

Student-led Emergency Intervention Training



Imagine a community where the vast majority possess the basic knowledge to intervene if no medical personnel is present.

We aim to help fill the gap between the onset of symptoms and the arrival of emergency services. Additionally, we hope to improve the public's knowledge of identifying early signs and symptoms, common risk factors and disease prevention.

Identified Gap

CPR and other emergency response interventions are effective life-saving methods that everyone should know. Nonetheless, there is a significant gap in the public's knowledge of how to effectively administer these emergency measures, resulting in deaths that could have otherwise been prevented.

Unfortunately, access to emergency training is typically expensive and perhaps too advanced for the general public. We believe the community deserves to be able to access basic emergency training, without cost.

Proposed Solution

To offer emergency training and education to students in health-related programs so that they can translate that knowledge to the public through FREE student-led informational workshops;

Hopefully leading to a decrease in preventable deaths and an increase in public knowledge.

Cardiopulmonary Resuscitation (CPR)

CPR is a universal life-saving intervention that is easy to learn and is proven to be effective; but how much of the population truly knows how to perform this skill?

In Canada, only 18% of the population is CPR certified, and fewer than half the population feels they possess the skills to properly perform life-saving interventions (Canadian Red Cross, 2012).

Studies have shown that communities with a higher percentage of bystander CPR interventions show higher survival rates due to the ability to intervene early.

Immediate bystander-delivered CPR can triple a person's survival rate during cardiac arrest (CPR Select, 2024)

Every minute an individual experiencing cardiac arrest is without CPR, the chance of survival drops 7-10% (CPR Select, 2024)

The American Heart Association estimates that 100,000 to 200,000 lives could be saved annually if early CPR interventions were initiated (CPR Select, 2024).

Researchers found that children aged nine and up can effectively learn and perform basic CPR interventions after six hours of education and practice, with retention rates greater than that of adults (Fleischhackl et al., 2009)



Anaphylaxis & Epi-pen Use

EPI-PENS ARE SIMPLE life-saving tools, yet are misused frequently

According to (Frew, 2010) an average of only 37% of Epinephrine injector users can administer properly

This same study found that over 79% of healthcare professionals were unable to demonstrate administration

According to Poser, 2017 using epinephrine immediately significantly reduces:

- Hypotension
- hospitalization
- Mortality



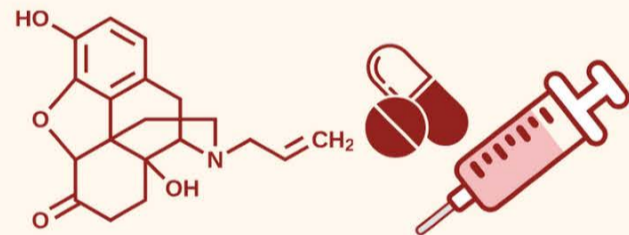
Endless studies display that epinephrine is not given early enough. Cardiac arrest or respiratory arrest occurs within 30 minutes for food allergies and 15 minutes for venom (Dribin et al., 2023)

Overdose & Naloxone Use

Substance use is one of the most prevalent epidemics in Canada which increased immensely after the global pandemic (Government of Canada 2022).

From January 2016 - December 2021, there were an estimated 29 052 deaths due to opioid overdose (Government of Canada 2022).

Many of these deaths or overdoses could have been reduced by the knowledge of naloxone provided to the general public.



Benefit To Student-led Education

Nurses carry many roles and responsibilities, one being patient and family education. By offering the opportunity for student-led education, students would be allowed to:

- Improve their own knowledge and skill on essential and relevant topics
- Practice the process of education
- Gain understanding of the various learning styles
- Improving self-confidence and efficacy.



Legal Consideration

Education and training offered through this resource will not replace certifications offered through organizations such as:

The Canadian Red Cross
The Heart and Stroke Foundation of Canada
St. John Ambulance Canada

This program was simply created to improve community awareness, and the collective knowledge of basic life-saving interventions. Individuals seeking legitimate certifications will be referred to the appropriate services.



Stroke

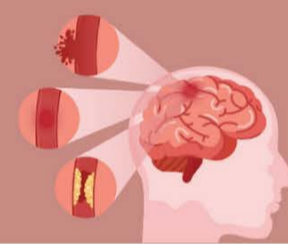
According to the Ontario Stroke Network, strokes are the third leading cause of death in Canada and are the number one leading cause of disability in adults (2012)

Despite its high prevalence, strokes are considered highly preventable.

Nearly 25,500 new strokes are diagnosed every year in Ontario alone (Ontario Stroke Network, 2012).

Current common risk factors for stroke include smoking, alcohol use, substance use, obesity, high blood pressure, high cholesterol, history of heart disease, sleep apnea, and unmanaged diabetes (Ontario Stroke Network, 2012).

Awareness and education on risk factors, preventative measures, and early signs and symptoms is essential information for everyone to know.



- Face**
Can the person smile?
- Arms**
Can they raise both arms?
- Speech**
Can they speak clearly without difficulty?
- Time**
When did symptoms start?

Heart Attack

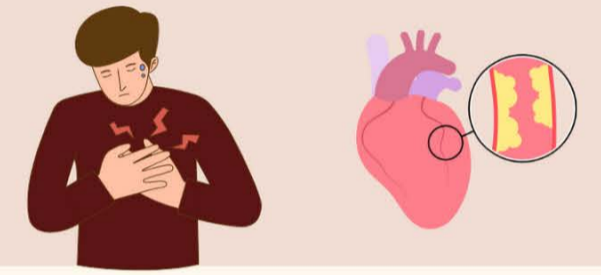
Heart disease is currently the second leading cause of death in Canada, yet it is also considered to be highly preventable (Canada, 2022)

Approximately 92 900 Canadians ages 40 and up received a diagnosis of heart disease per year (Government of Canada, 2017).

In Canada, it reported that nearly 63 000 individuals suffered their first heart attack in one year. (Government of Canada, 2017).

In a recent study by Abdullah et al., researchers found that 71.65% of participants only recognized chest pain as a symptom of a heart attack (2020).

Timely intervention is essential if damage to the heart muscles is to be kept minimal; this starts by knowing the risk factors and warning signs.



Project Plan

To educate the community on basic life saving interventions. Skills such as CPR, stroke intervention knowledge, Narcan use, and EpiPen use are all simple tools that can be the vital intervention to save someone's life.

In emergent situations, many look around and ask if there is a doctor or a nurse available, with the general public being trained in these life saving skills, and increase the chances of survival. Many individuals lack the knowledge and confidence to perform CPR or know what to do when someone is showing the signs and symptoms of stroke.

Our group was inspired to create this program in our nursing student-led clinic. Providing free student-led informational workshops and classes to the general public. CPR classes with information and guidelines set as per the Heart & Stroke Foundation of Canada.

Our goal is to create a comprehensive basic life saving training for the community of all ages and backgrounds. This will create a community where everyone feels empowered to intervene in an emergency.

Our workshops will also provide information on AED use, stroke symptom identification and interventions, information on opioid misuse and how to administer narcan if available, as well as how to use an epiPen in the event of anaphylactic shock. Easy to follow posters of step by step process will be available and posted within the Village and in the community.

Health teaching classes will be provided in the BScN program as part of the student's community health course, BSCN 310/320. This will provide the students the opportunity to use their clinical time and experience to learn from organizations such as the Heart & Stroke Foundations, and apply their knowledge in the workshops.



References

Canada, P. H. A. of. (2022, July 28). Government of Canada. Canada.ca. <https://www.canada.ca/en/public-health/services/publications/diseases-conditions/heart-disease-canada.html>

Canada, P. H. A. of. (2022, September 27). Government of Canada. <https://www.canada.ca/en/public-health/services/publications/healthy-living/canada-white-paper-substance-use-harms-during-covid-19-pandemic-approaches-federal-surveillance-response.html>

Canada, H. (2023, September 5). Government of Canada. Canada.ca. <https://www.canada.ca/en/health-canada/services/epioids/naloxone.html>

Chinn, P. L., Kramer, M. K., & Sitzman, K. (2022). Knowledge development in nursing: Theory and process (ELEVENTH EDITION). Elsevier.

CPR Facts and Statistics: Unveiling Lifesaving Insights. CPR Facts and Statistics: Unveiling lifesaving insights. (2024, February 15). <https://www.mycprcertificationonline.com/courses/cpr-facts-statistics>

Fact sheet: Stroke statistics. Ontario Stroke Network. (2012, April 2). https://www.ontariostrokenetwork.ca/pdf/Final_Fact_Sheet_Stroke_Stat_3.pdf

Fleischhackl, R., Nuernberger, A., Sterz, F., Schoenberg, C., Urso, T., Habart, T., Mintboeck, M., & Chandra-Strobel, N. (2009). School children sufficiently apply life supporting First Aid: A Prospective Investigation. Critical Care, 13(4). <https://doi.org/10.1186/cc7984>

Frew, A. (2010, August 17). What are the 'ideal' features of an adrenaline (epinephrine) auto-injector in the treatment of anaphylaxis? Wiley Online Library. <https://onlinelibrary.wiley.com>

How epiPen® works. How EpiPen® works | EpiPen.ca. (n.d.). <https://www.epipen.ca/how-epipen-works> Miller, L. (2024, March 1). Drug overdose symptoms, risks & treatment. American Addiction Centers. <https://americanaddictioncenters.org/overdose/>

Number of Canadians trained in first aid at dangerous low, suggests new poll - Canadian Red Cross. Red Cross Canada. (2012, September 5). [https://www.redcross.ca/about-us/media-news/news-releases/number-of-canadians-trained-in-first-aid-at-dangerous-low-suggests-new-poll--text-\(Ottawa%2F%2E%2A%2F%20Recent%20polling%20reveals%20that%20only%20one-third-of-canadians-are-trained-in-first-aid-at-dangerous-locations\)](https://www.redcross.ca/about-us/media-news/news-releases/number-of-canadians-trained-in-first-aid-at-dangerous-low-suggests-new-poll--text-(Ottawa%2F%2E%2A%2F%20Recent%20polling%20reveals%20that%20only%20one-third-of-canadians-are-trained-in-first-aid-at-dangerous-locations))

The alarming facts about heart attack and stroke in Canada. Amgen Canada. (2017). <https://www.amgen.ca/stories/2022-08-the-alarming-facts-about-heart-attack-and-stroke-in-canada#~:text=Each%20year%2C%20over%2060%20of%20Canadians,50%20of%20will%20suffer%20a%20stroke>

Dribin, T. E., Wasserman, S., & Turner, P. J. (2023, April). Who needs epinephrine? anaphylaxis, autoinjectors, and Parachutes. The journal of allergy and clinical immunology. In practice. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10219181/>

Poser, Larry S., and Carlos A. Camargo. "Update on the Usage and Safety of Epinephrine Auto-Injectors, 2017." Drug, Healthcare and Patient Safety, vol. 9, 21 Mar. 2017, pp. 9-18. <https://doi.org/10.31473/DHSPS.5121733>

Jayden Taylor - 237679@canadorestudents.ca - A00057525 - RPN to BScN Bridging Program
Tanya D'Andrade - 349626@canadorestudents.ca - A00168824- RPN to BScN Bridging Program
Niko Venturoli - niko.venturoli@canadorestudents.ca - A00086935 - RPN to BScN Bridging Program
Olivia Pannell - oliviapannell@canadorestudents.ca - A00147473 - BScN Program
Victoria Girard - 329056@canadorestudents.ca - A00148274 - BScN Program
Darrah Kealy - 330217@canadorestudents.ca - A00149434 - BScN Program