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Research Article

The Fight Against Opioids Epidemic: Americans' Views on Community Involvement.

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Abstract

The opioid epidemic has affected Americans of all ages, social classes, and communities. Many different policies and programs have been implemented in the past with the overarching goal of minimizing the destructive impact of the opioid crisis. This paper examines factors that determine Americans' views on how their communities have been involved in the fight against the opioid epidemic, controlling for the perceived levels of substance use in the community, political affiliations, and demographic factors. Data came from an AP-NORC poll (Pharmaceutical companies and drug users most often blamed for opioid crisis) conducted in April 2019. Results show the complexity and the multifaceted nature of the opioid crisis. Binary logistic analysis was used. While different factors significantly explain the assessments of community members, depending on the policy being used, some factors consistently significantly explain their views regardless of the policy. Overall, results indicate that different opinions are shared depending on Americans' political, residential, and social characteristics as well as the community exposure to substance use. Several policy recommendations are made. This study adds to the body of literature on the opioid crisis and communities' assessment of what has been done to help stop the crisis.

Keywords: Opioid epidemic; community assessment; political and socidemographic factors; American views

Introduction

The opioid epidemic has affected Americans of all ages, social classes, and communities. There were 68,630 opioid-associated overdose deaths in 2020 [1] and over 841,000 opioid-related total deaths since 1999 [2]. The effects of these numbers are profound, considering that opioid overdose deaths have been one of the leading causes of unintentional deaths since 2012 (Centers for Disease Control, 2020). In addition, the mortality rate is greater for misuse of opioids than that of car accidents (United Nations Office on Drugs and Crime [UNOCD], 2017). The steady increase in overdose deaths and decrease in life expectancy have brought attention to much-needed comprehensive public health approaches and the establishment of infrastructure to assuage its continued growth [3].

Many different policies and programs have been implemented in the past with the overarching goal of minimizing the destructive impact of the opioid crisis. Also, research on public health initiatives to fight against the growing opioid epidemic has become increasingly complex, with recent work more closely examining the

key roles of social determinants, laws, and policy [4-6]. This paper examined factors that determine Americans' assessment of their community involvement in the fight against the opioid crisis.

Essential for ensuring any policy or intervention, community involvement has been shown as a significant contributor to their successful implementation and sustainability [7]. Community engagement approaches have specifically been shown to be impactful in many areas of public health intervention and policy [8]. Community involvement relies on participation and buy-in from the communities in which it is being conducted [9], eliciting a community's strengths and autonomy [10]. Additionally, intervention and policy processes that have increased community involvement and collaboration can potentially decrease stigmatization and optimize community resources for a collective response to the opioid epidemic [11, 12].

Understanding Americans' views on their community engagement in fighting the opioid epidemic is vital for several reasons. First, public opinion has been shown to influence public policy decisions [7,13] and have direct and indirect effects on funding programs that address problems that the public deems important to fix [14]. Second, public opinion often influences political agendas at both the local and state levels [15]. Lastly, there is a lack of consensus on how to address the opioid epidemic; as a result, communities that face opioid use challenges may not receive adequate medical care or treatment [16].

In this paper, we examined factors that determine Americans' views on how their communities have been involved in the fight against the opioid epidemic, controlling for the perceived levels of substance use in the community and socio-demographic factors. We believe that community conditions such as exposure to substance use may correlate with the study participants' assessments of how their communities have engaged in the control of the opioid epidemic. Existing studies have found that public opinion generally has both direct and indirect effects on community engagement, political agendas, policymaking, and funding of treatment or program interventions regarding the diverse social problems in the communities [16-19]. While there are some political and ideological differences in ways to combat the opioid crisis, in their study of Americans' views on opioid pain reliever abuse, [20] reported that Americans support almost all of their 16 policy recommendations related to medical, law enforcement, disease control and public health measures to control opioid epidemic. For instance, most support was given to the proposition that 'medical schools and physician residency programs are required to train physicians to treat chronic pain and doctors to check and record patient histories in prescription drug monitoring program databases when prescribing prescription pain medication'. Additionally, while there was some difference in support between political affiliations for some of the proposed solutions in their survey, they found that all but the lowest ranked four had over 50% support from Democrats, Republicans, and Independents [20]. Furthermore, [19], in their study of levels of support for the expansion of community-based treatment in one's community in Virginia, reported that Republicans opposed expansion of treatment services while females and people with a post-secondary education showed support for treatment expansion.

Researchers have also identified community-level social determinants that affect elevated opioid overdose rates [5]. For example, historically, white individuals are more likely to misuse prescription opioids than other racial and ethnic minorities [21,22]. [4], examining the data from the Mortality Disparities in American Community Study (MDAC), found that opioid fatality was associated with indicators of low socioeconomic status (i.e. minority status, disability status, unemployment, and individuals without insurance). Furthermore, the literature suggests that the opioid crisis is more intense in rural settings because of structural barriers such as treatment capacity problems [23], its increased availability in rural areas, the out-migration of young people, and closer social and kinship networks [24,25] also found that more children become victims of this epidemic, as parents can no longer care for them, leading to increased foster care placements.

Note that a good number of the research involving public opinion or community views with regard to opioid crisis such as [26,17,27] is often descriptive. These studies did not examine the views of community members about their communities' involvement in the fight against the epidemic. As such, this present study aims (a) to examine factors associated with the assessment of community members on how their communities have engaged in the fight against the opioid epidemic using different strategies and (b) to investigate the association between community level of substance use and views on community involvement. The findings will add to the growing body of literature examining the comprehensive effect of the opioid crisis on Americans and views on community involvement in fighting the opioid epidemic. The paper will also inform stakeholders and policy makers about proper ways to intervene in the fight against the opioid epidemic.

Methods

Data

Data came from an AP-NORC poll (Pharmaceutical companies and drug users most often blamed for opioid crisis) conducted in April 2019 to look at perceptions of opioid crisis, its impacts on local communities, personal experiences with addiction, and views on whom or what to blame for the epidemic, [28]. Adults aged 18 or older took the survey. A total of 1108 participated in the survey (1010 via web and 98 via telephone). For more information on data collection please see the link: https://apnorc.org/projects/pharmaceutical-companies-and-drug-users-most-often-blamed-for-opioid-crisis/ We used binary logistic regression analysis.

Measures

Our focus in this study is to understand factors that significantly explain views on community involvement in fighting the opioid epidemic. Seven dependent variables reflect study participants' assessment of the different strategies used to control the opioid crisis. Specifically, these variables examined views on the use of

community resources and actions taken in fighting the opioid crisis. The following questions were asked of respondents if their community is currently doing 1. too much, 2. the right amount, or 3. not enough to: a). make substance use treatment programs more affordable and accessible; b). educate doctors and dentists on the risks of prescribing opioid pain relievers; c). improve treatment for substance use; d). crack down on drug users; e). crack down on drug dealers; f). reduce stigma and discrimination towards people with opiod addiction; and g). educate the public and students to prevent substance use. The response to each question is a 3-point Likert scale that describes the level of agreement of participants regarding their community involvement in the fight against the opioid epidemic. We grouped 'too much' and 'right amount' as 1 and 0 as 'not enough'. The seven separate analyses examined factors that correlate with each of the ways opioid epidemic is being fought and how respondents thought the different activities have been conducted in their communities.

The independent variables consist of individual and community level factors. The individual factors are: sex, race, marital status, education, political affiliation, region of residence, and annual income. The community level variables are: 1. seriousness of heroin and illicit fentanyl use in the community; 2. seriousness of alcohol use in the community; 3. seriousness of mariajuana use in the community; 4. prescription pain relievers such as OxyContin, Percocet, or Vicodin use in the community; and 5. seriousness of other drugs such as cocaine or methamphetamine use in the community. Binary logistic regression analysis was conducted using Statistical Package for Social Sciences (SPSS) Statistics 22.0.

Results

(Table 1) presents the descriptive characteristics of the variables used. Respondents were mostly female (51.6%). About 12 percent (11.9%) of respondents were Black, 63.4% were White, about 16% (16.2%) self-identified as Hispanic and 8.4% as other. While most of the respondents (62.8 %) earned less than $75,000 per year, 15% earned between $75,000 and less than $100,000, and about 22% earned at least $100,000. Respondents were mostly married (58.6%). In addition, 41.4% self-identified as Independent, 32.6% were Democrats, and the rest (26%) were Republicans. About 10% had no high school diploma, 28.6% had a high school diploma, 28.2 had some college education and the rest (32.3%) had a college degree. While about half of respondents (50.5%) resided in suburban areas, 26.6% resided in urban areas, and 22.9% in rural areas. While 39.6% of respondents believed that heroin was an extremely or very serious problem in their community, 30.5% thought it was not at all or not too serious of a problem. Also, 41.6% reported that alcohol was moderately a serious problem in their community compared to 34.3% who believed it to be very or extremely serious. Additionally, 46.3% thought marijuana was not too serious or not at all a serious problem in their community, 26.5% found it to be a very serious or an extremely serious problem. About 30% of respondents thought prescription pain relievers were not at all or not too serious of a problem in their community, while 41.3% reported this to be a very or an extremely serious of a problem. Cocaine and methamphetamines were reported to be a very or an extremely serious problem by 40%, while about 30% believed it not to be too serious or not at all serious of a problem in their community.

Table 1: Descriptive Statistics of Variables in the Analysis

Variable	*N*	Valid %
Gender		
Male	537	48.4
Female	571	51.6
Annual Income		
<30K	283	25.5
30K to <50K	193	17.4
50K to <75K	221	19.9
75K to <100K	166	15
>=100K	245	22.1
Educational Attainment		
No high school diploma	122	10.1
High school diploma	317	28.6
Some college	312	28.2
Bachelor's degree or higher	357	32.3
Race/Ethnicity		
White, non-Hispanic	703	63.4
Black, non-Hispanic	132	11.9
Hispanic	180	16.2
Other	93	8.4

Political Affiliation		
Democrat	361	32.6
Republican	288	26
Independent	459	41.4
Marital Status		
Married/cohabiting	649	58.6
Widowed, separated, divorced	203	18.4
Never married	256	23.1
Area of Residence		
Urban	295	26.6
Rural	254	22.9
Suburban	559	50.4
Seriousness of Heroin in Community		
Not at all	112	10.4
Not too	217	20.1
Moderately	322	29.8
Very	225	20.8
Extremely	203	18.8
Seriousness of Alcohol in Community		
Not at all	53	4.9
Not too	208	19
Moderately	455	41.6
Very	231	21.1
Extremely	146	13.3
Seriousness of Marijuana in Community		
Not at all	248	22.5
Not too	262	23.8
Moderately	299	27.2
Very	160	14.6
Extremely	131	11.9
Seriousness of Prescription Pain Relievers in Community		
Not at all	93	8.5
Not too	223	20.5
Moderately	323	29.7
Very	238	21.9
Extremely	211	19.4
Seriousness of Cocaine/Methamphetamines in Community		
Not at all	106	9.7
Not too	188	17.2
Moderately	355	32.5
Very	240	22
Extremely	203	18.6

We conducted a binary logistic regression analysis of participants' assessment of how involved their communities were, using the different approaches in the fight against the opioid epidemic, controlling for individual and community level factors in (Tables 2 to 8). Model 1 answered Aim 1: Examine factors associated with views on how community has been engaging in the fight against the opioid epidemic using different strategies. Model 2 investigated Aim 2: The association between community level of substance use and views on community engagement in the fight to control the opioid epidemic, given other factors associated with the opioid problem.

Model 1, (Table 2), shows that while Republicans compared to Independents were about 2.7 times more likely to agree that the community was doing enough or too much to make substance use treatment programs more affordable and accessible, people who lived in rural areas were about 43% less likely to agree compared to their counterparts in suburbs. Also, high school graduates and respondents with some colleges were about 3 times more likely to agree that their communities were doing much or too much to make substance use treatment programs more affordable and accessible, relative to their counterparts with no high school degree. Those with a college degree were almost 2 times more likely (odds ratio=1.87) to agree. Model 2 adds the community-level variables. The results are similar to those in Model 1. This means that even with the introduction of the additional variables that assess levels of substance exposure in the community in Model 2, the effects of residence and political affiliations are the same. Additionally, people whose communities had serious problem with prescription pain relievers such as OxyContin, Percocet, or Vicodin use and those with alcohol use issue were respectively 27% and 21% less likely to agree that the community was doing much or too much to make substance use treatment programs more affordable and accessible.

Table 2: Regression Results for Making Treatment Programs Affordable.

Variables	Model 1			Model 2		
	Odds Ratio	Std. Error	p-Value	Odds Ratio	Std. Error	p-Value
Constant	0.162	0.355	<.001	0.803	0.456	0.631
Gender						
Male	1.096	0.138	0.507	0.897	0.147	0.459
Female	—	—	—	—	—	—
Race						
African American	1.488	0.228	0.081	1.233	0.244	0.39
Hispanic	0.883	0.197	0.528	0.857	0.211	0.463
Other	1.446	0.246	0.134	1.451	0.266	0.161
White	—	—	—	—	—	—
Political affiliation						
Democrat	0.769	0.167	0.117	0.777	0.178	0.156
Republican	2.693***	0.165	<.001	2.616***	0.175	0
Independent	—	—	—	—	—	—
Geographic Area						
Urban	0.824	0.164	0.238	0.872	0.177	0.441
Rural	0.573*	0.18	0.002	0.618*	0.189	0.011
Suburban	—	—	—	—	—	—
Annual income						
< 30,000	1.082	0.23	0.731	1.225	0.244	0.405
30,000 to < 50,000	1.156	0.235	0.538	1.392	0.248	0.248
50,000 to < 75,000	1.243	0.22	0.322	1.344	0.232	0.232
75,000 to < 100,000	1.159	0.225	0.513	1.142	0.237	0.237
> 100,000	—	—	—	—	—	—
Educational attainment						
High school degree/diploma	2.773***	0.272	<.001	3.182***	0.298	0
Some college	2.993***	0.273	<.001	3.417***	0.299	0
Bachelor's degree or higher	1.781*	0.285	0.043	1.874*	0.311	0.043
No high school degree/diploma	—	—	—	—	—	—
Marital Status						
Married or cohabitating	1.232	0.176	0.235	1.302	0.185	0.155
Widowed, divorced, or separated	1.106	0.22	0.647	0.977	0.236	0.923
Never married	—	—	—	—	—	—
Serious substance use in the community						
Heroin and illicit fentanyl			1.032	0.099		0.753
Alcohol			0.8366	0.09		0.108

Marijuana			1.092	0.063		0.132
Prescription pain relievers			.782*	0.099		0.013
Cocaine and other methamphetamines			.776*	0.105		0.015

* p < .05. ** p < .01 *** p < .001

(Table 3), Model 1, shows that men were 1.3 times and Republicans were 1.8 times more likely to agree that their communities were doing enough or too much to educate doctors and dentists on the risks of prescribing opioid pain relievers compared to women and Independents, respectively. Also, people who were widowed, divorced, or separated were 1.7 times more likely to agree compared to never married. However, people who made less than $30,000, those who made $50,000 to less than $75,000, and participants who made $75,000 to less than $100,000 were 51%, 36%, and 35%, respectively, were less likely to agree relative to those who earned more than $100,000 per year. When the community variables were added in Model 2, no significant difference is revealed among income groups $50,000 and above. Only people who made less than $30,000 a year significantly agreed. It appears that respondents with less than $30,000 expect more public action to deal with the impact of opioid in their communities given the presence of other substances in the communities. Higher income earners probably believe less in public action. Whatever was being done in their communities, they considered it to be adequate. Also, people in communities where prescription pain reliever use was a serious problem were also 32% less likely to agree.

Table 3: Regression Results for Educating Doctors and Dentists

Variables	Model 1			Model 2		
	Odds Ratio	Std. Error	p-Value	Odds Ratio	Std. Error	p-Value
Constant	0.785	0.307	0.43	2.606	0.404	0.018
Gender						
Male	1.301*	0.13	0.043	1.168	0.136	0.255
Female	—	—	—	—	—	—
Race						
African American	1.496	0.215	0.061	1.216	0.227	0.389
Hispanic	1.251	0.18	0.214	1.276	0.191	0.202
Other	0.717	0.237	0.161	0.622	0.253	0.06
White	—	—	—	—	—	—
Political affiliation						
Democrat	0.825	0.15	0.2	0.891	0.158	0.465
Republican	1.776***	0.161	<.001	1.690**	0.166	0.002
Independent	—	—	—	—	—	—
Geographic Area						
Urban	0.99	0.155	0.947	1.056	0.164	0.74
Rural	0.806	0.164	0.19	0.862	0.171	0.383
Suburban	—	—	—	—	—	—
Annual income						
< 30,000	.488***	0.217	<.001	.479**	0.227	0.001
30,000 to < 50,000	1.156	0.235	0.538	1.392	0.248	0.248
50,000 to < 75,000	.641*	0.207	0.031	0.69	0.215	0.084
75,000 to < 100,000	.653*	0.213	0.045	0.649	0.22	0.049
> 100,000	—	—	—	—	—	—
Educational attainment						
High school degree/diploma	1.144	0.226	0.551	1.257	0.241	0.343
Some college	1.406	0.228	0.135	1.478	0.242	0.106
Bachelor's degree or higher	1	0.239	1	1.04	0.253	0.876
No high school degree/diploma	—	—	—	—	—	—
Marital Status						
Married or cohabitating	1.226	0.162	0.208	1.247	0.169	0.192

Widowed, divorced, or separated	1.729**	0.204	0.007	1.595*	0.214	0.029
Never married	—	—	—	—	—	—
Serious substance use in the community						
Heroin and illicit fentanyl			1.091	0.092		0.345
Alcohol			0.88	0.082		0.119
Marijuana			1.055	0.057		0.35
Prescription pain relievers			676***	0.092		0
Cocaine and other methamphetamines			1.005	0.094		0.962

* p < .05. ** p < .01 *** p < .001

Results on the views of particpants with regard to improving treatment for substance use in(Table 4), Model 1, shows again that Republicans were 3.6 times likely to agree that their communities were doing enough or too much to improve treatment for substance use compared to Independents. While rural residents were 49% and urban residents were 36% less likely to agree compared to their counterparts who live in suburbs. People with a bachelor's degree or higher were 55% less likely to agree. Adding the community variables in Model 2, we see some slight changes in the significance of the variables discussed in Model 1. For instance, rural residents were now only 45% less likely to agree that their communities were doing enough or too much to improve treatment for substance use compared to Independents. Living in communities with serious alcohol problems reduces the odds of agreeing by 30%. Also, people who live in communities where prescription pain relievers were a serious problem were 21% less likely to agree.

Table 4: Regression Results for Improving Treatment for Substance Use

Variables	Model 1			Model 2		
	Odds Ratio	Std. Error	p-Value	Odds Ratio	Std. Error	p-Value
Constant	0.78	0.319	0.436	3.512	0.424	0.003
Gender						
Male	1.24	0.136	0.114	1.109	0.144	0.472
Female	—	—	—	—	—	—
Race						
African American	1.275	0.222	0.274	1.278	0.237	0.302
Hispanic	1.17	0.186	0.399	1.346	0.199	0.136
Other	1.131	0.251	0.624	1.196	0.27	0.507
White	—	—	—	—	—	—
Political affiliation						
Democrat	1.109	0.16	0.52	1.151	0.169	0.405
Republican	3.627***	0.166	<.001	3.780***	0.177	0
Independent	—	—	—	—	—	—
Geographic Area						
Urban	.644**	0.163	0.007	.640*	0.175	0.011
Rural	.513***	0.177	<.001	.551**	0.186	0.001
Suburban	—	—	—	—	—	—
Annual income						
< 30,000	0.769	0.229	0.249	0.85	0.242	0.502
30,000 to < 50,000	1.069	0.233	0.776	1.329	0.244	0.243
50,000 to < 75,000	1.262	0.229	0.281	1.49	0.225	0.077
75,000 to < 100,000	1.257	0.223	0.305	1.322	0.234	0.233
> 100,000	—	—	—	—	—	—
Educational attainment						
High school degree/diploma	0.805	0.229	0.343	0.878	0.247	0.599
Some college	0.772	0.231	0.262	0.847	0.245	0.498
Bachelor's degree or higher	.432***	0.246	<.001	.438**	0.261	0.002

No high school degree/diploma	—	—	—	—	—	—
Marital Status						
Married or cohabitating	0.809	0.169	0.211	0.802	0.176	0.211
Widowed, divorced, or separated	0.937	0.209	0.756	0.82	0.224	0.374
Never married	—	—	—	—	—	—
Serious substance use in the community						
Heroin and illicit fentanyl			1.193	0.097		0.07
Alcohol			.731***	0.087		0
Marijuana			0.974	0.061		0.667
Prescription pain relievers			.793*	0.096		0.016
Cocaine and other methamphetamines			0.879	0.1		0.2

* p < .05. ** p < .01 *** p < .001

(Table 5), Model 1, presents results for respondents' views on educating the public and students. Rural residence (odds ratio=0.580), having some college education (odds ratio=0.608) and having at least a bachelor's degree (odds ratio=0.349) decrease the likelihood to agree that community was doing enough or too much to educate the public and students. Also, Republicans were 1.8 times more likely to agree that their communities were doing enough or too much to educate the public and students compared to Independents. The introduction of the community variables in Model 2 only slightly changes the odds ratio but they are approximately = 2. However, now, African Americans compared to Whites (odds ratio =0.583), and respondents living in areas with serious prescription pain reliever issue (odds ratio=0.694) did not agree that their communities were doing enough or too much to educate the public and students. The significance of race in Model 2 may signify that African Americans may prefer educating the public and students about substance use as an important strategy to fight the opioid crisis.

Table 5: Regression Results for Educating the Public and Students

Variables	Model 1			Model 2		
	Odds Ratio	Std. Error	p-Value	Odds Ratio	Std. Error	p-Value
Constant	1.589	0.309	0.135	8.106	0.416	0
Gender						
Male	1.229	0.13	0.114	1.078	0.137	0.586
Female	—	—	—	—	—	—
Race						
African American	0.695	0.22	0.097	.583*	0.234	0.021
Hispanic	0.746	0.18	0.102	0.724	0.193	0.094
Other	1.035	0.236	0.886	.1.089	0.251	0.735
White	—	—	—	—	—	—
Political affiliation						
Democrat	1.061	0.152	0.695	1.099	0.16	0.553
Republican	1.846***	0.159	<.001	1.798***	0.168	0
Independent	—	—	—	—	—	—
Geographic Area						
Urban	0.965	0.155	0.816	1.006	0.165	0.969
Rural	.580**	0.168	0.001	.633**	0.176	0.009
Suburban	—	—	—	—	—	—
Annual income						
< 30,000	0.749	0.217	0.182	0.801	0.228	0.331
30,000 to < 50,000	0.962	0.222	0.862	1.082	0.232	0.733
50,000 to < 75,000	0.874	0.208	0.519	0.887	0.217	0.581
75,000 to < 100,000	0.863	0.215	0.493	0.845	0.223	0.452
> 100,000	—	—	—	—	—	—
Educational attainment						

High school degree/diploma	0.745	0.224	0.189	0.702	0.241	0.143
Some college	.608*	0.227	0.028	.587*	0.241	0.027
Bachelor's degree or higher	349***	0.241	<.001	.302***	0.258	0
No high school degree/diploma	—	—	—	—	—	—
Marital Status						
Married or cohabitating	0.916	0.163	0.589	0.941	0.17	0.721
Widowed, divorced, or separated	1.065	0.202	0.755	1.022	0.214	0.921
Never married	—	—	—	—	—	—
Serious substance use in the community						
Heroin and illicit fentanyl			1.051	0.091		0.588
Alcohol			0.88	0.082		0.122
Marijuana			0.982	0.057		0.758
Prescription pain relievers			0.975	0.09		0.779
Cocaine and other methamphetamines			.694***	0.095		0

* p < .05. ** p < .01 *** p < .001

Results in (Table 6), Model 1, indicate that study participants in rural areas compared to those who lived in suburbs (odds ratio=0.479) were less likely to agree that the community has done enough or too much to crack down on drug dealers. However, respondents with at most a high school degree or diploma were 1.9 times more likely to agree that their communities have done enough or too much to crack down on drug dealers. Adding the community variables in Model 2 shows that people whose community have serious problems with heroin and illicit fentanyl (odds ratio=0.833), cocaine and methamphetamines (odds ratio= 0.643) were less likely to agree that the community has done enough or too much to crack down on drug dealers.

Table 6: Regression Results for Cracking Down on Drug Dealers

Variables	Model 1			Model 2		
	Odds Ratio	Std. Error	p-Value	Odds Ratio	Std. Error	p-Value
Constant	0.823	0.313	0.534	6.371	0.426	0
Gender						
Male	1.155	0.13	0.267	0.991	0.139	0.948
Female	—	—	—	—	—	—
Race						
African American	1.223	0.213	0.344	0.948	0.235	0.82
Hispanic	0.916	0.182	0.628	0.847	0.197	0.398
Other	0.823	0.204	0.415	0.789	0.258	0.358
White	—	—	—	—	—	—
Political affiliation						
Democrat	0.918	0.152	0.575	0.917	0.163	0.598
Republican	1.189	0.16	0.28	1.165	0.171	0.37
Independent	—	—	—	—	—	—
Geographic Area						
Urban	0.752	0.155	0.065	0.796	0.168	0.173
Rural	.479***	0.171	<.001	.486***	0.181	0
Suburban	—	—	—	—	—	—
Annual income						
< 30,000	0.886	0.216	0.576	1.018	0.232	0.938
30,000 to < 50,000	0.86	0.223	0.497	0.917	0.238	0.716
50,000 to < 75,000	0.836	0.208	0.391	0.891	0.221	0.602
75,000 to < 100,000	0.97	0.212	0.885	0.99	0.226	0.964
> 100,000	—	—	—	—	—	—

Educational attainment						
High school degree/diploma	1.866*	0.233	0.007	1.699*	0.252	0.036
Some college	1.267	0.235	0.315	1.146	0.253	0.59
Bachelor's degree or higher	1.039	0.246	0.875	0.847	0.265	0.53
No high school degree/diploma	—	—	—	—	—	—
Marital Status						
Married or cohabitating	0.851	0.162	0.317	0.829	0.172	0.275
Widowed, divorced, or separated	0.712	0.205	0.099	0.669	0.223	0.072
Never married	—	—	—	—	—	—
Serious substance use in the community						
Heroin and illicit fentanyl			.833*	0.092		0.047
Alcohol			1.07	0.084		0.416
Marijuana			0.904	0.058		0.082
Prescription pain relievers			1.069	0.093		0.47
Cocaine and other methamphetamines			.643***	0.096		0

* p < .05. ** p < .01 *** p < .001

In (Table 7), Model 1, rural residents (odds ratio = 0.499) were less likely to agree that the community has done enough or too much to crack down on drug users compared to their suburban counterparts. Adding the community-level variables in Model 2 there is a small (4%) reduction in the odds of rural residents disagreeing that the community has done enough or too much to crack down on drug users compared to their suburban counterparts. Having marijuana and cocaine as serious problems in the community reduced the odds of agreeing that the community has done more or too much to crack down on drug users, respectively, by 24% and 34%.

Table 7: Regression Results for Cracking Down on Drug Users

Variables	Model 1			Model 2		
	Odds Ratio	Std. Error	p-Value	Odds Ratio	Std. Error	p-Value
Constant	1.782	0.309	0.062	12.977	0.426	0
Gender						
Male	1.137	0.129	0.319	0.975	0.138	0.852
Female	—	—	—	—	—	—
Race						
African American	1.123	0.215	0.59	0.969	0.237	0.895
Hispanic	0.784	0.179	0.174	0.836	0.194	0.357
Other	0.59	0.233	0.024	0.616	0.251	0.054
White	—	—	—	—	—	—
Political affiliation						
Democrat	0.779	0.15	0.097	0.728	0.162	0.05
Republican	0.955	0.159	0.774	0.929	0.169	0.661
Independent	—	—	—	—	—	—
Geographic Area						
Urban	0.934	0.154	0.656	1.01	0.167	0.953
Rural	.499***	0.164	<.001	.536***	0.175	0
Suburban	—	—	—	—	—	—
Annual income						
< 30,000	1.048	0.214	0.827	1.189	0.231	0.452
30,000 to < 50,000	0.833	0.22	0.406	0.951	0.236	0.831
50,000 to < 75,000	0.699	0.205	0.081	0.751	0.217	0.187
75,000 to < 100,000	1.155	0.212	0.497	1.262	0.226	0.302

> 100,000	—	—	—	—	—	—
Educational attainment						
High school degree/diploma	1.098	0.228	0.683	1.167	0.248	0.532
Some college	0.872	0.229	0.551	0.919	0.247	0.733
Bachelor's degree or higher	0.892	0.24	0.632	0.885	0.259	0.637
No high school degree/diploma	—	—	—	—	—	—
Marital Status						
Married or cohabitating	0.964	0.162	0.821	0.948	0.171	0.756
Widowed, divorced, or separated	0.831	0.202	0.359	0.809	0.219	0.333
Never married	—	—	—	—	—	—
Serious substance use in the community						
Heroin and illicit fentanyl			1.032	0.093		0.738
Alcohol			1.048	0.083		0.573
Marijuana			.753***	0.058		0
Prescription pain relievers			0.958	0.09		0.633
Cocaine and other methamphetamines			.663***	0.097		0

* p < .05. ** p < .01 *** p < .001

Model 1 in (Table 8) show that compared to Independents, Republicans were 2.2 times more likely to agree that the community has done enough or too much to reduce stigma and discrimination toward people with opioid and heroine addiction. However, rural residents were 45% less likely to agree relative to people in suburbs. Model 2 adds community variables. People who earned between $30,000 and less than $50,000, were 1.8 times more likely to agree that the community has done more or too much compared to those who earned over $100,000. Also, communities where alcohol is a serious substance use problem were 18% less likely to agree that the community has done enough or too much to reduce stigma and discrimination toward people with opioid and heroine addiction.

Table 8: Regression Results for Reducing Stigma

Variables	Model 1			Model 2		
	Odds Ratio	Std. Error	p-Value	Odds Ratio	Std. Error	p-Value
Constant	1.101	0.311	0.758	2.795	0.403	0.011
Gender						
Male	1.077	0.132	0.575	1.032	0.137	0.818
Female	—	—	—	—	—	—
Race						
African American	0.904	0.217	0.641	0.883	0.228	0.584
Hispanic	0.977	0.182	0.897	1.07	0.191	0.723
Other	0.793	0.244	0.341	0.876	0.254	0.6
White	—	—	—	—	—	—
Political affiliation						
Democrat	0.849	0.153	0.287	0.879	0.159	0.416
Republican	2.246***	0.162	<.001	2.308***	0.167	0
Independent	—	—	—	—	—	—
Geographic Area						
Urban	0.828	0.157	0.229	0.866	0.163	0.377
Rural	.555***	0.169	<.001	.586**	0.175	0.002
Suburban	—	—	—	—	—	—
Annual income						
< 30,000	0.703	0.22	0.108	0.762	0.227	0.233
30,000 to < 50,000	1.472	0.223	0.083	1.809*	0.231	0.01
50,000 to < 75,000	1.157	0.208	0.482	1.291	0.213	0.232

75,000 to < 100,000	1.152	0.214	0.509	1.192	0.221	0.426
> 100,000	—	—	—	—	—	—
Educational attainment						
High school degree/diploma	0.837	0.23	0.437	0.911	0.24	0.696
Some college	0.851	0.231	0.484	0.929	0.239	0.759
Bachelor's degree or higher	0.68	0.242	0.111	0.686	0.251	0.133
No high school degree/diploma	—	—	—	—	—	—
Marital Status						
Married or cohabitating	0.885	0.164	0.455	0.899	0.168	0.528
Widowed, divorced, or separated	0.905	0.205	0.629	0.842	0.214	0.423
Never married	—	—	—	—	—	—
Serious substance use in the community						
Heroin and illicit fentanyl			1.127	0.092		0.192
Alcohol			.820*	0.082		0.016
Marijuana			0.993	0.057		0.905
Prescription pain relievers			0.924	0.091		0.389
Cocaine and other methamphetamines			0.836	0.095		0.06

* p < .05. ** p < .01 *** p < .001

Discussion

This article has examined factors that explain community members' views on their community engagement in the fight against the opioid crisis. The results show the complexity and the multifaceted nature of the opioid crisis. While different factors significantly explain the assessments of community members depending on the strategy being used, some factors consistently significantly explain their views regardless of the strategy. For instance, except for the two strategies 'cracking down on drug dealers' and 'cracking down on drug users' as policies to control for opioid epidemic, Republicans were consistently more likely to agree that their communities were doing enough or too much on the other 5 strategies: 1. Making treatment programs affordable; 2. Educating doctors and dentists on risks of prescribing opioid pain relievers; 3. Improving treatment for substance use; 4. Reducing stigma and discrimination towards people with opiod addiction; and 5. Educating the public and students to prevent substance use, compared to Independents. As reported in other studies [29,30], partisanship shapes policies including treatment-related policies. Regarding the opioid crisis, partisan views also were found, for example, in the STAT-Havard Chan study [31], whereby 45% of Democrats agreed that the government spending on treatment program for people with opioid or heroin addiction was low compared to 37% of Republicans. [32], even, reported an increased gap between Democrats (52%) who showed support for more federal government spending to fight the opioid epidemic relative to Republicans (38%). [19] also reported partisanship in the support for expansion of treatment services in Virginia whereby Republicans showed opposition to expanding recovery housing in the community. In fact, the partisanship of policy makers was blamed by [33] as one of the reasons for the spread of the opioid crisis in the United States.

Apart from educating doctors and dentists on risks of prescribing opioid pain relievers, compared to suburban residents, rural residents were less likely to agree that their communities have done enough to control the opioid crisis relative to suburban residents on all the other 6 strategies: 1. Make substance use treatment programs more affordable and accessible; 2. Educate the public and students to prevent substance use; 3. Improve treatment for substance use; 4. Crack down on drug users; 5. Crack down on drug dealers; 6. Reduce stigma and discrimination towards people with opiod addiction. This may be explained by the fact that rural areas were initially hit the hardest by the opioid crisis and have become more vulnerable to the epidemic [34,35,24]. Residents in rural areas may feel overwhelmed by the crisis and do not see any way out, thus, their negative responses to how their communities had fared to combact the opioid epidemic. Additionally, as indicated by [36], these rural areas have mostly White residents who have not experienced any of the past drug crises. They also tend to be conservatives. Thus, the opioid epidemic becomes a conundrum for them as Republicans generally support less governmental interventions. As documented by [29], these different partisan positions of the rural residents in our study may align with their self-interests rather than their partisan beliefs, leading to their cross-pressures of policy preferences with regard to ways their communities have handled the opioid crisis. Both their personal experiences and self-interests may have attenuated their partisanship beliefs. Hence, they did not think it is a matter of personal responsibility to do more to mitigate the opioid crisis.

Education and income have mixed effects depending on strategies. For example, compared to respondents with no high school degree, study participants who had at least a high school degree or diploma believed that their communities were doing enough or too much to make treatment programs affordable. Also, respondents with high school degree or diploma thought their communities were doing enough or too much to crack down on drug dealers relative to those with no high school degree or diploma.

However, those with a bachelor's degree or higher believed that their communities were not doing enough or too much to improve treatment for substance use as well as educating the public and students about opioids compared to those with no high school degree or diploma. Also, compared to people who earned at least $100,000, people who earned less than $30,000 and those who earned $50,000 to less than $100,000 thought their communities were not doing enough to educate physicians and dentists about use of opioids as pain relievers. However, people who made between $30,000 to less than $50,000 thought their communities were doing enough or too much reducing stigma toward people with opioid addition. While educational attainment has been shown to be a positive determinant of support for treatment expansion in the community and a basis for better understanding of addiction and treatment needs [19], the results in this current paper are not uniform. This may be explained by the different strategies used.

Race did not have a significant effect except for African American respondents who thought that their communities were not doing enough to educate the public and students about substance use prevention. Also, respondents who were either married, divorced, or separated did believe that their communities were doing enough or too much to educate physicians and dentists.

At least one of the community exposures to substance use variables significantly reduced the odds of community members agreeing that their communities have been doing enough or too much regarding each of the strategies. While this should be expected, the strategies for which respondents significantly identified two types of substances being a serious matter in their communities were treatment-related and punitive such as: 1. Make treatment programs for substance use more affordable, 2. Improve treatment for substance use, 3. Cracking down on drug dealers, and 4. Cracking down on drug users. For the punitive strategies, respondents believed that marijuana, heroine and illicit fentanyl, and cocaine and other methamphetamines were serious substance use in the community. Alcohol, prescription pain relievers, and cocaine and other methamphetamines were identified as being serious in the community for the treatment-related strategies.

While important findings are noted in the paper, a few limitations need to be specified. Data are cross sectional and cannot infer causation. Data are self-reports and may have issues with recall and social desirability.

Conclusion

Several important points could be made about the findings in this study. First, there are differences in the views of how communities have tackled the opioid crisis along political lines indicating that political ideologies and beliefs may be clouding judgment of what is really going on in the communities. Hence, intentional and targeted messages should be created to sensibilize Americans about the real impacts of the opioid crisis on communities, what is needed to seriously combat the crisis, and ways to notably tackle the epidemic. As public opinion partly influences success or failure of government response to the opioid epidemic [29], the importance for communities to come together and advocate for meaningful changes will be one way to help solve this crisis. Second, rural residents, while they tend to be Whites and conservatives [37], their opinions reflect their self-interests more so than their conservative ideologies of personal responsibility and less of government intervention. Additionally, their contact with this social problem, opioid misuse, seems to affect their political participation and policy attitudes as reported by [29]. Thus, stakeholders may use these facts for policy support and leverage. Third, understandably, community exposure to substance use seems to be an important factor of concern regardless of the strategies used to combat the crisis. Ideally, it will be great if communities were not exposed to substances and their use. However, the realities are dire. Alcohol and marijuana are by far the most commonly abused substances among teen and young adult Americans [38]. Hence, substance abuse prevention programs should be at the individual, familial, community, and social levels. These programs should teach children and their families not only about substance use prevention but also ways to detect substance use among children. Also, there should be programs in the communities where both parents and children could readily seek help in case of substance use. Additionally, stigma related to substance abuse and mental health should be combatted for people to freely seek help. The present study adds to the body of literature on the opioid crisis and communities' assessment of what has been done to help stop the crisis. Results indicate that different opinions are shared depending on Americans' political, residential, and social characteristics as well as the community exposure to substance use.

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Declaration of interest statement.

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