversations with doctors?
- How does WTC relate to PDA/M conversations with pharmacists?
- If you were asked to measure a friend's WTC, how would you measure it?
- Compared to your friends, how would you describe your willingness to communicate with doctors about PDA/M and addiction topics?

PDA/M: Addressing the Complexities

- PDA/M is undoubtedly a complex issue. What one thing do you think is needed in healthcare to most effectively address this epidemic?

Appendix B

Semi-Structured Interview Guide: Prescribers

Introduction

The purpose of this interview is to gather your perceptions of multiple aspects of prescription drug abuse and misuse and the communication that occurs, or has the potential to occur, between patients, physicians, and pharmacists. The interview is being audio-taped and will be transcribed verbatim without identifying information included in the transcript. Your participation in this interview is voluntary, and the resulting audio recordings and transcripts are strictly confidential.

Prescription Drug Abuse and Misuse: Defining and Assessing the Construct (Attitudes)

- What is prescription drug abuse?
- What is prescription drug misuse?
- How do you see these concepts present in your practice, if at all?
    - How frequently?
    - Describe the "typical" patient
- How prevalent do you perceive PDA/M to be?
    - What percentage of your patients do you perceive to be abusing prescription drugs?
        - Which drugs are the most commonly abused?
    - What percent of your patients do you perceive to be addicted to prescription drugs?
        - To which drugs are patients most commonly addicted?
    - What percent of your patients do you perceive to be diverting their prescription drugs?
    - What factors do you consider when determining the legitimacy of a patient's need for drugs with abuse/addiction potential?
    - Is it more or less prevalent in your practice setting than it is in Appalachia in general?
    - How do you evaluate prevalence? What factors play a role in your estimation?
- What role does legislation play in combatting PDA/M?
- What role does communication between you and your patients play in combatting PDA/M?
- What role does communication between you and pharmacists (physicians) play in combatting PDA/M?

PDA/M communication (Attitudes; Self-Efficacy; Subjective Norms)

- How would your colleagues describe you in regards to the way you communicate?
    - Quiet, talkative, reserved?
- What types of patients do you truly enjoy talking with, if any?
- What types of patients do you truly dread talking with, if any?
- How do you presently assess PDA/M and addiction risk in your patients?
    - How routinely is this assessment conducted?
    - How are results handled?
    - Who conducts the risk assessment, if applicable?

    - When is this completed during the office visit?
- How frequently do you have prescription drug abuse or addiction conversations with your patients?
- How frequently do you think your colleagues have prescription drug abuse or addiction conversations with their patients?
    - How do you feel when preparing to engage a patient in this type of conversation?
    - How would you describe your communication skills in these types of conversations?
    - Can you think of a time when you probably should have engaged a patient in a conversation about PDA/M or an addiction, but chose not to do so?
        - Describe the situation
        - What factors played a role in your decision not to communicate with this patient?
    - How is engaging a patient in a conversation about prescription drug abuse different than engaging a patient in a conversation about smoking cessation? How about a conversation about weight loss?
    - What does this conversation look like, if applicable?
    - What are the barriers to engaging patients in conversations specific to prescription drug abuse or addiction?
    - What is the typical plan of action when you encounter a patient you perceive to be abusing prescription drugs?
    - What is the typical plan of action when you encounter a patient you perceive to be addicted to prescription drugs?
    - What role does the Controlled Substance Monitoring Database report play in your PDA/M conversations, if any?
- (For prescribers) How frequently do you communicate with a patient's pharmacist regarding abuse or addiction concerns?
    - What are the potential advantages of engaging the patient's pharmacist in conversation, if any?
    - What are the barriers to engaging in patient-specific communication with a patient's pharmacist(s) specific to prescription drug abuse?
- (For prescribers) How frequently do you communicate with other prescribers regarding one of your patient's abuse or addiction concerns?
    - What are the potential advantages for you and your patients of engaging other prescribers in such conversation, if any?
    - What are the barriers to engaging in patient-specific communication with other prescribers specific to a patient's prescription drug abuse or addiction?
- (For prescribers) How many pharmacists in your practice community would you estimate you know on a first name basis?
    - How were these relationships initially developed, if applicable?
- (For pharmacists) How frequently do you communicate with a patient's prescriber regarding abuse or addiction concerns?
    - What are the potential advantages for you and your patients of engaging the patient's prescriber in conversation, if any?
    - What are the barriers to engaging in patient-specific communication with a patient's prescribers specific to prescription drug abuse?

- (For pharmacists) How frequently do you communicate with other pharmacists regarding one of your patient's abuse or addiction concerns?
    - What are the potential advantages of engaging other pharmacists in such conversation, if any?
    - What are the barriers to engaging in patient-specific communication with other pharmacists specific to a patient's prescription drug abuse or addiction?
- (For pharmacists) How many prescribers in your practice community would you estimate you know on a first name basis?
    - How were these relationships initially developed, if applicable?
- What communication skills are necessary to effectively address PDA/M in your practice setting?
- How would you describe your confidence in your ability to speak with your patients about a prescription drug abuse concern?
    - Explain what it is that makes you confident
- (For prescribers) How would you describe the abilities of your prescriber colleagues specific to speaking with patients about prescription drug abuse concerns?
- (For pharmacists) How would you describe the abilities of your pharmacist colleagues specific to speaking with patients about prescription drug abuse concerns?
- How would you describe your confidence in your ability to speak with your patients about a prescription drug addiction concern?
- When evaluating your confidence in your abilities, what factors do you consider?
    - What role does training have in improving your confidence in your practice-related skills?
- Describe the education you received specific to pain management while completing your professional education
- Describe the education you received specific to prescription drug abuse while completing your professional education
- Describe the education you received regarding drug addictions while completing your professional education

<u>The Environment (Perceived Behavioral Control)</u>

- Briefly describe your practice setting specific to the following characteristics
    - Average number of patients seen per day
    - Use of EMR
    - # of prescribers in clinic
    - Years in practice
    - Average # of controlled substances written on a weekly basis
    - Average # of CSMD queries conducted on a weekly basis
- How conducive is your practice setting to addressing the prescription drug abuse epidemic as defined by the CDC?
    - What measures are in place to minimize PDA/M?
    - What barriers exist to minimizing PDA/M?
    - What does the "ideal" practice setting look like specific to PDA/M?
    - What types of prescription drug abuse information do you have available for patients in your practice setting?

    - What types of addiction treatment facility information do you have available for patients in your practice setting?
- How do time pressures influence your decision to engage in PDA/M communication with patients?
- What resource(s) would positively influence the extent to which you engage in PDA/M communication with your patients?
    - Reimbursement?
    - Training?
    - Time?

Communication Instruments

The communication literature indicates at least three constructs play a role in an individual's communicative behaviors. You reviewed three assessments to begin this interview that represent the three constricts mentioned. Our objective is to develop three instruments that can be used to assess communication behaviors specific to prescription drug abuse. In order to do that, we need to capture the thoughts of individuals such as you regarding PDA/M communication.

- Communication Apprehension (CA)
    - What does communication apprehension mean to you?
    - How does communication apprehension relate to PDA/M conversations with patients?
    - How does communication apprehension relate to PDA/M conversations with pharmacists (physicians)?
    - What makes communicating with a patient about hypertension different than communicating with the same patient about prescription drug abuse?
    - If you were asked to measure a colleague's communication apprehension, how would you measure it?
    - Compared to your colleagues, how would you describe your communication apprehension when communicating with patients about PDA/M and addiction topics?
    - Almost all, if not all of us, have some situations in which we feel anxious or apprehensive when talking to one or more people. With which type of audience would you say your apprehension is the highest? In what context would you say your apprehension is the highest?
- Self-Perceived Communication Competence (SPCC)
    - What does SPCC mean to you?
    - How does SPCC relate to PDA/M conversations with patients?
    - How does SPCC relate to PDA/M conversations with pharmacists?
    - If you were asked to measure a colleague's SPCC, how would you measure it?
    - Compared to your colleagues, how would you describe your SPCC specific to communication with patients about PDA/M and addiction topics?
- Willingness to Communicate (WTC)
    - What does WTC mean to you?
    - How does WTC relate to PDA/M conversations with patients?
    - How does WTC relate to PDA/M conversations with pharmacists?
    - If you were asked to measure a colleague's WTC, how would you measure it?

- Compared to your colleagues, how would you describe your willingness to communicate with patients about PDA/M and addiction topics?

PDA/M: Addressing the Complexities

- PDA/M is undoubtedly a complex issue. What one thing do you think is needed in healthcare to most effectively address this epidemic?

Appendix C

Patient Survey Instruments on Provider-Patient Communication About Prescription Drug Abuse

Survey Instrument One: Researcher-Developed Communication Behavior Assessment

Directions: Below are eight situations where you might choose to communicate with your healthcare provider. For each topic, please estimate the frequency you would choose to engage in a conversation on that topic with your healthcare provider when the opportunity presents. Please choose a number from 0 and 10, where 0 = "I have opportunities but never have this conversation"; 5 = "About 5 out of 10 times that I have this opportunity I have this conversation; and 10 = "I have this conversation every single time I have an opportunity." If a topic is not appropriate in the healthcare setting where you go, please choose 99.

_____ 1. Discussing the abuse potential of prescribed medications
_____ 2. Discussing appropriate storage of drugs with abuse potential
_____ 3. Exploration of personal histories of drug abuse
_____ 4. Having a risk assessment or drug abuse screening done
_____ 5. Discussing referral for drug abuse treatment
_____ 6. Discussing how the results of the prescription drug monitoring program query are used
_____ 7. Discussing any providers concerns about community levels of abuse
_____ 8. Discussing your feelings or coping strategies you use with your illness

Directions: Below are the same eight situations where you might choose to communicate with your healthcare provider. For each topic, please now indicate how important you feel it is to engage in a conversation on that topic with your healthcare provider. Please choose a number between 0 and 3, where 1 = Not at all important; 2 = Somewhat important; 3 = Extremely important. If a topic is not appropriate in the healthcare setting where you go, please choose 99.

_____ 1. Discussing the abuse potential of prescribed medications
_____ 2. Discussing appropriate storage of drugs with abuse potential
_____ 3. Exploration of personal histories of drug abuse
_____ 4. Having a risk assessment or drug abuse screening done
_____ 5. Discussing referral for drug abuse treatment
_____ 6. Discussing how the results of the prescription drug monitoring program query are used
_____ 7. Discussing any providers concerns about community levels of abuse
_____ 8. Discussing your feelings or coping strategies you use with your illness

Survey Instrument Two: Personal Report of Communication Apprehension (PRCA-24)
(McCroskey J. C., 1978)

Directions: This instrument is composed of twenty-four statements concerning your feelings about communication with other people. Please indicate in the space provided the degree to which each statement applies to you by marking whether you (1) Strongly Agree, (2) Agree, (3) Are Undecided, (4) Disagree, or (5) Strongly Disagree with each statement. There are no right or wrong answers. Many of the statements are similar to other statements. Do not be concerned with this. Work quickly; just record your first impressions.

_____ 1. I dislike participating in group discussions.
_____ 2. Generally, I am comfortable while participating in group discussions.
_____ 3. I am tense and nervous while participating in group discussions.
_____ 4. I like to get involved in group discussions.
_____ 5. Engaging in a group discussion with new people makes me tense and nervous.
_____ 6. I am calm and relaxed while participating in group discussions.
_____ 7. Generally, I am nervous when I have to participate in a meeting.
_____ 8. Usually I am calm and relaxed while participating in meetings.
_____ 9. I am very calm and relaxed when I am called upon to express an opinion at a meeting.
_____ 10. I am afraid to express myself at meetings.
_____ 11. Communicating at meetings usually makes me uncomfortable.
_____ 12. I am very relaxed when answering questions at a meeting.
_____ 13. While participating in a conversation with a new acquaintance, I feel very nervous.
_____ 14. I have no fear of speaking up in a conversation.
_____ 15. Ordinarily I am very tense and nervous in conversations.
_____ 16. Ordinarily I am very calm and relaxed in conversations.
_____ 17. While conversing with a new acquaintance, I feel very relaxed.
_____ 18. I am afraid to speak up in conversations.
_____ 19. I have no fear of giving a speech.
_____ 20. Certain parts of my body feel very tense and rigid while giving a speech.
_____ 21. I feel relaxed while giving a speech.
_____ 22. My thoughts become confused and jumbled when I am giving a speech.
_____ 23. I face the prospect of giving a speech with confidence.
_____ 24. While giving a speech, I get so nervous I forget facts I really know.

Survey Instrument Three: Self-Perceived Communication Competence Questionnaire
(McCroskey J. C. & McCroskey L. L., 1988)

Directions: Below are twelve situations in which you might need to communicate. People's abilities to communicate effectively vary a lot, and sometimes the same person is more competent to communicate in one situation than in another. Please indicate how competent you believe you are to communicate in each of the situations described below. Indicate in the space provided at the left of each item tour estimate of your competence. Presume 0 = completely incompetent and 100 = completely competent. Your score can be anywhere between 0 and 100, or one of those numbers.

_____ 1. Present a talk to a group of strangers.
_____ 2. Talk with an acquaintance.
_____ 3. Talk in a large meeting of friends.
_____ 4. Talk in a small group of strangers.
_____ 5. Talk with a friend.
_____ 6. Talk in a large meeting of acquaintances.
_____ 7. Talk with a stranger.
_____ 8. Present a talk to a group of friends.
_____ 9. Talk in a small group of acquaintances.
_____ 10. Talk in a large meeting of strangers.
_____ 11. Talk in a small group of friends.
_____ 12. Present a talk to a group of acquaintances.

Survey Instrument Four: Willingness to Communicate Scale
(McCroskey J. C., 1992)

Directions: Below are twenty situations in which a person might choose to communicate or not to communicate. Assume that you have completely free choice. Indicate the percentage of time you would choose to communicate in each type of situation. Indicate in the space at the left what percent of the time you would choose to communicate. 0 = never, 100 = always.

_____ 1. Talk with a service station attendant.
_____ 2. Talk with a physician.
_____ 3. Present a talk to a group of strangers.
_____ 4. Talk with an acquaintance while standing in line.
_____ 5. Talk with a salesperson in a store.
_____ 6. Talk in a large meeting of friends.
_____ 7. Talk with a police officer.
_____ 8. Talk in a small group of strangers.
_____ 9. Talk with a friend while standing in line.
_____ 10. Talk with a waiter or waitress in a restaurant.
_____ 11. Talk in a large meeting of acquaintances.
_____ 12. Talk with a stranger while standing in line.
_____ 13. Talk with a secretary.
_____ 14. Present a talk to a group of friends.
_____ 15. Talk in a small group of acquaintances.
_____ 16. Talk with a garbage collector.
_____ 17. Talk in a large meeting of strangers.
_____ 18. Talk with a spouse (or girlfriend or boyfriend).
_____ 19. Talk in a small group of friends.
_____ 20. Present a talk to a group of acquaintances.

VITA

STEPHANIE M. MATHIS

Education:

DrPH Community Health, East Tennessee State University, Johnson City, Tennessee 2014-2017

MPH Health Behavior, University of Alabama at Birmingham, Birmingham, Alabama 2013

BA Psychology and Sociology, Lenoir-Rhyne University, Hickory, North Carolina 2012

Professional Experience:

Graduate Research Assistant, East Tennessee State University, College of Public Health- The ETSU Diversity-promoting Institutions Drug Abuse Research Program (DIDARP): Inter-professional Communication for Prescription Drug Abuse Prevention in Appalachia, 2014-2017

DrPH Operations Committee and Doctoral Education Planning Committee Student Representative, East Tennessee State University, College of Public Health, 2016-2017

DrPH Internship, Carter County Drug Prevention and Sullivan County Anti-Drug Coalition, 2015

Assistant to Editor-in-Chief, *Implementation Network e-Newsletter* University of Alabama at Birmingham, School of Public Health, 2013

Assistant to Program Coordinator, Birmingham VA Medical Center, Geriatric Research, Education, and Clinical Center, 2013

MPH Internship, Birmingham VA Medical Center, Geriatric Research, Education, and Clinical Center, 2013

Presentations:

Pack R & **Mathis S**. *Substance use disorder in Central Appalachia: Challenges for cultural competency*. Invited talk at Culture and

Health: Professional Competency in the 21st Century, Johnson City, Tennessee, September 2016.

Mathis S, Hagaman A, Kirschke D, & Hagemeier N. *A rural community's response to opioid overdose deaths*. Poster presented at the National Rural Health Association's 39th Annual Conference, Minneapolis, Minnesota, May 2016.

Hagaman A & **Mathis S**. *Interprofessional working group addresses prescription drug abuse*. Oral presentation at the National Health Outreach Conference, Roanoke, Virginia, April 2016.

Pack R & **Mathis S**. *An evidence-based response to prescription drug abuse*. Invited talk to the Sullivan County Anti-Drug Coalition, Blountville, Tennessee, November 2015.

Mathis S, Brooks B, & Pack R. *Non-medical use of prescription drugs in the workplace*. Poster presented at the American Public Health Association 143rd Annual Meeting and Expo, Chicago, Illinois, November 2015.

Honors and Awards:

Dean's Special Recognition Award: Prescription Drug Abuse and Misuse Research Team, East Tennessee State University, College of Public of Health, 2016

Award Recipient, Delta Omega Student Poster Presentation, 2015

Inductee, Upsilon Chapter of Delta Omega, University of Alabama at Birmingham, School of Public Health, 2014

Outstanding Master's Student Award Nominee, University of Alabama at Birmingham, School of Public Health, 2014

Delta Iota Epsilon Academic Honor Society, 2013

Bill and Judy Bridgers Endowed Scholarship, University of Alabama Birmingham, School of Public Health, 2012

David and Kathy Ludwig Psi Chi and Ted Thuesen Sociology Awards, Lenoir-Rhyne University, 2012