

# THE LEARNING IMPACT OF A VIRTUAL CPR WEBINAR FOR SENIORS

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# Conflict of Interest

I have no conflicts to disclose.

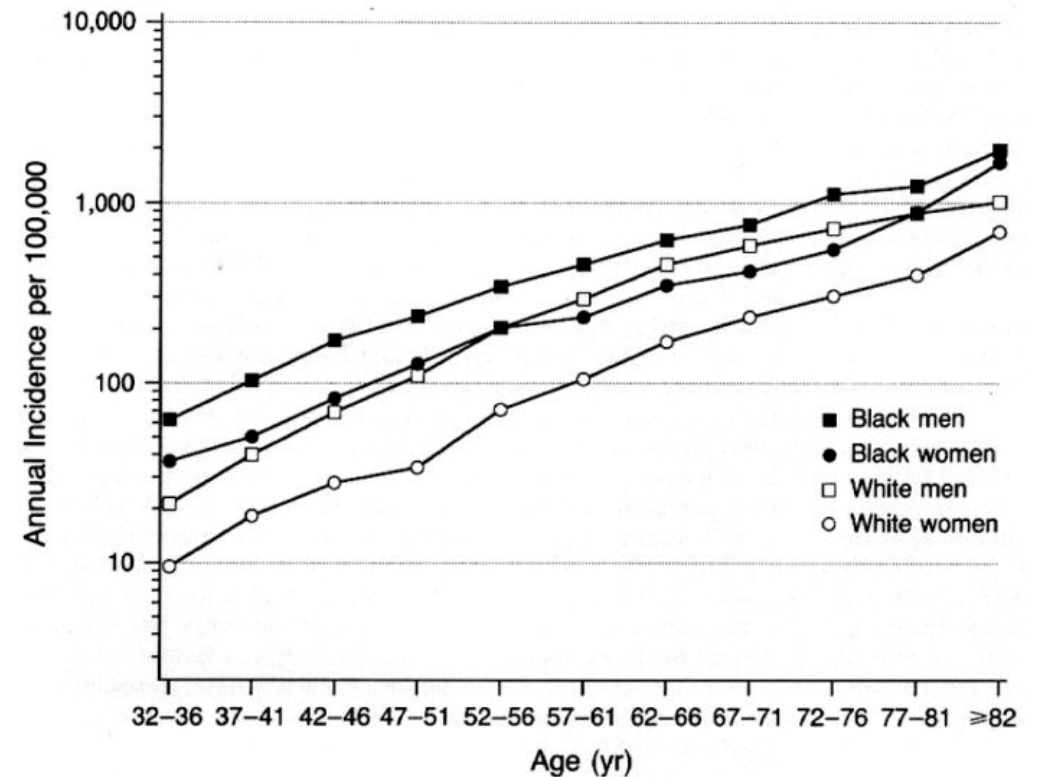
# Introduction

- Out of hospital cardiac arrests (OHCA) account for more than **20,000 deaths** in Canada annually.
- Intervention with bystander cardiopulmonary resuscitation (CPR) can increase survival rates by **3 times**
- Unfortunately less than **25%** receive bystander CPR.



# Introduction

- The incidence of sudden cardiac death **increases with age**.
- Older individuals are also most likely to **witness** a cardiac arrest.
- Providing training virtually may overcome accessibility barriers for this population.



# Methodology

## *Webinar Design and Delivery*

- Senior citizens aged 65 and older
- Participated in an interactive, virtual hands-only CPR webinar between December 2020 to May 2021 via Facebook Live
- Validated homemade CPR trainer was used in place of the high-fidelity mannequins often used in face-to-face CPR training



# Methodology

## *Survey Design and Content*

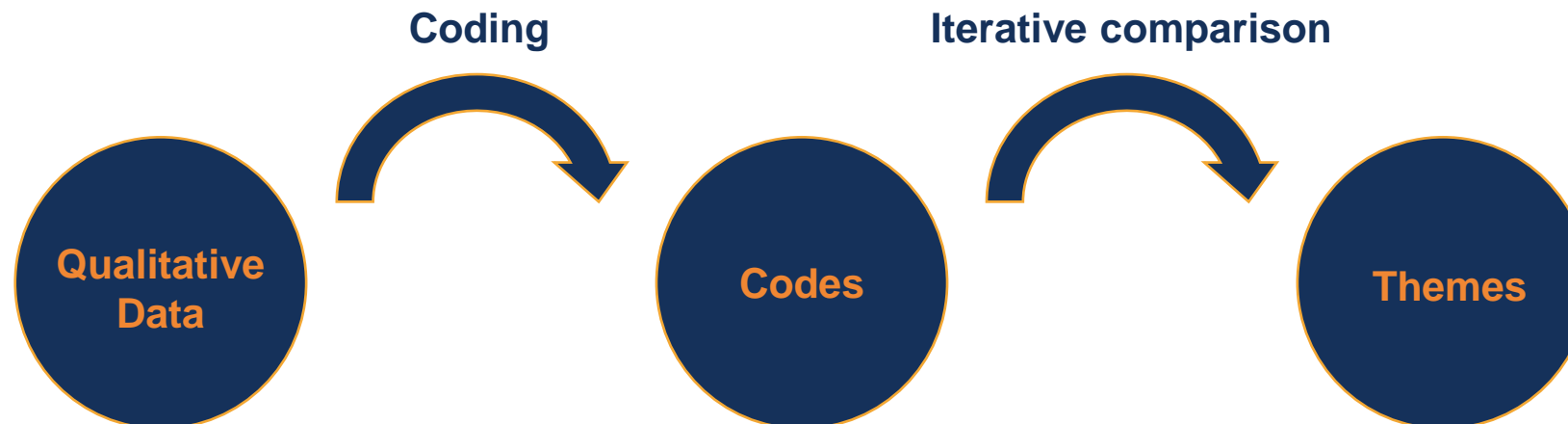
- 10-questions- 8 multiple choice, 2 open-ended
  - Knowledge of CPR pre and post webinar
  - Likelihood to perform CPR following the webinar
  - Presentation and presenter quality, and participants were given the opportunity to provide feedback and ask additional questions
- Participants were voluntarily asked to complete an online survey distributed to them via email following the webinar, one survey reminder was emailed 2 weeks following the initial email.



# Methodology

## *Data Analysis*

- Qualitative inductive thematic analysis by three independent reviewers was conducted on open-ended question responses.
- Proportions of knowledge of CPR pre and post webinar were compared using z-test.



# Results

- 231 respondents participated in the survey for a response rate of **66.0%**.

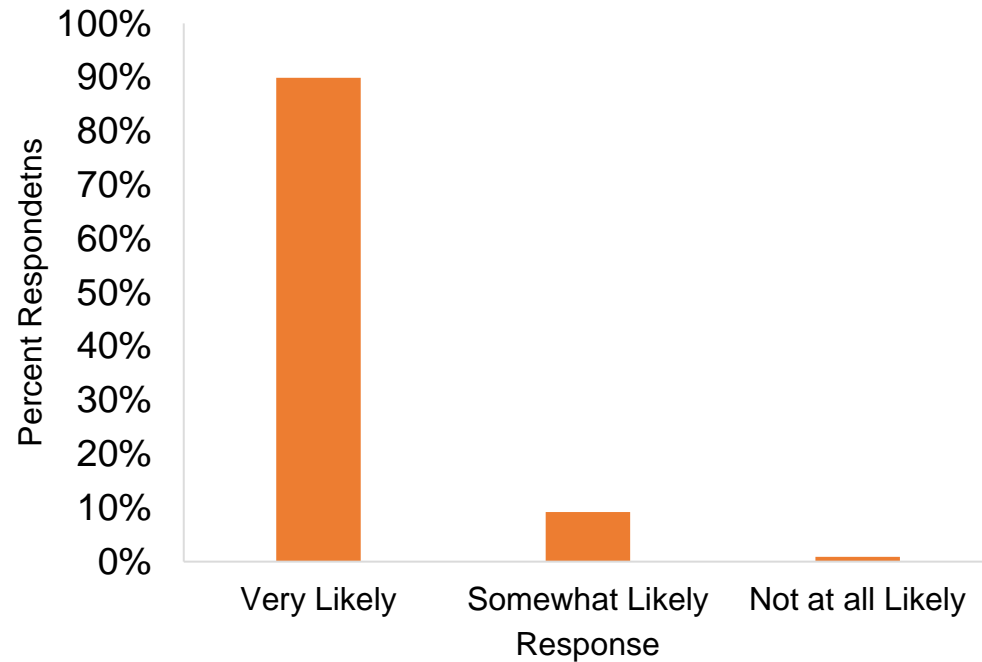
**Table 2- “How would you rate your knowledge of hands-only CPR?”**

| Response                                 | Pre (%) | Post (%) | P value   |
|--|---------|----------|-----------|
| Very little knowledge                    | 33.9    | 1.8      | P<0.00001 |
| Some knowledge                           | 54.2    | 12.1     | P<0.0001  |
| A lot of knowledge                       | 11.9    | 86.1     | P<0.0001  |
| <i>CPR cardiopulmonary resuscitation</i> |         |          |           |

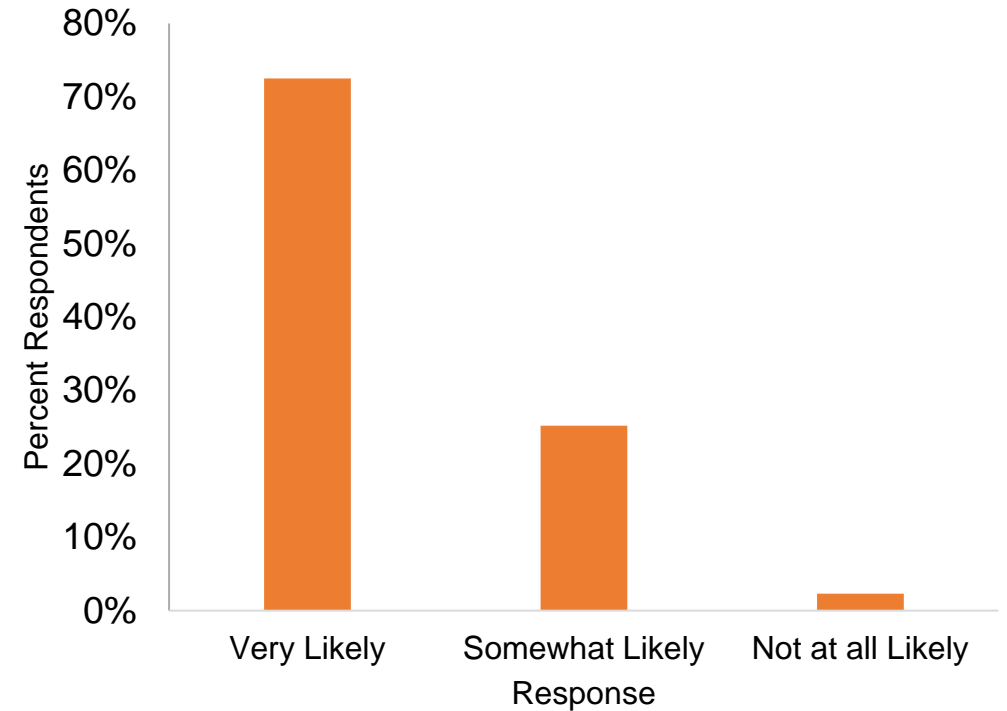


# Results

**Now that you've learned hands-only CPR, would you be likely to perform it on a friend, family member or colleague?**



**Now that you've learned hands-only CPR, would you be likely to perform it on a stranger?**



# Results

**Table 3- “Do you have any other feedback for us?”**

| Theme                                    | % Response | Selected example of comment   |
|--|------------|---|
| Positive affective comments              | 47.5       | “They were very successful in their intent to teach their audience to perform CPR when necessary, without being intimidated.” |
| Learning                                 | 24.0       | “I especially liked the info to distinguish between heart attack and cardiac arrest as I was always uncertain about this.”    |
| CPR ability                              | 13.1       | “It made us feel comfortable to use CPR if we ever have to”   |
| Share with others                        | 8.8        | “I have sent the info about future presentations on to others that I think would be interested”                               |
| Constructive criticism                   | 6.6        | “Would have liked a little more on the defibrillator”   |
| <i>CPR cardiopulmonary resuscitation</i> |            |   |

# Results

**Table 4- “If you have any additional questions about CPR, please leave them here with your email address and we will get back to you with the answers.”**

| Theme                                     | % Response | Selected example of comment   |
|---|------------|---|
| No additional questions                   | 48.9       | “No questions! ... We really appreciated the AED presentation. Would not hesitate to do it if needed.”  |
| Prevention of death from MI               | 20.0       | “Should I have aspirin at home? I hear that you should take two if you think you are having a heart attack.”                                    |
| Performing CPR in different circumstances | 11.1       | “Can CPR be performed on a drowning person?”  |
| Information sharing                       | 11.1       | “Is it possible to share this video with a friend?”   |
| Risks of CPR                              | 8.9        | “...if you were to break someone's rib while doing CPR is there any chance that you would damage/puncture an organ, ie, lung if you continued?” |

*CPR cardiopulmonary resuscitation, MI myocardial infarction*

# Conclusion

- The goal of conducting this webinar was to provide equitable access to CPR training of senior citizens, to ultimately increase rates of bystander CPR in this vulnerable population.
- Our study demonstrates that CPR webinar training may increase rates of bystander CPR by:
  - **Increasing CPR knowledge and confidence**
  - Through a delivery method that reaches a **large target audience**

# Conclusion

- The **technical proficiency** of older adults has been quoted as a barrier to successfully attend virtual sessions
- Contrary to this, our study demonstrates the success of a senior population's ability to learn virtually.
- In the future, online education may continue to evolve, as the current generation of internet-connected adults are mostly in their 50s and 60s and they are likely to continue to develop their technical prowess in the future
- This shows promise for the **future of virtual medical delivery** and **healthcare education**.



# References

1. Awad E, Christenson J, Grunau B, Tallon J, Humphries K. Sex differences in out-of-hospital cardiac arrest interventions within the province of British Columbia, Canada. *Resuscitation* 2020;148;128–34.
2. Vaillancourt C, Stiell IG, Brien S. Cardiac arrest care and emergency medical services in Canada. *Can. J. Cardiol* 2004;20;1081–90.
3. Deo R, Albert CM. Epidemiology and Genetics of Sudden Cardiac Death. *Circulation* 2012;125;620-37.
4. Vaillancourt C, Kasaboski A, Charette M et al. Barriers and facilitators to CPR training and performing CPR in an older population most likely to witness cardiac arrest: A national survey. *Resuscitation* 2013;84;1747–52.
5. Brison RJ, Davidson J, Dreyer J et al. Cardiac arrest in Ontario: circumstances, community response, role of prehospital defibrillation and predictors of survival. *CMAJ* 1992;147;191–99.
6. Ohle R, Moskalyk M, Boissonneault E, Simmons K, McIsaac S. A homemade CPR trainer can enable real time practice during online hands only CPR training. *Resuscitation* 2021;158;71-2.
7. Li W, Ornstein A, Li Y, Liu, B. Barriers to learning a new technology to go online among older adults during the COVID-19 pandemic. *J. Am. Geriatr. Soc.* 2021;69;3051–57.
8. Throfast V, Hellström L, Hovstadius B, Petersson G, Ericson L. e-Learning for the elderly on drug utilization: A pilot study. *Health Informatics J.* 2019;25;227–39.

**QUESTIONS?**