

Exploring the Uptake of COVID-19 Vaccination amongst Respiratory Therapists in Canada



Julie Brown RRT, MMedSc, FCSRT Fanshawe College, Charles Sturt University



Introduction

- The COVID-19 pandemic continues throughout the world causing morbidity and mortality. The development of COVID-19 vaccines is often touted as the solution to this crisis but vaccine effectiveness is dependent on the uptake by the world's population (3).
- Healthcare workers in Canada were amongst the initial groups for vaccination however; uptake rates were not initially as high as expected at 86.27% as of initial offering, May 2021 (2).
- The rate of vaccination uptake for the Respiratory Therapists in Canada is not clear in comparison to other Canadian health care workers. Further the drivers or factors that play into the decision to get vaccinated are also not clear (1, 4).

Objectives

- To investigate COVID-19 vaccination uptake rates and attitudes in the Respiratory Therapy group across Canada.

Hypothesis

- Respiratory Therapists have a higher vaccination uptake rate than the published general Healthcare worker rate in Canada.
- Respiratory Therapists in Canada with regular direct work experience with COVID-19 patients will have a higher vaccination uptake rate than those who don't.

Methods

- An anonymous survey using SurveyMonkey® on vaccination uptake rates, responses and attitudes was available from July 19-Oct 12, 2021 to Student, Graduate and Registered Respiratory Therapists in Canada in both English and French languages with a goal to obtain surveys from 5-10% of the group of ~ 12650.
- The survey was circulated through Regulatory Colleges, Provincial and National association's newsletters, social media and/or websites.
- Canadian RT Vaccination uptake rates were compared to those of Canadian healthcare workers in general as per the Government of Canada stats.
- Factors that could potentially influence COVID-19 vaccination uptake were also looked at including:
 - Demographics
 - Work and personal experiences with COVID-19 patients
 - COVID-19 vaccination attitudes/concerns

Data Analysis

- 1066 surveys (8.4% of target population) were started, 983 in English and 83 in French. 1013 (8.0% of target population) were completed fully and included in the data analysis.
- Canadian RT Vaccination uptake rates were compared to those of Canadian healthcare workers in general as per the Government of Canada stats (2).
- Pearson Chi-Square Tests were performed to evaluate association between vaccination status and other categorical parameters evaluated in the survey.

Results

90.42% of the surveyed RT population in Canada received their vaccination right away (Figure 1) compared to the posted rate of 86.27% for all Canadian Healthcare Workers (1).

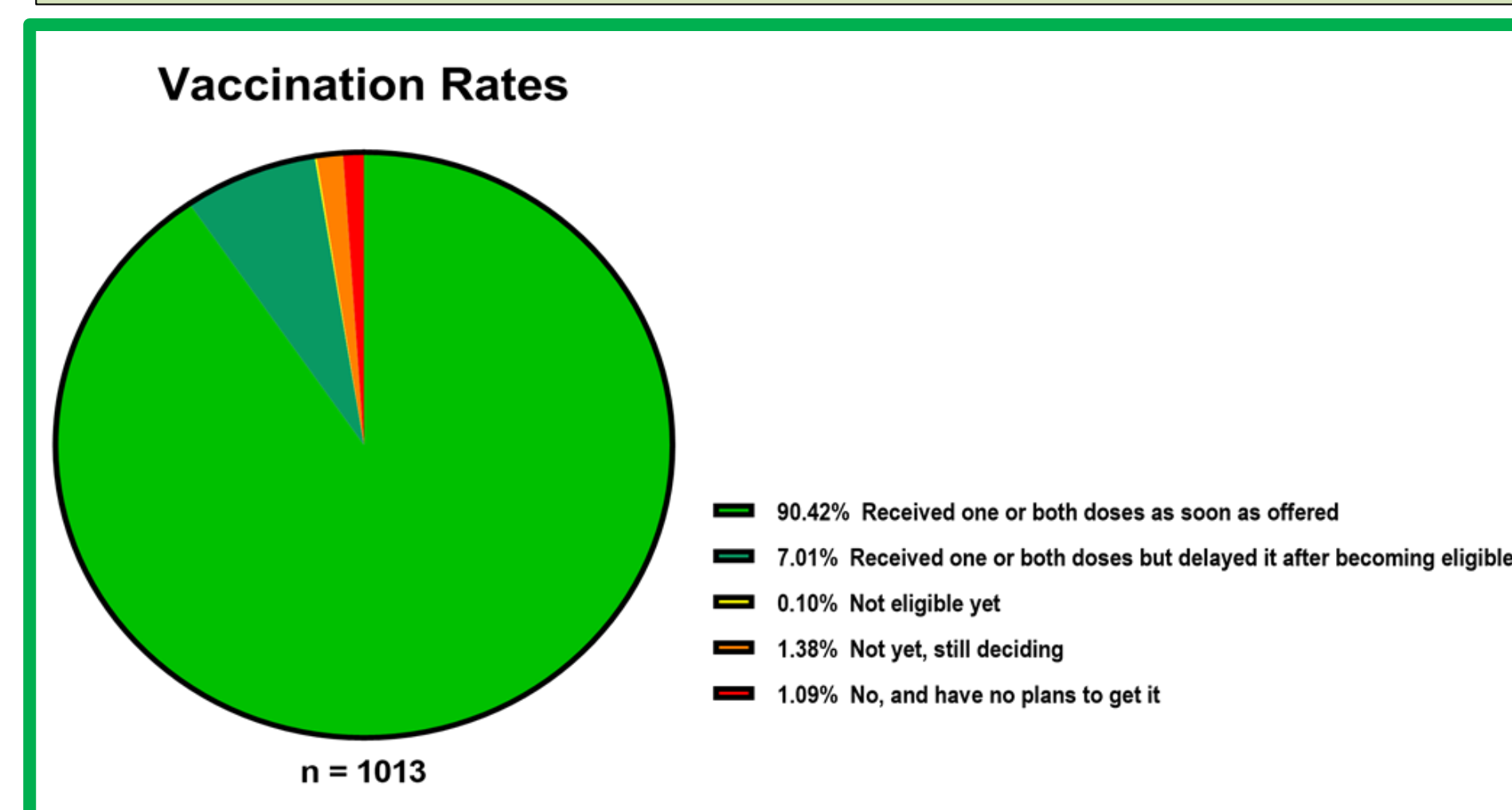


Figure 1. Vaccination Rates Amongst Surveyed RT Groups in Canada.

Participants had a lower vaccination rate if they had already had COVID-19 and they were more likely to get vaccinated as soon as they were eligible if someone in their family or someone they knew had COVID-19 (Figure 3).

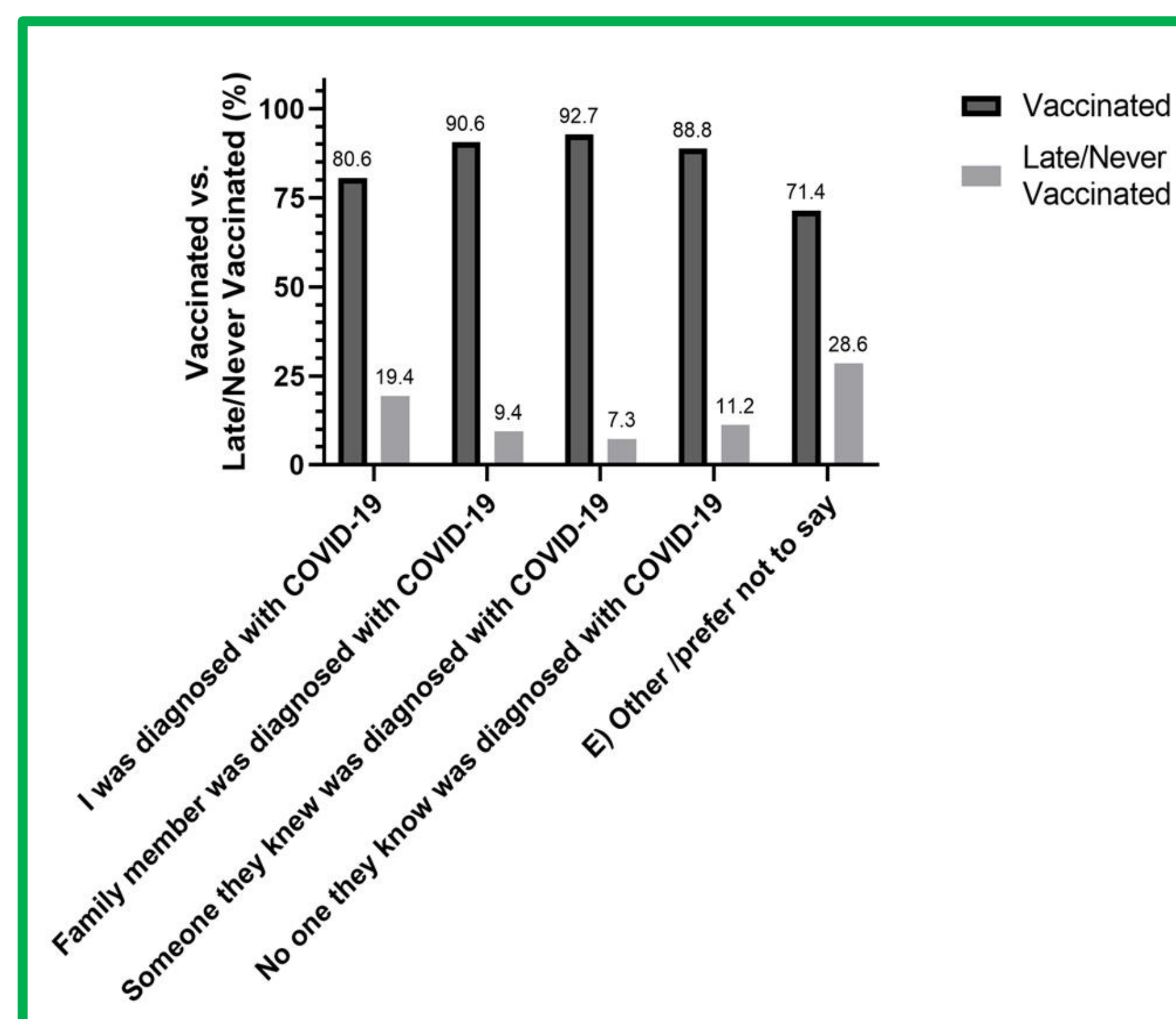


Figure 3. Vaccination Status Categorized by Relationship to People with COVID-19

Age groups <25y and 25-34y had a higher percentage of late/never vaccinated participants than the other groups (Figure 2).

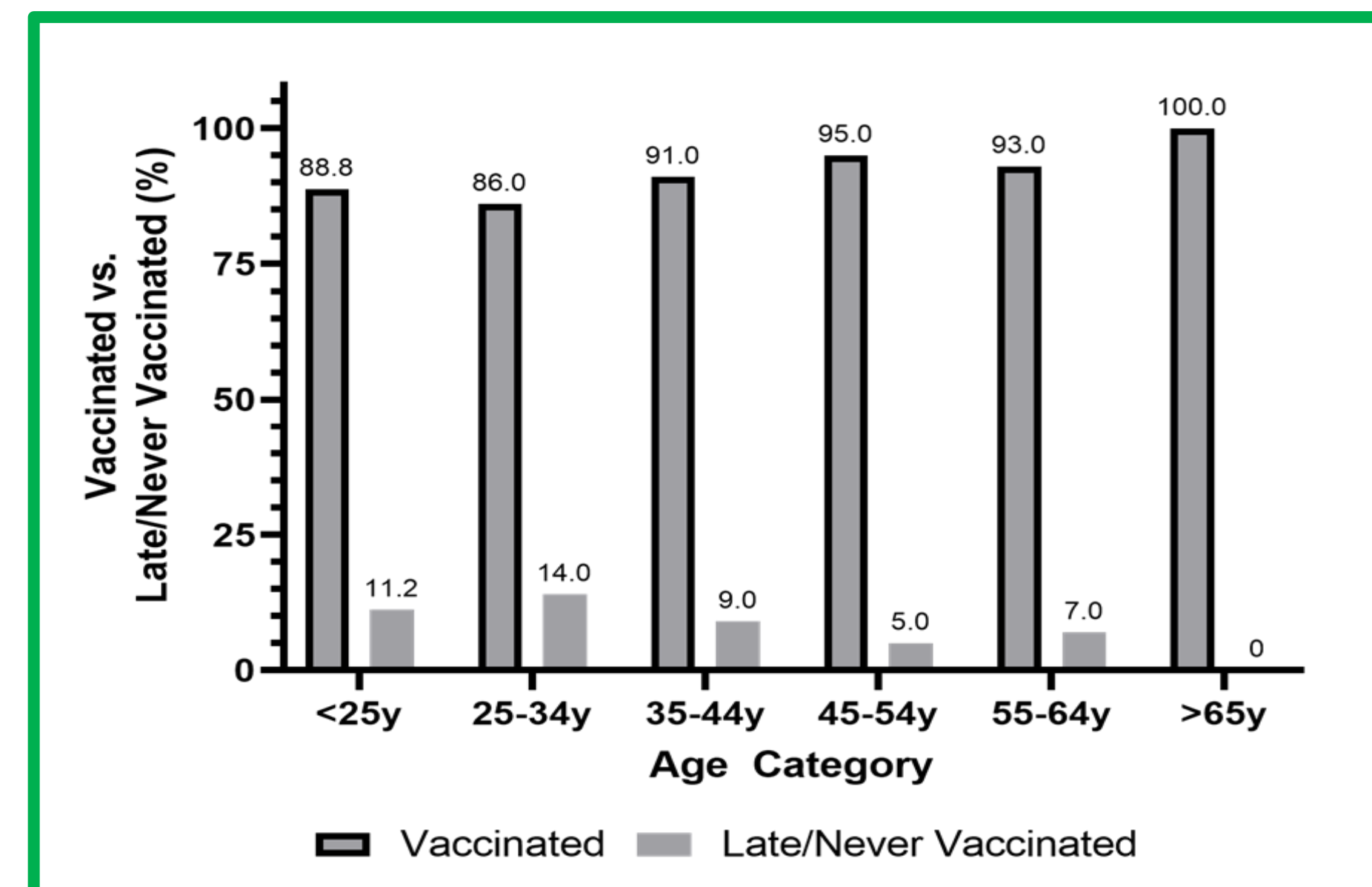


Figure 2. Vaccination Status Categorized by Age

Subjects who were reluctant to science to develop safe and effective new vaccines showed lower early vaccination rates than individuals who were more receptive to vaccine development and the science around it (Figure 4).

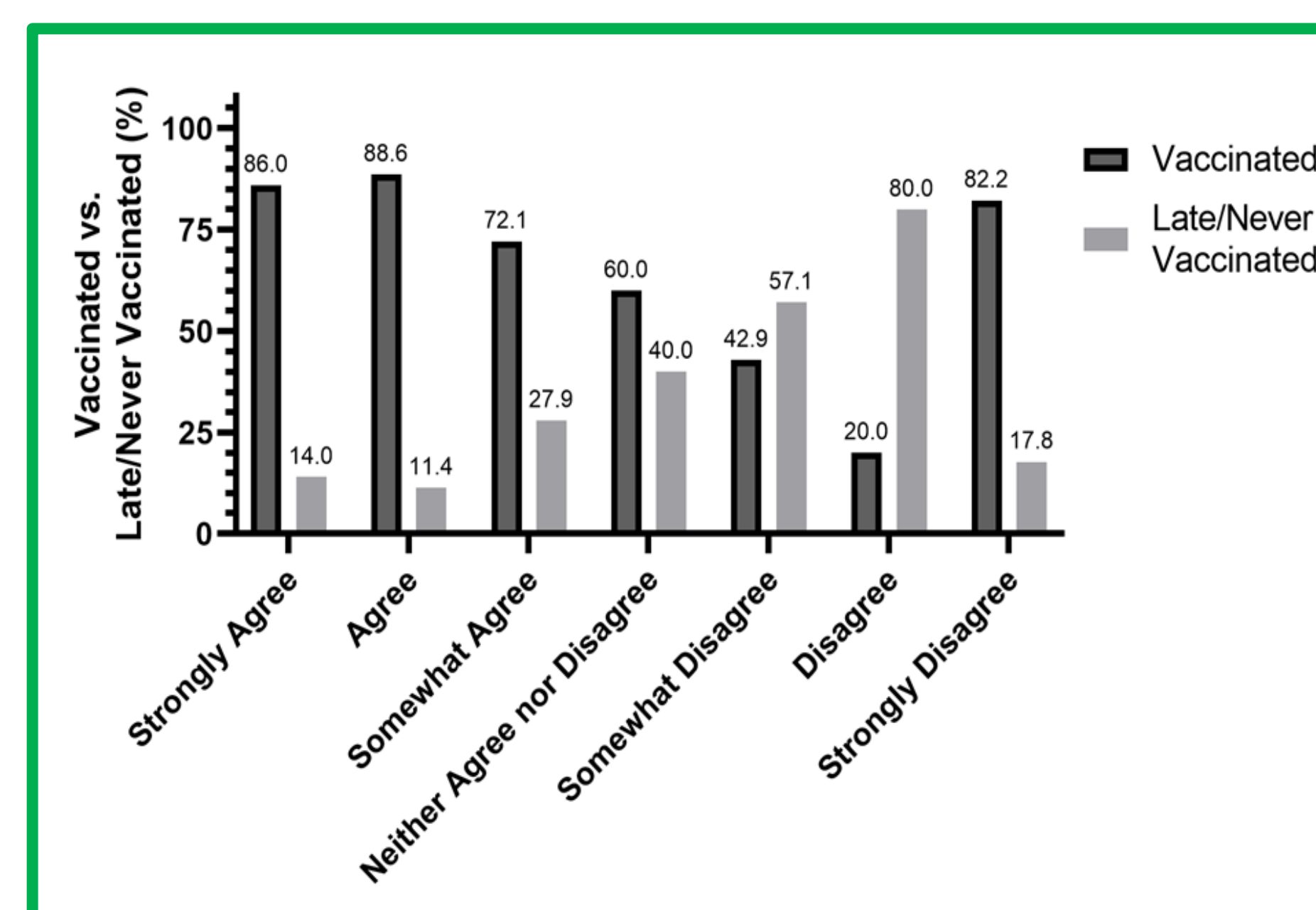


Figure 4. Vaccination Status Categorized by Trust in Science

Conclusions

- 90.42% of the surveyed RT population in Canada received their vaccination right away (Figure 1) which was considerably higher than the posted rate at the time of 86.27% for all Canadian Healthcare Workers (2).
- We observed a significant ($p=0.013$) association between early vaccination and age. The older age groups were more likely to be vaccinated as soon as they had become eligible to receive the vaccine.
- We observed a significant ($p=0.036$) association between vaccination status and participants' response on whether or not they have a family member or know someone who has had COVID-19
- We observed a significant ($p<0.001$) association between vaccination status and attitudes towards trusting science to develop safe, effective, new vaccines.
- We observed a significant ($p<0.001$) association between vaccination status and attitudes towards trusting the Ministry of Health to ensure that vaccines are safe.
- We observed no significant association between vaccination status and gender, province/territory of residency/work, level of education or level of involvement with caring for COVID-19 patients.

Overall our results suggest that the RT groups across Canada had higher early vaccination uptake rates than the general Healthcare worker groups and that age, relationship to people with COVID-19 and trust in Science played a significant role in their vaccination uptake rates. We found no significant relationship between vaccination rates and level of involvement in caring for COVID-19 patients.

Future Work

- Future studies should focus on various healthcare worker groups to identify the specific vaccination uptake rates for each and factors involved.
- This information can assist with policy changes and or targeted education for various groups in the future.

References

- Dodd, R.H., Pickles, K., Nickel, B., Cvejic, E., Ayre, J., Batcup, C., et al. Concerns and motivations about COVID-19 vaccination. *The Lancet Infectious Diseases*, 21, 2 161-163 (2021). [https://doi.org/10.1016/S1473-3099\(20\)30926-9](https://doi.org/10.1016/S1473-3099(20)30926-9)
- Government of Canada COVID-19 Information, Retrieved March 2, 2021, last updated Feb 20, 2021. <https://health-infobase.canada.ca/covid-19/vaccination-coverage/>
- Lazarus, J.V., Ratzan, S.C., Palayew, A. et al. A global survey of potential acceptance of a COVID-19 vaccine. *Nat Med* 27, 225-228 (2021). <https://doi.org/10.1038/s41591-020-1124-9>
- Ohren, K., The Essential role of Respiratory Therapists during COVID-19. *Rehab Therapies and Wellness*, Dec 11, 2020. <https://www.carrishhealth.com/blog/2020/december/the-essential-role-of-respiratory-therapists-dur/>

Acknowledgments

Thank you to all Respiratory Therapy Regulatory Bodies, educational institutions and the Provincial and National Associations who circulated the survey to the Canadian Respiratory Therapy community. SPSS and GraphPad software were used for statistical analysis. This study was approved by the CSU Ethics Board #H21087.