Behavioral Health Workforce Strategies for Countering the U.S. Opioid Epidemic: Training Emerging Prescribers

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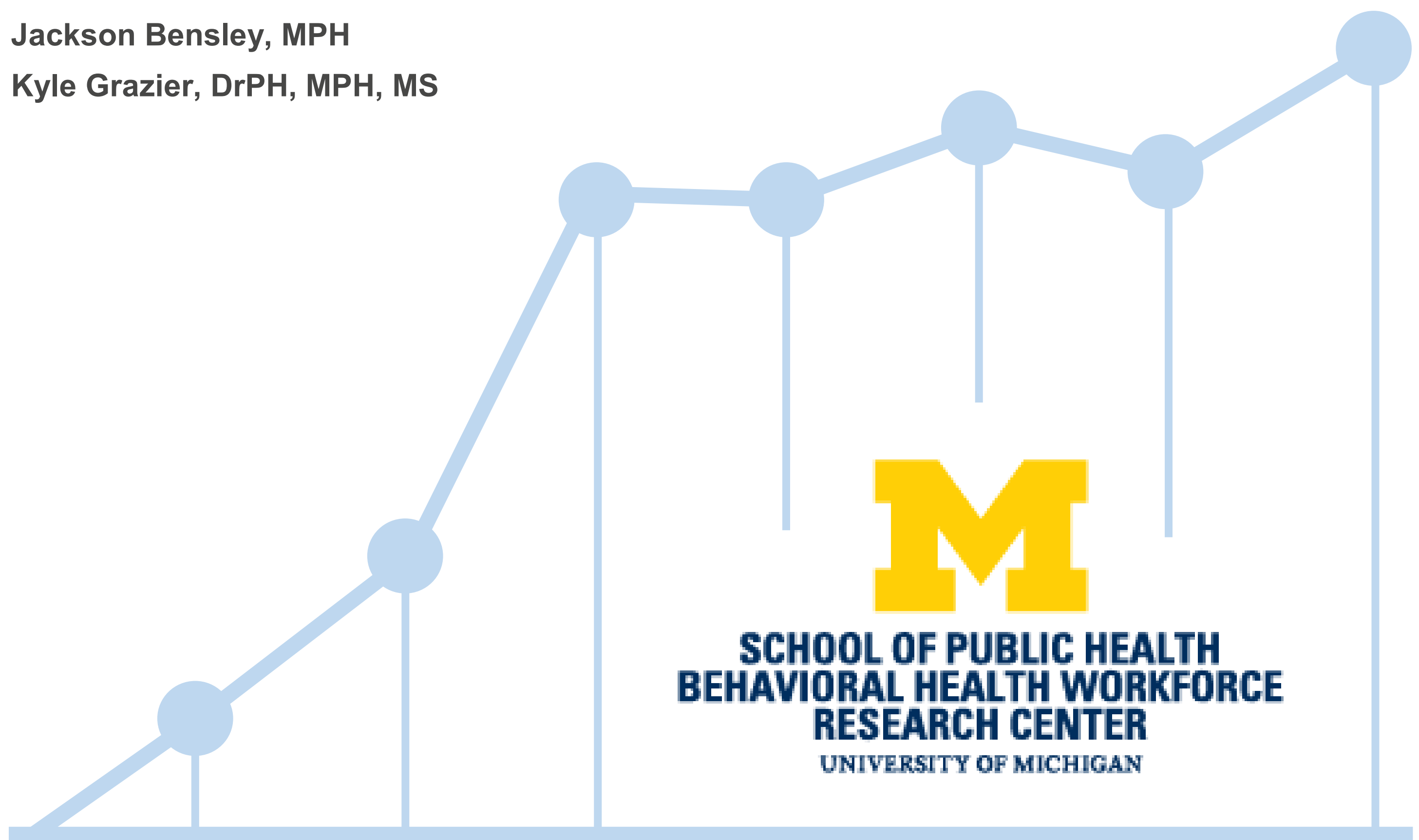

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Introduction

Though approximately 2 million Americans currently live with an opioid use disorder (OUD) and more than 10 million reported misusing opioids in the past year,[1] OUD education remains underemphasized in behavioral health professional training.[2] Inadequate OUD education impacts provider preparedness and practice gaps across occupations and settings, with many programs lacking comprehensive OUD identification and treatment training requirements. Presently, the accrediting body for medical residencies requires all programs to instruct in pain management but does not require training in addiction treatment,[3] and a 2017 survey of physician assistant (PA) educators indicated that only 50% of surveyed PA programs included a mandatory component of opioid addiction education.[4] Further, advanced practice registered nurses (APRN) are estimated to screen between 75% and 100% of patients they treat for the presence of a substance use disorder (SUD) yet provide treatment for SUDs at rates as low as 25%, a factor endorsed by up to 50% of APRNs as attributable to perceived inadequacy of OUD treatment knowledge.[5,6]

Despite the growing opioid crisis and increased presence of OUD in patient populations, other behavioral health clinicians qualified to treat OUD also report a lack of confidence in diagnosing and treating SUDs.[4] Self-reported clinician inadequacies in OUD treatment are reflective of significant gaps in standard medical school and residency training, as comprehensive education on clinician recognition, management, and attitudes central to effective OUD prevention and treatment is largely missing from curricula.[7] Current health education research indicates that provider attitudes, confidence, and sense of role legitimacy are strongly correlated with effective addiction screening and treatment practices, with provider stigma as a prevailing detrimental factor that can impact quality of delivered care.[8,9] Incorporating patient-centered OUD competencies in the areas of self-efficacy building and attitude training is imperative for addressing professional practice gaps. Additionally, dissemination of best practice education recommendations can drive necessary changes in academic curricula and facilitate alignment across health profession education training requirements.

This mixed-methods study sought to determine training variation among opioid treatment provider types and identify strategies for effective dissemination and implementation of best practices in OUD education, with an emphasis on supplementing current health professional education SUD curricula. Provider scopes of practice (SOPs) for psychiatrists (MDs), APRNs, and PAs were assessed to learn of regional trends in OUD and SUD training requirements across the U.S.

Methods

Researchers at the University of Michigan Behavioral Health Workforce Research Center (BHWRC) conducted a literature review in fall 2021 to collect state-level data on the following: (1) provider SOPs, (2) SUD education and training requirements, and (3) state- and national-level loan repayment programs. State-level SUD education and training requirements were categorized as being robust, minimal, or non-required.

Researchers identified a convenience sample of MD, APRN, and PA program directors and coordinators across the U.S. Contact information for recruitment was gathered from program websites and word-of-mouth recommendations. Researchers provided recruitment information to providers via e-mail, offering a $25 gift card incentive for their participation. Participating providers engaged with researchers via 1-hour semi-structured Zoom interviews in the topic areas of program structure, curriculum, recruitment, and sustainability as pertaining to SUD and OUD. Interview data were recorded in Zoom and transcribed using Scribie, a professional transcription service. Interview transcripts were analyzed thematically to identify trends in responses.

Findings

Significant variation in training and prescribing practices exists across states for all 3 prescribing

professions. Analysis of the BHWRC SOPs for Behavioral Health Professionals database, provider scopes of practice for each state in the U.S. revealed key differences in the robust or minimal nature of training and practice requirements.[10] Though many states require some level of drug training for healthcare professionals who are authorized to prescribe, the scope and intensity of this training vary substantially.

Training

States with more robust SUD/OUD training requirements tend to have a higher number of required special topics, education, or continuing education (CE) hours regarding SUD/OUD for psychiatrists, PAs, and APRNs. For example, California requires extensive CE for psychiatrists with 12–18 hours of required training in either pain management and the treatment of terminally ill and dying patients and risks of addiction associated with Schedule II drugs or training in buprenorphine treatment or other similar medical treatment for OUD and treatment and management of opiate-dependent patients. PAs have CE in category I(50) and APRNs are required to take a course including Schedule II controlled substances and the risk of addiction associated with their use.

Other states with comprehensive training requirements still vary in the material and number of hours providers must complete. In Illinois, APRNs must complete 10 CE hours specifically focused on opioid prescribing, and all 3 provider types have high CE requirements. In South Carolina, APRNs must complete 20 hours of CE in pharmacotherapeutics while PAs complete CE in prescribing and monitoring Schedule II–IV controlled substances. Kentucky, Mississippi, New Mexico, and West Virginia are additional states that have relatively robust drug training requirements based on education and CE. Although the training varies, most require CE for at least 2 of the 3 provider types who can prescribe. Others use topics such as pain management, controlled substances, drug diversion, pharmacotherapeutics, and pharmacology to set more specific educational goals for providers.

There are also states that generally set minimal drug training requirements across the 3 provider types. States that have some training that addresses SUD/OUD but with less consistency across the 3 provider types, with potential lacking in some areas, include Massachusetts, Maine, Nevada, Arkansas, Florida, Texas, Alaska, Connecticut, Indiana, North Carolina, Pennsylvania, Tennessee, and Wyoming. Of these, Massachusetts presents a unique example of movement and success in the push for increasing providers preparedness to handle the opioid epidemic. A 2016 review of 4 medical school curricula found that there was currently no uniform standard to ensure that students were taught prevention and management strategies for the prescription of drug misuse.[12] In order to address this issue, the governor and deans of the 4 medical schools came together and developed a common education strategy that could be implemented. The hope for this cross-institutional partnership is to continue to build by connecting the competencies to those required for residents, equipping teams to address prescription drug misuse, and develop materials for physicians that are currently practicing. Despite this progress, the state SOP for each provider type reflects limited specific education requirements to address SUD or OUD.

Finally, there are some states that have limited or no specific drug training requirements listed within the provider types scope of practice. While some states such as Minnesota have required CE topics including best practices in prescribing opioids, others have no required education in SUD or OUD listed at all.

Prescribing Practices

Prescribing practices for psychiatrists across the U.S. are generally standardized. However, collaborative agreements with PAs vary significantly by state, with differing variables including: the drug schedule PAs are allowed to prescribe, the requirement for a physician to be present or to cosign on prescriptions, the percentage of cases that must be reviewed by a physician, and other supervising requirements. For example, a licensed physician in Connecticut is not required to be registered as a supervising physician in order for them to supervise PAs, whereas PAs in Ohio are only able to practice

under on-site supervision by a supervising physician. The number of PAs a physician may supervise is also dependent on the state, with a general allowance for supervision of 4–5 PAs at any given time. Ranges of the number of PAs that a supervising physician may supervise at one time are as high as 8 PAs in Louisiana and as low as 3 PAs in Idaho. Other states, such as Oregon, have no restrictions on the number of PAs a physician may supervise.

Education requirements for psychiatrists vary by state. All 50 U.S. states require psychiatrists in training to successfully pass the U.S. Medical Licensing Examination; licensure renewal requirements differ significantly by state, ranging from 12 to 36 months per renewal. Post-graduation training requirements differ across states, though many require completion of at least 1 year of training. Additionally, not all states require the completion of CE credits: Colorado, Montana, New York, and South Dakota require completion of 0 CE hours, whereas Michigan, South Carolina, and Illinois require completion of 150 CE hours. SUD- and OUD-specific education requirements fluctuate by state, with some states such as Vermont, California, and Massachusetts specifying the number of SUD/OUD-related topic hours that must be completed; Indiana specifically requires completion of 2 CE hours in opioid prescribing and opioid abuse. Other states require education in topics such as controlled substance and behavioral health that are not explicitly related to SUD and OUD, such as prescribing, monitoring, pain management, and pain management alternatives.

Unlike the standardized prescribing practices for psychiatrists, the practices for APRNs vary greatly by state. APRNs are allowed different prescriptive authority by state. A total of 14 states allow full practice authority with relatively few barriers, 13 states allow full practice authority but encompass steeper restrictions, and nearly half of all states have restrictive or reduced practice authority for APRNs. While states with restrictive or reduced practice authority are present in many regions of the U.S. the majority are concentrated in the South. States present in this categorization include Alabama, Arkansas, Florida, Georgia, Kansas, Kentucky, Louisiana, Mississippi, Missouri, Oklahoma, South Carolina, Tennessee, and Texas. Further, some states do not permit PAs and APRNs to prescribe the same drug schedule: PAs are permitted to prescribe schedule 2 drugs in Missouri, Oklahoma, Rhode Island, and South Carolina, whereas APRNs are allowed to prescribe schedule 3 drugs.

Training requirements for APRNs vary significantly by state. APRNs must pass a licensure exam in order to practice. The majority of exams are administered through the National Council of State Boards of Nursing, with exams offered through the American Nurses Credentialing Center in the District of Columbia and Nebraska; Wisconsin also requires successful passing of a jurisprudence exam. Requirements for licensure renewal also vary from 12, 24, and 36 months. Arizona holds the longest renewal period, in which APRNs must renew their license every 48 months. Although most U.S. states require completion of CE hours, the number of hours and required topics depend on the state. California, Maine, Massachusetts, Nebraska, and New Jersey have the most robust CE training requirements for SUD/OUD, with mandatory delivery of content on the risks of opioid abuse and addiction, prescribing opioids, and emergency opioid situations. A number of states require some CE hours in SUD/OUD or in controlled substances or behavioral health that are not specific to SUD/OUD, while others do not list any required content for CE hours.

Prescribing practices for PAs also differ by state. States that have fewer restrictions on PA prescriptive authority include Connecticut, Iowa, Kansas, Minnesota, Nebraska, New Hampshire, North Carolina, North Dakota, and Oregon. This can include allowing supervision by physicians who are not required to be on-site, flexible collaborative agreements with supervising physicians, and no limits on the number of PAs a physician can supervise. By contrast, other states have more restrictions on PA prescriptive authority and require more supervision. PAs are only permitted to prescribe schedule 3 drugs in Alabama, Arkansas, Georgia, and West Virginia. Further restrictions include limitations on the drug schedule PAs are permitted to prescribe, requirements for on-site supervision, a greater number of hours needed for prescriptive authority, and prescription drug supply amount. For example, PAs in Florida are only permitted to prescribe a 7-day supply of Schedule II drugs.

Training requirements for PAs are also highly varied. Similar to the training requirements for psychiatrists and APRNs, PAs are required to pass the Physician Assistant National Certification Examination (PANCE) offered through the National Commission on Certification of Physician Assistants. Some states, such as Maine and Oklahoma, require passing the PANCE as well as an additional jurisprudence exam or law exam relating to pharmacy. Licensure renewal requirements range from a 12-month to 24-month time frame, and CE hours are required in some, but not all, states. States such as Connecticut, Florida, Idaho, Indiana, Louisiana, Maryland, and South Carolina require specific CE hours for opioid- or prescribing-related education; other states have fewer specific drug-related CE requirements.

Loan Repayment and Incentive Opportunities

A number of loan repayment and incentive opportunities also for providers who are qualified to treat OUD. The Health Resources and Services Administration (HRSA) National Health Service Corps Substance Use Disorder Workforce Loan Repayment Program provides up to $75,000 in student loan repayment for eligible clinicians.[12] This loan repayment program is available to both physicians and APRNs, and is intended to support the recruitment and retention of needed health professionals in underserved areas so as to expand access to SUD treatment and prevent overdose deaths. Another HRSA program focuses more narrowly on rural areas. The Rural Community Loan Repayment Program provides up to $100,000 in student loan repayment.[13] Those who qualify for this program need to be working, or have accepted a position, at a rural National Health Service Corps-approved SUD treatment facility, with facilities that have received RCORP funding receiving preference. Some states are providing additional opportunities for providers, such Michigan's Opioid Treatment Access Loan Repayment Program.[14] This program has a 2-year service obligation and is offered to medical providers (MD, DO, APRN, PA) and SUD counselors. It focuses on incentivizing healthcare providers to begin and expand opioid treatment in Michigan.

Key Informant Interviews

Six key informants completed interviews in April–June 2022. Key informants were program directors and professors at institutions that train MD, APRN, and PA students across 5 states: California, Massachusetts, Missouri, North Carolina, and Rhode Island. Key informants from medical school and fellowship programs comprised the majority of the sample (n=4). All key informants held multiple roles within their institutions, with titles including: medical director, program director, associate dean for medical education, associate professor, clinical professor, fellowship director, and clerkship director.

Program Overview and Content

Programs discussed by key informants varied in outcome, including degrees, certificates, and CE requirements. Named program funding sources included local, state, or federal grants, state-designated funds, scholarships, and participant enrollment fees. Behavioral health service training was delivered using multiple modalities, including case studies, didactic work, and in-practice settings. Behavioral health topics of focus integrated in training curricula included mental and psychiatric health across the lifespan, medication management, chronic pain, multimorbidity and co-occurring disorder treatment, and medication-assisted treatment (MAT). One key informant described behavioral health training as an interdisciplinary, team-based experience:

> *"We work together with the other team members to provide behavioral health support to get to the deeper causes of substance use, whether that's trauma, untreated mental health, co-occurring problems, poverty, homelessness [so] we kind of have a good exposure for our fellows to kind of get to all the different areas."*

Case Study 1: Interdisciplinary Medical and Nursing Training Experiences

As part of its medical school, a northeastern U.S. educational institution offers an interprofessional program focused on safe opioid prescribing. The program was created following state governor-sanctioned development of core competencies for addressing appropriate prescribing of opioid and pain medications, and identifying and addressing opioid misuse.

> *"[The curriculum includes] identification of the patients at risk, using standardized tools, [...] appropriate prescribing of pain medications, [...] non medication and non-opioid treatments for pain, [and] counseling patients who are at various stages of risk or with opioid use disorders. [...] They're using the Prescription Monitoring Program to assess whether patients are receiving more opioids than they are reporting, there are treatment agreements, there are inpatient algorithms and order sets [...] all related to opioid use and opioid use disorder."*

Students receive training in interacting and communicating with patients through both simulations and exposure to real patient experiences.

> *"The focus has been on using standardized patients so that students can practice taking histories, working through challenging communication, sitting with patients who are in pain or under other types of stress and over time. [...] We also have had a piece always in which the students can [...] listen to a panel of people who are either in recovery or family members of people who have an opioid use disorder, that could be at various stages, they could be in recovery, they could still be using opioids or they could have died from accidental overdose, so the students have the opportunity to hear these people's story, and then to talk with them and ask them questions, and then they write a reflection about that experience. [...] We partnered with a local group that used art for people in recovery or family members, and those people wrote their story and created a piece of art and record their story, and that's all available online for our students, and one of the early exposures is going into that and experiencing that and then writing some reflection about that."*

Medical students and nursing students enrolled in the institution receive opioid-specific content through case studies and presentations.

> *"We have an opioid curriculum that all of our students are mandated to attend. And it's a four-and-a-half hour multimodal [course that's] done virtually now [where] they do four cases, and they do it interprofessional. So it's a nursing student with three medical students. And they have four cases, and they each are in charge of an interview of each. That's a mandatory session that they have to do. But they also are required to complete all of the modules to get their X-Waiver. And all of our tracks do that."*

All key informant programs included a specific focus on OUD, with many sharing observations of interest in OUD expressed by enrollees in other medical education programs. Some key informants described specific didactics on OUD, including the pharmacology of naltrexone, methadone, and buprenorphine. Clinical experiences and role-playing simulations were noted as valuable sources of student exposure to chronic pain and addiction cases. Other frequently noted topics of focus related to OUD were bias in prescribing and the impact of racism on treatment.

Facilitators and Barriers to Implementing Opioid Use Disorder Content

There was considerable overlap between the facilitators and barriers to OUD content inclusion that key informants named. Funding was the most frequently cited facilitating and challenging factor for introducing OUD programming into training programs. Key informants applauded funding in the form of initiatives and certification for mastery of addiction-specific skills as a draw for students. Key informants also stressed having to raise money for fellowship programs as a hindrance, with limited guaranteed funding opportunities. Securing long-term funding was a noted challenge, particularly for programs reliant on external, term-limited funding such as grants.

Case Study 2: Regional Recruitment and Retention in a Physician Assistant Program

One integrated nonprofit health system with more than 900 care locations in the southern U.S. oversees a large PA fellowship training program with a strong behavioral health component. Students are required to demonstrate medical knowledge competency at 3 months into the program, with topics including commonly used pharmaceutical agents, describing pharmacology of certain medications, and providing recommendations for basic psychiatric medications.

> *"Every week there are three to four hours of didactics that are service-line driven: problem-based learning and discussion, for 40 to 41 weeks total. [...] APP students learn alongside medical students and residents in small groups."*

This program credits its robust recruitment and marketing for the high number of applications received each year. Strategies employed to establish a national and state presence in the program include offering virtual webinars and meetings for prospective students, attending national nursing and PA conferences, and regional marketing. This health system emphasizes job satisfaction and successful, positive onboarding as key to building a healthy culture.

> *"There is a culture within the provider group [at this health system] that is attractive for people. Positive culture influences retention and fellow satisfaction. [...] The feedback from fellows is that these people love behavioral health. Instilling the value of mentorship can help grow the preceptor base [...] the program growth speaks to its longevity."*

Other key informants named student-incurred costs of completing training as a potential deterrent, particularly for fellowship programs. Inadequate stipends to address cost of living challenges were cited as barriers for trainees considering enrolling in addiction-focused education programs, particularly for practitioners in established careers considering a fellowship program. One key informant expressed:

> "If you want to attract people who may be mid-career you're talking about somebody going from a salary of anywhere from $180,000 to $220,000 a year to $60,000 a year."

Case Study 3: Developing the Regional Psychiatric Workforce

One Addiction Medicine Fellowship program located at a private university in a midwestern U.S. state seeks to provide board-certified and board-eligible physicians with the clinical, teamwork, and behavioral health skills to work with people and families affected by substance use disorders.

> *"All the fellows I've had so far, they've all been mid-career docs, they have all been practicing 15-20 years, and then have given us a year of their life and a huge pay cut to be a fellow again [...] it's like bringing on faculty members who are reengaging in the education process."*

The curriculum includes 1 hour of "addiction medicine 101" content per session, with topics in alignment with the American College of Academic Addiction Medicine. The program curriculum also emphasizes the importance of expanding the local family medicine workforce in rural and underserved areas of the state.

> *"For the fellowship [we] pull people from everywhere. We do have on our website that we do give priority to people who are interested in practicing in [the state]. [...] Part of this type of work is… to do it well you really need to have an understanding of the local resources in which you work. So it kind of makes sense that you'd want people who'd want to stay in the region, if you're training in the region. I really want to see how we can help people connect to continuity services and safety net care."*

Key informants lauded loan repayment programs and scholarships as key factors in recruiting and retaining students in training programs, though these opportunities were described as limited. Some key informants expressed dissatisfaction with the criteria for programs to qualify as eligible for loan repayment, particularly for those programs associated with university settings. A solution to insufficient stipends is fellows remaining on staff at their place of employment, creating an opportunity for workplaces to supplement their salary while they complete fellowship training. One key informant described a fellow who retained their employment at a hospital, stating:

> *"Her hospital [...] kept her on staff. So her family kept their health insurance. She had a couple*

of meetings she stayed and monitored over the year. They knew that they were keeping her as a physician. And they supplemented her salary for the year that she was a fellow so that the family didn't suffer financially."

Adequate staffing was the second most commonly referenced facilitator and barrier to OUD content inclusion. Interest from senior administrative and faculty leadership was frequently referenced as a motivating factor for incorporation of OUD content into program curricula, with student interest and advocacy around the topic as a supplemental facilitator. A lack of staff with expertise in SUD, as well staff time constraints, were named as complicating factors. One key informant advocated for the introduction of protected time for use in administering education programs and other methods of supporting payment for instruction:

"Having systems in medical education to pay people for their time for teaching [is needed and] I get paid [based] on the number and volume of patients that I see and the complexity of patients [...] there are things that you have to do, but don't necessarily get your time reimbursed for."

Additionally, key informants named a lack of staff knowledge and experience with treating OUD as an impediment to content delivery. Key informants described instances of staff having psychiatry experience but no ability to practice MAT, as many lack the necessary waivering. Reasons cited for staff not wanting to pursue waiver eligibility included feeling pressure to deliver MAT and a lack of feeling comfortable with MAT administration. One key informant expressed the importance of assisting students with becoming waivered to prescribe MAT, stating that students needn't have clinical experiences with MAT in order to learn to prescribe buprenorphine. Integration of OUD content across multiyear prescribing program curricula was cited as an effective strategy for exposing students to this information, with key informants expressing sentiments such as:

"Just having that wider net of addiction-trained people would benefit society as a whole, including underserved persons."

Case Study 4: Medication-Assisted Treatment Training in Medical School

One medical school located in the northeastern US integrates OUD content in its curriculum across all specialties. This program first implemented OUD training in the curriculum in 2015, and progressed to offering the opportunity to complete MAT DATA wavering, in partnership with the state department of health.

"We want program graduates to be able to prescribe buprenorphine. We want to be realistic that some subspecialties might not choose to prescribe, but some will. Ideally anyone who wanted to prescribe opioids would know that they can and know how to prescribe buprenorphine [... it's] part of that full spectrum family medicine."

To ensure a workforce capable of providing MAT for OUD, this program includes classroom education and patient simulations featuring a number of behavioral health skills. Components specific to OUD education include medication management, MAT, chronic pain, harm reduction, how to initiate buprenorphine, and how to discuss screening for and treating OUD. The program advertises SUD/OUD training as a core feature of their curriculum during the admissions process for prospective students.

"SUD/OUD training is definitely a marketing point for [program applicants.] People who are interested in population health and community health [are] the folks we are actively trying to recruit."

Policy Recommendations

Analysis of prescriber state SOPs and key informant interviews revealed the growing focus on OUD in education and training program curricula. Despite OUD increases in recent years, there remains wide variation by state in the amount of SUD- and OUD-specific training requirements. Implementation of national standards and state-specific SOPs mandating OUD-focused content could ensure better preparation of the emerging workforce. Additionally, offering MD, APRN, and PA candidates the opportunity to become DATA-waived by the time of program completion could ensure a greater number of providers eligible to prescribe MAT.

Limitations

Presently, no comprehensive database of all program types for each occupation exists. It is possible that some prescriber programs were not detected during extensive literature and internet searches. Further, publicly available curriculum data listed on program websites may be only partial or outdated, resulting in an incomplete data set. Lastly, recruitment of program advisors, directors, and coordinators was limited by scheduling availability and other remote work–related complications, resulting in a small sample key informant sample.

Conclusion

Training and prescribing practices of MDs, APRNs, and PAs differ substantially across the U.S. State-specific SOPs vary in the robustness of their SUD- and OUD-specific education requirements, including mandated hours of SUD/OUD content and CE. Staffing, curriculum time availability or constraints, and funding are consistent areas of both successes and challenges for training programs, with staff advocacy for OUD content inclusion and loan repayment opportunities as facilitators to maintaining program longevity and attracting new applicants. Future research might focus on the long-term effects of advancing MAT prescribing eligibility through offering DATA waivering as part of a training program, and how increased provider availability affects OUD service demands and unmet need.

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