SUBSTANCE USE DISORDER WORKFORCE

Connor W. Norwood, MHA
Courtney R. Randolph, BS
Hannah L. Maxey, PhD, MPH, RDH

Full Data Report Available at:
http://hdl.handle.net/1805/6467

Date: June 2015

HEALTH WORKFORCE STUDIES PROGRAM
Department of Family Medicine
Indiana University School of Medicine

Policy Report: 2012 Indiana Substance Use Disorder Workforce

WHAT'S THE ISSUE?

In 2013, the Substance Abuse and Mental Health Services Administration (SAMHSA) reported an estimated 21.6 million individuals aged 12 or older had a substance use disorder in the past year.[1] "Substance use disorders occur when the recurrent use of alcohol and/or drugs causes clinically and functionally significant impairment, such as health problems, disability, and failure to meet major responsibilities at work, school, or home".[2] The term "substance abuse disorder" replaced the terms "substance abuse" and "substance dependence" in the 2013 update of the Diagnostic and Statistical Manual of Mental Disorders.[3] Therefore, for the purpose of this report, and all future reports on the workforce which treats patients with these disorders, the workforce will be described as the "substance use disorder workforce." Substance use disorders may be generally classified into two categories including illicit drugs and alcohol, both of which pose a major public health concern in the United States. Findings from the 2013 National Survey on Drug Use and Health (NSDUH) estimate 24.6 million individuals aged 12 or older were current illicit drug users in 2013 and approximately 60.1 million people (12 or older) were binge alcohol users.[2] Despite national initiatives to expand the capacity of the mental health workforce and improve access to mental health and substance abuse treatment services, a significant number of individuals remain in need of substance abuse treatment.

According to SAMHSA, 22.7 million individuals aged 12 or older met the criteria for substance abuse disorders and were classified as in need of substance use treatment.[2] Unfortunately, only 2.5 million received treatment at a specialty facility for either illicit drug or alcohol problems in 2013, which means over 20 million individuals did not receive treatment or received treatment outside of a specialty facility.[2] The 5 most common reasons for not receiving substance use treatment include: 1) no health coverage, 2) not ready to stop using, 3) did not know where to go for treatment, 4) had health coverage but did not cover treatment, 5) no transportation/inconvenient.[2] While many individuals have not received substance use treatment at a specialty facility, many individuals suffering from substance use disorders utilize tertiary services in acute care settings such as emergency departments (ED).

The Drug Abuse Warning Network (DAWN), a public health surveillance system managed by SAMHSA, reported that ED visits involving nonmedical use of pharmaceuticals increased 98.4% between 2004 and 2009.4 Furthermore, "32% of all drug abuse ED visits in 2009 involved the use of alcohol, either alone, or in combination with another drug."[4] Findings suggest that the number of visits related to illicit substance use have been increasing between 2009 and 2011, highlighting the need for primary prevention services among these ED substance use patients.[4]

In addition to increasing numbers of ED visits involving substance use, there is a growing mental health workforce shortage throughout the country. "A trauma-informed, recovery-oriented and culturally competent workforce in numbers and locations adequate to meet the need is essential for increased service delivery capacity and system improvement."[5] Efforts aimed at improving population health by reducing prevalence of substance use disorders must examine the relationship between health workforce capacity and the impact of ED utilization for substance use disorder services, which highlight the demand for this workforce.

RELEVANT TO INDIANA

Data on Indiana ED utilization from 2009 to 2013 suggest that there has been an 18 percent increase in the number of substance use-related diagnoses per 100,000 Indiana residents. This is consistent with national trends in substance use-related ED visits over a similar time period.[6] In addition to increasing demand for substance use disorder services, Indiana suffers from a mental health workforce supply shortage. Psychiatrist workforce capacity is frequently used as a proxy for mental health workforce capacity. In 2012, 43 of the 92 counties in Indiana reported no practicing psychiatrist.[7] Ensuring that Indiana communities have the capacity to meet the increasing need for substance use disorder services is of critical importance to health care systems,

professional training programs, and community organizations. Therefore, this report aims to understand the substance use disorder workforce capacity in Indiana and its relation to ED utilization for substance use services.

METHODS

IPLA Licensure Survey Data

Indiana is fortunate to already have a mechanism in place to collect robust data on the professional healthcare workforce. Data are collected through surveys administered by the Indiana Professional Licensing Agency (IPLA) in conjunction with biennial license renewals. Data collected through licensure surveys provide valuable insight into the supply of licensed health professionals in Indiana, which includes the licensed mental health workforce.

Defining the Substance Use Disorder Workforce

For the purpose of this report, the substance use disorder workforce is defined as a subsection of the mental health workforce, including: addictions counselors, psychiatrists, and psychologists and psychiatric advanced practice nurses who reported during the last licensure renewal survey period that they provide substance use disorder services. **Although it is recognized that substance use disorder services may also be provided by primary care providers and other health professionals, this report aims to examine the substance use disorder workforce capacity of mental health professionals who indicated that they treat substance use disorder patients and compare it to the ED utilization for substance use disorder services.**

Defining ED Substance Use Services

Data on ED visits for substance use disorder-related encounters were provided to Health Workforce Studies by the Indiana State Department of Health for the purpose of comparing the substance use disorder workforce capacity to areas of potential substance use disorder services demand. These ED visits were categorized based on discharge diagnosis coding and included all diagnoses reported in Tables 1 and 2. Alcohol-related diagnosis codes were selected according to the National Institute on Alcohol Abuse and Alcoholism's (NIAAA) surveillance report on alcohol-related morbidity.[8] Alcohol poisoning was included according to the National Center for Health Statistics' (NCHS) definition of alcohol-induced conditions.[9] Drug-related diagnosis codes were selected according to NCHS's definition of drug-induced conditions.[9]

THE SUBSTANCE USE DISORDER WORKFORCE IN INDIANA

The data on the substance use disorder workforce is drawn from the *2012 Indiana Substance Abuse Workforce Data Report*. In 2012, there were 73 addictions counselors, 356 psychiatrists, 220 psychologists, and 42 psychiatric advanced practice nurses who indicated that they were treating patients for substance use disorders in Indiana. This report analyzes supply based on full-time equivalents (FTEs) rather than a simple headcount. FTEs allow for a more accurate estimate of workforce capacity by accounting for differences in the average number of hours worked per week among care providers.

Geographic Distribution

In 2012, there were approximately nine substance use disorder professional FTEs per 100,000 Indiana residents. Substance abuse professionals were concentrated in the most populous, urban counties (eg. Allen, Hamilton, Lake, and Marion Counties).

Table 1: ICD-9-CM Codes for Alcohol-Related Diagnoses

Category	Definition
Alcohol-related diagnoses	
Alcoholic psychoses	291.0, 291.1, 291.2, 291.3, 291.4, 291.5, 291.8, 291.9
Alcohol dependence syndrome	303.0, 303.9, 357.5, 425.5, 535.3
Nondependent abuse of alcohol	305.0
Chronic liver disease and cirrhosis	
Alcoholic liver disease	571.0, 571.1, 571.2, 571.3
Other specified liver cirrhosis without mention of alcohol	571.4, 571.6, 571.8, 572.3
Unspecified liver cirrhosis without mention of alcohol	571.5, 571.9
Alcohol poisoning	790.3, 980, E860

Note: Alcohol-related diagnosis codes were selected according to NIAAA's surveillance report on alcohol-related morbidity.[10] Alcohol poisoning was included according to NCHS's definition of alcohol-induced conditions.[9]

Table 2: ICD-9-CM Codes for Drug-Related Diagnoses

Category	Definition
Drug psychoses	292.0, 292.1, 292.2, 292.8, 292.9
Drug dependence	304.0, 304.1, 304.2, 304.3, 304.4, 304.5, 304.6, 304.7, 304.8, 304.9
Nondependent abuse of drugs	305.2, 305.3, 305.4, 305.5, 305.6, 305.7, 305.8, 305.9
Poisoning by drugs, medicinal and biological substances	960, 961, 962, 963, 964, 965, 966, 967, 968, 969,970, 971, 972, 973, 974, 975, 976, 977, 978, 979
Accidental drug poisoning	E850, E851, E852, E853, E854, E855, E856, E857, E858
Suicidal drug poisoning	E950.0, E950.1, E950.2, E950.3, E950.4, E950.5
Assault by drugs and medicinal substances	E962.0
Poisoning by solid or liquid substances, undetermined whether accidentally or purposely inflicted due to drugs	E980.0, E980.1, E980.2, E980.3, E980.4, E980.5

Note: Drug-related diagnosis codes were selected according to NCHS's definition of drug-induced conditions.[9]

Urban Vs. Rural Comparison

Urban counties had notably higher numbers of substance use disorder professional FTEs (491 FTEs) than rural counties (115 FTEs); however, after taking population into account the difference was much smaller (9.6 FTEs per 100,000 population in urban counties versus 7.8 FTEs per 100,000 population in rural counties). The substance use disorder workforce represented a smaller proportion (12.0%) of the overall mental health workforce in urban counties than in rural (15.8%). Despite having more substance use disorder FTEs per capita, urban counties also had more substance use-related ED visits per capita (11.7 per 1,000 residents) than rural counties (10.0 per 1,000 residents).

SUBSTANCE USE DISORDER WORKFORCE CAPACITY & ED UTILIZATION

Emergency Department Utilization

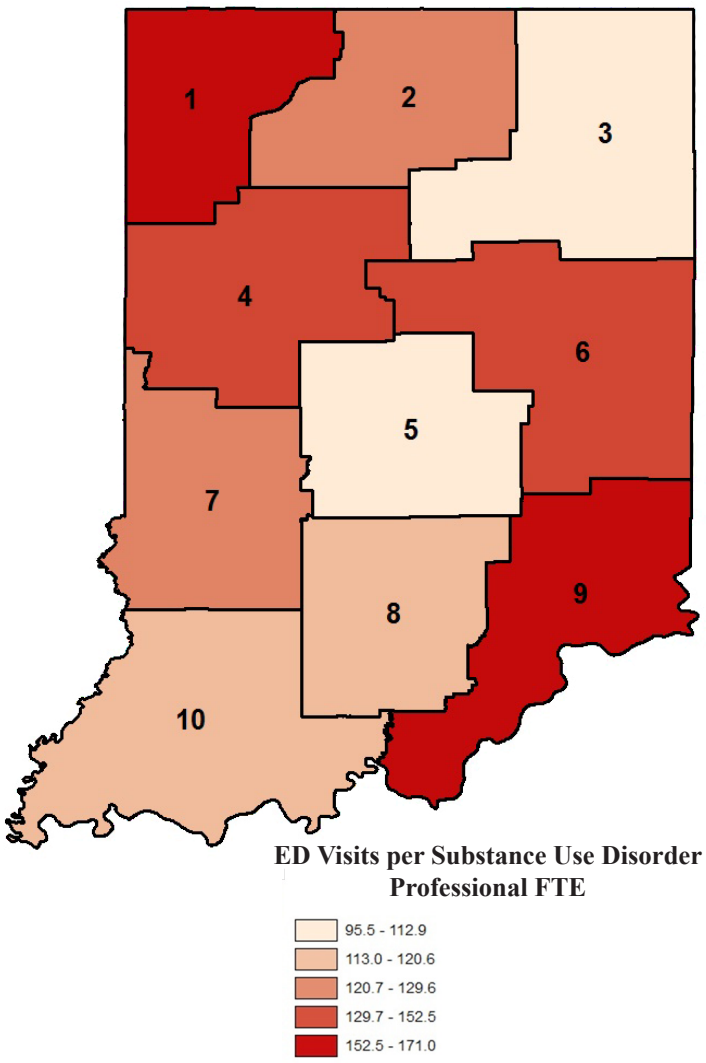
The need for substance use disorder services is difficult to estimate because individuals suffering from substance use issues may feel unable to disclose their problem to health care professions for fear of criminal consequences. This report estimates the need for substance use disorder professionals through utilization data for substance and drug use-related ED visits. An ED visit was considered to be substance use-related if it contained one of the ICD-9 codes identified in literature review.[10,11]

Public Health Regional Comparison

The Indiana State Department of Health (ISDH) has divided Indiana into 10 public health regions. These regions are used as the unit of analysis for this report because substance use disorder services are accessed at the regional level rather than community or county level. The map (Figure 1) compares the number of substance use-related ED visits per substance use disorder professional FTE in each of Indiana's 10 public health regions. The northwest (Region 1) and southeast (Region 9) corners of the state have the most substance use-related ED visits per substance use disorder professional FTE.

Table 3 provides further detail on each region. Regions with a greater number of substance use disorder professional FTEs also tend to have the greatest number of substance use-related ED visits per capita. While this may seem paradoxical, it is likely due to the stage at which these substance use disorder professionals treat patients. Because these professionals are largely involved in the rehabilitation of patients who are already seeking treatment, the high number of professionals in severely affected regions is likely a response to high rates of substance use, which could be identified through an ED visit.

Figure 1: Substance Use-Related ED Visits per Substance Use Disorder Professional FTE by ISDH Region



DISCUSSION

Substance use disorders affect millions of Americans and thousands of Hoosiers. It is critical for the local health system to have the capacity to deliver substance use disorder services required for the population. Additional analyses of Indiana's substance use disorder workforce and demand for substance abuse services is needed to better understand the relationship. Future research will expand the scope of the substance use disorder workforce analysis from professionals providing rehabilitative care to also include professionals providing preventive and interventionist services.

Estimating the need for substance use disorder services should also be expanded beyond ED utilization. Assessing populations of Indiana residents that may be at-risk for developing substance abuse issues is critical to preventing issues before they occur rather than treating cases once they arise. More detailed analysis on Indiana's substance abuse workforce will allow for estimation of the capacity of these professionals to provide preventive services.

Current events surrounding the HIV outbreak in Scott County (located in Region 9 in Figure 1), largely propagated by intravenous drug use, demonstrate the critical need for substance use disorder. ED utilization data related to drug abuse/alcohol related visits from 2009 to 2013 demonstrated that this population has historically struggled with substance use-related conditions. Examining the substance use disorder workforce in Indiana and its relation to ED utilization for substance-use related encounters can help to inform the next steps in ensuring equitable substance use disorder services access to all Hoosiers.

Table 3: Substance Use Disorder Workforce Data by ISDH Region

ISDH Public Health Region	2012 Population Estimate	Total Substance Use Disorder Professional FTEs	Percentage of Total Mental Health FTEs Treating Substance Use Disorder Patients	Substance Use related ED Visits per 1,000 Population	Substance Use related ED Visits per Substance Use Disorder Professional FTE
1	817,543	45.00	11.9	8.8	159.7
2	647,400	53.40	11.6	10.7	129.6
3	723,559	63.90	13.3	10.0	112.9
4	366,909	29.85	15.4	12.1	148.3
5	1,745,750	216.85	11.9	11.9	95.6
6	641,392	60.65	12.5	14.4	152.6
7	281,811	27.05	17.0	12.2	127.0
8	371,916	35.60	12.8	11.4	119.6
9	454,659	29.05	14.6	10.9	171.0
10	486,693	44.60	13.0	11.1	120.7
Indiana Total	**6,537,632**	**605.95**	**12.6**	**11.3**	**121.7**

REFERENCES

1. Substance Abuse and Mental Health Services Administration. Substance Use and Mental Health Estimates from the 2013 National Survey on Drug Use and Health: Overview of Findings. Substance Abuse and Mental Health Services Administration;2014. NSDUH_200.
2. Substance Abuse and Mental Health Services Administration. Substance Use Disorders. Mental and Substance Use Disorders 2014; http://www.samhsa.gov/disorders/substance-use. Accessed June 11, 2015.
3. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders:: DSM-5. ManMag; 2013.
4. National Institute on Drug Abuse. Drug-Related Hospital Emergency Room Visits. DrugFacts 2011. Accessed June 11, 2015.
5. Canady VA. SAMHSA releases 5-point plan to improve mental health. Mental Health Weekly. 2015;25(8):7-7.
6. Substance Abuse and Mental Health Services Administration. Drug Abuse Warning Network, 2011: National Estimates of Drug-Related Emergency Department Visits. In: U.S. Deparment of Health and Human Services, ed. Rockville, MD2013.
7. Maxey HL, Norwood CW. Policy Report: 2012 Indiana Mental Health Workforce. 2014.
8. Chen CM, Yi H-y. Trends in alcohol-related morbidity among short-stay community hospital discharges, United States, 1979-2007. US Department of Health and Human Services, Public Health Service, National Institutes of Health; 2010.
9. Murphy S. Deaths: Final Data for 1998. National Vital Statistics Report. 2000;48(11).
10. Chen CM, Yi H-y. Surveillance Report #99: Trends in Alcohol-Related Morbidity Among Community Hospital Discharges, United States, 2000-2012. 2014.
11. Hoyert DL, Arias E, Smith BL, Murphy S, Kochanek K. Deaths: final data for 1999. National vital statistics report. Hyattsville, Maryland: National Center for Health Statistics. 1999;49(8).

Cite As:

Norwood CN, Randolph CR, Maxey HL. Policy Report: 2012 Indiana Substance Use Disorder Workforce. Indiana University: Health Workforce Studies Program, 2015; Available at: http://hdl.handle.net/1805/6510

Full Data Report:

Sheff ZT, Nowak C, Maxey HL. Data Report: 2012 Indiana Substance Abuse Workforce. Indiana University: Health Workforce Studies Program, 2015; Available at: http://hdl.handle.net/1805/6467