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The Opioid Epidemic in West Virginia

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THE OPIOID EPIDEMIC IN WEST VIRGINIA

ABSTRACT

The rate of overdose-related to the use of licit and illicit opioids has drastically increased over the last decade in the U.S. The epicenter being West Virginia the highest rates of overdoses accounting for 41.5 deaths for 100,000 people among the 33,091 deaths in 2015. The number of people injecting drugs has increased from 36% in 2005 to 54% in 2015. The total U.S cost of prescription opioid abuse in 2011 has been estimated at $25 billion, and criminal-justice-system costs to $5.1 billion. The reasons for this opioid epidemic incidence in WV have been a combination of sociocultural factors, a depressed economy, lack of education, and a high rate of prescribing and dispensing of prescription opioids. These strategies were evaluated through a systematic literature review and semi-structured interview that displayed a broad array of tactics used in West Virginia to keep up with the rate of related opioid overdoses.

Keywords: Epidemic, Sociocultural factors, Management, Lack of education, Unemployment

INTRODUCTION

Historically opioid medications, used for the treatment of chronic pain, were viewed as non-addictive substances. In the past couple years, light has been shed upon the true implications of using this form of medication in at risk populations. Out of the total Medicaid beneficiaries in the United States (U.S.) that were prescribed opioids for pain in 2010, 40% had at least one indicator of potentially inappropriate use; these include overlapping prescriptions for pain relievers, overlapping pain reliever and benzodiazepine prescriptions, long-acting or extended release prescription pain relievers for acute pain, and high daily doses.[1]

Staggering 33,091 deaths per the total 2015 U.S. population occurred due to opioid overdose.[2] West Virginia, has suffered, disproportionately to the other four states with the highest opioid overdoses in 2015 in the U.S. The states that had the highest opioid overdoses following West Virginia were New Hampshire (34.3 per 100,000), Kentucky (29.9 per 100,000), Ohio (29.9 per 100,000), and Rhode Island (28.2 per 100,000).[2] West Virginia contributed more deaths to the U.S. total in the year 2015 than any other state, with 41.5 deaths per every 100,000 people.[3]

During the past seven years, major drug wholesalers including McKesson Corporation, Cardinal Health and AmerisourceBergen inundated the state with 780 million hydrocodone and oxycodone pills, which was equivalent to an astounding 433 opioid pills per resident in West Virginia.[4] These distributors ignored regulations to report suspicious orders for controlled substances to the state board of pharmacy. Moreover, the board of pharmacy failed to enforce those same regulations, while the distributors had a blind eye turned to tiny pharmacies in southern counties such as Boone, Greenbrier, Logan, and Mercer that ordered 423 million opioids between 2007 and 2012, far more than could have had been needed by patients in such small communities,

which yielded $17 billion to those three major drug manufacturers.[5] One underlying factor that has escalated West Virginia's opioid epidemic has been the disproportionate number of jobs requiring manual labor, like the coal mining industry jobs.[6] These dangerous occupations commonly held by West Virginians has led to more frequent opioid prescriptions to treat the injuries associated to these labor-intensive jobs.[7]

West Virginia regimes have made preventive advancements in opioid misuse; however, an upsurge in opioid overdose rates has been occurring. Overall methadone deaths decreased by 455 deaths of the 5,000 total deaths recorded in 2015.[5] In 2010, deaths that involved other types of opioids, unambiguously illegal synthetics and heroin had been involved in just 8% of total overdose deaths and by 2015 they were involved in 18% of total overdose deaths. Furthermore, there were increases in heroin and synthetic drug-related deaths, there was a drop-in overdose death involving natural and semisynthetic opioid analgesics, including prescription drugs like oxycodone and hydrocodon.[8] The Obama Administration, along with local and private efforts, had significantly increased funding to $1.1 billion for prevention and treatment programs; conversely, physicians still needed a fundamental alternative to treat chronic pain.[3] Multiple approaches to tackle opioid abuse have been tried.

The Food and Drug Administration have restricted some widely-prescribed painkillers by means of limiting refills. The means of limiting prescription opioid refills has been done by databases that have been used to monitor the volume of pills that were distributed and what physicians were prescribing them. [9] Physicians that were trained in the 60s and 70s were taught to reserve opioids for the most severe forms of pain, which included end of life management and certain cancer treatments.[10] Fast forward two decades where arguments have been made that physicians undertreated common forms of pain that could have been relieved by opioids; including back and joint pain.[10] The argument that physicians undertreated pain initiated the movement to increase the prescribing of opioids for these ailments.

The purpose of this research was to examine and analyze the cause of the opioid epidemic and subsequent responses to it in the state of West Virginia.

METHODOLOGY

The primary hypothesis of this study was that if physicians continue to over prescribe opioids for chronic pain then more individuals are at risk for developing opioid dependence; therefore, increasing the likelihood of substance use disorders and potential overdoses. The secondary hypothesis of this study was that if physicians abruptly stop prescribing opioids then patients are at risk for entering withdrawal; therefore, increasing the likelihood of obtaining opioids through illegal prescriptions or using illicit opiates such as heroin. The conceptual framework used for this review was adapted from Shi, Stevens, Faed and Tsai (2008).[11] The use of this conceptual framework is appropriate because both studies seek to identify factors as they relate to vulnerable populations (Figure 1). The conceptual framework identifies that risk factors must be present for individuals to develop a substance use disorder and that access to care greatly impacts the health outcomes of those individuals.

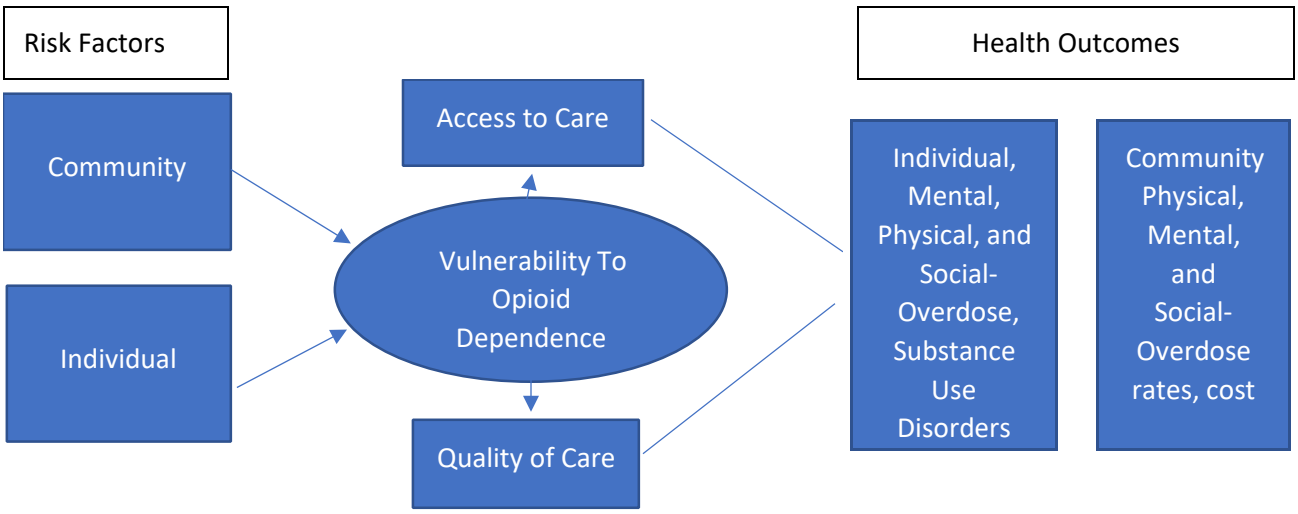

Figure 1: Conceptual Framework

Source: Shi, Stevens, Faed and Tsai, 2008

The literature review was conducted in three distinct phases. The three phases of this process were 1) literature identification and collection, 2) literature categorization, and 3) literature analysis.

Step 1: *Literature Identification and Collection*

The literature review was conducted using Medline, PubMed, EBSCO Host, and Google Scholar databases. To identify articles for review, the keyword search terms were 'opioid epidemic' or 'opioid misuse and West Virginia or 'chronic pain' or 'naloxone' or 'prevention' or 'response.' Next, to analyze the gathered information, the results were categorized into subsections that were previously determined.

Step 2: *Literature Categorization*

All articles selected were in the English language. Only articles that were published in the years 2009 to 2017 were selected from the yielded results. Articles that were chosen for further review were determined based upon the following criteria: demonstrated results identifying the cause of the opioid epidemic in West Virginia in addition to the keyword search terms.

Step 3: *Literature Analysis*

Lastly, the articles that were selected for this literature review were analyzed for information directly and indirectly related to the hypothesis and purpose of this paper. The results of this analysis and of the articles was presented in the results section of this paper. In the initial results and introduction 37 resources were selected. These resources were selected by RM, NB and SK. AC acted as a second reader and validated the resources.

Furthermore, a semi-structured interview was conducted after the literature was reviewed. The interviewee was a licensed physician practicing in the state of West Virginia. The physician provides both primary care and substance use treatment services. The physician was referred to as Expert in Opioid Dependence throughout the review.

RESULTS

Preventing Consequences of Opioid Misuse

Syringe exchange for IV drug users has created an opportunity for public heath outreach workers to reduce the harm caused by needle sharing. This outreach has also provided an opportunity for those detrimentally affected by opioids to engage in conversations about treatment and recovery. If individuals that have been suffering from opioid dependence were also experiencing homelessness, a brief encounter with a syringe exchange nurse can create a valuable moment to educate those persons on housing assistance available within their community.[12]

West Virginia has implemented harm reduction programs with much success. The Cabell Huntington Health Department and Kanawha- Charleston Health Department have opened syringe exchanges for individuals who use substances intravenously. Both health departments operate one clinic, one day per week. Since the start of the harm reduction program at the Kanawha -Charleston Health Department in December of 2015, 2,228 people have been served over 7,040 visits.[13] While these programs have provided an opportunity for intervention and referral to treatment, they have also provided an opportunity to stop the spread of infectious disease, which has historically been a co-occurring diagnosis for individuals with substance use disorders. Common infectious diseases include, Hepatitis B and C, and HIV. The harm reduction programs offered needles, metal cookers, bottled water, condoms, gauze, tourniquets and more. The goal has been to provide individuals with all the supplies they need to inject substances, namely heroin, so they do not resort to sharing needles or using unsanitary water or other devices. Initial funding for the program was provided by the Department of Health and Human Resources in the amount of $10,000 with an additional $10,000 for technical support[14]. In an article published by the City of Huntington in fall 2015, Dr. Michael Kilkenny, Physician Director of Cabell Huntington Health Department, stated that the health department planned to expand the program to five more locations in the city. The expansion has not occurred. Funding for the program will impact future implementation throughout the state.[13]

Lifting of Federal Ban on Needle Exchange Program

The ban placed on the needle exchange program was lifted during 2009 to 2011, through this period the number of needle exchange programs were increased. A total number of 221 programs were reported to obtain state or local funding during the same period.[15] The rate of exchange of needle exchanges were increased to greater than 30 million in the year 2008, according to the North American Syringe Exchange Network.[16] Centers for Disease Control and Prevention (CDC), has reported that while the utilization of syringe services program, the number of people injecting drugs have raised from 36% in 2005 to 54% in 2015, out of which only 1 in 4 injection drug users have obtained all the syringes and needles from sterile sources, representing greater than 50% of the new drug users, and reported to have the highest rate of syringe sharing.[17]

The Centers for Disease Control and Prevention's Prescribing Guidelines for Primary Care Providers

New guidelines provided by the (CDC) that have been adopted by many institutions in West Virginia including all seven system hospitals and associated clinics within West Virginia University Medicine.[18] These guidelines included using non-pharmacologic therapies, such as exercise and cognitive behavioral therapy, and non-opioid pharmacologic therapies, such as anti-inflammatory medications, to treat chronic pain whenever possible.[19] Prescribers that have followed the new CDC guidelines have enforced a start low and go slow principle, measured effectiveness by functional goals rather than pain severity, and monitored patients through regular follow-up.[20]

The new CDC guidelines included a two-page prior-authorization form which was essentially a checklist of recommendations by the CDC. If the physicians did this, it would have allowed physicians to keep their patient on the current dosage that had been recommended. Likewise, physicians also followed a template that had encompassed an opioid treatment plan that had listed safe prescribing practices.[21] These requirements exempted opioids prescribed to cancer and terminally ill patients. The CDC guidelines reported opioids should not be the first choice for treating chronic pain and suggested prescribing the lowest dosage possible while monitoring their patients closely.[22] According to an Expert in Opioid Dependence, the adoption of the CDC Guidelines has decreased the number of opioids prescribed throughout the state; however, it may increase the number of individuals who were without proper treatment for their condition. The expert stated that the alternative treatments for these conditions can be costly to patients and unavailable in the state. (Appendix A).

Figure 2: CDC's Checklist for Prescribing Opioids in Primary Care

Source : DHHS, n.d[23]

Licensing of Chronic Pain Clinics in West Virginia

For facilities to have met the definition of a pain clinic, more than 50% of the patients in the practice during any one-month period had been treated for chronic pain for non-cancer conditions which made them eligible for licensure thereafter. Moreover, licensure has ensured that all chronic pain management clinics conformed to common set of standards and has required minimum requirements for treatment, safety, and comfort of patients.[24]

The Chronic Pain Licensing Act stated that the designated physician owner of an opioid based clinic must have completed a pain medicine fellowship that has been accredited by the Accreditation Council for Graduate Medical Education or such other similar program or was certified by the American Board of Pain Medicine or current board certification by the American Board of Anesthesiology.[25]

Senate Bill 4035: Provision of the Distribution for Naloxone to the General Public

The purpose of this bill was to permit pharmacists to supply Naloxone Hydrochloride in agreement with standardized procedures or protocols that have been set in place by the West Virginia Board of Pharmacy and the West Virginia Board of Medicine.[26] The cost of Naloxone has cost anywhere between $100 and $3,700 each time it is purchase from the pharmacy. The range of price has been more depended on the manufacturer and the way it was administered.[27] Every person that purchased Naloxone from a pharmacy must be trained by a pharmacist on how to recognize an overdose. Similar to the syringe exchange, this bill has been expected to bring people suffering from addiction one step closer to treatment opportunities, while systematically reducing societal costs of opioid addiction.[28] Local emergency medical agencies have administered 4,186 doses of Naloxone in the year 2016; this was an increase from 3,351 doses of Naloxone in 2015.[27] West Virginia received a $1 million federal grant that implemented a project that provided more than 4,000 of two-dose kits that were dispersed to high priority areas; these areas included needle exchange programs as well as police and fire departments in the major cities of Huntington, Charleston, Wheeling, and Morgantown and rural areas of West Virginia.[29]

Programs such as this have faced several critical barriers. Naloxone's prescription status created many questions about how the drug can be made available to drug users or others who may be in a position to help.[30] A total of 53,032 individuals from 1996-2010 were trained in naloxone administration and overdose response. Further, a total of 10,171 overdose reversals were reported between 1996 and 2010.[31]

Financial Impact of Opioid Epidemic in the U.S

The Institute of Medicine has reported that a total number of 116 million Americans had suffered with the persistence of pain from weeks to years and has resulted in a financial crisis ranging from $560 billion to $635 billion per year in medical treatment, lost productivity.[32,33] In the U.S, approximately 240 million opioid prescriptions were dispensed in the year 2015 which accounted for one for every adult in the general population.[34]The total economic burden from the prescription opioid overdose was projected to be $78.5 billion for the year 2013. Approximately one-third of the total costs which was $28.9 billion was due to the augmented health care costs and substance abuse treatment costs. The public-sector costs in healthcare, substance abuse treatment, and criminal justice costs were projected to be around one-fourth, $19.6 billion.[35]

DISCUSSION

This study was created with the intention to compile and evaluate literature regarding the opioid epidemic in West Virginia and current responses. West Virginia has been at the epicenter of this epidemic with the highest rates of overdose, 41.5 deaths per 100,000 people.[3] Both the literature review and semi-structured interview showed that West Virginia has developed promising responses to the epidemic, but efforts have fallen short as evident by the continued climb of the overdose rates in the state. With the highest rate of overdose in the nation, a comprehensive approach to addressing this issue is crucial.

The initial findings have suggested that in response to the opioid epidemic, West Virginia has utilized prevention efforts, widely distributed naloxone, enacted and enforced the regulation of chronic pain clinics, which were identified as a contributing factor to the large misuse of prescription opioid medications. The needle exchange programs have depended on the funding from state and local funding also as a result of federal ban for several years. These programs have offered needles to intravenous drug users and a means to minimize the spread of HIV/AIDS With an aim to minimize the harm and address the opioid epidemic.

There has been significant impact on the society with the drug abuse with respect to clinical and economic burden. The drug overdose has resulted in 830,652 years of loss of the potential life under the age of 65 years which was like the many years of the lives lost from the motor vehicle accidents. The increase in the number of deaths have explained the wide spread occurrence of the opioid over usage. The pain prescription spending in the U.S has increased to greater than $9 billion spending every year, drug abuse costs to the U.S government was estimated to be $300 billion in a year.[36] Even though the treatment of opioid abuse has positive effect on the society, there has been a significant effect on the payers of both public and private sectors due to increase in costs.

The interview with the Expert revealed that the responses to the opioid epidemic analyzed in the results do not address the current population with substance use disorders that are without treatment services. The expert supported their opinions with experience both as a primary care physician and a physician who has treated opioid dependence in the state. It was identified that the three main contributing factors to the opioid epidemic have been 1) the mental health status of the state's population, 2) labor intensive occupations, and 3) the financial incentive that accompanies the distribution of prescription opioids and illicit opiates, both legally and illegally (Appendix A). The responses to the opioid epidemic have not addressed the contributing factors identified by the expert. To appropriately respond, an increase in access to care for both physical and mental health conditions is required. The expert further stated that funding is crucial to addressing this epidemic. Funding directly ties to the practical implications of this study. According to the Substance Abuse and Mental Health Services Administration (SAMHSA) West Virginia was allocated $5.8 million for State Opioid Response Grant. While West Virginia received this assistance, bordering states such as Kentucky and Ohio received double and quadruple that amount based upon their population size. West Virginia DHHR has been responsible for distributing this funding to areas of need. The distribution has required careful consideration, of the needs of the population and the political climate. This funding has provided much needed help; however, grant funding has historically initiated services with the notion that they will sustain themselves by other means such as health insurance reimbursement. The threat to repeal the Affordable Care Act has drastically impacted the success of the implementation of these services and future treatment options. Many

of the participants in Substance Use Treatment Programs have Medicaid, and many of them received it through the expansion. Without health insurance those individuals will be at risk for not being able to afford treatment services. An additional barrier to implementing these strategies to address the epidemic is the lack of education and awareness about ongoing efforts including overdose prevention. Lack of robust research and resources hampered many of the existing programs and prevented their scale-up. Law enforcement and political actors also have opposed the initiatives for the fear of enabling or sanctioning illegal drug use, while witnesses of overdoses involving illegally-obtained drugs avoided summoning emergency response.[37]

The literature review has multiple limitations including researcher bias, publication bias, and search strategy. The researches of this study are subject to bias due to previous knowledge and opinions on the subject matter. The articles selected for further review are impacted by this bias. Publication bias was also a limitation in this study. Articles with statistical significance were selected for publication at a higher rate than those without. The documented response to the opioid epidemic has recently begun; therefore, many statistics on the impact of these strategies has not been evaluated. The search strategy impacted the availability of articles for review, as the researches only utilized four databases.

CONCLUSION

The current efforts implemented to address the opioid epidemic have led to increased education and awareness about overdose reversal and safe prescribing practices. While the overdose rate continues to climb, the number of strategies employed is increasing. Over the next few years West Virginia will spend time initiating new strategies and expanding upon old ones with the addition of federal funding.

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APPENDIX A

Questions Asked in Semi-Structured Interview of a Primary Care Physician and Expert in Substance Use Treatment on March 30th, 2017.

- If you had to narrow down the cause of the Opioid Epidemic in West Virginia to three main contributing factors what would they be?
- In your professional opinion, are there alternatives to treating chronic pain with opioids?
- How often do you see those patients that are prescribed opioids and how far apart are your follow up appointments for those same patients?
- When treating patients with Suboxone, do you notice a difference between patients who are dependent on prescription opioids vs. heroin?
- What is the most challenging aspect about treating opioid dependence in West Virginia?
- Do you think the West Virginia's adoption of the CDC Guidelines for Prescribing Opioids in Primary care will reduce the number of individuals treated with chronic pain? What challenges do you foresee with these guidelines?