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Opioids and Young Adults in Alaska: Access, Consumption, Consequences, and Perceptions

Technical Report

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Executive Summary

Over the past 5 years, numerous state and local activities have targeted opioid prevention among Alaskans, particularly youth and young adults. While surveillance data exists for youth, no specific data exists for opioid behaviors and perceptions among Alaskan young adults.

Researchers at the University of Alaska Anchorage Center for Behavioral Health Research and Services conducted surveys in 2016 and 2019 to gather information on awareness, opioid and heroin use, social and retail access, and risk perceptions. At each timepoint, Alaskans age 18-27 were randomly selected and invited to participate. Response rates for the surveys were 10.4% and 12.8%, respectively. Survey data were weighted for gender and borough in order to represent Alaska's population of young adults.

Changes from 2016 to 2019:

- ↑ Increase in seeing awareness messages about opioids
- ↑ Increase in rating prescription opioid misuse and heroin use as problems in community.
- ↑ Increase in perceived risk from misusing opioids or using heroin.

Among those who had been prescribed opioids in the past three years:

- ↓ Decrease in reported conversations with doctor or pharmacist when receiving prescription
- ↑ The percentage who had leftover pills remained high. Of those, increase in bringing leftover pills to pharmacy or other permanent disposal site.

Survey findings indicate success at disseminating opioid prevention messages in the community and promoting disposal of leftover opioids. Additionally, increasing perceived risk among young adults in Alaska may predict future reductions in opioid and heroin use behaviors. Findings indicate opportunities for broader media messaging and communication with healthcare providers.

Table of Contents

Background.....	1
Partnerships for Success (PFS) Approach and Funded Boroughs	1
Performance Measurement	1
Method.....	3
Survey Instrument.....	3
Sampling	3
Data Collection and Incentives	4
Response Rate	4
Sample Demographics and Data Weighting	4
Findings: Prescription Opioids	6
Awareness and Attitudes.....	6
Retail Access to Prescription Opioids	9
Social Access to Prescription Opioids	14
Prescription Opioid Misuse.....	16
Perceived Risk of Harm from Prescription Opioid Misuse.....	17
Difficulties Related to Prescription Opioid Misuse	20
Findings: Heroin	21
Attitudes	21
Heroin Use	21
Perceived Risk of Harm from Heroin Use	22
Difficulties Related to Heroin Use	25
Conclusion	26
Key Findings	26
Limitations	27
Recommendations	27
References	28

List of Tables

Table 1. Population of PFS Boroughs in Alaska	1
Table 2. Survey Domains.....	3
Table 3. Sampling and Response Rate by Borough and Timepoint	4
Table 4. Demographic Characteristics of Survey Respondents	5

List of Figures

Figure 1. Prescription Opioid Awareness Messages Seen on the Radio, TV, or on Printed Material.....	7
Figure 2. Some Type of Prescription Opioid Message Seen in Total and by Gender.....	8
Figure 3. Some Type of Prescription Opioid Message Seen by Race	8
Figure 4. Perceived Severity of Prescription Opioid Misuse as a Problem in the Community in Total and by Gender	9
Figure 5. Perceived Severity of Prescription Opioid Misuse as a Problem in the Community by Race	9
Figure 6. Prescribed Opioids Lifetime in Total and by Gender	10
Figure 7. Prescribed Opioids Lifetime by Race.....	10
Figure 8. Prescribed Opioids in the Past 3 Years in Total and by Gender	11
Figure 9. Prescribed Opioids in the Past 3 Years by Race	11
Figure 10. Prescribed Opioids More than 3 Years ago in Total and by Gender	12
Figure 11. Prescribed Opioids More than 3 Years ago by Race	12
Figure 12. Topics Discussed with a Doctor or Pharmacist (if Prescribed Opioids in the Past 3 Years).....	13
Figure 13. Those with Leftover Pills in Total and by Gender (if Prescribed Opioids in the Past 3 Years) ...	14
Figure 14. Those with Leftover Pills by Race (if Prescribed Opioids in the Past 3 Years)	15
Figure 15. Disposal Practices (if Prescribed Opioids in the Past 3 Years)	15
Figure 16. Lifetime Misuse of Prescription Opioids in Total and by Gender	16
Figure 17. Lifetime Misuse of Prescription Opioids by Race.....	17
Figure 18. Perceived Risk of Harm from Misusing Prescription Opioids Once or Twice in Total and by Gender	18
Figure 19. Perceived Risk of Harm from Misusing Prescription Opioids Once or Twice by Race	18
Figure 20. Perceived Risk of Harm from Regular Prescription Opioid Misuse in Total and by Gender	19
Figure 21. Perceived Risk of Harm from Regular Prescription Opioid Misuse by Race	19
Figure 22. Perceived Severity of Heroin as a Problem in the Community	21
Figure 23. Lifetime Use of Heroin in Total and by Gender	22
Figure 24. Perceived Risk of Harm from Using Heroin Once or Twice in Total and by Gender	23
Figure 25. Perceived Risk of Harm from Using Heroin Once or Twice by Race	24
Figure 26. Perceived Risk of Harm from Regular Heroin Use in Total and by Gender	24
Figure 27. Perceived Risk of Harm from Regular Heroin Use by Race	25

Background

In September of 2015, the Substance Abuse and Mental Health Services Administration (SAMHSA) awarded the Partnerships for Success (PFS) grant to the State of Alaska Department of Health and Social Services (DHSS), Division of Behavioral Health (DBH). The PFS grant program was a five-year effort focused on preventing and reducing substance use and building prevention capacity at both the state and community levels. DHSS provided coordination for the project and facilitated the conduct of project activities by community-level coalitions. Additionally, DHSS contracted with the Center for Behavioral Health Research and Services (CBHRS) at the University of Alaska Anchorage (UAA) to conduct a comprehensive statewide evaluation of the PFS project.

Using a data-informed prioritization process to narrow the substance abuse focus of the grant, the State Epidemiological Outcomes Workgroup chose two PFS priority areas: **1) non-medical use of prescription opioids among 12-25 year olds; and 2) heroin use among 18-25 year olds.** Additional background as well as secondary data on related to prescription opioids and heroin in Alaska are described in the Partnerships for Success Evaluation Technical Report 1.¹

Partnerships for Success (PFS) Approach and Funded Boroughs

Through a competitive application process, six community coalitions, each representing an Alaska borough, received funding in July of 2016. The six funded boroughs (five urban and one rural) are presented in Table 1 and together comprise approximately 81% of Alaska's total population according to the 2017 census estimates.²

Table 1. Population of PFS Boroughs in Alaska

	State	Anchorage	Fairbanks North Star	Juneau	Kenai Peninsula	Matanuska-Susitna	Sitka
Population	737,080	297,483	97,738	32,269	58,024	104,166	8,748

In each borough, community coalitions directed a variety of opioid prevention activities over the five-year grant period. These activities included media campaigns, educational outreach and training activities for community members, safe storage and disposal resource distribution, and policy and outreach activities promoting safe prescribing among healthcare organizations and providers.

Performance Measurement

The ability to monitor change in the non-medical use of prescription opioids and heroin use over the five-year grant project is important for performance measurement. However, no surveillance data is available for the specific priority areas of non-medical use of prescription opioids and heroin use, particularly among 18-25 year olds in PFS boroughs. In response to this data gap, a surveillance survey to assess non-medical use of prescription opioids and heroin use among 18-25 year olds was developed and administered in 2016 and repeated in 2019. These two data collection timepoints, one early in the PFS implementation and one near the end of the project, allow for pre-post analyses to assess change.

In addition to measuring prescription opioid misuse and heroin use, the survey provided an opportunity to measure intervening variables of focus for the Alaska PFS project which include: 1) social access to prescription opioids through friends and family; 2) retail access to prescription opioids through providers and dispensers; and 3) perceived risk of harm from non-medical use of prescription opioids and heroin use. State and local-level survey findings were provided to borough coalitions following both baseline

and follow-up. At baseline, the findings supported local-level understanding of each intervening variable and informed the selection of appropriate strategies. Follow-up findings both assessed change and provided information that can be used to inform sustainability of PFS efforts and inform potential new activities.

Method

Survey Instrument

Table 2 outlines the domains of the survey instrument. To develop the survey instrument, evaluators at CBHRS reviewed existing surveillance surveys and utilized similar items when possible. For example, consumption, perceived risk of harm, and ease of access items parallel items from SAMHSA’s National Survey on Drug Use and Health.³ Consistency of questions allows for the comparison of results between PFS boroughs, overall state estimates, and national estimates over time. Additional questions were developed by CBHRS evaluators to meet the specific needs of the project.

Table 2. Survey Domains

	Prescription opioids	Heroin
Perceived extent of the problem in the community	√	√
Consumption, misuse, and/or use (lifetime, past year, past 30 days)	√	√
Days misused opioids/used heroin in the past 30 days ^a	√	√
Perceived risk of harm from trying once or twice	√	√
Perceived risk of harm from using weekly	√	√
Difficulties experienced from substance use	√	√
Awareness of prevention messages	√	
Prescribed opioids (lifetime, past three years)	√	
Disposal practices ^b	√	
Provider discussions ^b	√	
Ease of access to substance ^a	√	√
How substance was accessed for misuse ^a	√	
Reasons for misuse of substance ^a	√	
Doctor shopping behavior ^a	√	

Only asked if: (a) prescription opioids misused or heroin used in past 30 days; (b) received an opioid prescription in the past three years

Sampling

For baseline data collection in 2016, a list of names and mailing addresses of 18-25 year olds residing in Alaska was purchased from a reputable market research company in order to conduct a mail-based survey. To address challenges encountered at baseline (and described in PFS Evaluation Report 1), the sampling approach was changed for follow-up data collection.¹ The age range was also slightly expanded from 18-25 years old to 18-27 years old in order to capture individuals who were within the target age range during PFS implementation. In 2019, a list of names and mailing addresses of 18-27 year old registered voters with residential addresses in PFS-funded boroughs was obtained from the Alaska Division of Elections. Since voter registration became automatic with Permanent Fund Dividend applications (unless an individual opts out of voter registration) in 2017, the registered voter list is among the best sources for sampling, with the voter list exceeding 85% of the population estimate.² The sampling plan at both timepoints was derived based on the budget available and the estimated population of 18-25 year olds in each funded borough. With a goal of obtaining 1,500 completed surveys (and at least 150 from each funded borough) and an anticipated response rate of 20%, the goal was to

invite 7,472 individuals. In order to allow for some undeliverable mail due to old or incorrect addresses, 7,500 individuals were randomly selected from the mailing lists. For borough-level analyses, oversampling was necessary in smaller boroughs to reach the threshold of 150 completed surveys. At baseline, the complete mailing list of all 18-25 year olds in Sitka included only 380 individuals so all were invited to take the survey and sample sizes in other boroughs were adjusted to make up the shortfall in total invitations. Table 3 presents sampling by borough and timepoint.

Data Collection and Incentives

Recruitment was identical at baseline and follow-up. After obtaining approvals from the UAA Institutional Review Board (IRB) and the Alaska Area IRB, up to three survey invitation letters were mailed to all randomly selected individuals, with mailings occurring approximately every two weeks. The first invitation letter invited potential participants to complete the survey online by providing a survey link, a unique passcode, and a small notebook as a pre-incentive. The second invitation letter contained the same online survey link and passcode but also included a paper survey and pre-addressed and pre-paid return envelope. The last letter specified that it was the final request and again included the online survey link and unique passcode. Once individuals responded to the survey, no further invitation letters were sent. Once a unique passcode was used to complete the survey, it could not be used a second time, preventing duplicate responses and limiting unintended participation. Baseline data collection occurred from October 10th to November 28th, 2016 and follow-up data collection took place from September 13th to November 10th, 2019.

Survey participants received a \$15 gift certificate to a local grocery store and were entered into a drawing to win a round-trip airline ticket donated by Alaska Airlines.

Response Rate

At baseline, a total of 779 surveys were completed by eligible individuals within the target age range, resulting in a 10.4% response rate. At follow-up, 961 completed surveys were returned, resulting in a 12.8% response rate. Although the goal sample size of 1,500 was not reached at either timepoint, power analyses indicated 99% certainty that sample estimates are within $\pm 4.6\%$ of the population. Table 3 outlines the survey response rate by borough and timepoint.

Table 3. Sampling and Response Rate by Borough and Timepoint

		Total	Anchorage	Fairbanks North Star	Juneau	Kenai Peninsula	Matanuska -Susitna	Sitka
Baseline (2016)	Invitations	7,469	2,100	1,838	788	1,050	1,313	380
	Participants (Response rate)	779 (10.4%)	212 (10.1%)	167 (9.8%)	73 (9.3%)	126 (12.0%)	143 (10.9%)	58 (15.3%)
Follow-Up (2019)	Invitations	7,484	2,000	1,499	749	1,000	1,486	750
	Participants (Response rate)	961 (12.8%)	260 (13.0%)	157 (10.5%)	107 (14.3%)	132 (13.2%)	191 (12.9%)	114 (15.2%)

Sample Demographics and Data Weighting

Data weights were applied by borough size and gender to match census estimates of the target population in PFS boroughs (see Table 4). At each timepoint, the most recent available census population estimates were used to calculate weights; 2014 estimates were used for baseline weighting and 2017 estimates for follow-up weighting.^{1,4} At baseline, 13 respondents who did not identify as a man or woman were removed during weighting due to lack of available census data to weight based on

other gender identities. At follow-up, gender information supplied by the Division of Elections was substituted in order to allow for weighting ($n = 32$).

Gender and race characteristics of the survey sample before and after weighting are presented in Table 4. These categories are used for data breakdowns in the remainder of the report. In the survey, respondents were asked to indicate all races with which they identify. To allow for an adequate sample size in each race group, responses are grouped into three categories that are used for race comparisons throughout the report: 1) White/Caucasian alone, non-Hispanic; 2) Alaska Native or American Indian alone or in combination with one or more other races; and 3) other race(s) alone or in combination.

Table 4. Demographic Characteristics of Survey Respondents

	Baseline (2016) $n = 766$			Follow-Up (2019) $n = 961$		
	Raw n	% before weighting	% after weighting	Raw n	% before weighting	% after weighting
Gender						
Men	263	34.3	54.2	345	35.9	52.7
Women	503	65.7	45.8	616	64.1	47.3
Race						
White/Caucasian alone, non-Hispanic	545	71.1	67.1	660	70.8	68.3
Alaska Native/American Indian alone or in combination with one or more races	105	13.7	14.3	128	13.7	13.0
Other race(s) alone or in combination	116	15.1	18.6	144	15.5	18.7

Findings: Prescription Opioids

To gather information on participants' use, consequences, and perceptions related to prescription opioids, the survey clearly defined prescription opioids as pain killers which include codeine, hydrocodone/Vicodin/Norco, oxycodone/OxyContin/Percocet, Meperidine/Demerol, fentanyl/Duragesic, hydromorphone/Dilaudid/Exalgo, morphine/Astramorph/Avinza, buprenorphine, Methadone, etc. Survey instructions also specified that prescription opioids do not include "over-the-counter" pain relievers such as aspirin, Tylenol, Advil, or Aleve, or prescription dosages of these medications.

Using the weighted sample as described previously, detailed survey results comparing baseline to follow-up are presented in the following pages. Demographic comparisons are displayed for gender and race when the sample size is adequate.

Follow-up questions were asked only of respondents who reported prescription opioid misuse during the past 30 days. The group of respondents reporting past 30 day use and eligible for follow-up questions was smaller than expected at both timepoints (baseline: $n = 5$; follow-up: $n = 5$). As a result, findings from follow-up questions for this subgroup are not displayed.

Awareness and Attitudes

At both timepoints, participants reported whether they had seen various types of awareness messages about prescription opioids. More participants reported seeing awareness messages at follow-up compared to baseline, $F(1, 1,673) = 12.65, p < .001, \eta^2 = .009$. Participants most often reported seeing messages about safe use of opioids and safe disposal of opioids. The biggest increases in the types of messages seen from baseline to follow-up were for messages about safe disposal of prescription opioids and risks of sharing with others. See Figures 1 and 2.

This pattern of seeing an increased number of awareness messages at follow-up was also observed across all demographic subgroups, with a significant effect for race such that more participants who identified as white reported seeing messages than those who identified as other, $F(1, 1,673) = 4.94, p < .01, \eta^2 = .08$. See Figure 3.

Figure 1. Prescription Opioid Awareness Messages Seen on the Radio, TV, or on Printed Material

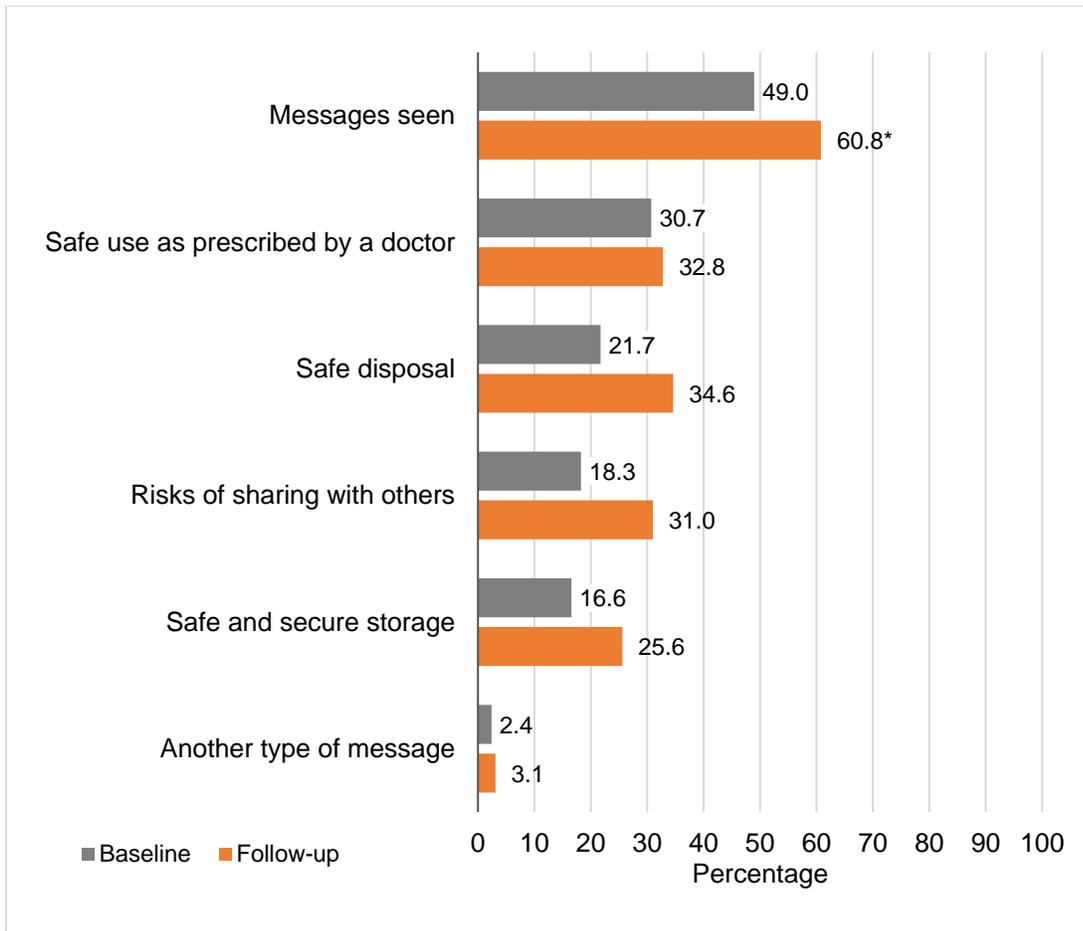


Figure 2. Some Type of Prescription Opioid Message Seen in Total and by Gender

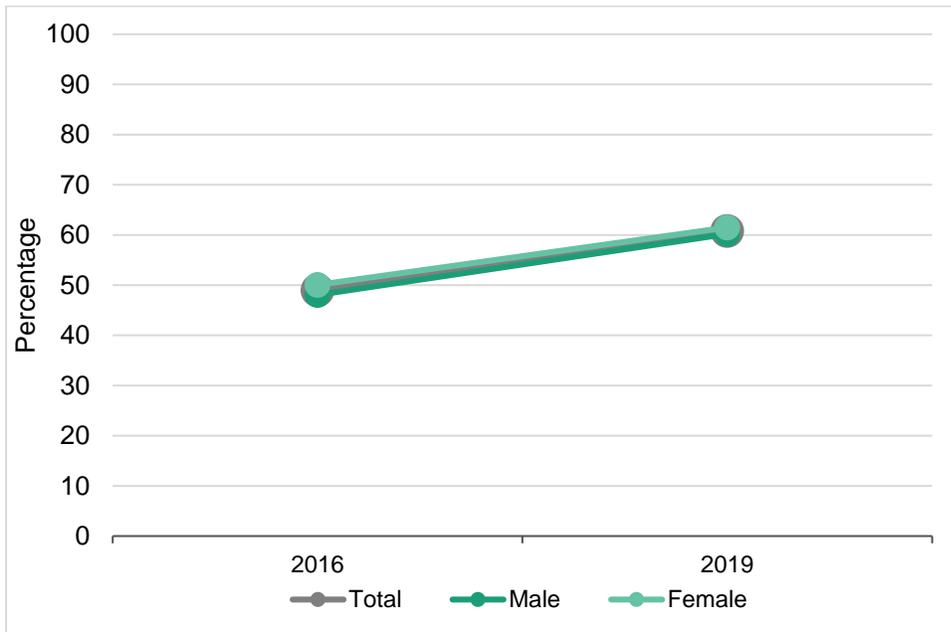
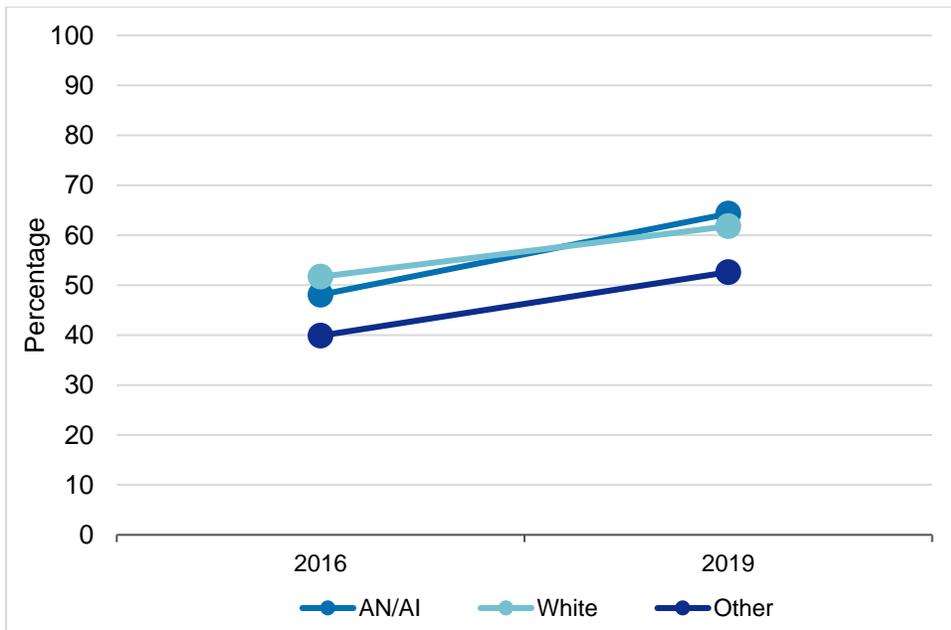


Figure 3. Some Type of Prescription Opioid Message Seen by Race



Participants were asked to rate the severity of the prescription opioid misuse problem in their community, using a scale from 1 (“no problem at all”) to 6 (“a very large problem”). Participants rated prescription opioid misuse as significantly more of a problem at follow-up ($M = 4.4$; $SD = 1.5$) compared to baseline ($M = 3.6$, $SD = 1.6$), $F(1, 1,643) = 53.77$, $p < .001$, $\eta^2 = .032$. See Figure 4.

Additionally, ratings of prescription opioid misuse as a problem in the community were higher among participants who identified as female ($M = 4.2$, $SD = 1.6$) compared to those who identified as male ($M = 3.9$, $SD = 1.6$), $F(1, 1,643) = 16.94$, $p < .001$, $\eta^2 = .010$. Ratings did not differ significantly across racial subgroups.

Figure 4. Perceived Severity of Prescription Opioid Misuse as a Problem in the Community in Total and by Gender

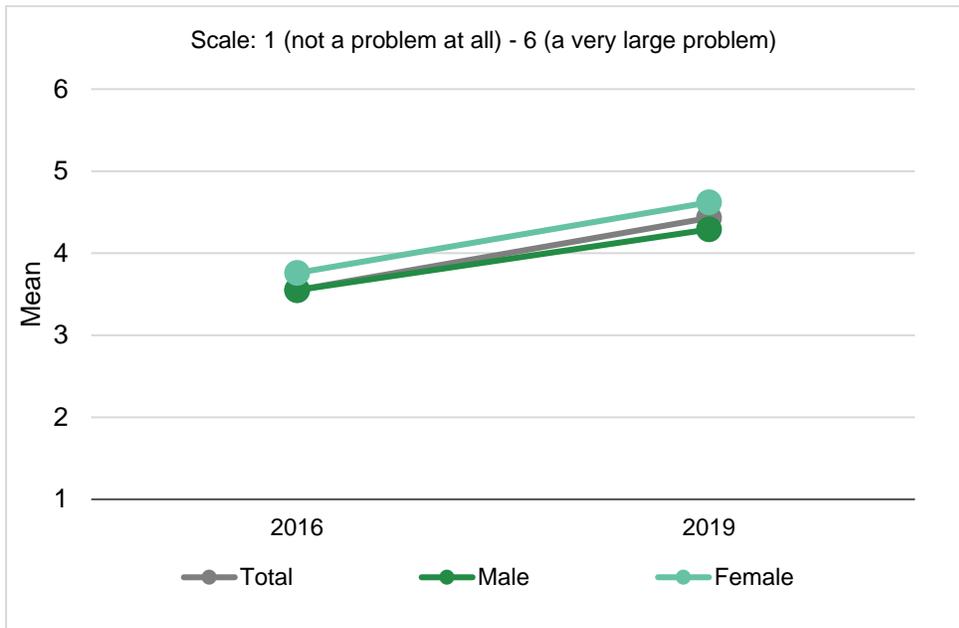
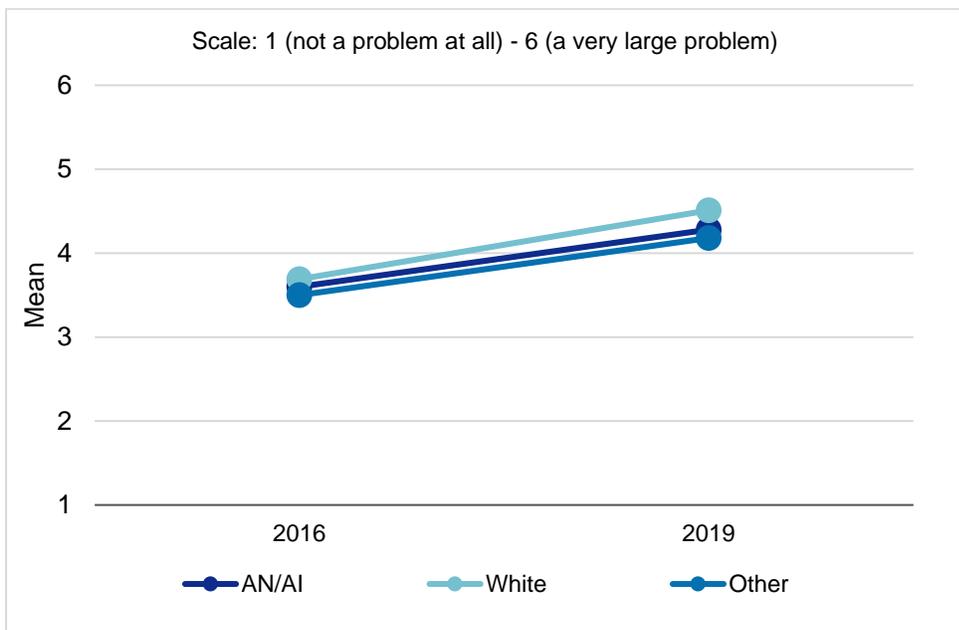


Figure 5. Perceived Severity of Prescription Opioid Misuse as a Problem in the Community by Race



Retail Access to Prescription Opioids

Retail access is the ability to obtain prescription opioids for misuse through a provider or dispenser. At both timepoints participants reported whether they had ever been prescribed opioids during their life. They also reported when they had been prescribed opioids, specifically whether it was within the last three years or more than three years ago. Overall, more participants reported being prescribed opioids in their lifetime at follow-up (56.7%) compared to baseline (49.1%) but the difference was not

significant. This increasing trend was also observed among male respondents but little difference between timepoints for female participants. (See Figure 6.) A greater percentage of respondents who identified as White (56.6%) or Alaska Native/American Indian (54.5%) reported receiving at least one lifetime opioid prescription as compared to respondents of another race (38.4%), $F(1, 1,643) = 12.47, p < .001, \eta^2 = .015$, as shown in Figure 7.

Figure 6. Prescribed Opioids Lifetime in Total and by Gender

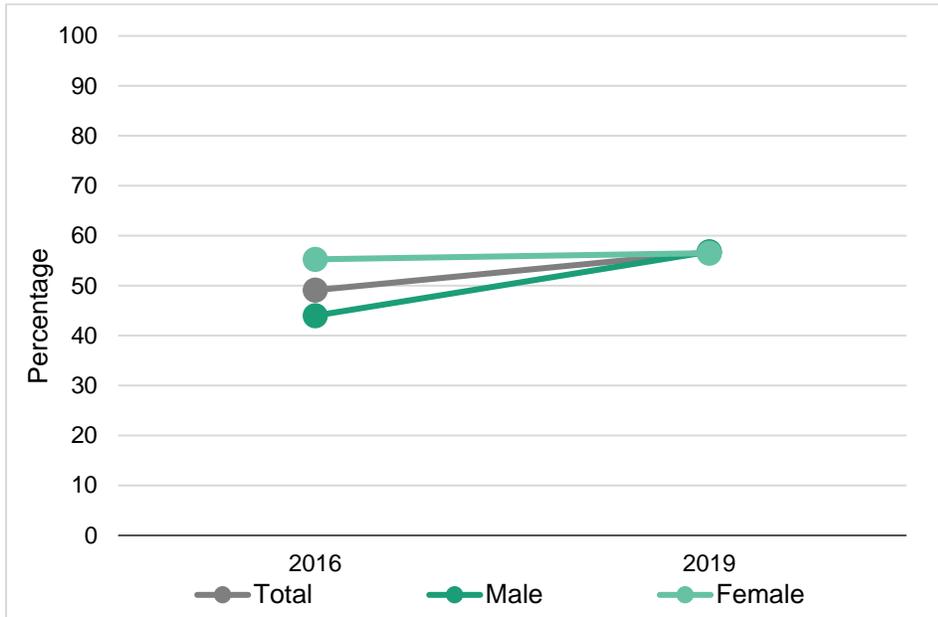
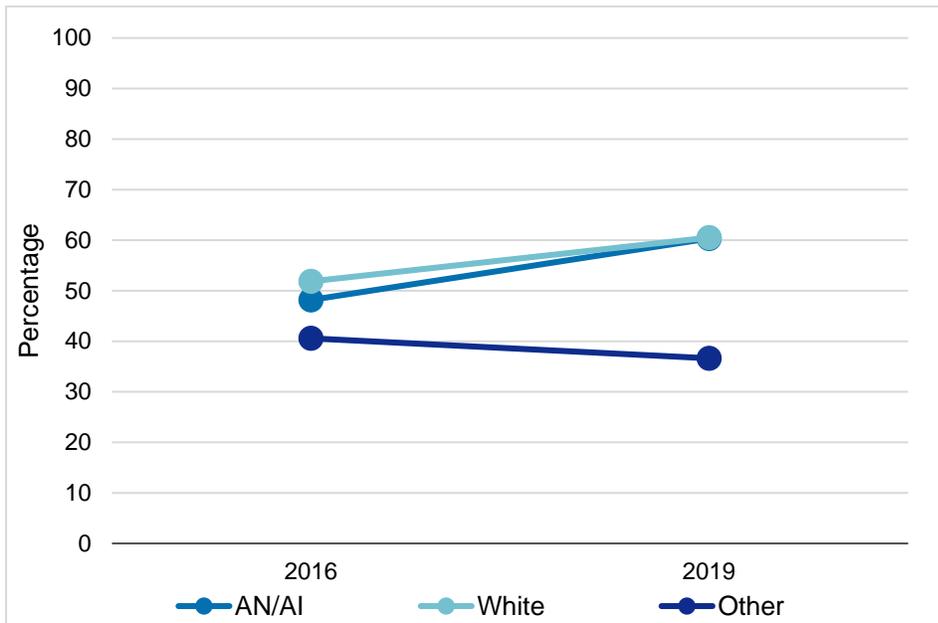


Figure 7. Prescribed Opioids Lifetime by Race



Gender and race differences diminish when comparing respondents who received an opioid prescription in the past three years versus anytime in their life. See Figures 8-11.

Figure 8. Prescribed Opioids in the Past 3 Years in Total and by Gender

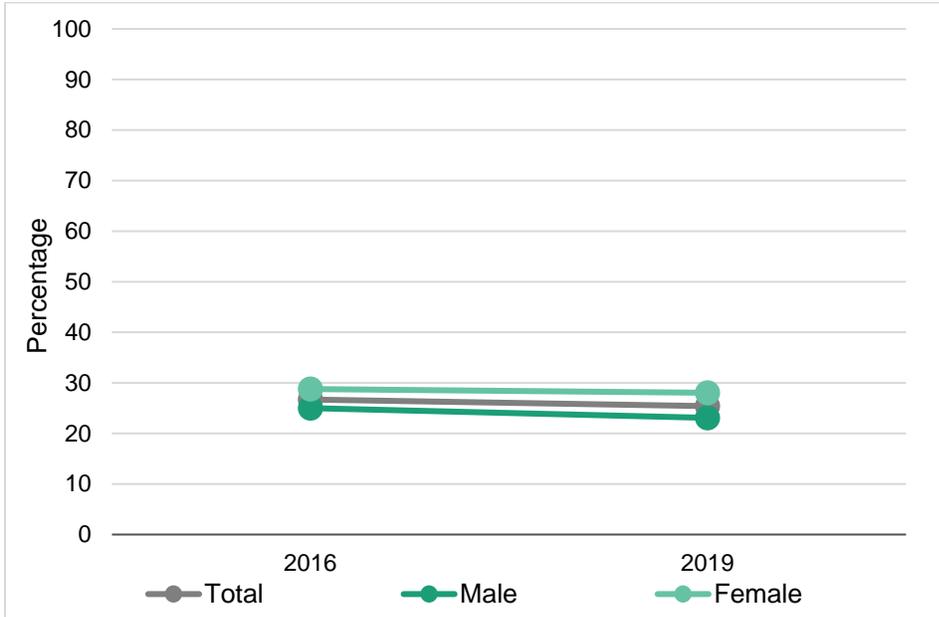


Figure 9. Prescribed Opioids in the Past 3 Years by Race

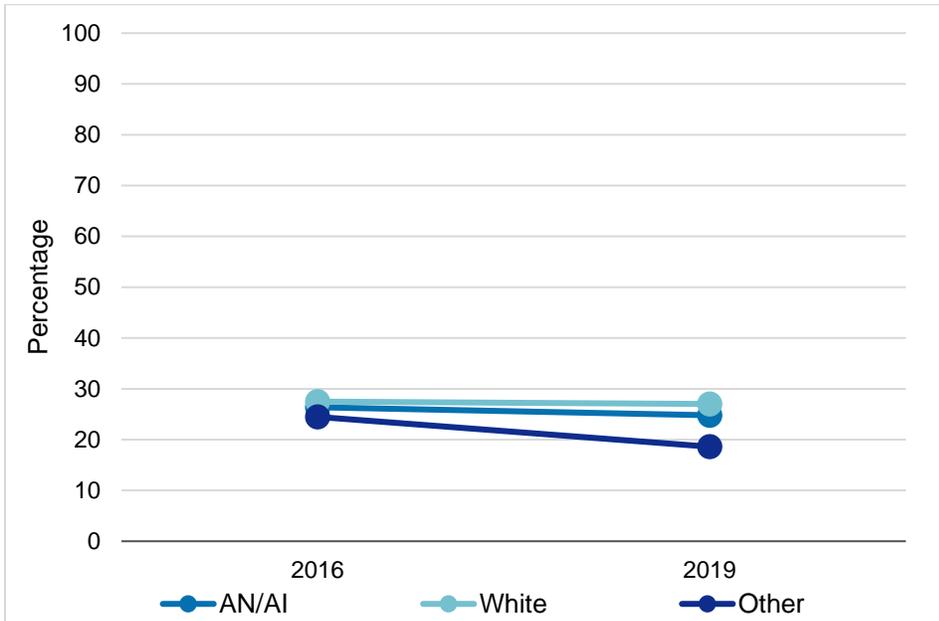


Figure 10. Prescribed Opioids More than 3 Years ago in Total and by Gender

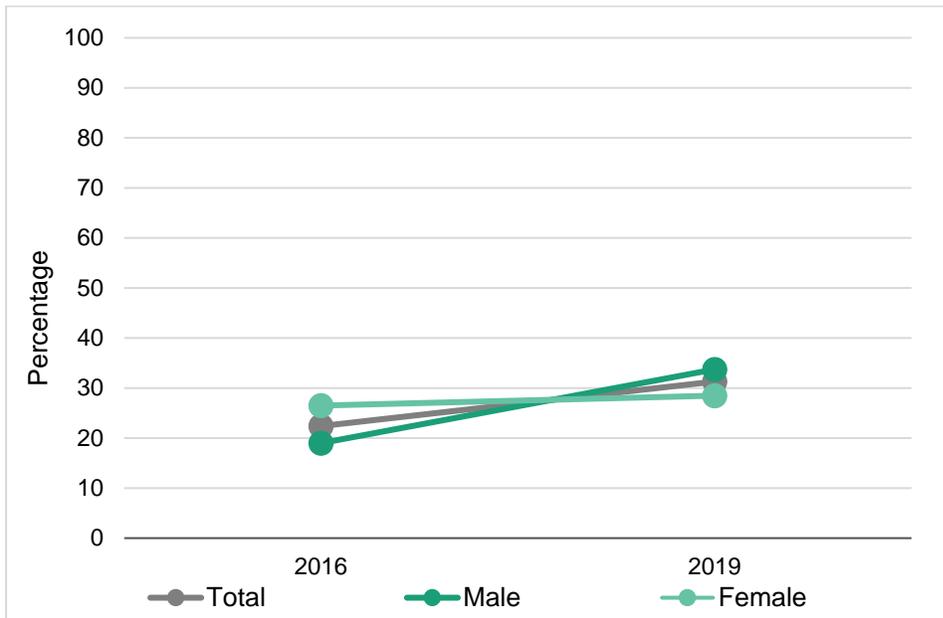
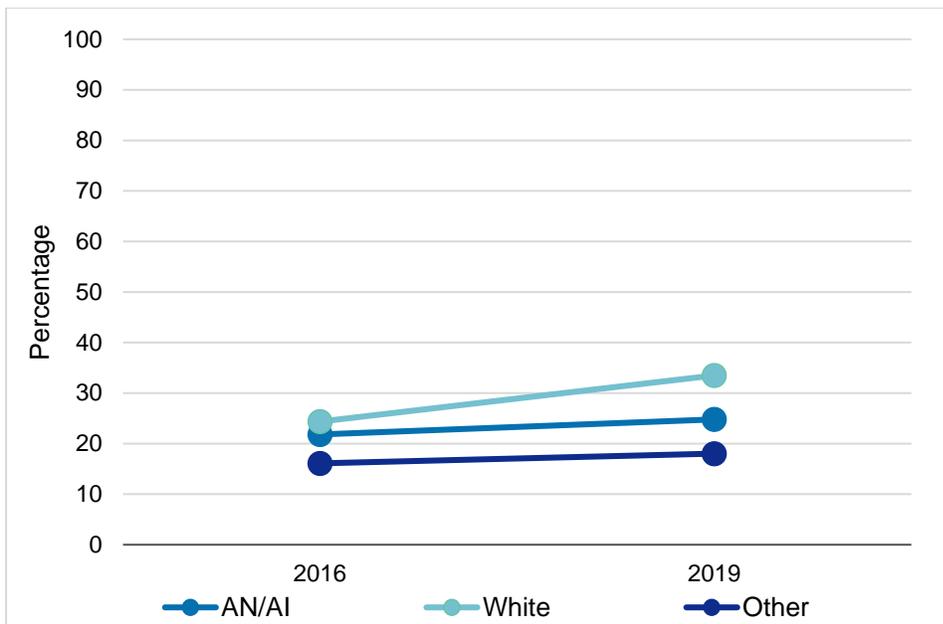


Figure 11. Prescribed Opioids More than 3 Years ago by Race

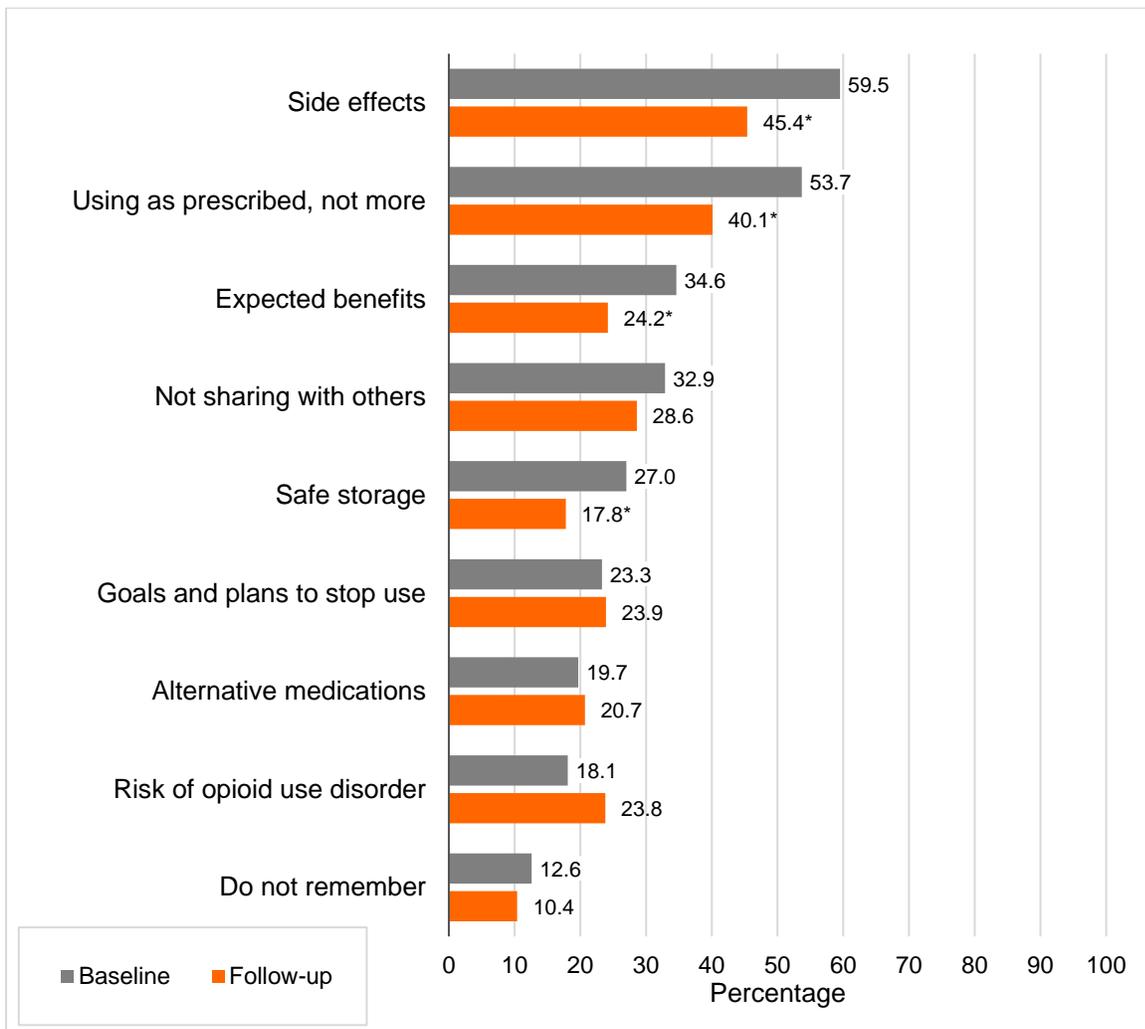


At both timepoints respondents who were prescribed opioids in the past three years were asked if they had engaged in any type of conversation with their doctor or pharmacist when receiving a prescription. Most participants (84.4% at baseline and 77.8% at follow-up) reported having some type of conversation with their provider; the reduction from baseline to follow-up is not statistically significant. Respondents were asked which specific topic(s) they discussed with their doctor or pharmacist when receiving a prescription (see Figure 12). At both timepoints, fewer than a quarter of respondents reported talking with their provider about alternative medications to opioids or the potential risk of developing an opioid disorder. At baseline, about half reported discussing using opioids as prescribed and not more; even

fewer reported those conversations at follow-up. The most common topic discussed with a doctor or pharmacist was the side effects of using prescription opioids; this conversation also was reported less frequently at follow-up compared to baseline.

Few respondents reported that their physician or pharmacist addressed social access considerations with them when prescribing or dispensing opioids in the past three years. At both timepoints, fewer than a third of participants reported their physician or pharmacist talked to them about not sharing their medication. Additionally, the percentage of participants who reported a conversation advising them to store their prescription in a safe and secure location decreased from 27.0% at baseline to 17.8% at follow-up. See Figure 12.

Figure 12. Topics Discussed with a Doctor or Pharmacist (if Prescribed Opioids in the Past 3 Years)



Social Access to Prescription Opioids

Social access is the ability to obtain prescription opioids through friends and family without a prescription and includes getting pills for free, paying for pills, and stealing pills from friends and family. Previous research has found that friends, family, and other acquaintances are the most common source of prescription opioids for misuse.^{5,6} Only very few individuals indicated that they had misused prescriptions opioids within the past 30 days (0.7% at baseline and 0.5% at follow-up). Therefore, the current surveys have little ability to determine how pills are acquired among this group but other data are available that provide this information. NSDUH data from 2011-2014 indicate that 66.8% of individuals ages 12-25 who misused prescription opioids during the past year in Alaska reported to get them through a friend or relative, while only 19.6% received them directly from a doctor. This finding demonstrates that social access is a primary source of prescription opioid acquisition among youth and young adults in Alaska.⁷

In the young adult surveys, the majority of individuals who received a prescription for opioids in the past three years had pills leftover (71.8% at baseline, 79.1% at follow-up), indicating it may be common for prescriptions to include more pills than necessary. This creates a potential opportunity for others to access prescription opioids through social sources. While the percentage of respondents who had pills leftover from their last prescription increased over time, the difference approached significance but was not significant, $X^2(1, n = 437) = 3.60, p = .058$. Therefore, the potential for social access via leftover pills remained rather high and consistent over time.

Figure 13. Those with Leftover Pills in Total and by Gender (if Prescribed Opioids in the Past 3 Years)

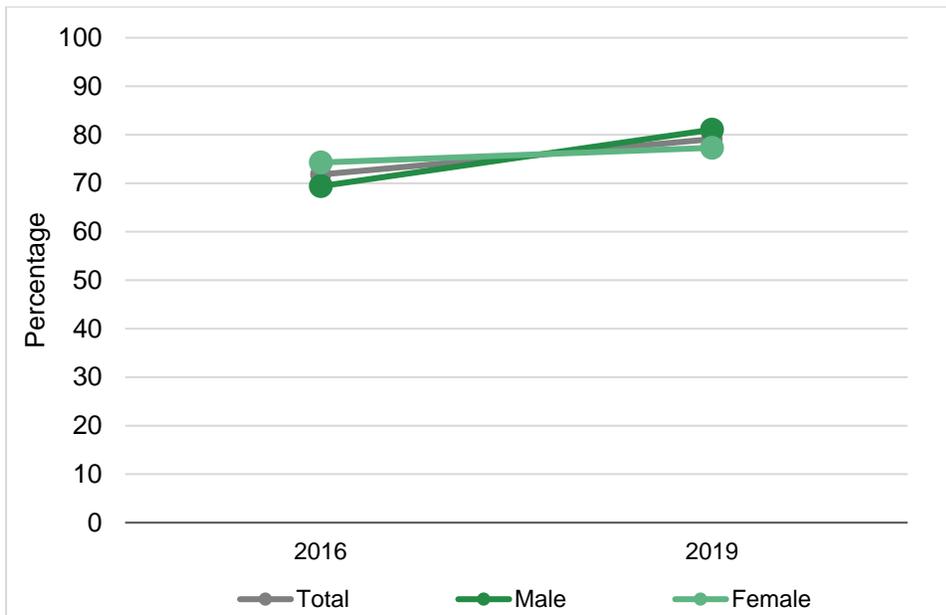
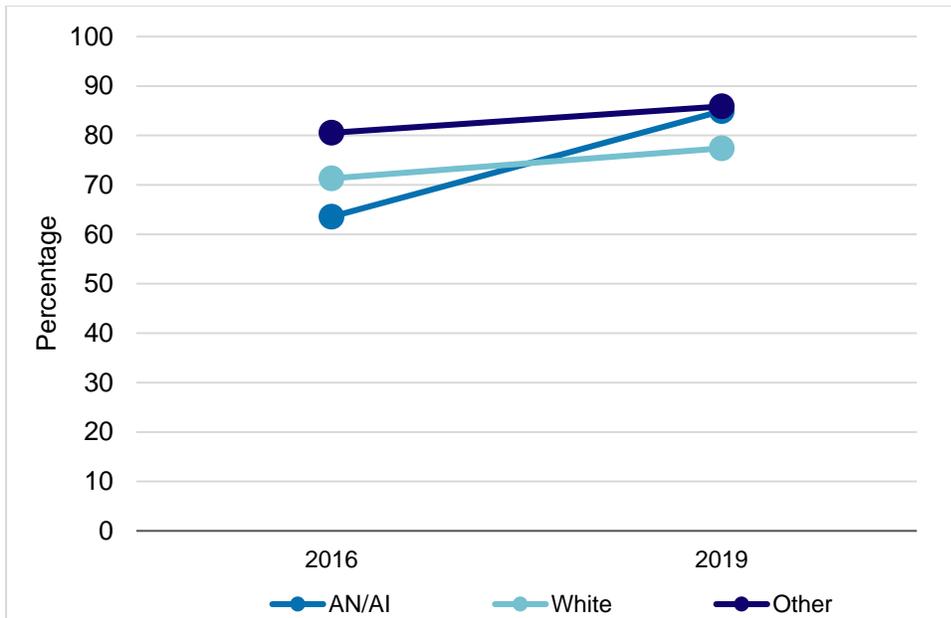
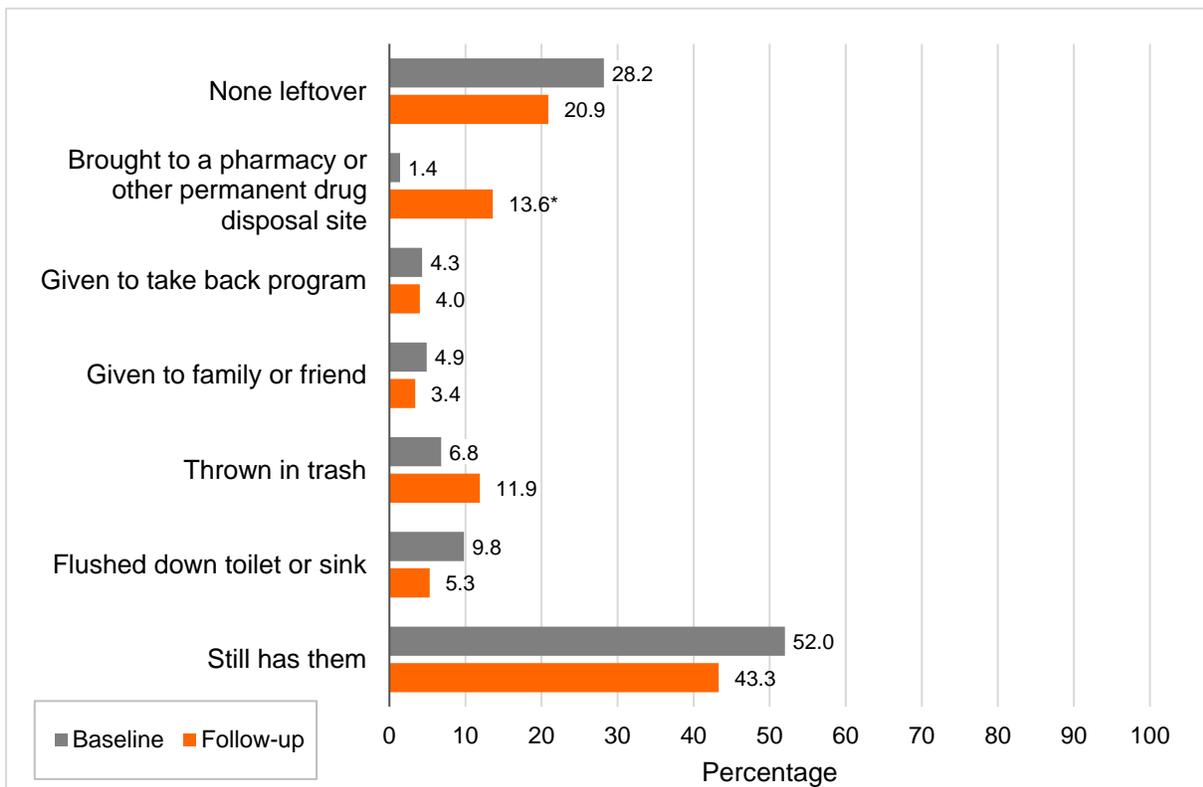


Figure 14. Those with Leftover Pills by Race (if Prescribed Opioids in the Past 3 Years)



Among the respondents who had pills leftover there was no significant change from baseline to follow-up in the percentage of respondents who reported disposing of leftover opioids, although there was a significant increase in those who specifically reported bringing their leftover opioids to a pharmacy or other permanent drug disposal site, $\chi^2(1, n = 448) = 22.09, p < .001$. See Figure 15.

Figure 15. Disposal Practices (if Prescribed Opioids in the Past 3 Years)



Prescription Opioid Misuse

Prescription opioid misuse was defined in the survey as use without a doctor's prescription or in a way that a doctor has not directed. Misuse includes using a prescription opioid: 1) without a valid prescription; 2) in greater amounts, more often, or longer than directed; or 3) in any other way than as directed by a doctor. At both timepoints participants were asked to report if they had misused opioids and indicate when (i.e., in the past 30 days; more than 30 days, but within the past year; or more than a year ago). Given that only a small percentage of survey respondents reported misusing opioids in the past 30 days (0.7% at baseline; 0.5% at follow-up), there was not enough data to allow for meaningful comparisons by gender and race. Additionally, only a small percentage of respondents reported past year opioid misuse (2.5% at baseline; 2.3% at follow-up); therefore, the sample size was not adequate for comparisons by demographics for any recent misuse.

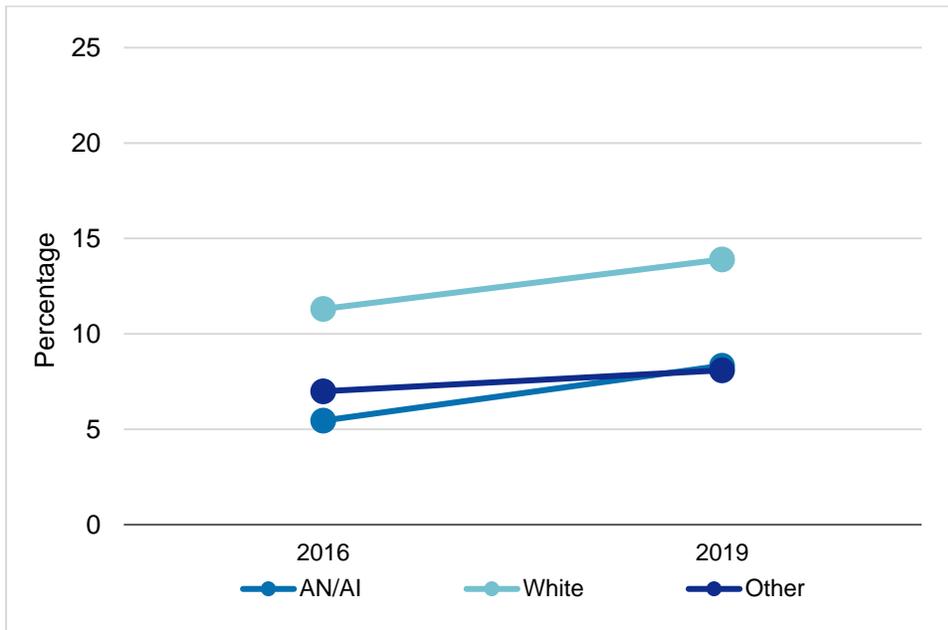
Past year estimates of misuse from baseline (2.5%) and follow-up (2.3%) surveys are both considerably lower than NSDUH prevalence estimates of past year non-medical use of prescription pain relievers among 18-25 year olds in Alaska, which was 9.0% in 2013-2014⁸ and 6.3% in 2017-2018.⁹

A total of 9.6% of respondents at baseline and 12.3% at follow-up (see Figure 16) reported prescription opioid misuse at least once in their lifetime. At both timepoints a greater percentage of participants who identified as White (12.6%) reported lifetime prescription opioid misuse than those who identified as Alaska Native/American Indian (7.0%) or another race (7.6%), $F(1, 1,663) = 4.39, p < .001, \eta^2 = .010$. See Figure 17. There were no significant differences observed between male and female respondents.

Figure 16. Lifetime Misuse of Prescription Opioids in Total and by Gender



Figure 17. Lifetime Misuse of Prescription Opioids by Race



Perceived Risk of Harm from Prescription Opioid Misuse

Perceived risk of harm was defined in the survey as the likelihood of physical risk or other harms from misusing prescription opioids. On a scale from 1 (“no risk”) to 6 (“great risk”), respondents were asked to rate their perception of risk of harm from two different types of prescription opioid misuse - misuse once or twice and regular misuse. Overall, ratings of perceptions of risk increased from baseline to follow-up. Specifically, participants’ ratings of risk from prescription opioid misuse once or twice increased significantly from baseline ($M = 4.2, SD = 1.6$) to follow-up ($M = 4.7, SD = 1.5$), $F(1, 1,660) = 14.93, p < .001, \eta^2 = .009$. See Figure 18. Additionally, perceptions of risk pertaining to regular prescription opioid misuse also increased significantly from baseline ($M = 5.1, SD = 1.4$) to follow-up ($M = 5.4, SD = 1.1$), $F(1, 1,660) = 17.36, p < .001, \eta^2 = .010$. See Figure 20.

Among gender subgroups, results indicate that female respondents perceived more risk from opioids than males, both in trying opioids once or twice, females: $M = 4.6, SD = 1.5$ vs males: $M = 4.4, SD = 1.6$, $F(1, 1,660) = 8.39, p < .01, \eta^2 = .005$, and from regular prescription opioid misuse, females: $M = 5.3, SD = 1.2$ vs males: $M = 5.2, SD = 1.3$, $F(1, 1,660) = 5.61, p = .02, \eta^2 = .003$. See Figures 18 and 20.

Among racial subgroups, respondents who identified as White ($M = 5.4, SD = 1.1$) rated regular opioid misuse as a higher risk for causing individual harm than those who identified as Alaska Native/American Indian ($M = 4.9, SD = 1.7$) or another race ($M = 5.0, SD = 1.5$), $F(1, 1,660) = 19.17, p < .001, \eta^2 = .023$. See Figure 21.

Figure 18. Perceived Risk of Harm from Misusing Prescription Opioids Once or Twice in Total and by Gender



Figure 19. Perceived Risk of Harm from Misusing Prescription Opioids Once or Twice by Race

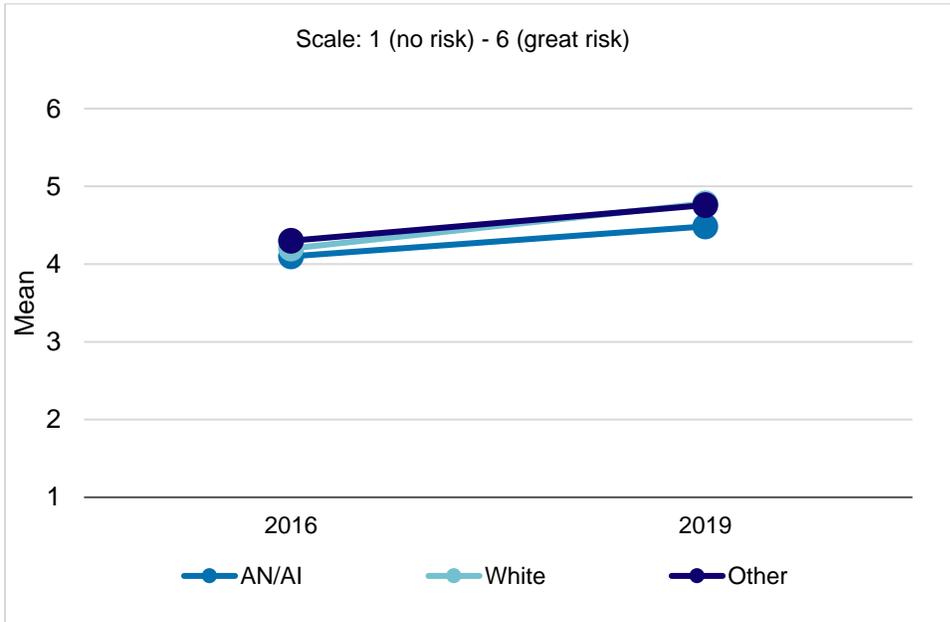
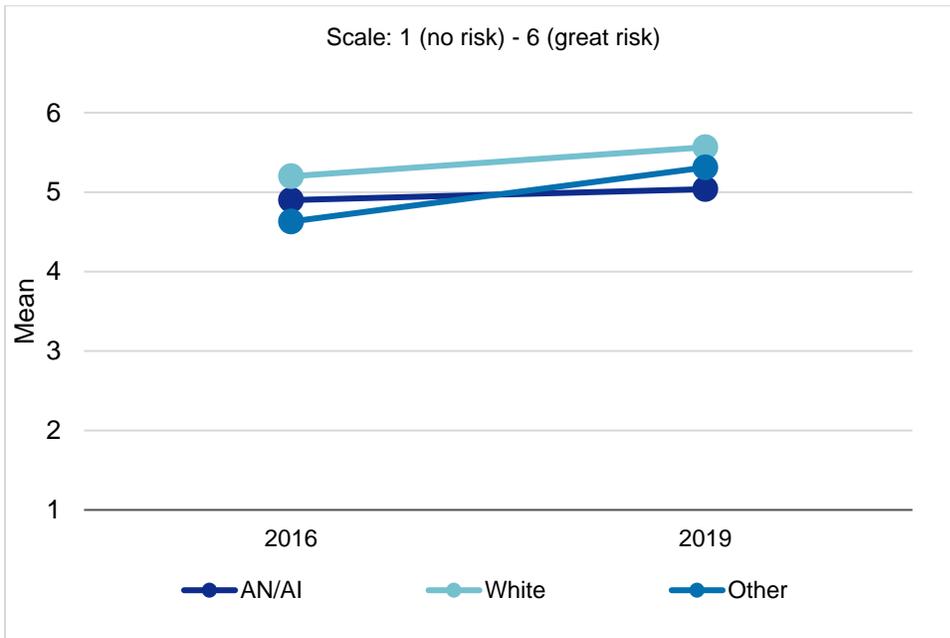


Figure 20. Perceived Risk of Harm from Regular Prescription Opioid Misuse in Total and by Gender



Figure 21. Perceived Risk of Harm from Regular Prescription Opioid Misuse by Race



Difficulties Related to Prescription Opioid Misuse

At both timepoints respondents were asked if they had experienced any difficulties related to opioid misuse. Significantly more participants reported one or more difficulty at baseline (3.3%) compared to follow-up (1.7%), $\chi^2(1, n = 1,727) = 4.70, p = .03$. Difficulties were reported by participants who did not report opioid misuse, indicating that the question captured difficulties experienced by family members, partners, and friends of individuals who misuse opioids. Consistent with the trend among the overall sample, among respondents who reported misusing opioids in the past 12 months, more participants at baseline (47.4%) compared to follow-up (4.5%) reported at least one difficulty, $\chi^2(1, n = 41) = 10.14, p < .01$. At both timepoints the most common difficulties reported were “concerns about personal safety,” “craving the substance a lot,” “mental and physical health concerns,” and “doing something you later regretted.”

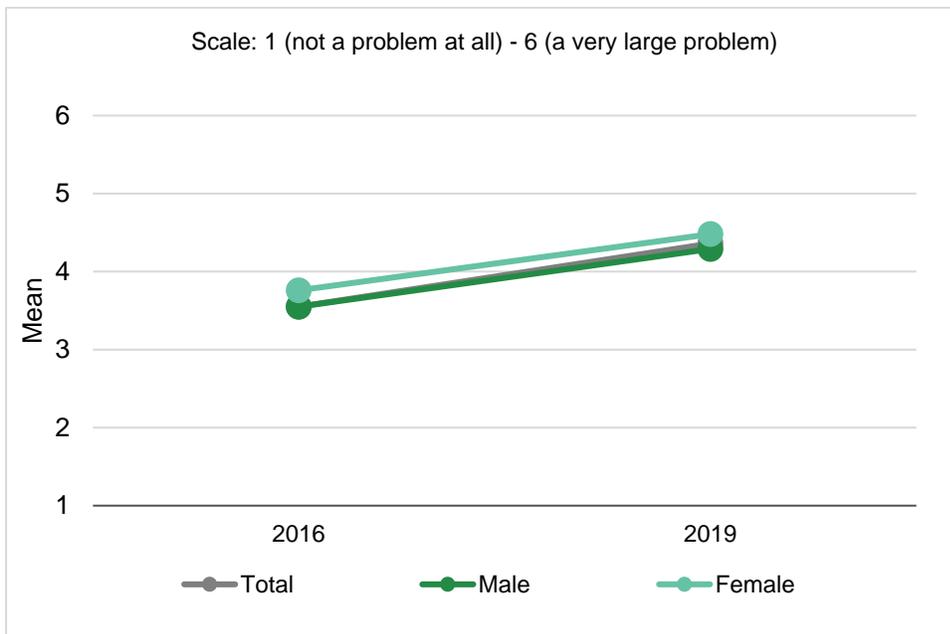
Findings: Heroin

To gather information on participants' use, consequences, and perceptions related to heroin, the survey explained that heroin can be smoked or injected and can be purchased in a variety of forms and colors. Heroin was described to survey respondents as simply heroin; no other street names or descriptions were provided. Using the weighted sample as described previously, detailed survey results comparing baseline to follow-up are presented in the following pages. Demographic comparisons are displayed for gender and race when the sample size is adequate. Follow-up questions were asked of respondents who reported heroin during the past 30 days; however, this group was smaller than expected at approximately at both baseline (0.5%) and follow-up (0.2%). As a result, these findings are not displayed.

Attitudes

At both timepoints, participants were asked to rate the severity of heroin use as a problem in their community, using a scale from 1 ("no problem at all") to 6 ("a very large problem"). Overall, participants rated heroin use as more of a problem at follow-up ($M = 4.4$; $SD = 1.6$) compared to baseline ($M = 3.8$; $SD = 1.8$), $F(1, 1,654) = 23.76$, $p < .001$, $\eta^2 = .014$. See Figure 22. Additionally, participants who identified as female, on average, rated the severity of the heroin problem as higher than those who identified as male, $F(1, 1,654) = 13.90$, $p < .001$, $\eta^2 = .008$.

Figure 22. Perceived Severity of Heroin as a Problem in the Community



Heroin Use

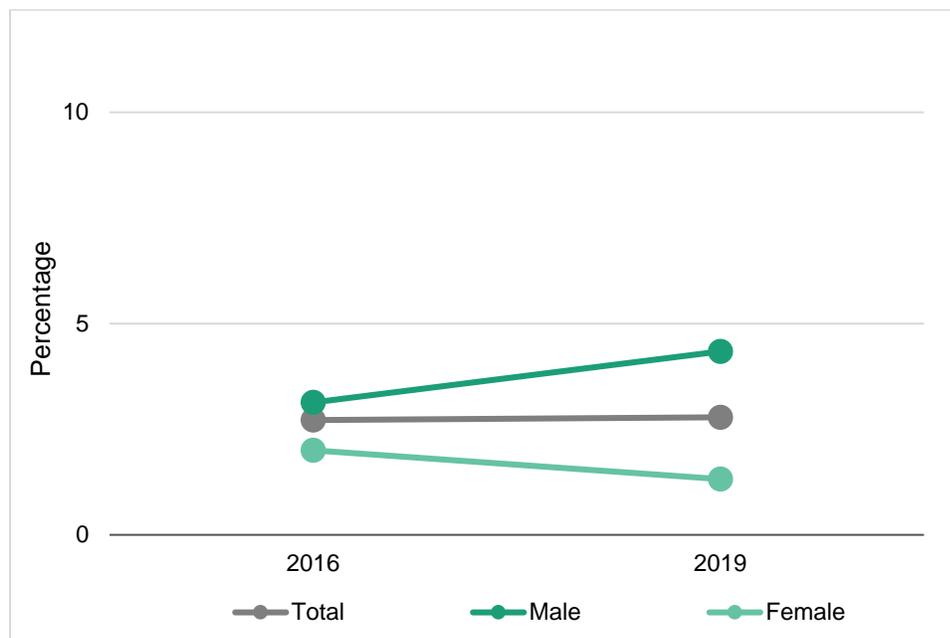
At both timepoints participants were asked to report if they had used heroin and indicate when (i.e., in the past 30 days; more than 30 days, but within the past year; or more than a year ago). Only a very small number of survey respondents reported misusing heroin in the past 30 days (baseline: $n = 3$; follow-up: $n = 2$) or past year (baseline: $n = 5$; follow-up: $n = 3$); therefore, there was not an adequate sample size to allow for meaningful comparisons by demographics for any recent misuse.

Past year estimates from both surveys were similar to other NSDUH prevalence estimates among 18-25 year olds in Alaska during 2017-2018 (0.65%)⁹ and national prevalence estimates in 2017-2018 (0.54%).¹⁰

A total of 2.7% of respondents at baseline and 2.8% at follow-up (see Figure 23) reported using heroin at least once in their lifetime. There were no significant differences observed for gender or race subgroups.

A smaller number of survey respondents reported lifetime heroin use (2.7% at baseline, 2.8% at follow-up) compared to prescription opioid misuse (9.7% at baseline, 12.3% at follow-up) but a relationship in use exists between these two substances. Research suggests that non-medical use of prescription opioids is a strong risk factor for later initiation of heroin use and a large percentage of current heroin users begin their abuse of opioids with prescription opioids.^{5,11,12,13} Similar to the pattern identified in research findings, 78.7% of lifetime heroin users from the combined baseline and follow-up unweighted survey sample ($n = 37$ out of 47) reported lifetime prescription opioid misuse but only 18.3% of lifetime prescription opioid misusers ($n = 37$ out of 202) reported lifetime heroin use. However, the sequential order of substance abuse initiation among this sample cannot be determined due to the cross-sectional nature of the survey data.

Figure 23. Lifetime Use of Heroin in Total and by Gender



Perceived Risk of Harm from Heroin Use

Perceived risk of harm was defined in the survey as the likelihood of physical risk or other harms from using heroin. On a scale from 1 (“no risk”) to 6 (“great risk”), respondents were asked to rate their perceptions of risk of harm from two different types of heroin - use once or twice and regular misuse. Overall, results suggest that ratings of perceptions of risk increased from baseline to follow-up. Specifically, participants ratings of risk pertaining to individual harm from heroin use once or twice increased significantly from baseline ($M = 5.1, SD = 1.4$) to follow-up ($M = 5.4, SD = 1.2$), $F(1, 1,660) = 8.74, p < .01, \eta^2 = .005$). See Figure 24. Additionally, perceptions of risk pertaining to regular heroin use also increased significantly from baseline ($M = 5.5, SD = 1.2$) to follow-up ($M = 5.7, SD = 0.9$), $F(1, 1,660) = 17.36, p < .001, \eta^2 = .010$). See Figure 26.

Among gender subgroups, results indicate that female respondents perceived more risk of individual harm from heroin use than males, both in trying heroin once or twice, females: $M = 5.4$ and $SD = 1.1$ vs males: $M = 5.2$, $SD = 1.4$, $F(1, 1,660) = 22.75$, $p < .001$, $\eta^2 = .014$, and from regular heroin use, females: $M = 5.7$ and $SD = 1.0$ vs males: $M = 5.5$, $SD = 1.2$, $F(1, 1,660) = 9.60$, $p < .01$, $\eta^2 = .006$. See Figures 24 and 26.

Among racial subgroups, respondents who identified as White ($M = 5.3$, $SD = 1.2$) rated regular heroin use as a higher risk for causing individual harm than those who identified as Alaska Native/American Indian ($M = 5.0$, $SD = 1.6$) or another race ($M = 5.1$, $SD = 1.4$), $F(1, 1,660) = 21.56$, $p < .001$, $\eta^2 = .025$. See Figure 27.

Figure 24. Perceived Risk of Harm from Using Heroin Once or Twice in Total and by Gender



Figure 25. Perceived Risk of Harm from Using Heroin Once or Twice by Race

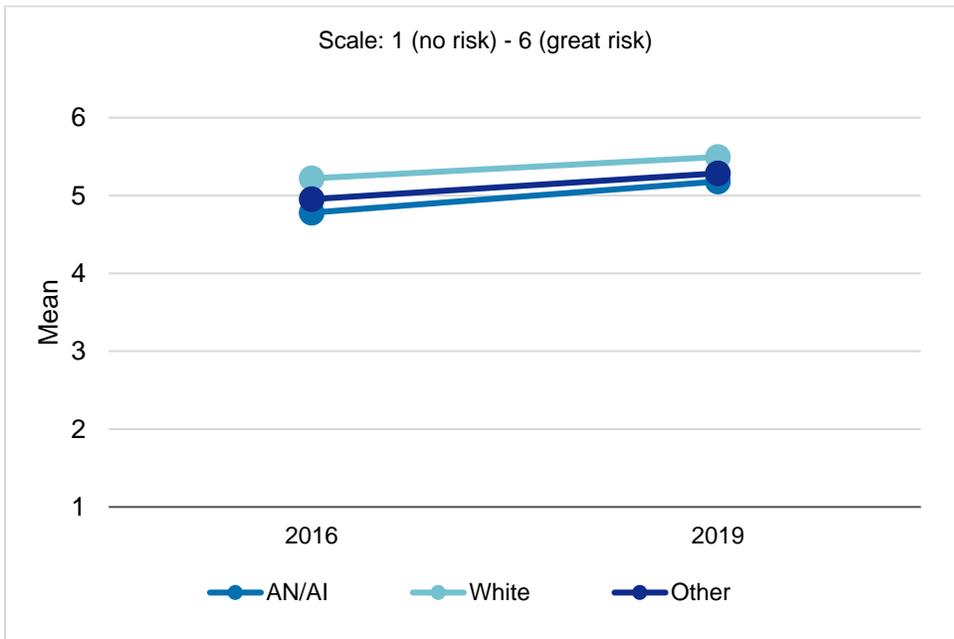


Figure 26. Perceived Risk of Harm from Regular Heroin Use in Total and by Gender

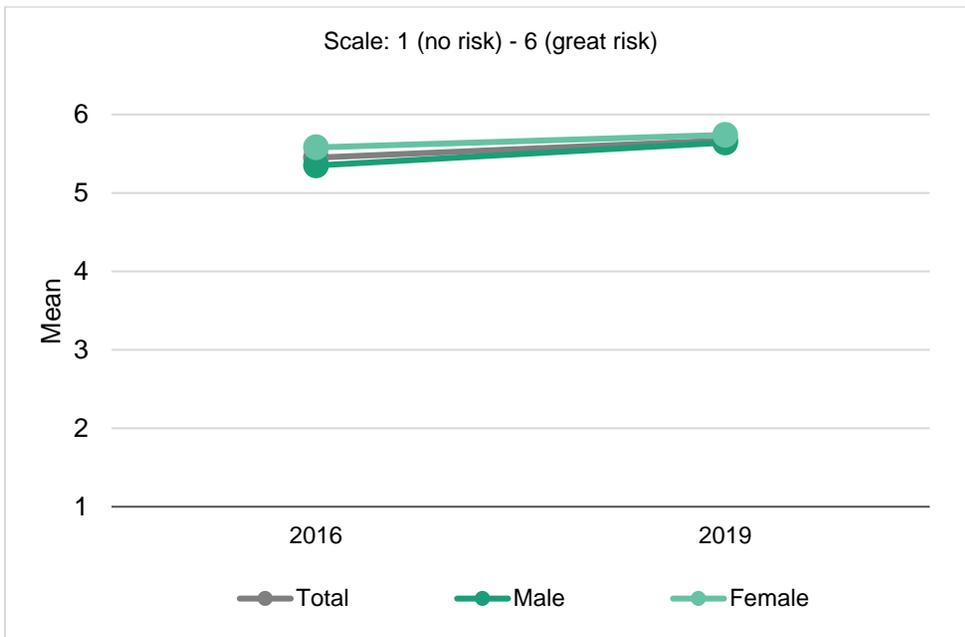
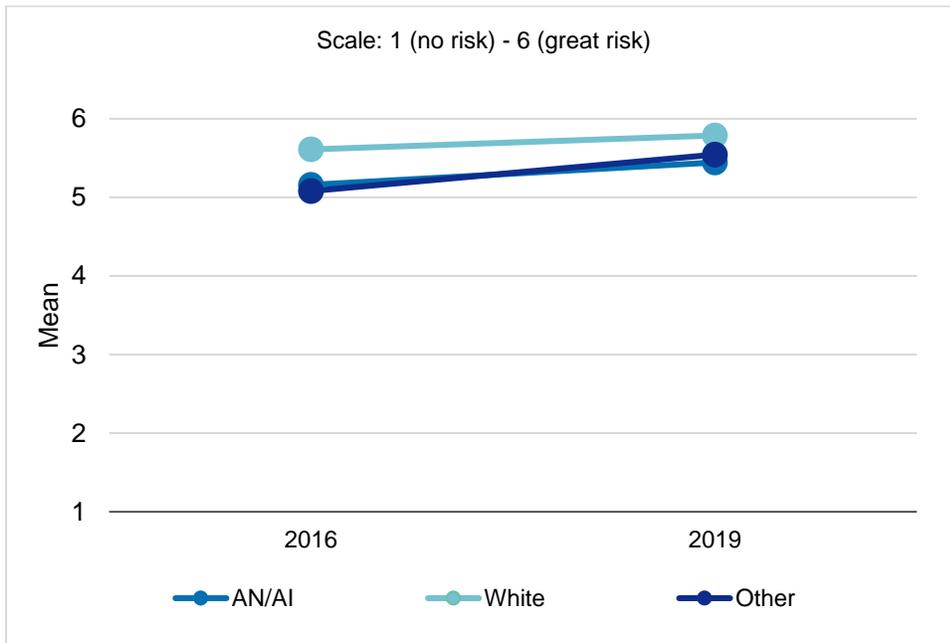


Figure 27. Perceived Risk of Harm from Regular Heroin Use by Race



Difficulties Related to Heroin Use

At both timepoints respondents were asked if they had experienced any difficulties related to heroin use. Roughly the same percentage of participants reported one or more difficulty at baseline (2.1%) and follow-up (2.3%). Among respondents who reported using heroin in the past 12 months, all reported experiencing at least one difficulty related to their heroin use. There were also participants who did not report heroin use that reported difficulties (baseline: $n = 19$, follow-up: $n = 14$), suggesting that the question may have captured difficulties experienced by family members, friends, or partners of individuals who used heroin. The most commonly reported difficulties at both timepoints were “relationship difficulties,” “craving the substance a lot,” “trouble keeping up with family responsibilities,” and “financial difficulties or trouble paying bills.”

Conclusion

Prescription opioid misuse and heroin use are public health concerns in both Alaska and the nation and are best addressed using data-informed decision making and evidence-informed approaches.⁶ The two surveys described in this report represent just one component of a comprehensive mixed-method evaluation conducted by CBHRS evaluators for the five-year PFS project which targets the prevention of prescription opioid misuse among 12-25 year olds and heroin use among 18-25 year olds. These surveys of young adults fill a critical data gap and increase understanding of opioid and heroin behaviors and perceptions among Alaskan young adults.

Over the five years of the PFS project, coalitions organized and implemented numerous prevention activities in their communities. Concurrently, the opioid epidemic has received large amounts of state and national attention, including media coverage and policy changes, such as declaration of a public health emergency by Alaska's governor in 2017. While the methodologies used in this survey effort do not allow us to elucidate the relative influence of any specific activity or action on changes observed over time, we can summarize the overall status of Alaskan young adults in 2016 and 2019 and describe differences between those timepoints.

Key Findings

No differences over time occurred in opioid misuse or heroin use behaviors. Change was documented in other indicators, however, including cognitions and perceptions that are associated with substance behaviors and in experiences with prescriptions.

Awareness

Awareness of the target issue is a critical component for prevention. More participants reported seeing opioid awareness messages in 2019 compared to 2016. This increase follows PFS coalitions working to implement media campaigns as well as other awareness activities in their communities and the increase suggests success in disseminating the prevention messages. Nonetheless, 40% of respondents in 2019 did not report seeing messages and participants who identified as White or Alaska Native/American Indian were more likely to have seen messages than participants of other races. Opportunities persist for wide distribution of prevention messages to ensure a larger percentage of Alaskans see those messages.

Perceived Risk

Individuals who perceive greater risk associated with use of substances are less likely to engage in use behaviors.¹⁴ Therefore, prevention efforts can target perceptions with the goal of increasing individuals' perceptions of risk. From 2016 to 2019, Alaskan young adults' perceptions of risk associated both with opioid misuse and heroin use increased significantly. While reported use did not change, risk perceptions can serve as an early indicator and, in this case, may predict future reductions in opioid and heroin use behaviors. Greater perceived risk was reported by female participants (compared to male participants) and participants who identified as White (compared to those who identified as Alaska Native/American Indian or another race). This pattern of demographic differences in risk perceptions is similar to results observed in the Alaska YRBS statewide survey, suggesting that differences in risk perceptions between adolescent groups may persist into young adulthood.¹⁵ Additionally, gender differences have been well-documented in the literature for general risk perceptions, as well as for specific substances.^{16,17,18} Recent young adult opioid risk perception research in other locales also suggests higher perceptions of risk among Whites compared to non-Whites.¹⁷ These demographic group

differences present opportunities for prevention efforts to target risk perceptions among specific subgroups for increased impact.

Opioid Prescriptions

Among those participants who had been prescribed opioids within the past three years, fewer participants in 2019 compared to 2016 reported having had conversations with healthcare providers when receiving the prescription. Specifically, fewer respondents reported conversations about safe storage of the medication and about using the medication as prescribed and not more. Other important conversations were reported consistently over time but relatively infrequently, with less than a third of respondents reporting conversations about not sharing opioids and less than a quarter recalling discussions about risk of opioid use disorder. While providers may, in fact, be covering these topics more frequently than participants recall, the findings support the need for improved communication. Patient education can take many forms and providers, dispensers, and their organizations might work together to provide specific information to patients via multiple methods. General education for the public can also continue to be supported by local prevention groups and state agencies, such as with broad media campaigns.

The proportion of patients receiving opioid prescriptions who reported having leftover medication remained high from 2016 to 2019, creating a potential opportunity for opioids to be available to others via social access. Among those same individuals, reports of disposal of leftover medication at pharmacies or other permanent disposal sites increased in 2019, reflecting improved feasibility of that strategy for reducing social access. Opportunities persist for increasing awareness of the importance of disposal as well as promoting feasible disposal options, which may include providing individual disposal bags with prescriptions as well as promotion of permanent disposal sites.

Limitations

The findings reported here reflect data collected through two survey administrations. Participants were randomly selected from publicly-available sources of names and contact information. However, these sources were not exhaustive and did not include all residents who met inclusion criteria. Additionally, we invited participants via mail and may have missed individuals who moved during the recruitment period.

While we weighted data to approximate the state's population in geography and gender, our sample differed from other surveillance data on opioid misuse and heroin use behaviors, with substantially fewer of the survey participants reporting use behaviors, particularly within the past year. It is possible participants with current or former opioid use patterns were less likely to be willing to participate than other individuals and are therefore under-represented in our samples.

Recommendations

Despite the limitations, the findings presented here provide evidence documenting progress in opioid prevention among Alaskan young adults from 2016 to 2019 as well as support continued prevention efforts. Specific recommendations:

- Distribute awareness messages broadly to Alaska communities in a variety of formats in order to reach diverse Alaskans
- Target risk perceptions among youth and young adults, attempting to increase their perceptions of risk associated with opioid misuse and heroin use, particularly among males and non-White individuals.
- Support general patient education and specific patient-provider communication related to risks associated with prescription opioids and how to use medication safely and promote safe storage and safe disposal of medication with policy and resources.

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