

## Middle School Brief

The Robert Crown Center for Health Education (RCC) partnered with 5 schools across 2 districts and counties (Will and DuPage) to present a Heroin Prevention Program. This brief summarizes data pertaining to the 3 middle schools that participated during the spring semester.

<i>Findings at a Glance</i>	
<b>The Program</b>	The RCC Heroin Prevention Program is a multi-session program addressing topics such as addiction, opiates, self-assessment for heroin abuse risk, and skills for starting conversations with peers, parents, and trusted adults about heroin use. <b>The intention of the program is to improve student knowledge of opioids, communicate strong normative beliefs against opioids and substance abuse, and improve resistance skills and self-efficacy such that if students find themselves confronted with heroin, prescription pain pills, and/or friends in need of substance use support, they will know how to resist and seek support.</b>
<b>Participants</b>	Four teachers from 3 middle schools in Will and DuPage Counties implemented the Heroin Prevention Program. 81% of students (184/227) who completed the pre assessment also completed the post assessment. Approximately half of the students were male and half were female (48.8% and 51.1% respectively). Over half of the students (61.4%) qualified for reduced or free lunch. In terms of race/ethnicity, over one third self-identified as White (38.5%), about one quarter as Latina/o (25.7%), 17.9% as multiracial, 12.3% as African American, and less than 10 students reported being Asian or Native American.
<b>Instruction &amp; Student Satisfaction</b>	Teachers were asked to complete a curriculum fidelity survey. Only one teacher completed the survey. Teachers and Administrators were enthusiastic and supported the importance of the program, however they reported that their priority was coping with new standardized testing requirements (PARCC). We know Heroin Program instruction and evaluation was interrupted by testing for two teachers. The one teacher who completed the curriculum fidelity survey reported spending about 33% less time than anticipated on Heroin Program instruction (150 versus 225 minutes).  Relative to student perceptions on quality of teaching and program satisfaction, 64% of students provided favorable reports on teaching quality and 42.9% reported satisfaction to strong satisfaction with the program. The limited enthusiasm for this curriculum may be a reflection of the general lack of enthusiasm that adolescents tend to have toward substance abuse prevention. In the larger evaluation study involving program data from middle and high schools over two school years (2013-2014 and 2014-2015 school years), teachers reported heightened student engagement around real life case studies, videos, and group discussions, and one teacher noted that students were surprised to hear that heroin use is a concern for the suburbs. Further, data suggest that implementation varies by classroom, schools, and districts and such variation in implementation likely impacts student learning. Analyses are ongoing.
<b>Findings</b>	Descriptive statistics and paired samples t-tests were used to test for any significant changes in student ratings on beliefs, knowledge, efficacy and resistance skills from before and after the intervention (statistics summarized in Appendix Table 1). <b>It appears that the Heroin Prevention Program enhances important aspects of students' lives that predict resistance behavior to heroin and prescription pain medication use. Overall student knowledge of opioids and their substance abuse prevention self-efficacy significantly improved after this short drug prevention program for many diverse student groups (males, females, low income ethnic minority students). Drug resistance skills were found to be significantly correlated to beliefs, knowledge and efficacy such that higher drug resistance skills were associated with higher beliefs against drug use, higher drug knowledge, and higher self-efficacy. Taken together, after controlling for pre survey data and demographics, post self-efficacy and beliefs made significant and unique</b>

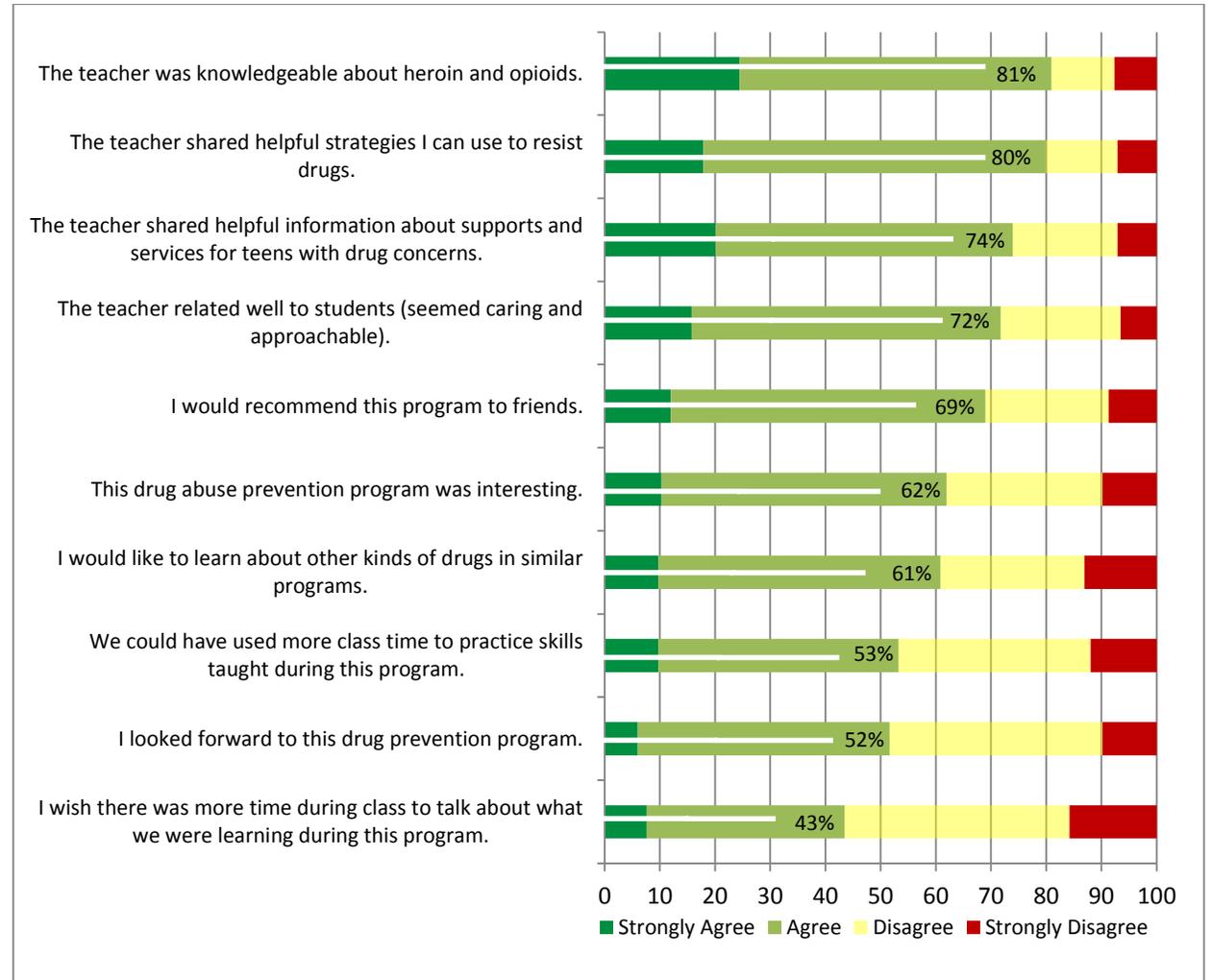
**contributions to increased post resistance skills.** This brief concludes with recommendations moving forward including assessing if positive findings are replicated within a quasi-experimental design employing a comparison group.

Scale Level Findings	Sample Scale items
<p><b>Student opioid and substance abuse knowledge significantly improved over the course of this short intervention.</b> Average knowledge assessment scores significantly increased from 62% to 66% (pre to post).</p>	<ul style="list-style-type: none"> <li>★ The only way to use heroin is through injection. (F)</li> <li>★ The last part of the brain to develop, the amygdala, controls problem solving and long term planning. (F)</li> <li>★ Opioids work on the same reward pathway in the brain as do basic needs like food and water. (T)</li> <li>★ Heroin can help you have increased clarity and focus. (F)</li> </ul>
<p><b>Student substance abuse prevention self-efficacy significantly improved over the course of this short intervention.</b> The percent of students endorsing strong substance abuse self-efficacy significantly increased from 17.9% to 32.1% (pre to post). Prior to the intervention, students agreed with some of the self-efficacy statements but on average were "not sure" if they could do the tasks listed. After the intervention, students significantly increased their agreement with the statements however were still on average "not sure" if they could do the tasks listed.</p>	<ul style="list-style-type: none"> <li>★ I can name three strategies for resisting drugs.</li> <li>★ I can explain how drugs impact the brain.</li> <li>★ I am comfortable starting conversations with friends about drugs abuse and prevention.</li> </ul>
<p><b>Strong student drug resistance skills were articulated prior to the program and maintained during this short program.</b> Just over half of the students (57%) reported being likely to very likely to engage in drug resistance behavior. This percent increased slightly to 67% following the short intervention. Overall, students on average reported good resistance skills (reporting that they were likely to very likely to do all skills listed and unlikely to very unlikely to stay at gathering of friends if there are drugs).</p>	<p><i>How likely are you to:</i></p> <ul style="list-style-type: none"> <li>★ to say "no" if a friend tells you to sniff an unknown substance?</li> <li>★ to say "no" if a friend tells you to try heroin?</li> <li>★ to say "no" if a friend tells you to try prescription pain pills?</li> </ul>
<p><b>Strong beliefs against opioids use were articulated prior to the program and maintained during this short program.</b> The vast majority of students (92%-89% pre to post) disagreed to strongly disagreed with each of the three belief statements.</p>	<ul style="list-style-type: none"> <li>★ I think it is "ok" for students my age to take prescription pain pills to get a high once in a while.</li> <li>★ I think it is "ok" for students my age to share prescription pain medication with one another.</li> <li>★ I think it is "ok" for students my age to try heroin.</li> </ul>

Student course evaluation data are summarized in Chart 1. The two first bars (green and light green) graph the percent of students who strongly agreed and agreed with the statements. Adding these bars together provides a total percent providing favorable feedback (labeled at the end of the light green bar).

**The majority of students provided very positive feedback on teachers and the program.** Over 80% of the students agreed or strongly agreed that the teacher for the course was knowledgeable; 80% agreed to strongly agreed that the teacher shared helpful strategies, and over 70%, agreed to strongly agreed that the teacher shared helpful information and related well to students. Nearly 70% of the students agreed or strongly agreed that they would recommend the program to friends and just over 60% of students agreed to strongly agreed that the program was interesting and they would like to learn about other kinds of drugs in similar programs. A sizeable percent of students expressed looking forward to the program (52% agreed/strongly agreed). In addition, students indicated that they would like more class time to practice skills and discuss content (53% and 44% respectively agreed/strongly agreed).

**Chart 1: Student Course Evaluation Data**



<b>Next Steps</b>	<p><b>The evaluation of the RCC relied on reliable and valid measures that were able to statistically assess significant impacts thought to protect students from opioid abuse. Importantly this evaluation also included a diverse sample of students and was able to explore the relationships between variables of interest and demographics (race, income, and gender). As such, RCC is making great progress toward meeting the SAMSHA quality criteria for evidence-based substance abuse programming.</b></p> <p><i>Recommended future evaluation activities include:</i></p> <ul style="list-style-type: none"> <li>• Assess instructional practices during training and implementation and consolidate best practices to share with other schools</li> <li>• More closely observe students during implementation to propose ways to enhance interest and engagement</li> <li>• Enhance the rigor of the evaluation through the use of a quasi-experimental design.</li> </ul> <p><i>Future Programming:</i></p> <ul style="list-style-type: none"> <li>• Enhance training through sharing instructional best practices</li> <li>• Continue to tweak curriculum to improve student interest and engagement. Consider bolstering substance abuse prevention skills that require students to talk with adults about substance use or practice skills in peer group settings where pressure to conform is likely higher.</li> <li>• Disseminate program to more schools, assuming evaluation results continue to show a positive impact on students.</li> </ul>
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Appendix

**Table 1: Summary of scale statistics**

<b>Domain</b>	<b>Pre (Mean (SD), range)</b>	<b>Post (Mean (SD), range)</b>	<b>Paired samples test statistics</b>
<b>Beliefs Against Opioids</b> (3 items; 5 point scale; Cronbach's Alpha = .90)	1.38 (.66), 1.00-5.00 92.4% strongly disagree to disagree	1.51 (.85), 1.00-5.00 89.1% strongly disagree to disagree	t (183) = - 2.03, p <.05
<b>Knowledge</b> (23 items; True/False)	62.28% (12.64), 30.00-90.00%	65.46% (13.65), 35.00-95.00%	t (183) = - 3.28, p <.01
<b>Self-Efficacy</b> (7 items; 5 point scale; Cronbach's Alpha = .85)	3.25 (.80), 1.00-4.86, 17.9% agreed to strongly agreed	3.57 (.83), 1.00-5.00, 32.1% agreed to strongly agreed	t (183) = -4.55, p <.01
<b>Drug Abuse Resistance Skills</b> (7 items - 6 reverse scored; 5 point scale; Cronbach's Alpha = .76)	3.97 (.84), 1.57-5.00, 57% likely to very likely	4.07 (.80), 1.57-5.00, 66.8% likely to very likely	No significant change pre to post*

Analytic notes: Knowledge, beliefs, self-efficacy and resistance skills were found to be significantly correlated (Pearson Correlation,  $p < .05$ -.00). For instance, strong knowledge about opioids and substance abuse was related to strong substance abuse prevention self-efficacy and drug resistance skills. Further, hierarchical multiple regression was used to explore how knowledge, beliefs, self-efficacy related to resistance skills. After controlling for all pre scores (including pre resistance scores) and demographics, post scores predicted post resistance ( $R^2=.28$ , F Change (5, 172) = 3.71,  $p < .01$ ). Post self-efficacy skills and post

beliefs each uniquely predicted post resistance skills ( $p < .05$ ). **This suggests that a strategy to consider when wanting to impact resistance skills can include fostering strong beliefs, knowledge and efficacy. Practicing resistance skills and increasing youth confidence in carrying out resistance skills (self-efficacy) appears to be in particular a promising direction to take in substance abuse programs.**

*\* Statistical significance is a mathematical way of saying that the result was unlikely to have happened by chance. Changes in knowledge and self-efficacy were significant at a value of  $p < .01$ . A  $p$  value of  $.01$  means that there is a 1% likelihood that the result was due to chance or we can be 99% confident that the result was not due to chance.*