

# **Vermont Regional Prevention Partnerships**

## Interim Outcome Evaluation Report

FINAL

Submitted to:

Vermont Department of Health  
Division of Alcohol and Drug Abuse Programs

May 2019

Prepared by:

Pacific Institute for Research and Evaluation



## **Acknowledgements**

*Vermont's Regional Prevention Partnerships (RPP) initiative, including its evaluation, is funded by a Partnerships for Success (PFS) 2015 grant to the Vermont Department of Health, Division of Alcohol and Drug Programs (VDH/ADAP). The federal funding agency for PFS is the Substance Abuse and Mental Health Services Administration (SAMHSA). This report was prepared for VDH/ADAP by PIRE in its role as the evaluator for the RPP project. The ADAP project manager for RPP is Hilary Fannin. Contributors to this report were Bob Flewelling, Sean Hanley, and Amy Livingston.*

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## Introduction

Vermont's RPP project was designed as an extension and expansion of the initial PFS grant awarded to Vermont by SAMHSA in 2012, which is referenced in this report as the Vermont "PFS" project. PFS provided funding to six regions throughout the state to reduce and prevent underage drinking and prescription drug misuse by persons aged 12 to 25. PFS-funded prevention strategies were coordinated by a designated community-based "lead agency" in each region, and were underway in all six regions by the spring or summer of 2014.

Following completion of the PFS-funded prevention activities in 2016, the same six regions funded by PFS continued receiving funds to address underage drinking and prescription drug misuse through the state's RPP initiative.<sup>1</sup> Preventing marijuana use among persons aged 12 to 25 was added to RPP as third priority. In addition, RPP funding was provided to six more regions, thereby expanding funding to almost the entire state. After conducting required assessment, capacity building, and planning steps, the lead agencies funded to serve these new regions<sup>2</sup> began implementing prevention strategies in the summer or fall of 2017.

For reasons described below, this report serves two purposes. First, it extends the outcome evaluation of PFS as reported previously<sup>3</sup> through the analysis of an additional round of Youth Risk Behavior Survey (YRBS) data collected in 2017. Second, it provides a first look at outcome measures that may have been influenced by the RPP funding, as measured through the 2018 Vermont Young Adult Survey (YAS). Much more detailed background information on both the PFS and RPP projects may be found on the VDH/ADAP website. The focus of this report is on outcome data from these two survey data sources and it is not intended to be a comprehensive evaluation report for RPP.

## Approach

Over the time period that is the focus of this evaluation so far, both the YRBS and YAS have been conducted biannually, with the YRBS conducted in the late winter of odd-numbered years and the YAS in the spring of even-numbered years. The timing and geographic (i.e., regional) distribution of prevention activities sponsored by the PFS and RPP projects, along with the timing of the YRBS and YAS, have an important bearing on the manner in which outcome data from these two sources were analyzed and are interpreted in this report. In particular, because the most recent YRBS for which data are available was conducted in early 2017, and PFS-funded activities concluded in the summer of 2016, the 2017 YRBS data are well suited to provide another round of outcome measures for evaluating PFS. The previous outcome evaluation report for PFS (PIRE, 2016) was based on YRBS data through 2015, with 2013 used as the baseline year. Outcome measures based on the 2017 YRBS allow for assessment of PFS effects beyond the 2015 data point. Because the

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<sup>1</sup>The six regions funded by PFS are referred to in this report as "cohort 1." These regions were closely aligned to six specific counties. In the transition from PFS to RPP, some minor adjustments were made to the geographic definitions of some regions.

<sup>2</sup> These regions were also defined primarily by county (or pairs of counties) and referred to as "cohort 2."

<sup>3</sup> See Vermont Department of Health (no date); PIRE (2016).

cohort 1 regions sustained many of the intervention activities seamlessly in the transition from PFS to RPP funding, however, the 2017 YRBS data could also reflect influences from the initial months of RPP-funded prevention activities.<sup>4</sup> For this reason, it is not possible to clearly distinguish PFS from RPP effects among cohort 1 regions when analyzing the 2017 YRBS data. Programmatically as well, such a distinction would not be very meaningful, because many of intervention activities implemented under the PFS funding were sustained as the cohort 1 regions transitioned to RPP funding in the fall of 2016.

The most recent Vermont Young Adult Survey (YAS) was conducted in the spring of 2018, and therefore does provide a source of outcome measures that could reflect effects of the RPP funding. In particular, the YAS data provide both baseline measures (from the 2016 survey) and follow-up measures (from the 2018 survey) to examine change over time during RPP implementation. The major challenge in analyzing the YAS data, however, is that RPP-funded activities were implemented in both the newly funded regions (cohort II) and the regions that were previously funded by PFS (cohort I). The lack of a true comparison group (i.e., a group of regions not funded by RPP) negates the possibility of the traditional analysis approach in which changes over time are compared between funded and non-funded communities.<sup>5</sup>

Instead, our approach to assessing whether RPP-funded activities appear to be making a difference in the outcomes of interest relies on the following considerations. We did see a consistent pattern of findings favorable to PFS, relative to regions without PFS funding, in the YAS data during the 2014 to 2016 timeframe. The cohort I regions largely continued their PFS-funded activities into the 2016-2018 time period using their RPP funding, except that marijuana use prevention efforts were added with the RPP funding. We might, therefore, expect to see the diverging trends in outcome measures between cohort I and cohort II continue, unless the RPP-funded activities that began in 2017 in the cohort II regions were having some effect as well. In that case, the divergent trajectories between the two cohorts observed during the 2014-2016 timeframe would be expected to diminish during the 2016-2018 timeframe. A focus of our YAS data analysis (see YAS evaluation question #2, below), therefore, is to compare the differences in the change over time between cohorts I and II during the 2014-2016 period with those same differences during the 2016-2018 period.

The patterns just described would provide very speculative evidence only for a positive effect of RPP in the cohort II regions. Conversely, alternative patterns to those just described could certainly be observed, and a variety of interpretations are possible. For these reasons, the primary purposes for displaying and analyzing the YAS data in this report are to describe and compare patterns over time for selected outcome measures for each of the two cohorts. The findings may be open to numerous competing interpretations regarding RPP effects, rather than providing

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<sup>4</sup> The cohort II regions, however, did not begin implementing RPP-funded strategies until mid-2017, and therefore serve as an appropriate comparison group for analysis of the YRBS data through 2017.

<sup>5</sup> Although cohort I regions began implementing RPP-funded activities well before the cohort II regions, the timing of the YRBS and YAS is such that it would not be possible to isolate outcomes that might be linked to the cohort I RPP funding only. Similarly, although cohort II regions received somewhat higher levels of RPP funding, this difference is probably not large enough to use it as a surrogate for high versus low RPP intensity (as an alternative to examining differences between funded versus non-funded regions).

compelling evidence for (or against) them. At this point in the RPP evaluation, therefore, they are primarily intended to help track outcome measures over time for two subsets of regions with different connections to PFS and RPP funding. The findings are intended to generate initial hypotheses and/or insights regarding possible effects of RPP, and strategies for how to further explore them as additional data become available.

## Evaluation Questions

Based on the discussion above, the evaluation questions driving this report are somewhat different depending on the data source. In analyzing the YRBS data, the two questions to be addressed are:

1. To what degree did the regions receiving PFS funding experience improvements between baseline and follow-up (i.e., between 2013 and 2017) in the outcome measures examined?
2. Collectively, did the PFS-funded regions experience greater improvements in the outcome measures examined relative to non-funded regions during the same 2013 to 2017 time period?

The rationale underlying these questions was discussed in the PFS Final Evaluation Report. Briefly, the first question simply asks, consistent with the stated objectives of the project, if indicators for targeted outcomes improved over time in the regions funded by PFS. The second question is designed to help support attribution of positive effects to PFS rather than to other influences.

It is important to note that these questions pertain to PFS effects, not RPP effects, for reasons discussed above. Also noteworthy is that fact that the changes over time between 2013 and 2015 have already been analyzed and reported in the PFS Final Evaluation Report. These findings are included here as well to help provide and complete a full assessment of PFS effects.

The two questions to be addressed using the YAS data are:

1. To what degree did the regions receiving RPP funding (i.e., both cohorts I and II) experience improvements between 2016 and 2018 in the outcome measures examined?
2. Collectively, between 2016 and 2018 did the cohort II regions experience a reduction or discontinuation of the generally unfavorable trends in outcome measures they experienced relative to the cohort I regions between 2014 and 2016?

## Measures

Outcome measures from the YRBS and YAS were selected based on their relevance to the objectives of the PFS and RPP projects, and include both self-report measures of substance use behavior and perceptions related to substance use.<sup>6</sup> Only measures that were available all three years of each survey were selected. Because a number of changes were made to the 2017 YRBS instrument, certain measures that have been examined in previous evaluation reports were no longer available. Table 1 lists the measures used for this report.

All measures displayed in this report are in the form of percentages of survey respondents (i.e., prevalence rates) who meet a specified criterion, such as reporting any use of alcohol in the past 30 days. For survey items with multiple response options, to define a prevalence rate it was necessary to identify “cut-points” in the set of response options. Most of the perception questions used this response option format. For example, the prevalence rate for low perceived risk of harm from using marijuana regularly was defined as the percent of respondents who perceived the risk of harm to be no risk, slight risk, or moderate risk (as opposed to “great risk”). The response options used to define each of these prevalence rates are indicated in the Table 1. By design, all measures, including perceptions as well as substance use measures, were defined such that lower prevalence rates are desirable.

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<sup>6</sup> One of the perception measures we examined was not recalling seeing or hearing information regarding safe storage and disposal of prescription drugs. This in itself is not an established risk factor for prescription drug misuse, but it was included in the survey (and this report) as a potentially important intervening variable in assessing the effects of statewide media campaign messages regarding storage and disposal of prescription drugs.

Table 1. Outcome measures and definitions.

Source	Grade Levels	Measure	Definition	
YRBS		Substance use measures:		
	All	Current alcohol use	Any use of alcohol within past 30 days	
	HS only	Current binge drinking	Having 5 or more drinks in a row within past 30 days <sup>1</sup>	
	All	Current marijuana use	Any use within the past 30 days	
	HS only	Lifetime Rx pain reliever misuse	Use of any prescription pain relievers without a doctor's prescription or in ways not prescribed in lifetime <sup>2</sup>	
	HS only	Lifetime Rx stimulant misuse	Use of any prescription stimulants without a doctor's prescription or in ways not prescribed in lifetime <sup>2</sup>	
	MS only	Lifetime alcohol use	Ever drank alcohol other than a few sips (in lifetime)	
	MS only	Lifetime marijuana use	Ever tried marijuana (in lifetime)	
			Perception measures:	
	All	Low disapproval of alcohol use	A little bit wrong or not wrong at all for someone respondent's age to use alcohol	
	All	Low disapproval of marijuana use	A little bit wrong or not wrong at all or someone respondent's age to use marijuana	
	All	Low risk from binge drinking	No risk, slight risk, or moderate risk for people to have 5+ drinks once or twice per weekend	
	All	Low risk from marijuana use	No risk, slight risk, or moderate risk for people using marijuana regularly	
YAS		Substance use measures:		
	--	Current binge drinking	Having 5 or more drinks (if male) or 4 or more drinks (if female) on a single occasion within past 30 days	
	--	Current alcohol use (ages 18-20)	Any use of alcohol within past 30 days (ages 18-20 only)	
	--	Current marijuana use	Any use of marijuana within past 30 days	
	--	Past year Rx pain reliever misuse	Any use of prescription pain relievers that were not prescribed, or for a different reason than prescribed, within the past year	
	--	Past year Rx sedative misuse	Any use of prescription sedatives that were not prescribed, or for a different reason than prescribed, within the past year	
	--	Past year Rx stimulant misuse	Any use of prescription stimulants that were not prescribed, or for a different reason than prescribed, within the past year	
			Perception measures:	
	--	Easy for minors to buy alcohol	Very easy or somewhat easy for underage persons to buy alcohol in stores	
	--	Easy for minors to be served alcohol	Very easy or somewhat easy for underage persons to buy alcohol in bars and restaurants	
	--	Easy to obtain marijuana	Very easy for persons the age of respondent to obtain marijuana	
	--	Easy to obtain pain meds w/o Rx	Very easy or somewhat easy for persons the age of respondent to obtain Rx pain relievers without a prescription	
	--	Low risk from binge drinking	No risk or slight risk from having five or more drinks once or twice a week	
	--	Low risk from using marijuana	No risk or slight risk from smoking marijuana once or twice per week	
	--	Low risk from using Rx pain meds than were not prescribed	No risk or slight risk from using Rx pain relievers that were not prescribed a few times a year	
--	Don't recall info about Rx drug storage/disposal	Do not recall seeing or hearing information about safe storage/disposal of Rx drugs in the past year		

<sup>1</sup> In the 2017 YRBS, binge drinking for females was defined as having 4 or more drinks in a row within the past 30 days.

<sup>2</sup> The 2013 and 2015 version of this question only referred to use without a prescription.



## Analysis Procedures

Both the YRBS and the YAS respondents were weighted to ensure that the data from each region reflected that region's actual population size and certain demographic characteristics.<sup>7</sup> Prevalence rates for each outcome measure were then calculated from the weighted data. The rates were calculated separately for each cohort and each survey year. Other than the application of the weights, the prevalence rates were calculated directly from the data; i.e., no further adjustments were made.<sup>8</sup>

Throughout this section and the remainder of this report, we have renamed cohort I and cohort II to be more descriptive of the programmatic "conditions" they experienced. These conditions are different depending on the data set (YRBS or YAS) being analyzed due to the differences in when these surveys were conducted relative to the timeframes for PFS and RPP implementation.<sup>9</sup> For the YRBS, the conditions that characterize each of the two cohorts are:

Cohort I) PFS

Cohort II) Non-PFS

Whereas for all YAS analyses, the conditions are appropriately labeled:

Cohort I) PFS+RPP

Cohort II) RPP-only

For each outcome measure, the calculated prevalence rates are displayed in a series of charts showing how rates changed across survey years for each of the two conditions being examined. To assist in the interpretation of the YRBS data, a summary table next to each chart shows the percentage point difference in the measure for the PFS condition between 2013 and 2015, between 2015 and 2017, and between 2013 and 2017. These measures, and the associated visual pattern indicated in each chart, address the research question regarding whether PFS-funded areas experienced favorable changes (i.e., declines) over the timeframe of their PFS funding. Negative values for the percentage point differences between years, therefore, are desirable. Statistically significant differences between years in the rates are noted as such (including differences that are "marginally" significant at the  $p < .10$  level).<sup>10</sup>

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<sup>7</sup> For the YRBS data, we used the VDH-supplied weight variable called "SU\_weight", which weights the data according to the student enrollment in each school district (SU) by grade level, sex, and racial/ethnic minority status. The YAS data were weighted by "wt\_county", which weights the data according to the age 18 to 25 population of each county, by sex and age-group, as obtained in the 2010 U.S. Census.

<sup>8</sup> Although adjustments could have been made to compensate for differences in demographic characteristics across condition and/or survey year, our experience has been that such adjustments have made very little difference in the resulting rates and patterns. We also chose to simply aggregate the weighted respondent data across regions in calculating the prevalence rates for each condition, thereby allowing each region to contribute to the prevalence rates in direct proportion to its student enrollment numbers (for YRBS) or population size (for YAS).

<sup>9</sup> Notes regarding how survey respondents were assigned to condition are provided in a separate technical appendix maintained by PIRE.

<sup>10</sup> Differences significant at the  $p < .01$  level are indicated by three asterisks, the  $p < .05$  level by two asterisks, and the  $p < .10$  level by a single asterisk.

Each chart showing YRBS data also shows prevalence rates over the same time period for the non-PFS condition. To assist in quantifying the degree to which PFS-funded areas may have experienced more favorable changes over time than the non-PFS areas, the “net percentage point difference” for PFS-funded areas between each pair of years is shown in the adjacent summary table. A negative value for net percentage point difference indicates that the PFS areas experienced greater declines (or smaller increases) over the timeframe in question relative to non-PFS areas. Statistically significant differences between the conditions with respect to their temporal patterns are again noted for each pair of years.

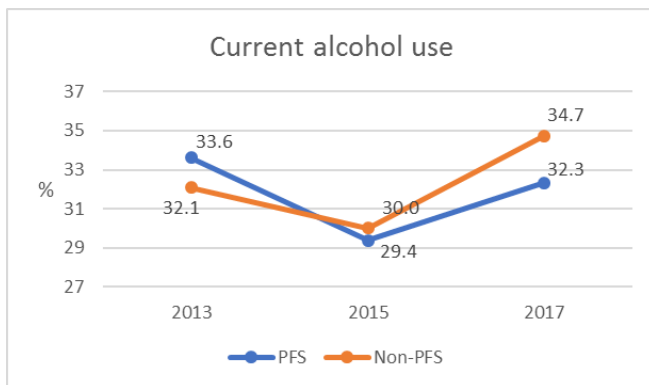
The YAS data are presented in a similar manner with respect to the charts, although the years match the timeline of the YAS administration and the conditions shown in the chart are appropriately labeled PFS+RPP and RPP-only. Because the YAS data are being used to assess outcomes associated with RPP, however, rather than PFS, the summary tables that accompany each chart are organized somewhat differently. Specifically, changes over time that could be connected to RPP are between 2016 and 2018 only. Therefore, only the percentage point changes between those two years are shown in the summary table. Because RPP funding was provided to both conditions, the percent point change between 2016 and 2018 and associated test of significance for both conditions is reported, along with the same information for the two conditions combined (because they both are RPP-funded).

Comparing the changes over time between the PFS+RPP and RPP-only regions will indicate whether the different trajectories for PFS versus non-PFS observed for many outcome measures in the 2014-2016 timeframe continued unabated during the 2016-2018 timeframe, or if they stabilized, were diminished, disappeared altogether, or were reversed. To assist in this assessment, the net percentage point change values are reported in the same manner as the tables accompanying the YRBS data. Their interpretation is best explained by examining the findings for an example outcome measure, as provided below.

## Findings

Charts and summary statistics are provided in Appendix 1 of this report for all measures listed in Tables 1 above. To aid in the interpretation of these findings, one chart and accompanying summary table from the YRBS data, and one from the YAS data, are replicated below along with a detailed explanation and interpretation. These example findings are followed by a summary of the patterns observed across all the outcome measures examined.

### Example 1 – Rates of current alcohol use among high school students (based on the YRBS)



Pct point diff between years (PFS)		
2013 - 2015	-4.2	***
2015 - 2017	2.9	***
2013 - 2017	-1.3	**
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-2.1	**
2015 - 2017	-1.8	
2013 - 2017	-3.9	***

The prevalence rates for current alcohol use (i.e., any use of alcohol within the past 30 days) among high school students depicted in the chart above reflect the statewide decrease in use that occurred between 2013 and 2015. PFS-funded regions experienced a statistically significant ( $p < .01$ ) decrease during this timeframe of 4.2 percentage points (as reported in the summary table). This was 2.1 percentage points more than the decrease experienced in the non-PFS regions (also as reported in the summary table). This “net percentage point difference” of -2.1 indicates a favorable effect of PFS due to the greater reduction in current alcohol use prevalence in PFS versus non-PFS regions, and is also statistically significant ( $p < .05$ ).

The findings based on the 2013 and 2015 YRBS just described have been reported previously but are included in this report along with the more recent (2017) data in order to provide a more complete outcome evaluation of PFS across the entire timeframe in which it was implemented.<sup>11</sup> With the inclusion of 2017 YRBS data, we see the statewide increase in current alcohol use that occurred between 2015 and 2017. The PFS-funded regions experienced a 2.9 percentage point increase ( $P < .01$ ). Although any increase in prevalence is undesirable, this increase was less than the 4.7 percentage point increase experienced in the non-PFS regions (as indicated by the -1.8 net percentage point decrease over this time period) and in this sense are

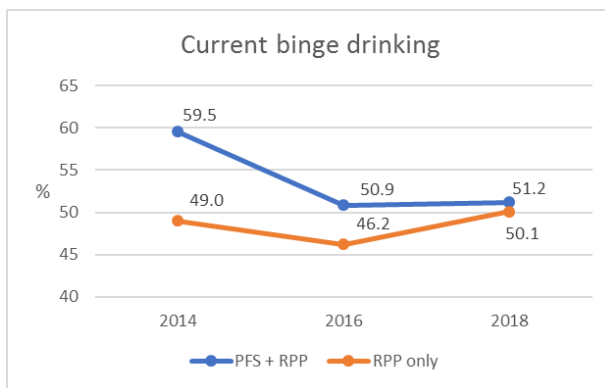
<sup>11</sup> The prevalence rates reported here vary slightly from those in previous evaluation reports because the rates reported here have not been adjusted for sociodemographic variables and because there are minor changes in the set of schools included in the analysis (due to the exclusion of data from schools that did not participate in the YRBS all three years, which was done to make the samples as comparable as possible across the years).

considered a favorable outcome for PFS relative to the non-PFS regions. In this case, however, this difference between conditions in the degree of change between 2015 and 2017 was not statistically significant.

The data presented here also provide an assessment of change over the entire timeframe of 2013 to 2017. Despite the increase in current alcohol use in the PFS regions between 2015 and 2017, these regions did experience an overall 1.3 percentage point decrease between 2013 and 2017. This contrasts with the slight overall increase in the rates from 32.1 to 32.3 percent in the non-PFS regions, and therefore an overall and statistically significant effect of PFS ( $p < .01$ ), as reflected in the -3.9 net percentage point change for PFS relative to non-PFS.

To summarize the patterns in current alcohol use among high school students just presented, the data suggest a favorable effect of PFS on reducing use in the 2013 to 2015 timeframe (as previously reported). The relatively more favorable pattern for PFS (compared to the non-PFS regions) continued through the next two-year period, albeit a slightly reduced level. Unfortunately, this positive finding is tempered by the fact that during this later period both conditions experienced an increase in the current alcohol use rate. As discussed below, indications of positive effects of PFS need to be interpreted with caution due to constraints inherent in the design and methods of this assessment.

### Example 2 – Rates of binge drinking among young adults (based on the YAS)



Pct point diff between 2016 and 2018		
PFS+RPP	0.3	
RPP-only	3.9	
Both conditions	1.3	
Net pct point diff: PFS+RPP vs. RPP-only		
2014 - 2016	-5.9	*
2016 - 2018	-3.6	
2014 - 2018	-9.4	***

For examining whether this outcome measure improved during the RPP funding (i.e., evaluation question #1 for the YAS), the focus is limited to change over time between 2016 and 2018. Because both conditions received RPP funding during this time period, it is appropriate to consider the overall experience of the two conditions combined. Contrary to the RPP goal, the data show a slight but not statistically significant increase of 1.3 percentage points in the prevalence of binge drinking. This pattern was true for those regions that had also received PFS funding through 2016 as well as those that did not, although the increase was greater in the RPP-only condition (a 3.9 versus 0.3 percentage point increase).

This difference between PFS+RPP and RPP-only is reflected in the net percentage point difference of -3.6 percentage points for 2016-2018 as shown in the bottom portion of the summary table. To assist in interpreting this finding, the table also shows the net percentage

point difference value for the 2014 to 2016 timeframe. For that period, the PFS+RPP regions experienced a favorable net difference of -5.9 percentage points ( $p < .10$ ). What is noteworthy about this pattern (as is apparent visually in the chart) is that the favorable trajectory over time for PFS+RPP relative to RPP-only in the 2014 to 2016 timeframe remains favorable in the 2016 to 2018 timeframe, but the difference was not as strong (going from a net percentage point difference of -5.9 to -3.6) and no longer statistically significant. For the binge drinking measure, therefore, the data show that the apparent favorable effect of PFS during the 2014 to 2016 timeframe was reduced but not altogether eliminated or reversed after RPP was provided to both groups. This is consistent with the expectation that the allocation of RPP funds to previously unfunded regions of the state would serve to moderate (if not eliminate) a continuation of the favorable effects of PFS during the 2014-2016 timeframe. As with the YRBS data, the YAS data findings presented here are intended to provide suggestive rather than conclusive assessments of programmatic effects.

### Summary of patterns across data sources and outcome measures

The following three tables (Tables 2, 3, and 4) and accompanying text provide a summary of the detailed findings presented in Appendix 1, and are designed to help address the evaluation questions specified earlier. For that reason, the focus of the summaries differs somewhat for the YRBS findings as compared to the YAS findings. For both data sources, the findings are first summarized in table format, followed by a narrative description of the patterns reflected in the summary table. As mentioned previously, measures related to marijuana use and related risk factors have been included in this report because reducing marijuana use is a goal for RPP that could be reflected in the 2017 YRBS data (for cohort I regions) and in the 2018 YAS data (for both cohorts). How these measures have changed over the 2013 to 2015 timeframe (for YRBS) and 2014 to 2016 timeframe (for YAS) is less relevant to the evaluation, but this information has been included in the charts and summary tables to provide additional context.

Table 2. Summary of YRBS high school data

	Percentage Point Change in PFS Regions <sup>1</sup>			Net Percentage Point Change (PFS relative to non-PFS) <sup>2</sup>		
	2013-2015	2015-2017	2013-2017	2013-2015	2015-2017	2013-2017
<b>Substance use measures:</b>						
Current alcohol use	-4.2 ***	2.9 ***	-1.3 **	-2.1 **	-1.8	-3.9 ***
Current binge drinking	-3.9 ***	0.4	-3.5 ***	-0.6	-2.1 **	-2.7 ***
Current marijuana use	-1.7 ***	0.9 *	-0.8	-1.0	-1.2	-2.2 **
Lifetime Rx pain reliever misuse	-2.6 ***	-1.2 ***	-3.8 ***	-0.1	-0.8	-0.8
Lifetime Rx stimulant misuse	-0.9 ***	-0.3	-1.2 ***	-0.3	-0.5	-0.7
<b>Perception measures:</b>						
Low disapproval of alcohol use	-4.7 ***	-1.2 *	-5.9 ***	-1.6	-0.2	-1.9 *
Low disapproval of marijuana use	0.5	0.1	0.6	-0.5	-2.4 **	-2.9 ***
Low risk from binge drinking	-0.2	2.3 ***	2.2 ***	-0.7	-0.4	-1.1
Low risk from marijuana use	3.9 ***	2.8 ***	6.7 ***	-1.8 *	0.8	-1.0

<sup>1</sup> Cells that indicate decreases between the years are shaded in green.

<sup>2</sup> Cells that indicate changes favorable to PFS, relative to the non-PFS condition, are shaded in green.

Note: significant differences are noted as: \*  $p < .10$ ; \*\*  $p < .05$ ; \*\*\*  $p < .01$ .

The findings from the high school YRBS data reveal several strong and noteworthy patterns. As already documented in previous reports, decreases between 2013 and 2015 in the prevalence rates for alcohol use and prescription drug misuse and related risk factors were experienced across the PFS-funded regions. Decreases during the 2015 to 2017 timeframe were less common. In fact, students in PFS regions experienced significant increases in current alcohol use and low perceived risk from binge drinking, even though the percent of students who do not disapprove of alcohol use continued to decline during this timeframe. Significant increases in current marijuana use and perceived low risk of using marijuana also occurred for PFS regions during this timeframe. Even with the mixed results for the 2015 to 2017 period, the prevalence rates among high school students in PFS-funded regions across the entire four-year timeframe from 2013 to 2017 for all four alcohol use and prescription drug misuse measures examined decreased significantly.

The findings regarding apparent PFS effects relative to the non-PFS condition, as indicated by negative net percentage change values, are remarkably consistent. For both time periods, the differences between years in substance use rates were favorable to the PFS condition for all five substance use measures. The same was true for all perception measures as well, with the lone exception of a statistically insignificant difference between 2015 and 2017 for low perceived risk of marijuana, which in this case favored the non-PFS condition. Across the full time span from 2013 to 2017, the favorable PFS effects were statistically significant for current alcohol use, binge drinking, and current marijuana use, as well as disapproval of both alcohol and marijuana use.

These findings serve to confirm that the apparent favorable effects of PFS on both substance use and perceptions regarding disapproval and risk among high school students that were observed for the 2013-2015 timeframe continued into the 2015-2017 timeframe. As such they provide additional suggestive evidence that the PFS-funded activities did contribute to meaningful positive difference in the regions where they were implemented.

Table 3. Summary of YRBS middle school data

	Percentage Point Change in PFS Regions			Net Percentage Point Change (PFS relative to non-PFS)		
	2013-2015	2015-2017	2013-2017	2013-2015	2015-2017	2013-2017
Substance use measures:						
Current alcohol use	-0.9 **	0.2	-0.7 *	-2.1 *	2.5 *	0.3
Current marijuana use	0.1	0.4	0.5 *	-2.2 *	1.8	-0.4
Lifetime alcohol use	-1.2 **	1.4 ***	0.2	-0.3	0.4	0.1
Lifetime marijuana use	0.1	0.1	0.3	-1.8	1.6	-0.2
Perception measures:						
Low disapproval of alcohol use	-0.2	-0.8 *	-1.0 **	-1.2	2.5	1.3
Low disapproval of marijuana use	1.3 ***	-0.6	0.8 *	-1.7 *	-0.2	-1.9 **
Low risk from binge drinking	3.6 ***	0.5	4.1 ***	0.6	1.6	2.2
Low risk from marijuana use	4.9 ***	-0.4	4.5 ***	-1.9	0.2	-1.8

<sup>1</sup> Cells that indicate decreases between the years are shaded in green.

<sup>2</sup> Cells that indicate changes favorable to PFS, relative to the non-PFS condition, are shaded in green.

Note: significant differences are noted as: \* p<.10; \*\* p<.05; \*\*\* p<.01.

The patterns in the middle school data are mixed and less pronounced than those found in the high school data. The prevalence of current and lifetime alcohol use in the PFS-funded regions was significantly lower in 2015 compared with 2013, but these trends did not hold up for the 2015 to 2017 timeframe. With the exception of favorable trends for current alcohol use and low disapproval of alcohol use, the changes in the middle school outcome measures between 2013 and 2017 were disappointing. The larger and statistically significant increases in the percent of students perceiving a low risk of harm from binge drinking and using marijuana were especially notable. Even so, and as reported previously, the changes between 2013 and 2015 were generally favorable in the PFS regions relative to the non-PFS regions. This pattern, however, was almost entirely reversed in the 2015 to 2017 timeframe. For the entire 2013 to 2017 period, differences between the PFS and non-PFS regions in the overall degree of change in the outcome measures were modest and inconsistent. For that timeframe, a statistically significant difference between conditions was observed for only one measure, a favorable effect of PFS relative to non-PFS on low disapproval of marijuana use, which notably occurred primarily between 2015 and 2017 when marijuana use was added as a goal for RPP.

Table 4. Summary of YAS data

	Percentage Point Change Between 2016 and 2018 <sup>1</sup>			Net Percentage Point Change (PFS+RPP relative to RPP-only) <sup>2</sup>		
	PFS+RPP	RPP-only	Combined	2014-2016	2016-2018	2014-2018
<b>Substance use measures:</b>						
Current binge drinking	0.3	3.9	1.3	-5.9 *	-3.6	-9.4 **
Current alcohol use (ages 18-20)	0.9	-3.6	-0.5	-8.9	4.5	-4.4
Current marijuana use	2.6	1.4	2.1	-2.4	1.2	-1.3
Past year Rx pain reliever misuse	-2.9 ***	-2.1	-2.6 ***	-1.4	-0.8	-2.2
Past year Rx sedative misuse	-1.7 *	-0.4	-1.3 *	-0.6	-1.4	-2.0
Past year Rx stimulant misuse	-0.7	3.0	0.3	2.8	-3.7	-0.8
<b>Perception measures:</b>						
Easy for minors to buy alcohol	4.6 ***	4.8 *	4.7 ***	-2.1	-0.2	-2.3
Easy for minors to be served alc	5.8 ***	3.1	5.0 ***	0.6	2.7	3.3
Easy to obtain marijuana	3.6 *	3.3	3.5 **	-1.6	0.4	-1.2
Easy to obtain pain meds w/o Rx	-2.3	-7.7 ***	-3.7 **	-0.3	5.4	5.1
Low risk from binge drinking	-3.4 *	0.4	-2.3	0.3	-3.7	-3.4
Low risk from using marijuana	1.9	0.0	1.3	-1.6	1.9	0.4
Low risk from using Rx pain meds than were not prescribed	1.2	3.0	1.7	-0.5	-1.8	-2.3
Don't recall info about Rx drug storage/disposal	-15.5 ***	-22.4 ***	-17.5 ***	-6.4 *	6.9 **	0.5

<sup>1</sup> Cells that indicate decreases between the years are shaded in green.

<sup>2</sup> Cells corresponding to outcomes for which the favorable trajectory of PFS+RPP versus RPP-only observed in the 2014 to 2016 timeframe were diminished during the 2016 to 2018 timeframe are shaded in orange.

Note: significant differences are noted as: \* p<.10; \*\* p<.05; \*\*\* p<.01.

Because the focus of the evaluation questions based on the YAS data is the RPP, the examination of percentage point changes over time as provided in Table 4 is limited to the 2016 to 2018 timeframe, during which RPP-funded interventions were underway. In this regard, we see that for both conditions combined (keeping in mind that both conditions include RPP funding and collectively include almost the entire state), there is a mix of desirable and undesirable changes during this time period. The strongest and most notable desirable changes are the decreases in the prevalence of past year prescription pain reliever (often opioids) misuse, the perceived ease of obtaining these drugs, and not recalling messages regarding safe storage and disposal of prescription drugs. On the other hand, significant increases were found for the perceived ease in which underage persons can obtain alcohol, whether in stores or in restaurants and bars, and the ease with which young adults may obtain marijuana.

For reasons discussed earlier, expectations regarding the net percentage point change values in the YAS data are different than for the YRBS data, and the interpretation of the patterns revealed is more challenging. The main issue is the fact that both conditions received RPP funding, albeit at different levels and with different timing. We decided to focus on whether the different trajectories observed for PFS+RPP and RPP-only during the 2014 to 2016 timeframe (and for which most were favorable to PFS+RPP) became less pronounced in favor of the PFS+RPP condition or even switched to favoring RPP-only during the 2016 to 2018



timeframe. The outcome measures for which this is true have net percentage point change values for 2016 to 2018 that are higher than the values for the same measures in the 2014 to 2016 timeframe. The measures that meet this criterion are identified by orange-shaded cells in the 2016-2018 net percentage point change column of Table 4. The majority of the outcome measures (10 of 14) meet this criterion, and therefore the data provide some evidence that the outcome trajectories of the RPP-only regions shifted in the direction of being less unfavorable and/or more favorable (relative to PFS+RPP regions) than they had been before the RPP project began.

One outcome measure for which the findings are particularly notable pertains to recalling having seen or heard messages about safe storage and disposal of prescription drugs. The messaging campaign on this issue was not directly connected to RPP, but RPP grantees (and PFS grantees in the preceding years) were expected to help support and promote the state's messages about safe storage and disposal. As the trend data show, the statewide decrease in the percentage of young adults not recalling exposure to these messages was strong, especially in the 2016 to 2018 timeframe. The data certainly seem to suggest (see the last chart in Appendix 1) that the PFS-funded regions got a jump start on promoting the campaign messages, as seen in the changes between 2014 and 2016. This pattern was then reversed after the RPP-only regions received their funding, as indicated in the changes in this outcome measure between 2016 and 2018.

## Summary and Implications

### Summary of main findings

Brief summaries of the findings in response to each of the evaluation questions are provided below. Each summary focuses on the overall pattern of the findings across outcome measures, although exceptions based on individual measures are noted. Findings for each individual outcome measure are provided by the information in Tables 2 through 4 above, and are visually represented in the charts provided in the Appendix.

*YRBS Evaluation Question #1: To what degree did the regions receiving PFS funding experience improvements between baseline and follow-up (i.e., between 2013 and 2017) in the outcome measures examined?*

Among high school students in PFS-funded regions, declines in almost all outcome measures, including both substance use and perceptions linked to substance use, occurred between 2013 and 2015. The lone notable exception was a significant increase in the percent of students perceiving low risk from marijuana use. During the 2015 to 2017 timeframe, these trends were reversed for several measures, as exemplified in the significant increases observed for current alcohol use, current marijuana use, and low perceived risk from binge drinking. The prevalence of low perceived risk from marijuana use continued to increase from 2015 to 2017.

The patterns observed for middle school students were more mixed, with fewer statistically different prevalence rates between years. One significant reversal in trends was seen in the increase in lifetime alcohol use during the later timeframe, after a significant decrease in the earlier period. Across the entire 4-year timeframe, there were more increases than decreases in both substance use behavior measures and perception measures. The increases in the prevalence rates for perceived risk from both binge drinking and marijuana use were especially pronounced.

YRBS Evaluation Question #2: *Collectively, did the PFS-funded communities experience greater improvements in the outcome measures examined relative to non-funded communities during the same 2013 to 2017 time period?*

In regards to experiencing more favorable changes over time among PFS-funded regions relative to non-PFS regions, the high school data were remarkably consistent across almost all outcome measures in suggesting a favorable effect of PFS over both time periods examined. Because the differences in trends between the two conditions were favorable to PFS for both time periods, the cumulative differences observed across all four years from 2013 to 2017 were even stronger. Relative to the non-PFS regions, statistically significant declines in the PFS regions for the four-year period were observed for current alcohol use, binge drinking, current marijuana use, and low disapproval of marijuana use, as well as a marginally significant difference for low disapproval of alcohol use.

The middle school data showed a pattern similar to the high school data in the relatively more favorable changes in the PFS regions during the 2013 to 2015 timeframe. This pattern, however, did not hold up in the second time period, resulting in a mixture of favorable and unfavorable apparent effects of PFS over the four-year timeframe. Most of these were small and non-significant, although the two largest differences (low disapproval of marijuana use and low perceived risk from using marijuana) both favored the PFS regions.

A final note regarding the findings relevant to this question is that outcomes for which greater improvements were experienced in the PFS regions, relative to non-PFS, were generally experienced in most or all of the PFS regions, rather than driven by a single large region. Specifically, the number of PFS regions for which this was true ranged from 3 to 6 across the outcome measures for both the middle school data (mean number of regions = 3.6) and the high school data (mean number of regions = 4.4).

YAS Evaluation Question #1: *To what degree did the regions receiving RPP funding (i.e., both cohorts I and II) experience improvements between 2016 and 2018 in the outcome measures examined?*

Looking strictly and whether prevalence rates increased or decreased between 2016 and 2018 for both conditions combined, there was a mixture of favorable and unfavorable findings across the outcomes examined. Among substance use measures, both prescription pain reliever and prescription stimulant misuse were down significantly in 2018, while other substance use

measures saw small but not statistically significant increases. Consistent with the decrease in prescription pain reliever misuse, the data also show significant decreases in the ease of obtaining these pain relievers and in not recalling messages about safe storage/disposal of prescription medicines. Statistically significant increases, however, were observed for perceptions that alcohol is easy for minors to obtain in both stores and in bars and restaurants, and that marijuana is easy to obtain.

YAS Evaluation Question #2: *Collectively, between 2016 and 2018 did the cohort II regions experience a reduction or discontinuation of the generally unfavorable trends in outcome measures they experienced relative to the cohort I regions between 2014 and 2016?*

The apparent effect of RPP+PFS, relative to RPP-only, during the 2016 to 2018 timeframe was less than the observed PFS effect (relative to non-PFS) during the 2014 to 2016 timeframe, for 10 of the 14 outcomes assessed. This finding provides limited support for the expectation that the introduction of RPP funding in the cohort II regions, and the activities that followed, could help “bend the curve” back to at least some degree from the consistently less favorable trends experienced by these regions from 2014 to 2016.

### **Limitations**

The answers provided to evaluation question #1, for both the YRBS and the YAS analysis, are based on a pre-post only design, and therefore are not well-suited to confidently attribute positive change (or lack thereof) specifically to the effects (or absence of effects) of PFS and RPP. Given the goals of these initiatives, however, it is useful to assess whether key outcome measures are headed in the desired direction over the timeframe of the funding. If they are, this indicates that stated goals for these initiatives are being achieved, which is important in and of itself regardless of the specific contributions of the funded activities. Although it is not justified using these findings alone to attribute such success specifically to the PFS and RPP grants, it nevertheless can be reassuring to policymakers and to grantees to see that, for whatever reasons, desired outcomes are heading in the right direction, and it is equally important to be aware when the opposite is true.

Regarding the analyses that compared outcomes across conditions, it is important to keep in mind that PFS was not implemented using an experimental design, such as one employing random assignment of regions to condition. Rather, the funded and non-funded areas likely differed in various ways other than simply whether they received PFS funding that could have affected the outcome measures examined. These differences could work to either exaggerate or suppress differences between conditions in the outcomes assessed. They also would extend, of course, into RPP, because the conditions defined for the RPP funding period were based on which regions had previously received PFS funding. Due to the non-experimental nature of the evaluation design, therefore, all patterns involving comparisons of conditions reported here, even those that appear to strongly reflect positive programmatic effects of PFS, must be considered as being suggestive, or supportive, of such effects rather than providing definitive evidence.

As discussed in earlier sections of this report, the findings regarding potential effects of RPP face the additional challenge of there being no opportunity to directly compare outcomes over the same period of time between regions receiving RPP funding and those that did not. The alternative approach taken in this report seeks to identify patterns that support the emergence of an RPP effect among previously unfunded regions as compared to regions that seamlessly continued their prevention efforts from PFS to RPP funding. This approach is subject to additional limitations (e.g., other explanations for the patterns observed) beyond the non-random assignment issue identified above

## **Implications**

This report concludes the outcome evaluation for Vermont's PFS grant. Most notably, the opportunity to track outcome measures provided in the YRBS high school student data through 2017 has supported and reinforced the positive evaluation findings reported previously based on data through 2015 only. Although the patterns in the middle school data were not supportive of continued positive effects of PFS, no strongly suggestive findings of unfavorable effects were observed either. Based on prior studies as well as this one, middle school student data tend to be less definitive in helping identify program effects at the population level. This appears to be especially true for substance use outcomes, which among middle schools provide relatively low prevalence rates that can be substantially influenced by small numbers of students.

The findings from the YRBS analysis are important because they provide additional support for the effectiveness of the regional prevention system developed by VDH/ADAP, as implemented in its PFS initiative. Although the initial PFS grant has ended, the same structure and many of the programmatic activities initiated under PFS have been carried forward in the RPP initiative. This made perfect sense from a programmatic perspective, as it allowed the regional approach developed under PFS to be expanded to all other regions of the state. Based on the PFS evaluation findings, both as reported previously and now in this report as well, the decision to extend this approach beyond the end of the PFS initiative is also clearly supported by the empirical data used for the evaluation.

The challenges now faced in assessing outcomes associated specifically with RPP have made it more difficult to provide evidence regarding possible outcomes associated with this initiative. The findings presented in this report offer only mild evidence so far that RPP may have contributed to positive impacts on the targeted outcomes. In fact, the stronger evidence at this time for RPP effects comes from the fact that RPP is primarily an extension and expansion of PFS, and that we have already obtained empirical support for positive outcomes from PFS. Unless RPP is implemented very differently in the cohort II regions than PFS was implemented in the cohort I regions, it is reasonable to expect similar positive effects from RPP in the newly funded regions. Information on the regional implementation of RPP in both cohorts I and II is currently being collected and analyzed, and will shed light on whether successful implementation of the regional approach initiated under PFS has continued. Additional

approaches to examining outcome data, as provided by the 2019 YRBS and 2020 YAS, will also be explored, although the challenge imposed by the absence of an unfunded comparison group appears to be a limitation that cannot entirely be overcome.

## References

PIRE, 2016. Vermont Partnerships for Success: State Fiscal Years 2013-2016. Final Evaluation Report submitted to Vermont Department of Health, Division of Alcohol and Drug Abuse Programs, December 2016.

Vermont Department of Health, (no date). Vermont's Partnerships for Success (PFS) Grant Yields Positive Results. Retrieved from:  
[http://www.healthvermont.gov/sites/default/files/documents/2017/02/ADAP\\_VT%20PFS%20Evaluation%20Summary.pdf](http://www.healthvermont.gov/sites/default/files/documents/2017/02/ADAP_VT%20PFS%20Evaluation%20Summary.pdf) on 04-05-19.

## **Appendix: Charts and Summary Tables for Each Outcome Measure**

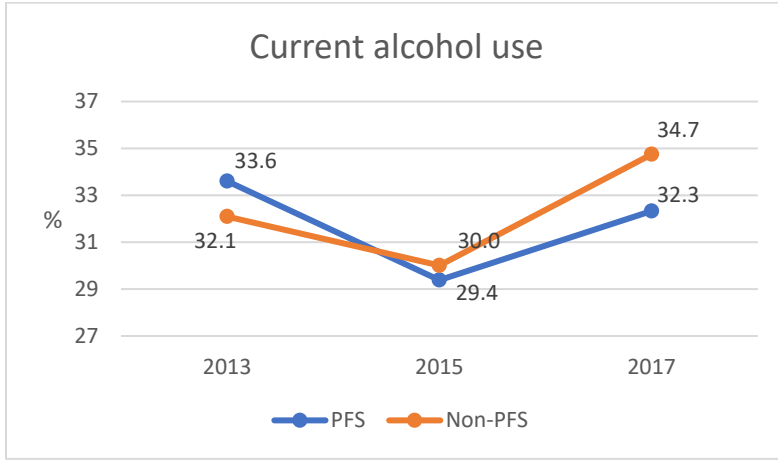
**A. Prevalence rates for high school students (from YRBS), by condition (PFS vs. non-PFS)**

**B. Prevalence rates for middle school students (from YRBS), by condition (PFS vs. non-PFS)**

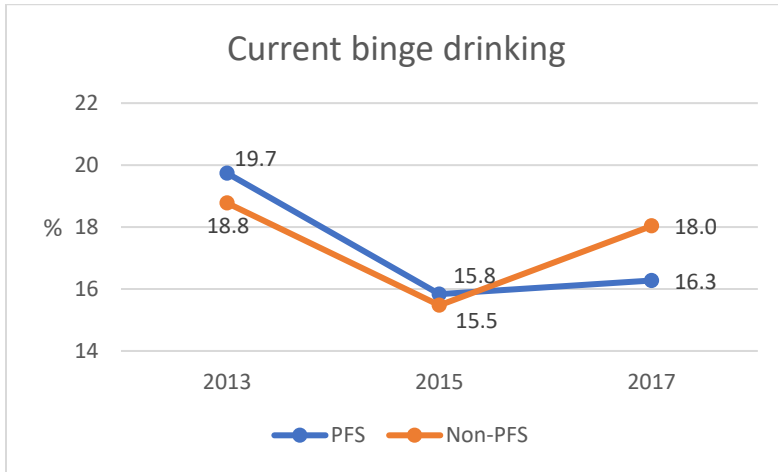
**C. Prevalence rates for young adults (from YAS), by condition (PFS+RPP vs. RPP-only)**

Note: Differences significant at the  $p < .01$  level are indicated by three asterisks, the  $p < .05$  level by two asterisks, and the  $p < .10$  level by a single asterisk.

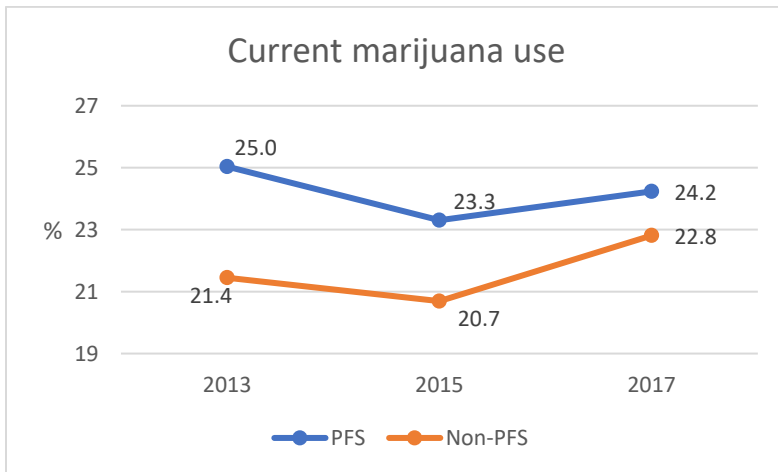
**A. Prevalence rates for High School Students (from YRBS).**



Pct point diff between years (PFS)		
2013 - 2015	-4.2	***
2015 - 2017	2.9	***
2013 - 2017	-1.3	**
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-2.1	**
2015 - 2017	-1.8	
2013 - 2017	-3.9	***

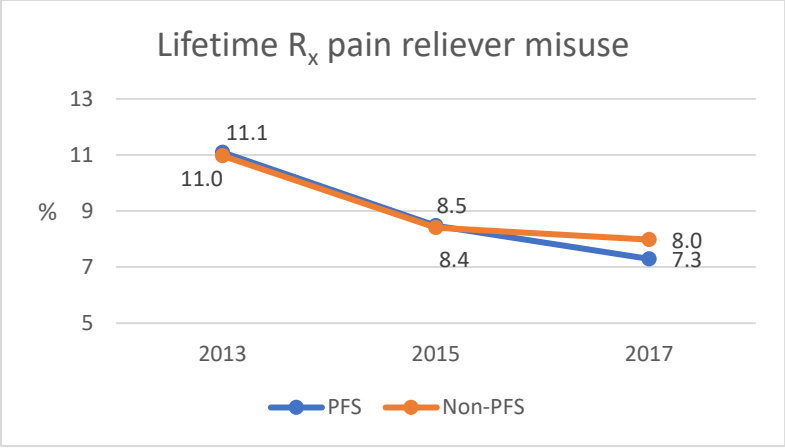


Pct point diff between years (PFS)		
2013 - 2015	-3.9	***
2015 - 2017	0.4	
2013 - 2017	-3.5	***
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-0.6	
2015 - 2017	-2.1	**
2013 - 2017	-2.7	***

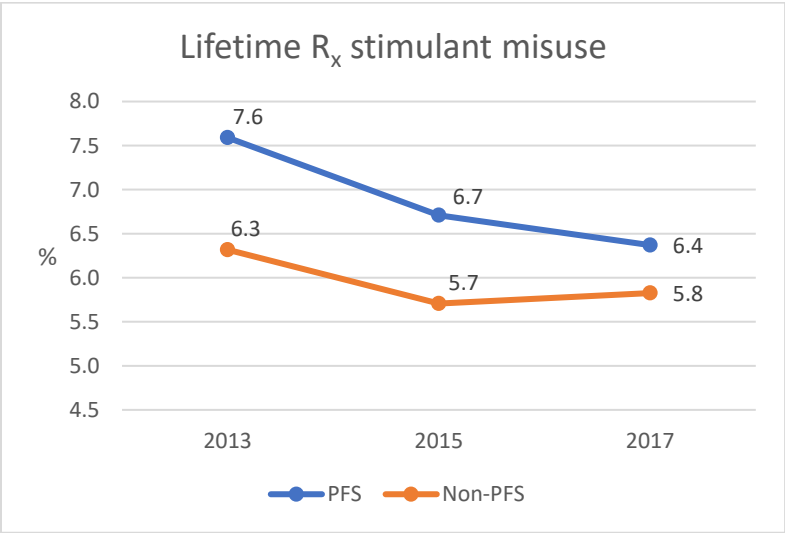


Pct point diff between years (PFS)		
2013 - 2015	-1.7	***
2015 - 2017	0.9	*
2013 - 2017	-0.8	
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-1.0	
2015 - 2017	-1.2	
2013 - 2017	-2.2	**

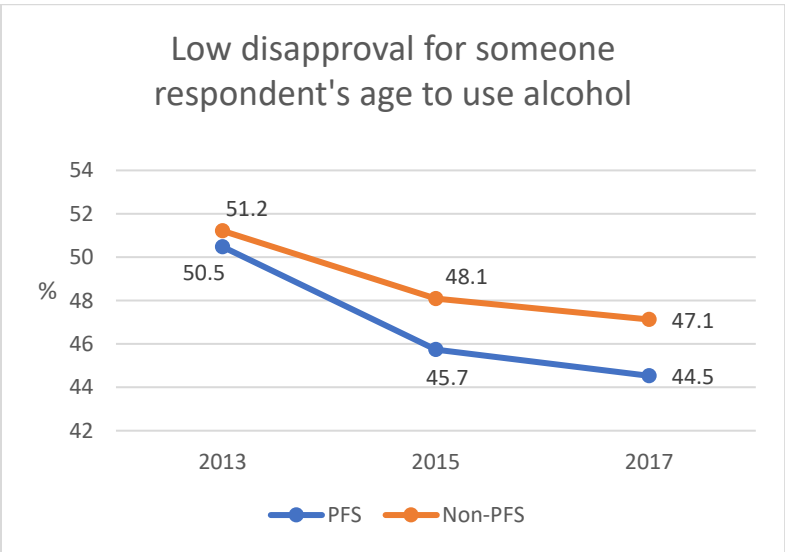




Pct point diff between years (PFS)		
2013 - 2015	-2.6	***
2015 - 2017	-1.2	***
2013 - 2017	-3.8	***
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-0.1	
2015 - 2017	-0.8	
2013 - 2017	-0.8	

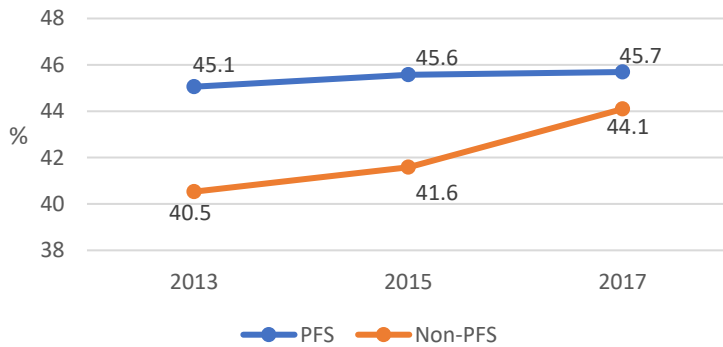


Pct point diff between years (PFS)		
2013 - 2015	-0.9	***
2015 - 2017	-0.3	
2013 - 2017	-1.2	***
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-0.3	
2015 - 2017	-0.5	
2013 - 2017	-0.7	



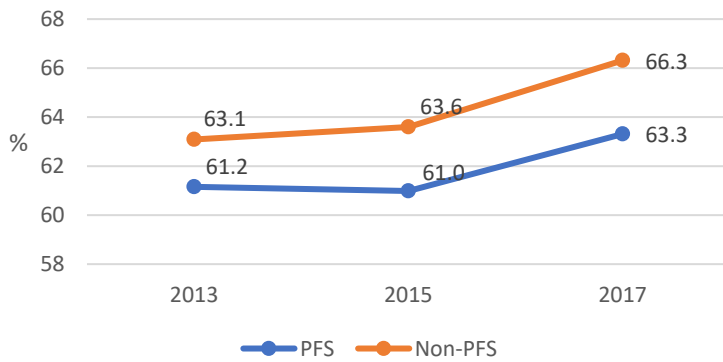
Pct point diff between years (PFS)		
2013 - 2015	-4.7	***
2015 - 2017	-1.2	*
2013 - 2017	-5.9	***
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-1.6	
2015 - 2017	-0.2	
2013 - 2017	-1.9	*

### Low disapproval for someone respondent's age to use marijuana



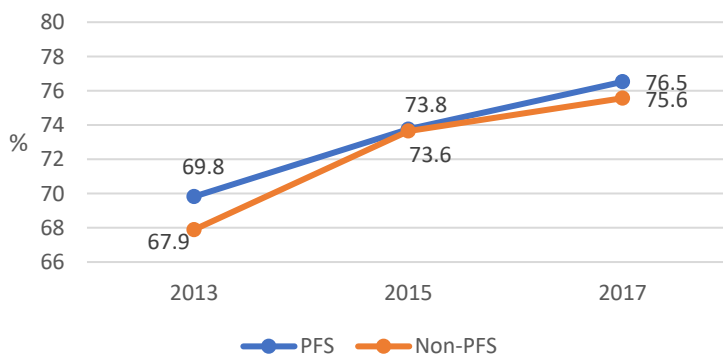
Pct point diff between years (PFS)		
2013 - 2015	0.5	
2015 - 2017	0.1	
2013 - 2017	0.6	
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-0.5	
2015 - 2017	-2.4	**
2013 - 2017	-2.9	***

### Low perceived risk from having 5+ drinks once or twice per weekend



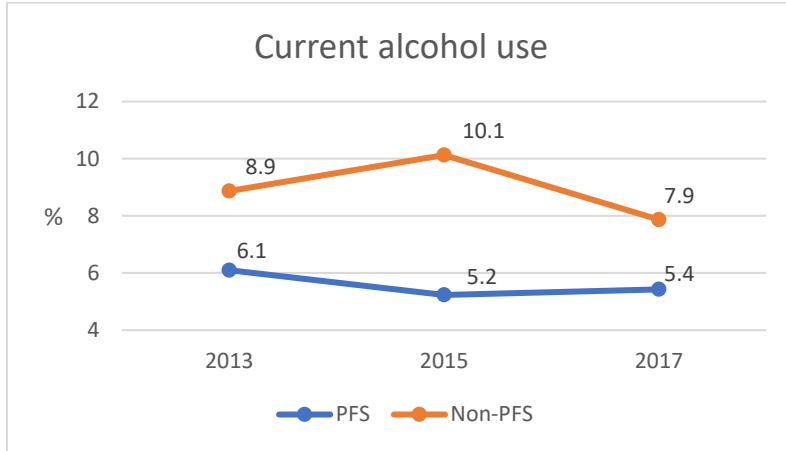
Pct point diff between years (PFS)		
2013 - 2015	-0.2	
2015 - 2017	2.3	***
2013 - 2017	2.2	***
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-0.7	
2015 - 2017	-0.4	
2013 - 2017	-1.1	

### Low perceived risk from using marijuana regularly

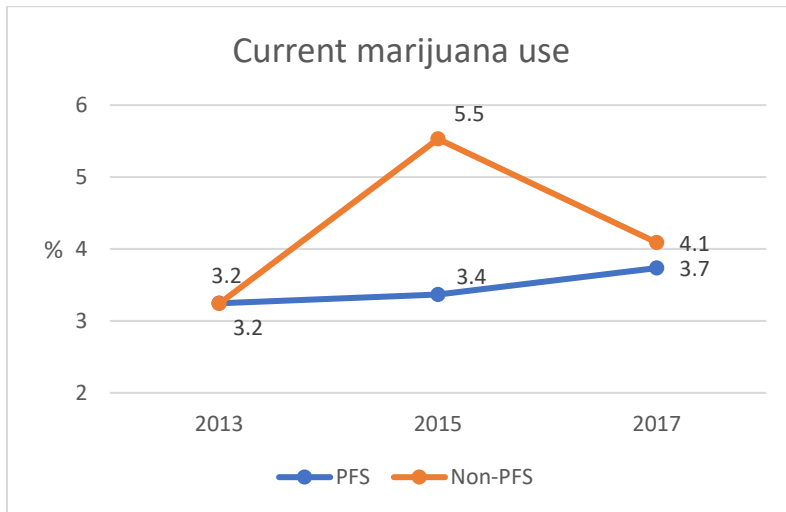


Pct point diff between years (PFS)		
2013 - 2015	3.9	***
2015 - 2017	2.8	***
2013 - 2017	6.7	***
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-1.8	*
2015 - 2017	0.8	
2013 - 2017	-1.0	

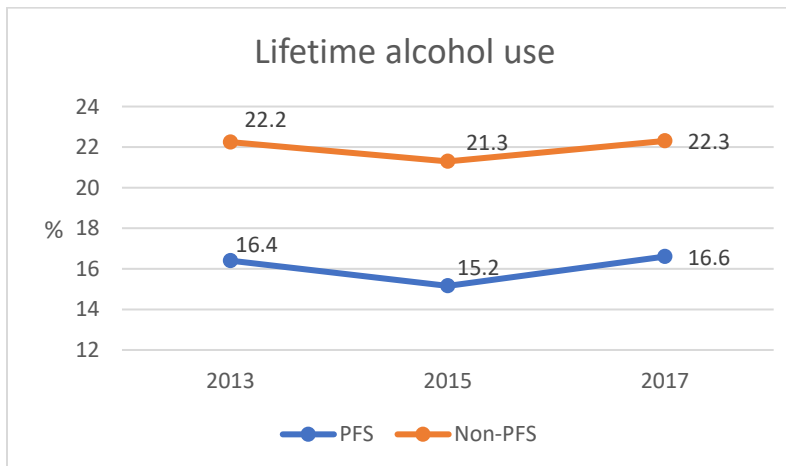
**B. Prevalence rates for Middle School Students (from YRBS).**



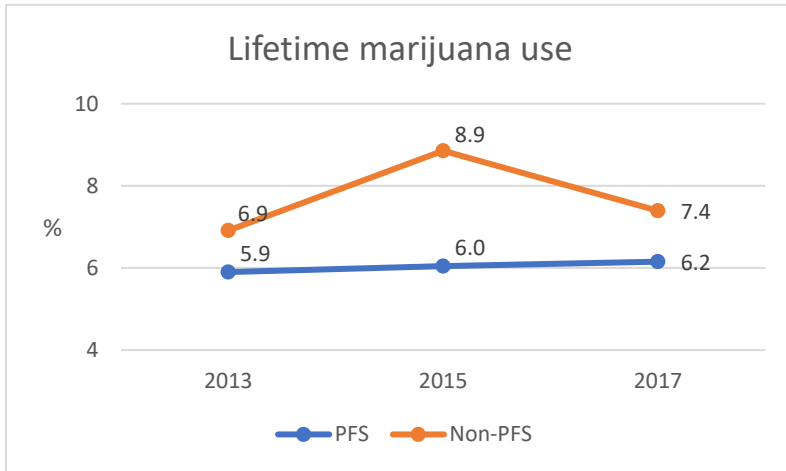
Pct point diff between years (PFS)		
2013 - 2015	-0.9	**
2015 - 2017	0.2	
2013 - 2017	-0.7	*
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-2.1	*
2015 - 2017	2.5	*
2013 - 2017	0.3	



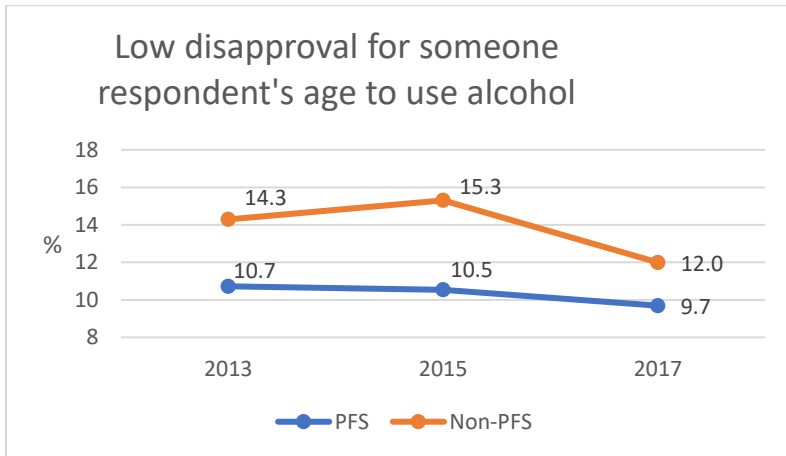
Pct point diff between years (PFS)		
2013 - 2015	0.1	
2015 - 2017	0.4	
2013 - 2017	0.5	*
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-2.2	*
2015 - 2017	1.8	
2013 - 2017	-0.4	



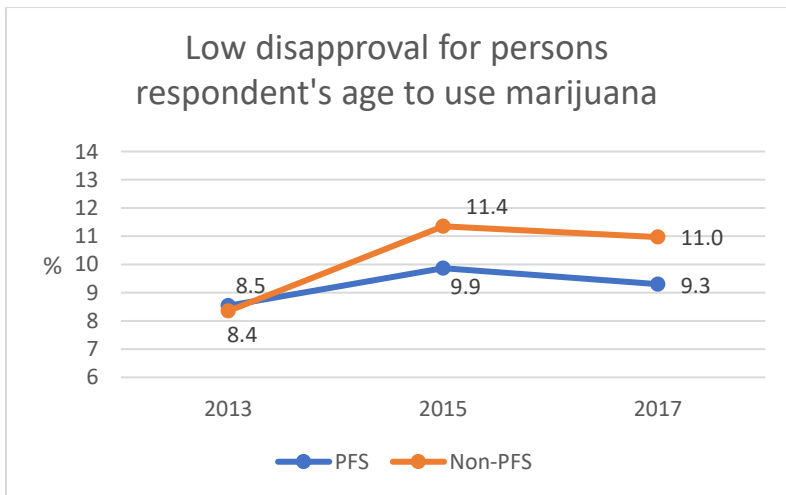
Pct point diff between years (PFS)		
2013 - 2015	-1.2	**
2015 - 2017	1.4	***
2013 - 2017	0.2	
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-0.3	
2015 - 2017	0.4	
2013 - 2017	0.1	



Pct point diff between years (PFS)		
2013 - 2015	0.1	
2015 - 2017	0.1	
2013 - 2017	0.3	
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-1.8	
2015 - 2017	1.6	
2013 - 2017	-0.2	

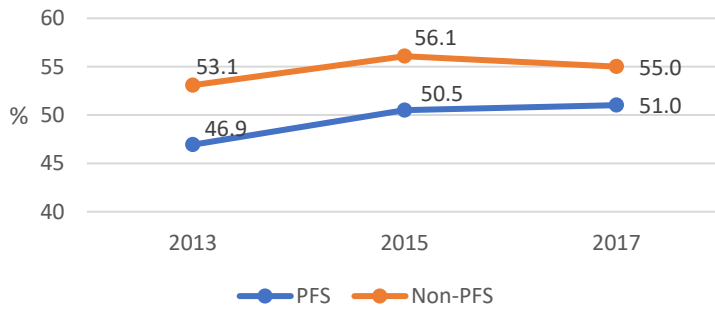


Pct point diff between years (PFS)		
2013 - 2015	-0.2	
2015 - 2017	-0.8	*
2013 - 2017	-1.0	**
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-1.2	
2015 - 2017	2.5	
2013 - 2017	1.3	



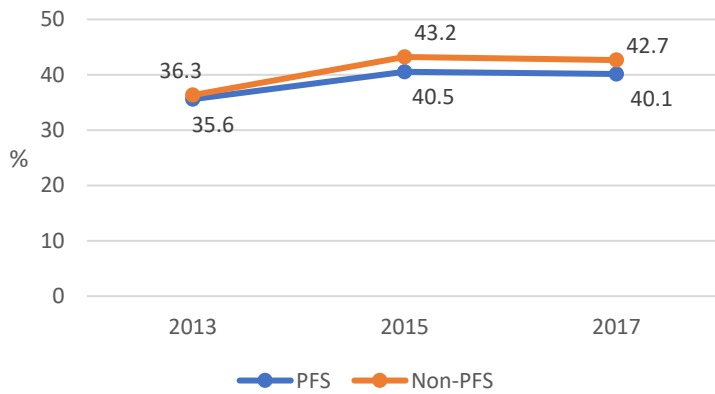
Pct point diff between years (PFS)		
2013 - 2015	1.3	***
2015 - 2017	-0.6	
2013 - 2017	0.8	*
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-1.7	*
2015 - 2017	-0.2	
2013 - 2017	-1.9	**

### Low perceived risk from having 5+ drinks once or twice per weekend



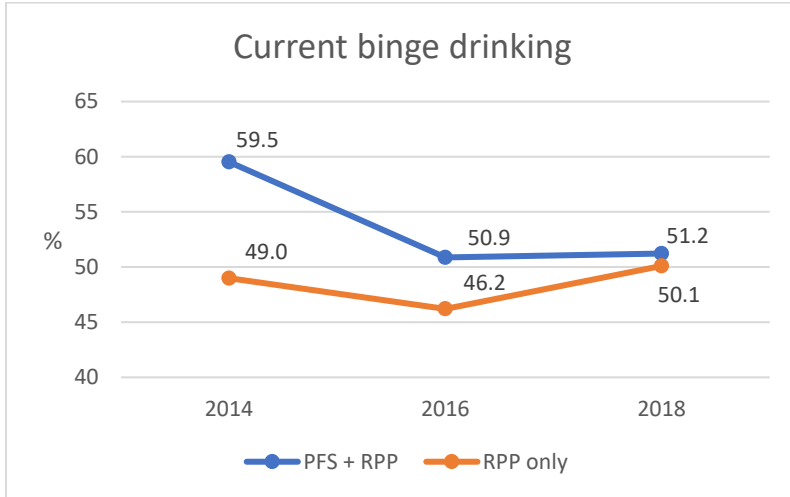
Pct point diff between years (PFS)		
2013 - 2015	3.6	***
2015 - 2017	0.5	
2013 - 2017	4.1	***
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	0.6	
2015 - 2017	1.6	
2013 - 2017	2.2	

### Low perceived risk from using marijuana regularly

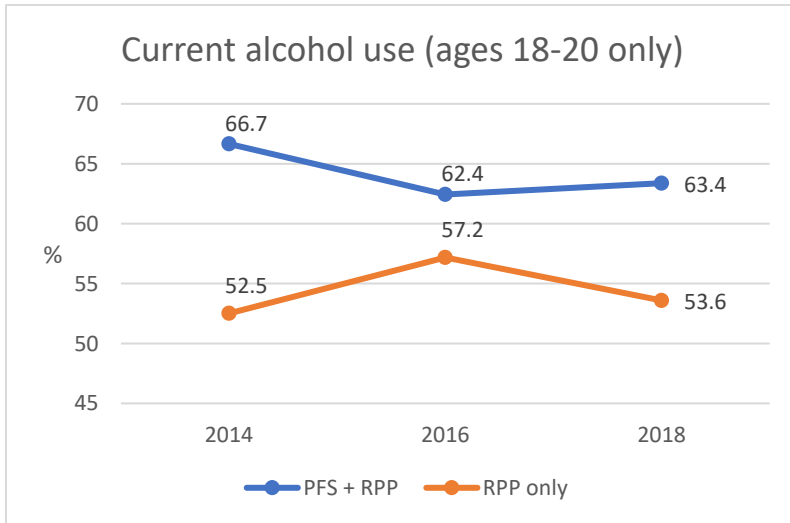


Pct point diff between years (PFS)		
2013 - 2015	4.9	***
2015 - 2017	-0.4	
2013 - 2017	4.5	***
Net pct point diff: PFS vs. non-PFS		
2013 - 2015	-1.9	
2015 - 2017	0.2	
2013 - 2017	-1.8	

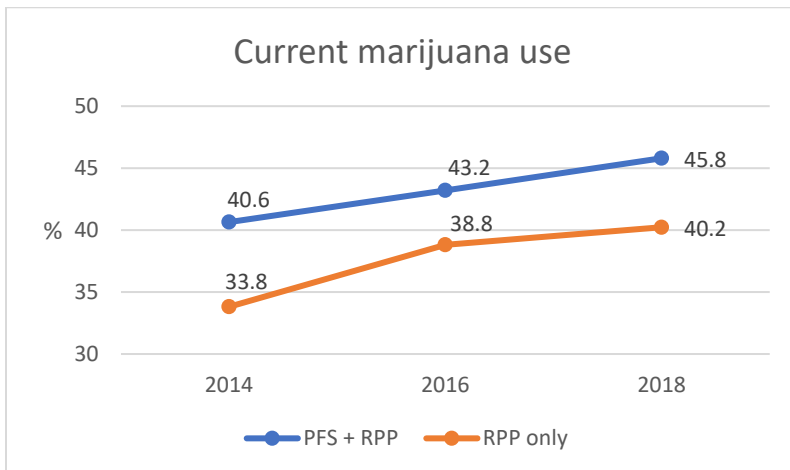
**C. Prevalence rates for young adults (from YAS).**



Pct point diff between 2016 and 2018		
PFS+RPP	0.3	
RPP-only	3.9	
Both conditions	1.3	
Net pct point diff: PFS+RPP vs. RPP-only		
2014 - 2016	-5.9	*
2016 - 2018	-3.6	
2014 - 2018	-9.4	***

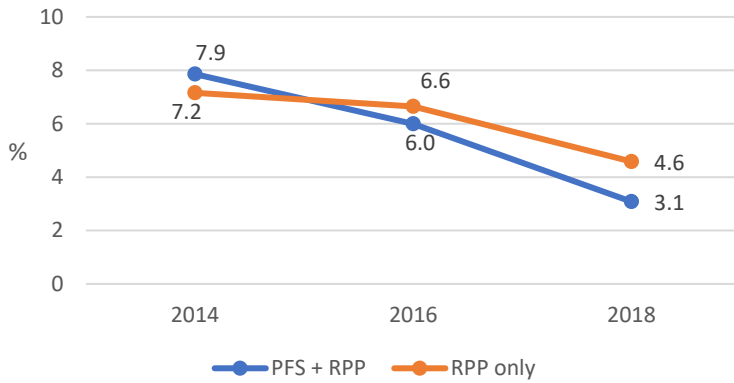


Pct point diff between 2016 and 2018		
PFS+RPP	0.9	
RPP-only	-3.6	
Both conditions	-0.5	
Net pct point diff: PFS/RPP vs. RPP only		
2014 - 2016	-8.9	
2016 - 2018	4.5	
2014 - 2018	-4.4	



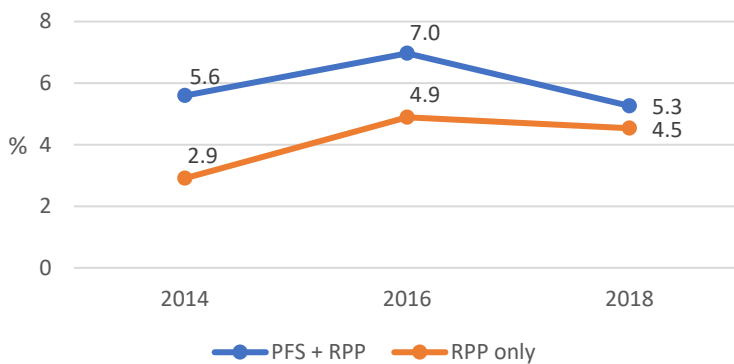
Pct point diff between 2016 and 2018		
PFS+RPP	2.6	
RPP-only	1.4	
Both conditions	2.1	
Net pct point diff: PFS/RPP vs. RPP only		
2014 - 2016	-2.4	
2016 - 2018	1.2	
2014 - 2018	-1.3	

Past year R<sub>x</sub> pain reliever misuse



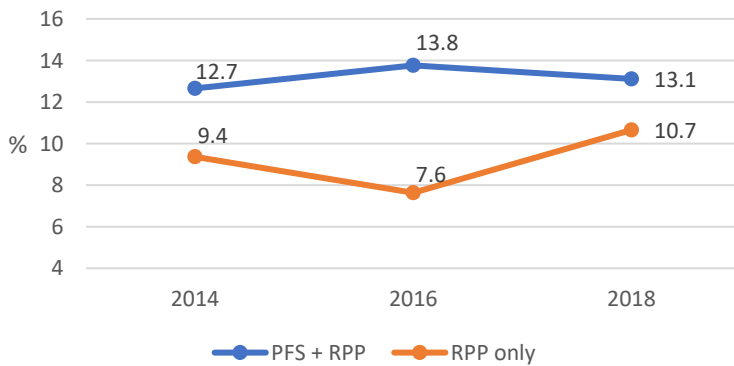
Pct point diff between 2016 and 2018		
PFS+RPP	-2.9	***
RPP-only	-2.1	
Both conditions	-2.6	***
Net pct point diff: PFS/RPP vs. RPP only		
2014 - 2016	-1.4	
2016 - 2018	-0.8	
2014 - 2018	-2.2	

Past year R<sub>x</sub> sedative misuse



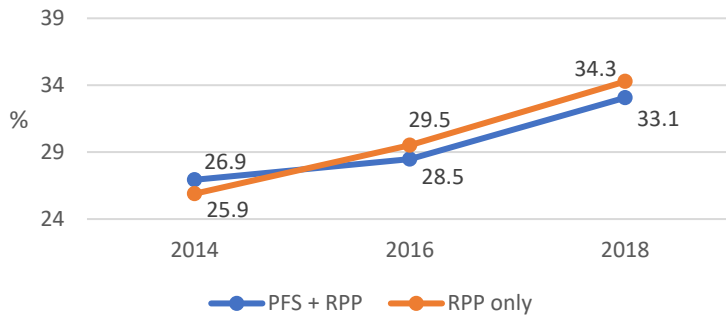
Pct point diff between 2016 and 2018		
PFS+RPP	-1.7	*
RPP-only	-0.4	
Both conditions	-1.3	*
Net pct point diff: PFS/RPP vs. RPP only		
2014 - 2016	-0.6	
2016 - 2018	-1.4	
2014 - 2018	-2.0	

Past year R<sub>x</sub> stimulant misuse



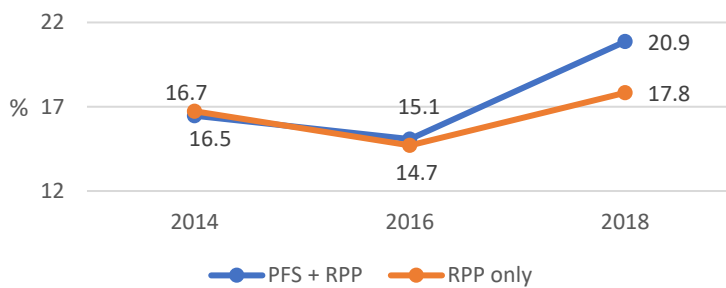
Pct point diff between 2016 and 2018		
PFS+RPP	-0.7	
RPP-only	3.0	
Both conditions	0.3	
Net pct point diff: PFS/RPP vs. RPP only		
2014 - 2016	2.8	
2016 - 2018	-3.7	
2014 - 2018	-0.8	

### Very or somewhat easy for underage persons to buy alcohol in stores



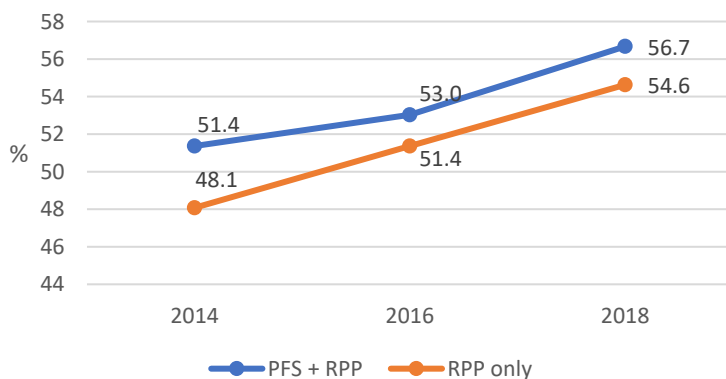
Pct point diff between 2016 and 2018		
PFS+RPP	4.6	***
RPP-only	4.8	*
Both conditions	4.7	***
Net pct point diff: PFS/RPP vs. RPP only		
2014 - 2016	-2.1	
2016 - 2018	-0.2	
2014 - 2018	-2.3	

### Very or somewhat easy for underage persons to buy alcohol in bars or restaurants



Pct point diff between 2016 and 2018		
PFS+RPP	5.8	***
RPP-only	3.1	
Both conditions	5.0	***
Net pct point diff: PFS/RPP vs. RPP only		
2014 - 2016	0.6	
2016 - 2018	2.7	
2014 - 2018	3.3	

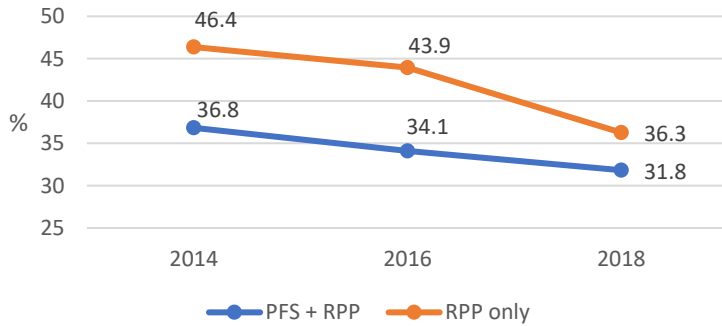
### Very easy for persons the age of respondent to obtain marijuana



Pct point diff between 2016 and 2018		
PFS+RPP	3.6	*
RPP-only	3.3	
Both conditions	3.5	**
Net pct point diff: PFS/RPP vs. RPP only		
2014 - 2016	-1.6	
2016 - 2018	0.4	
2014 - 2018	-1.2	

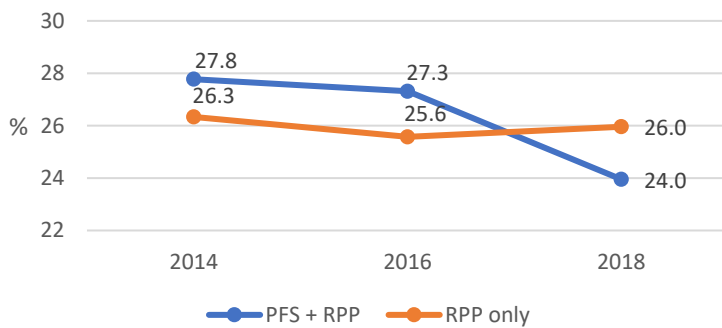


Very or somewhat easy for persons the age of respondent to obtain Rx pain relievers without a prescription



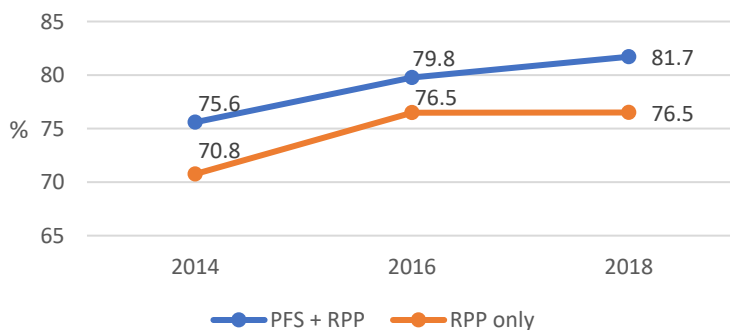
Pct point diff between 2016 and 2018		
PFS+RPP	-2.3	
RPP-only	-7.7	***
Both conditions	-3.7	**
Net pct point diff: PFS/RPP vs. RPP only		
2014 - 2016	-0.3	
2016 - 2018	5.4	
2014 - 2018	5.1	

No risk or slight risk from having five or more drinks once or twice a week



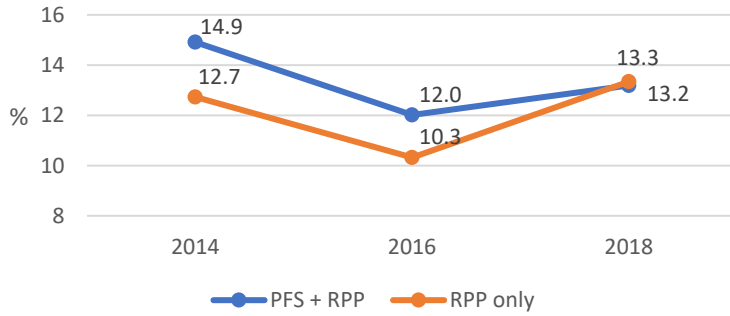
Pct point diff between 2016 and 2018		
PFS+RPP	-3.4	*
RPP-only	0.4	
Both conditions	-2.3	
Net pct point diff: PFS/RPP vs. RPP only		
2014 - 2016	0.3	
2016 - 2018	-3.7	
2014 - 2018	-3.4	

No risk or slight risk from smoking marijuana once or twice per week



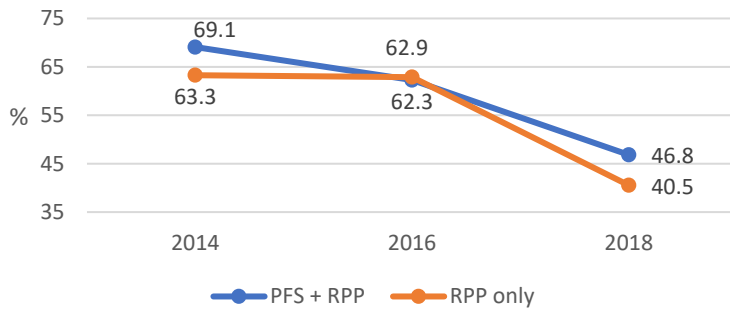
Pct point diff between 2016 and 2018		
PFS+RPP	1.9	
RPP-only	0.0	
Both conditions	1.3	
Net pct point diff: PFS/RPP vs. RPP only		
2014 - 2016	-1.6	
2016 - 2018	1.9	
2014 - 2018	0.4	

No risk or slight risk from using R<sub>x</sub> pain relievers that were not prescribed a few times a year



Pct point diff between 2016 and 2018		
PFS+RPP	1.2	
RPP-only	3.0	
Both conditions	1.7	
Net pct point diff: PFS/RPP vs. RPP only		
2014 - 2016	-0.5	
2016 - 2018	-1.8	
2014 - 2018	-2.3	

Do not recall seeing or hearing information about safe storage/disposal of R<sub>x</sub> drugs in past year



Pct point diff between 2016 and 2018		
PFS+RPP	-15.4	***
RPP-only	-22.4	***
Both conditions	-17.5	***
Net pct point diff: PFS/RPP vs. RPP only		
2014 - 2016	-6.4	*
2016 - 2018	6.9	**
2014 - 2018	0.5	