

# Patterns of Substance Use and Knowledge of Harm Reduction Among Post-Secondary Students

Piotr Majkowski, Marie-Pier Caron, Dan Henschell and Rachel Peckinpaugh

## BACKGROUND

Opioid overdoses remain a significant public health issue in British Columbia. BC's Centre for Disease Control observed the high water mark of the crisis in January of 2017 and March 2018, when the province saw an annualized death rate of nearly 3.5/100,000. Today, the death rate has subsided to 1.45/100,000 (BCCDC, 2019). Irvine et al. (2019) attribute this decrease to a suite of harm reduction measures introduced by public health authorities.

Although substance use patterns in post-secondary institutions are a well-studied phenomenon, there is little recent and local evidence to capture a useful description of students' substance use in relation to recent mounting risks from the opioid crisis in BC. As such, the objective of this study is to explore students' substance use patterns, and their understanding of related harm-reduction information. The study established a clear understanding of students' current substance use patterns and harm reduction practices across the Greater Vancouver Area. The researchers will use the data to support and reinforce harm reduction intervention programs throughout the college.

The study was conducted at Douglas College in British Columbia. Douglas College is a public post-secondary institution located in Coquitlam and New Westminster. The college offers a variety of career programs, transfer course credits, continuing education, and associate degrees (Douglas College, 2019). It is home to 24,801 students, with 4,210 of those students being international students (Institutional Effectiveness Office, 2019). It currently does not offer on-site health services nor residency for students making the researchers' harm reduction interventions essential on campus. Funding was obtained through The Research and Scholarly Activity Project Fund at Douglas College.

## METHODS

The research team developed a questionnaire on substance use and harm reduction knowledge based on a literature review and the National College Health Assessment (NCHA) survey. The NCHA is an internationally recognized comprehensive study capturing students' health behaviours and perceptions. A focus group validated the survey. Members included: three students from the University of the Fraser Valley (UFV), one student from Kwantlen Polytech University (KPU), and two students from Douglas College; four faculty members, one from UFV, one from KPU, and two from Douglas College; and a harm reduction health professional from the local health authority, Fraser Health.

Three Douglas College student research assistants recruited participants face-to-face. Participants completed the questionnaire using the provided iPads or by having a code sent to their personal devices. Surveys were accessible at several locations on both campuses on different days and times to allow for a suitable randomized sample. A \$5 gift card was offered to the participants. Researchers used the Qualtrics platform to collect and store the data.

## REFERENCES

BC CDC. (2019). *THN in BC Infograph*. Retrieved from Toward the Heart: <https://towardtheheart.com/thn-in-bc-infograph>

BC Ministry of Health. (2005). *Harm Reduction: A British Columbia Community Guide*. Victoria: Government of BC.

BCCDC. (2019). *Overdose Response Reports*. Retrieved from BC Centre for Disease Control: <http://www.bccdc.ca/health-professionals/data-reports/overdose-response-reports>

Douglas College. (2019). *Human Resources*. Retrieved from <https://www.douglascollege.ca/about-douglas/human-resources>

Irvine, M. A., Kuo, M., Buxton, J. A., Balshaw, R., Otterstatter, M., Macdougall, L., . . . Gilbert, M. (2019). Modelling the combined impact of interventions in averting deaths during a synthetic-opioid overdose epidemic. *Addiction*, 114(9), 1602-1613.

Institutional Effectiveness Office. (2019). *Douglas College Quick Facts for Academic year 2017-2018*. Retrieved from <https://www.douglascollege.ca/-/media/0CC2EC6D6D754D6BACCDC9DBA0621599.ashx?la=en&hash=C16CAC8AEFFB965C12A3416C5DC6971B7986AD7>

Smith, A., Stewart, D., Poon, C., Peled, M., & Saewyc, E. (2014). *From Hastings Street to Haida Gwaii: Provincial results of the 2013 BC Adolescent Health Survey*. Vancouver: McCreary Centre Society.

Tanner, Z., Matsukura, M., Ivkov, V., & Buxton, J. (2014). *British Columbia Durg Overdose and Alert Partnership (DOAP) report*. Vancouver: BC Centre for Disease Control.

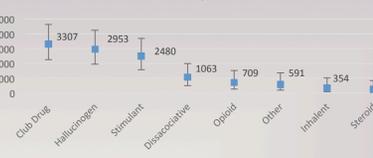
## FINDINGS

Two hundred and ten surveys were completed. Eighty male-identifying students, ninety-one female-identifying students and thirty-nine students who did not identify their gender completed the survey. Participants were in their following year of study: 26.4% in first year, 36.4% in second year, 31.8% in third year, and 5.88% in fourth year. The student demographic reflects the College's student population as many students transfer to other post-secondary institutions in their 4<sup>th</sup> year of studies.

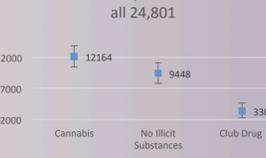
Of the 210 surveys, 168 people responded to the question regarding substance usage: 21 students reported as using substances, 43 students reported using substances and knowing other people that use, 96 students reported not using substances but know of people that do, 30 students reported not using substances and not knowing anyone that uses. Findings show that females have a tendency to "drink only" more than "smoke and drink" while males tend to "smoke and drink" more than expected. Females also have a higher harm reduction knowledge than males do, but overdose risk scores are not significantly different. Findings demonstrate post-secondary students will be more knowledgeable on the topic of harm reduction the longer their education is.

	Proportion	95% CI low	95% CI high
Cannabis	0.490	0.421	0.560
No Illicit Drug Use	0.381	0.315	0.450
Club Drug	0.133	0.090	0.187
Hallucinogen	0.119	0.079	0.171
Stimulant	0.100	0.063	0.149
Dissociative	0.043	0.020	0.080
Opioid	0.029	0.011	0.061
Other	0.024	0.008	0.055
Inhalant	0.014	0.003	0.041
Steroid	0.010	0.001	0.034

Students who have tried select substances out of all 24,801



Students who have tried cannabis and not tried any substances out of all 24,801



The estimates above show how many students have tried each of the substance categories. Cannabis and No Illicit substance use are shown on a different scale. With club drugs for relevance. Below, the proportions of each substance are listed, along with a 95% confidence interval.

Percentage of Students Comfortable Accessing Harm Reduction



Percentage of Students who are Aware of Naloxone



Percentage of Students who Know the Purpose of Naloxone



Percentage of Students who Carry/Have Naloxone Kits



## DISCUSSION

The leading authors of this study are faculty in the nursing department of Douglas College. Having recognized both the opioid crisis (BCCDC, 2019) and the effectiveness of substance use harm reduction services (Irvine, et al., 2019), they sought to implement a take home naloxone program for the college community. Harm reduction requires the engagement and understanding of the substance user's experience, and their participation in the solution (BC Ministry of Health, 2005). As such, the present study offers valuable insights into delivering harm reduction services at the college.

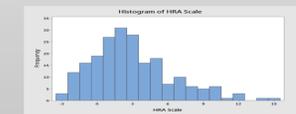
The present study has enjoyed the benefit of being deployed at almost the same time as the National College Health Assessment (NCHA). The NCHA is a research tool used across North America to assess the health of college students. As part of its extensive questionnaire, it asks for substance use rates. In order to use a validated measure, the component of our survey that asks about substance use mirrors the NCHA questions. Despite a fundamentally different sampling strategy, both surveys resulted in very similar results, supporting the validity of the present study. The NCHA has no questions about harm reduction knowledge, which we see as necessary to developing harm reduction interventions.

The best available evidence suggests that substance use amongst Douglas College students is in step with the surrounding general population. For instance, we found that approximately 49.0% of Douglas College students have consumed cannabis in their lifetime (95% CI [42.1, 56.0]). The same metric among the general population of the surrounding health region was estimated at 44.6% (Tanner, Matsukura, Ivkov, & Buxton, 2014). We were also able to compare Douglas College students' reasons for use to youth in the province. There were significant similarities.

For instance, 55.4% of Douglas College students reported using substances to have fun, more than for any other reason. A broad sample of BC adolescents also reported that having fun was the primary reason for their use, at 60% for males and 69% for females (Smith, Stewart, Poon, Peled, & Saewyc, 2014). Similarly, 25.5% of Douglas College students reported using substances to experiment, while 27% and 29% of male and female adolescents reported the same. The reasons managing stress, managing anxiety, and managing pain were significantly different, however (Smith, Stewart, Poon, Peled, & Saewyc, 2014). A more comparable age group for this analysis was not available. Of particular interest was the population of students who identified having used opioids and opiates. While the sample was too small to run statistical analyses on other findings amongst the group that reported using opiates, we did attempt to check the group for any apparent patterns. The group, however, was remarkably heterogeneous. It was equally divided amongst male and female, other demographic issues such as ethnicity and age, and harm reduction knowledge. This heterogeneity supports the idea that opiate and opioid use cuts across demographics and is present throughout the student population. We estimate that 709 Douglas College students use opiates or opioids (95% CI [262, 1517]). Equally relevant is students' understanding of harm reduction. About half (46.7%, 95% CI [46.3, 60.2]) of Douglas College students have never heard of naloxone. Given that as of November 15<sup>th</sup>, 2019, the BC government has distributed 598,732 naloxone kits (BC CDC, 2019), or approximately one for every 10 BC residents, this lack of knowledge could be seen as problematic. What's more, given that students are attending the same social gatherings, have the same reasons for using substances, and go to school with so many people who use opiates, a clear case for opiate harm reduction is apparent.

## CONCLUSION

The research investigated substance use and harm reduction knowledge in post-secondary institutions. The results confirm the need for the implementation of substance use harm reduction services at Douglas College. These findings cannot be generalized to other post-secondary students. The research is being replicated at the University of the Fraser Valley and at Kwantlen Polytechnic University. Because the study delved deeply into substance use patterns and harm reduction knowledge, we have begun to formulate an Overdose Risk Scale and Harm Reduction Knowledge Scale. These two scales score responses to survey and offer an understanding of individuals' or populations' relative risk and knowledge. They offer potential for further research in comparing different populations, demographics, and communities.



709

There are 24,801 students at Douglas College.

Half have never heard of naloxone.

709 use recreational opiates.

## RÉSUMÉ DU PROJET DE RECHERCHE

Les surdoses d'opioïdes demeurent un problème de santé publique important en Colombie-Britannique. Aujourd'hui, le taux de mortalité est tombé à 1,45 / 100 000 (BC CDC, 2019). Irvine et al. (2019) attribuent cette diminution à une série de mesures de réduction des méfaits mises en place par les autorités de santé publique. L'objectif de cette étude est d'explorer les schémas de consommation de substances des étudiants et leur compréhension des informations associées à la réduction des méfaits. L'étude a permis de bien comprendre les habitudes de consommation de substances et les pratiques de réduction des méfaits des élèves dans la région métropolitaine de Vancouver. L'étude a été menée au Collège Douglas en Colombie-Britannique. Les chercheurs utiliseront les données pour soutenir et renforcer les programmes d'intervention pour la réduction des méfaits dans l'ensemble du collège.

L'équipe de recherche a élaboré un questionnaire sur les connaissances en matière de consommation de substances et de réduction des méfaits, fondé sur une revue de la littérature et sur l'enquête du National College Health Assessment (NCHA). Un groupe de discussion a validé le sondage. Deux cent dix sondages ont été complétés.

Nous estimons que 709 étudiants du Collège Douglas consomment des opiacés ou des opioïdes (IC à 95% [262, 1517]). Environ la moitié (46,7%, 95% IC [46,3, 60,2]) des étudiants n'ont jamais entendu parler du Naloxone. Les résultats confirment la nécessité de mettre en place des services de réduction des méfaits liés à la consommation de substances au Collège Douglas.