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Addressing the Spectrum of Opioid Misuse Prevention, Treatment, and Recovery in Rural Washington State Communities: Provider Identified Barriers and Needs

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Abstract

The opioid overdose epidemic has significantly impacted rural communities. Rural settings present unique challenges to addressing opioid misuse. The purpose of the current study was to understand the similarities and differences between rural and urban-based providers serving rural communities. Washington state-based opioid-related service providers who serve rural communities (N = 75) completed an online survey between July and September 2020. Chi-square tests of association were used to examine significant differences in proportions between rural providers and rural-serving urban providers across opioid prevention, treatment, and recovery training topics. Rural providers reported receiving significantly less opioid treatment and recovery training on the criminal legal system, workplace-based education on treatment and recovery, and co-occurring disorder treatment; and significantly higher prior opioid prevention training on the prevention programs for youth and accessing prevention funding. Differences between rural and rural-serving urban providers demonstrate ways in which rural–urban partnerships can be strengthened to enhance public health.

Keywords

Opioid misuse; Rural health; Substance use prevention; Treatment and recovery; Community needs assessment

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Introduction

Despite targeted funding, policy, and programming, opioid use and related deaths remain a public health crisis. Between 2002 to 2021, the rate of opioid related deaths increased from 6.7 to 21.2/100,000 residents in Washington state (Alcohol & Drug Abuse Institute, 2023). This striking uptick is confounded by the global COVID-19 pandemic, which created limitations on prevention, treatment, and recovery services while simultaneously amplifying social isolation, a known correlate of increased drug use. Recent data from the CDC suggests that opioid overdose deaths are accelerating nationwide as a result of increasing fentanyl use and the COVID-19 pandemic (CDC, National Center for Health Statistics, Office of Communication, 2022; Coronavirus Disease, 2019, 2020; Kuehn, 2021).

Rural communities are differentially impacted by public health crises, like the opioid epidemic and the COVID-19 pandemic, due to interrelated social and environmental factors. These include limited access to health care, fewer health care providers and a high provider turnover rate, increased travel distances to reach health care providers with little to no public transportation, lack of privacy, and stigma related to seeking or obtaining treatment, just to name a few (Monnat, 2020). These factors also impact opioid use and related harms to the point where rural communities face a disproportionate burden from opioid use. Termed “treatment deserts,” rural communities are generally less likely and/or slower to implement evidence-based approaches for treatment as well as prevention (Gale et al., 2017; Palombi et al., 2018). These approaches include providing harm reduction education, administration of needle exchange programs, and establishment of drug courts (Swann et al., 2021). In response, many communities supplement efforts with outside providers, resources, and materials that may not be developed with rural culture in mind.

The Hub and Spoke model is a formalized, well-evidenced example of a geographic collaboration to address opioid misuse (Brooklyn & Sigmon, 2017; Rawson, 2017; Reif et al., 2020). The model relies on partnerships between urban and rural communities to provide comprehensive medical care and substance use treatment to people with opioid use disorders. Through collaborations like Hub and Spoke models, rural communities benefit from the rich resources and increased providers necessary for more populated urban areas. Yet, the resources are often developed by providers trained in and working to address the needs of urban communities, not rural ones. Given the unique characteristics of rural communities, effective approaches based in urban settings may not meet the needs of rural individuals.

Training and technical assistance, or TTA, is an integral part of supporting adoption and implementation of evidence-based approaches (Katz & Wandersman, 2016). One of the key steps in this process involves a needs assessment to understanding what communities are already doing, what is needed, and where gaps remain (Wandersman et al., 2012). The Substance Abuse and Mental Health Services Administration (SAMHSA) funds multiple TTA entities including the Rural Opioid Technical Assistance (ROTA) program. The purpose of this program is to “develop and disseminate training and technical assistance for rural communities on addressing opioid issues affecting these communities” (Substance Abuse & Mental Health Services Administration, 2023). ROTA is one of the first programs

funded by SAMSHA to specifically focus on supporting rural communities combating the opioid epidemic.

The current article uses data from a SAMSHA-funded ROTA program in Washington state named the Center for Rural Opioid Prevention, Treatment, and Recovery (CROP+TR). To inform TTA topics and delivery methods, a community needs assessment was conducted to evaluate the barriers and training needs of urban and rural providers who serve rural communities. In addition to informing CROP+TR TTA activities, the needs assessment identified whether there were distinct differences in the training barriers and needs of providers based in rural versus urban communities, even when they are all serving rural audiences. The purpose of the current study is to understand the similarities and differences between rural and urban based opioid prevention, treatment, and recovery providers serving rural audiences.

Methods

Survey Sample

Data were collected as part of a community needs assessment conducted in support of a SAMSHA-funded ROTA program in Washington state named CROP+TR. Washington-based opioid-related service providers (N = 78) completed an online survey between July and September 2020. The survey was distributed electronically to experts, providers, and community members to identify barriers to providing opioid-related services as well as current training needs in rural communities in Washington state. To be eligible, survey respondents had to provide prevention, treatment, or recovery services for opioid misuse in a rural community. Thus, the sampling frame was providers known to CROP+TR. The Washington State University Institutional Review Board reviewed and determined the study exempt.

Survey Instrument Development

The survey instrument was developed with the input of a community advisory board with expertise in the delivery of services for opioid misuse, substance misuse training and technical assistance, and survey research methodology. The advisory board consisted of 18 Washington state community members, people with lived experience, public health professionals, clinical providers, and prevention, treatment, and recovery researchers, and policy makers. First, survey themes were developed based on a review of the literature on service delivery for opioid misuse in rural settings and dialogue with expert colleagues. Final content themes focused on barriers to prevention, treatment, and recovery, previous training to prevent opioid misuse, training needs to prevent opioid misuse, previous training on opioid treatment and recovery competencies, and training needs on opioid treatment and recovery. From these themes, an initial set of survey items were drafted. Cognitive pretesting of draft items was conducted with our advisory board. Their feedback was used to iteratively revise the items for clarity, content validity, literacy level, and mutual exclusivity to arrive at a final survey in line with accepted standards of survey development (Fink et al., 1984). The survey was developed and administered in English (see Online Appendix 1 for full needs assessment survey).

Survey Items

Demographics—Data were collected on key demographic measures, including organization location (rural or urban but rural-serving), tribal affiliation, job responsibilities (select all that apply items), work setting (select all that apply items), organizational primary focus (SUD prevention, healthcare, social or human services, or education), substance of focus (select all that apply items), and whether the organization had specific initiatives targeting opioid use, and of those organizations, the specific initiatives (select all that apply items).

Top Barriers to Prevention, Treatment, and Recovery—Barriers to prevention, treatment, and recovery consisted of 12 closed-ended choices in which respondents selected and ranked their first, second, and third top barriers. An open-ended item was also included in which respondents could write in a top-three barrier not represented in the list.

Professional Development and Support—Items were included to capture (a) prior training received, (b) availability of training, (c) interest in training, and (d) preferred training format covering opioid prevention, treatment, and recovery competencies. A total of 47 competencies were included, 13 related to prevention (e.g., family education about prevention of opioid use disorder) and 34 related to treatment and recovery (e.g., Naloxone awareness, access, availability and training on how to use it.) Respondents could write-in competencies not listed.

Survey Implementation

The survey was programmed into RedCap for administration using a paging design to break the survey into groups of items. Following Tailored Design Methodology, respondents were presented with a survey preamble acknowledging the university and investigators as legitimate authorities for conducting the survey, assurance of confidentiality, and an estimate that the survey should take no more than 20 min to complete (Dillman et al., 2014). To encourage participation, at survey completion, respondents were emailed a $5 e-gift card.

Recruitment followed a mixed-mode approach in which potential respondents were made aware of the survey opportunity through multiple means. For example, the survey was distributed via email listserv to organizations providing opioid prevention, treatment, and recovery services and through statewide professional organizations. The result was an “opt-in” nonprobability sample based on participants recruited through the CROP+TR sampling frame.

Data Analysis

Participation rates were calculated using standard methods described by the American Association for Public Opinion Research (The American Association for Public Opinion Research, 2016). Responses to items with nominal or Likert scales were analyzed in two-way contingency table analyses using chi-square tests of association to assess for significant differences in proportions between rural respondents (Rural) and urban respondents serving a rural community (Urban). Ranked items about barriers were reverse coded and summed across respondents (unranked items within respondents maintained a score of zero) so

that the largest mean represented the highest ranked barrier, and so on. Responses from respondents who did not answer all items were maintained in the data set (partial responders). All analyses used two-sided type I error rates of $p < 0.05$, and were conducted with SPSS, v. 28.0.

Results

Recruitment efforts yielded 81 potential respondents from July 2020 to September 2020. Of the 81 eligible respondents, 70 responded to all survey items, five partially completed the survey, and three were considered implicit refusals in which no survey items were answered. Additionally, three respondents reported working in a unique setting distinct from either "rural" or "urban, but serves rural" and were excluded from analysis. The participation rate, based on 75 surveys meeting inclusion criteria (70 full responders and 5 partial responders), was 92.6 percent.

Demographics

As seen in Table 1, the sample included 50 respondents located in rural communities, and 25 respondents located in urban settings but serving rural communities, thus forming the two groups on which comparisons were based. Reported p-values are based on comparisons among groups. A small proportion of respondents in both groups worked with tribal governments or organizations ($p = 1.0$). Most respondents in both groups reported multiple job responsibilities with the highest proportions in both groups being program staff or supervisors. A significantly higher proportion of respondents in rural settings reported their job responsibility as a coalition director or supervisor ($p = 0.036$). Proportions within work settings did not differ among groups (all $p > 0.15$). Likewise, proportions within various primary foci did not differ among groups (all $p > 0.49$). The majority of respondents in both groups reported an organizational focus on opioids, with the distribution of responses across various substances not differing among groups (all $p > 0.21$). The majority of respondents in both settings had specific initiatives targeting opioid use with proportions among groups not differing ($p = 0.324$). Among those with specific initiatives targeting opioid misuse who were both rural and rural-serving urban, initiatives spanned the prevention, treatment, recovery spectrum. The programs included community prevention and education, medication take-back events, syringe exchange, naloxone access, and screening for opioid use disorder and treatment referral. In summary, both groups exhibited similar demographic qualities.

Top Barriers to Prevention, Treatment, and Recovery

Barriers to providing opioid prevention, treatment, and recovery services as ranked by respondents are located in Table 2. There was a high degree of consistency among the top-5 ranked barriers, which included stigma about opioid use, lack of community knowledge/awareness of opioid use disorder (OUD), access to behavioral health resources/services, access to prevention programs, and access to financial support for prevention, treatment, and recovery services. Both groups ranked stigma about opioid use as the top barrier and lacking community knowledge as second. Ranks varied for the remaining seven barriers with lack of providers/high provider turnover being problematic among rural providers, but not with

rural-serving urban providers. Of note, inconsistent or lacking internet access to support telehealth services or training was more problematic among rural-serving urban providers than among rural providers.

Professional Development and Support

Table 3 displays significant proportions receiving previous trainings. Similar proportions of respondents in each group had received prevention trainings on a wide breadth of topics with two exceptions: significantly more rural providers had received training on prevention strategies for youth ($p = 0.014$), and on how to seek funding to prevent OUD ($p = 0.044$). Likewise, similar proportions of respondents in each group had received training on a wide breadth of treatment/recovery topics with three exceptions: significantly more rural-serving urban providers had received training on treatment/recovery services in the criminal legal system ($p = 0.013$), treatment with co-occurring disorders ($p = 0.006$), and workplace-based treatment/recovery programs ($p = 0.006$) than rural respondents.

Opioid use disorder prevention training needs, as seen in Table 4 (See also supplemental Table 4), were similar across groups with one exception: significantly more rural-serving urban providers expressed a need for training on uptake and sustainability of prevention interventions than rural respondents ($p = 0.045$). Notably, both groups indicated extreme need for prevention training on a wide variety of topics including community prevention education, community-based prevention interventions, and culturally-adapted interventions, programs, and resources. Proportions needing training in treatment and recovery topics did not differ across groups (all $p > 0.11$). Both groups indicated extreme need for treatment/recovery training on a wide variety of topics including treatment/recovery services for youth, treatment with co-occurring disorders, community education on treatment/recovery, available community recovery support services, and education and training on trauma-informed care.

Discussion

While rural and rural-serving urban providers aligned in many ways, there were notable differences. These groups had differing perceptions of some barriers to care, training needs, and prior training. In addition, while the two groups looked similar in many ways (i.e., work setting, organization's primary focus), more rural providers reported roles as supervisors or coalition directors. This could be for a few distinct reasons: (a) rural agencies have smaller staff, which means people often have multiple roles, inclusive of both supervisor and provider; and (b) given fewer paid providers, rural communities are heavily reliant on coalitions to bring together different types of providers across agency types to address specific problems (e.g. opioid use). This is not unique to Washington state. Coalitions have provided lesser resourced rural communities nationally an effective way to address public health concerns, through interventions addressing substance use, obesity, and cancer care (Carter et al., 2019; Levit et al., 2020; Palombi et al., 2019).

Apart from these differences, there was consistency across providers that stigma and lacking community knowledge and awareness were barriers to supporting prevention, treatment, and recovery of OUD. These barriers are interconnected, with lacking community knowledge

and awareness informing increased stigma in rural communities. Importantly, this finding is consistent with research in both urban and rural areas, impacting care through underfunded care, exclusion of people with OUD from recovery programs, and an absence of support for public health-forward policies and programs (Cheetham et al., 2022; Olsen & Sharfstein, 2014).

While the top five barriers were similarly ranked across groups, there was variation among the bottom seven. Rural providers perceived lack of providers/high provider turnover to be a more significant barrier than rural-serving urban providers whereas rural-serving urban providers ranked inconsistent or lacking internet access higher than rural providers. The reasoning for this difference is likely linked. While inconsistent internet access is a pronounced concern among rural communities, it does not factor into healthcare to the same degree it might for rural-serving urban providers who rely on telehealth to provide any care (Marcin et al., 2016; Whitacre & Mills, 2007). Rural providers, in their provision of in-person care, therefore, feel more significantly a dearth of care available locally through insufficient number of skilled providers—the reason why some care is outsourced to urban communities where resources are more densely available (Andrilla et al., 2019). The increasing employment of rural-serving, urban-based providers and the changing telehealth landscape resulting from COVID will likely magnify this barrier in the near future.

Training needs and receipt also differed in some significant ways. More rural providers reported trainings received on prevention (i.e., prevention strategies for youth, funding to prevent OUD) than rural-serving urban providers. Likewise, we saw more rural-serving urban providers requesting training on uptake and sustainability of prevention interventions. This differential provides an interesting window into geographically informed approaches to the opioid epidemic. Certain characteristics of urban and rural communities can help us understand the variability. Rural communities have more limited provider access and treatment often requires very specific skillsets acquired over time through health and social sciences schooling (e.g., nursing, medicine, social work) and licensure (e.g., professional, MOUD prescription). With limited options for care, prevention can become a primary resource for addressing the opioid epidemic. Prevention programming can often be implemented with the support of people who may not have those refined skillsets and can be led by people in indirectly impacted systems, including schools and faith-based organizations (Koh, 2017). Whereas rural providers reported more prevention training, more urban providers received specialized subpopulation treatment training (e.g., criminal legal populations, co-occurring disorders, and workplace-based treatment/recovery programs). This can likely be attributed to size versus need. These groups are often disproportionately represented among people with OUD and their involvement in various systems in combination with policy and programming variability across groups require specialized focus. This need is compounded by size—urban-based providers interface with significantly larger subgroups (Jones & McCance-Katz, 2019).

While foundational professional skillsets cross geographic boundaries, care provided is often contextual. The needs of a community are informed by risk environments, including social, cultural, economic, and political conditions that influence the individual, interpersonal, and environmental structures (Rhodes, 2002). We often learn the depth of these conditions

through exposure and experience, through living in a community and understanding its strengths and limitations as they impact our own day-to-day lives. Models, like Hub and Spoke, are increasingly popular for attending to the limitations of rural communities—primarily inconsistent access to providers and an overall lack of certain types of providers—and they provide an effective means for doing so (Brooklyn & Sigmon, 2017; Rawson, 2017; Reif et al., 2020). Our findings, however, demonstrate ways in which models that partner rural and urban communities to enhance care can benefit from expanded trainings that consider individual characteristics as well as structural conditions that might influence those characteristics.

Limitations

The needs assessment was conducted at the beginning of the COVID-19 pandemic, which inevitably affected the responses and the sample size. As an example, both groups ranked internet access in the bottom 7, though the changing landscape subsequent to the lockdowns and mandated masking resulted in an increased reliance in telehealth for care across the spectrum (i.e. prevention, treatment, and recovery). Likewise, training needs may have shifted in response to pandemic-related changes. While shifts were reflected in training and technical assistance provided to communities, as reflected during community advisory board meetings (e.g. trainings on social inclusion; co-occurrence of mental illness; and fentanyl), they are not necessarily reflected in the data collected. In addition, our non-random sampling approach could increase the possibility of sampling bias, which could influence the generalizability of the survey results. We nonetheless feel that this data provides an important descriptive window into the ranging needs of two sets of providers responding to an epidemic that continues to grow and impact rural communities.

Conclusion

The differences between rural and rural-serving urban providers demonstrate the ways in which rural–urban partnerships can be strengthened to enhance public health. Despite serving the same population, the training and foci of providers based in rural and urban communities might be different. These differences suggest providers would benefit from training not only by professional skillset but according to environmental conditions like rurality. Likewise, our findings suggest that the differences of these communities inform the knowledge base and experiences of the providers who live in them. Living in a community provides unique perspective. This is particularly salient for people living in rural areas where communities are tight knit and relationships often cross typically firm provider/client boundaries because of population size (Faulkner & Faulkner, 1997). While this is by no measure an argument against rural–urban public health partnerships, it does suggest a need to consider where providers and clients live when refining training content.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Demographic characteristics for respondents located in rural communities (Rural) and urban settings but serving rural communities (Urban)

Characteristic	Organization location				*p*-value
	Rural (n = 50)		Urban (n = 25)		
	N	%	N	%	
Work with tribal government/organization	10	20	5	20	1.000
Job responsibilities					
Program staff or supervisor	23	46	12	48	.870
Administrator	9	18	1	4	.093
Educator or student	10	20	7	28	.435
Healthcare professional	12	24	10	40	.151
Coalition director or coordinator	20	40	4	16	**.036**
Work setting					
Community coalition	18	36	5	20	.157
Education	16	32	7	28	.723
Community-based organization	7	14	5	20	.504
Social or human services	2	4	2	8	.467
Healthcare	15	30	8	32	.859
Government	7	14	6	24	.281
Organizational primary focus					.492
Substance use disorder prevention	18	37	5	20	
Healthcare	15	31	9	36	
Social or human services	6	12	5	20	
Education	10	20	6	24	
Substances of focus					
Alcohol	37	74	15	60	.215
Marijuana	33	66	13	52	.241
Opioids	40	80	22	88	.388
Tobacco	28	56	13	52	.743
Methamphetamine	19	38	9	36	.866
Other illegal substance use	17	34	11	44	.399
Polysubstance misuse	15	30	11	44	.230
Org has specific initiatives targeting opioid use	26	52	16	64	.324

Bolded p-values represent proportions on which groups differed at $p < .05$

Table 2

Top five barriers to providing opioid prevention, treatment, and recovery services ranked by rural and rural-serving urban respondents

Barrier	Rural rank	Urban rank
Stigma prevents individuals from seeking opioid treatment/recovery services	1	1
Lack of community knowledge/awareness of opioid use disorder	2	2
Access to behavioral health resources/services	2	4
Access to prevention programs	4	3
Access to financial support for prevention, treatment, and recovery services	5	4

Ties for the second ranked barrier in the Rural group and the fourth ranked barrier in the Urban group precluded assigning ranks for third and fifth place, respectively

Table 3

Previous training received by respondents located in rural communities (Rural) and urban settings but serving rural communities (Urban)

	Organization location				p-value
	Rural (n = 50)		Urban (n = 25)		
	N	%	N	%	
Opioid Use disorder prevention training received					
Prevention programs for youth	27	57	6	26	**.014**
How to access funding	17	36	3	13	**.044**
Opioid use disorder treatment & recovery training received					
Treatment/recovery services in criminal legal system	9	19	11	48	**0.13**
Treatment with co-occurring disorders	13	28	12	52	**.006**
Workplace-based treatment/recovery	4	9	8	35	**.006**

An expanded Table 3 with all needs assessment items is included in Appendix 2

Bolded p-values represent proportions on which groups differed at $p < .05$

Table 4

Training needs of respondents located in rural communities (Rural) and urban settings but serving rural communities (Urban)

	Organization location				p-value
	Rural (n = 50)		Urban (n = 25)		
	N	%	N	%	
Opioid use disorder prevention training needs					
Uptake/sustainability of interventions (e.g., transportation)					**.045**
No need	10	21	2	9	
Some need	21	45	6	26	
Extreme need	16	34	15	65	

An expanded Table 4 with all needs assessment items is included in Appendix B

The bolded p-value indicates that proportions differed among groups at $p < .05$