

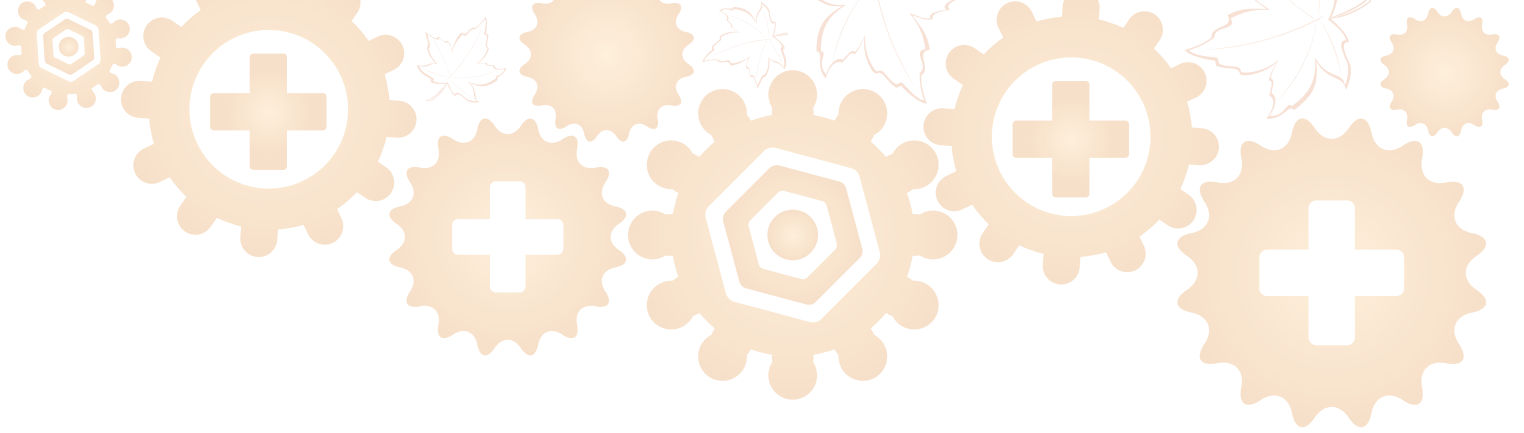


CANADIAN PUBLIC SUPPORT
FOR THE USE OF MOBILE PHONE DATA
TO FIGHT THE COVID-19 PANDEMIC

May 7, 2020

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About the Senators



Senator Rosemary Moodie
Senator for Ontario

Distinguished medical leader, Neonatologist and Paediatrician, who understands the balance between protecting patient privacy, and having timely and accurate patient information to manage an outbreak, based on her front-line experience with SARS.



Senator Donna Dasko
Senator for Ontario

Former national pollster, media commentator, and private sector business leader with considerable public policy experience.



Senator Colin Deacon
Senator for Nova Scotia

Former tech entrepreneur. Focused on advancing entrepreneurship in Canada and ensuring that Canadian privacy legislation protects individuals while empowering a globally competitive economy.

Research Lead



Peter Loewen, PhD
Professor, University of Toronto Senior Fellow, Massey College Fellow, Public Policy Forum

Privacy Advisor



David TS Fraser
Partner with McInnes Cooper practicing privacy, internet and technology law. Part-time faculty at Schulich School of Law at Dalhousie University.

I. Methodology

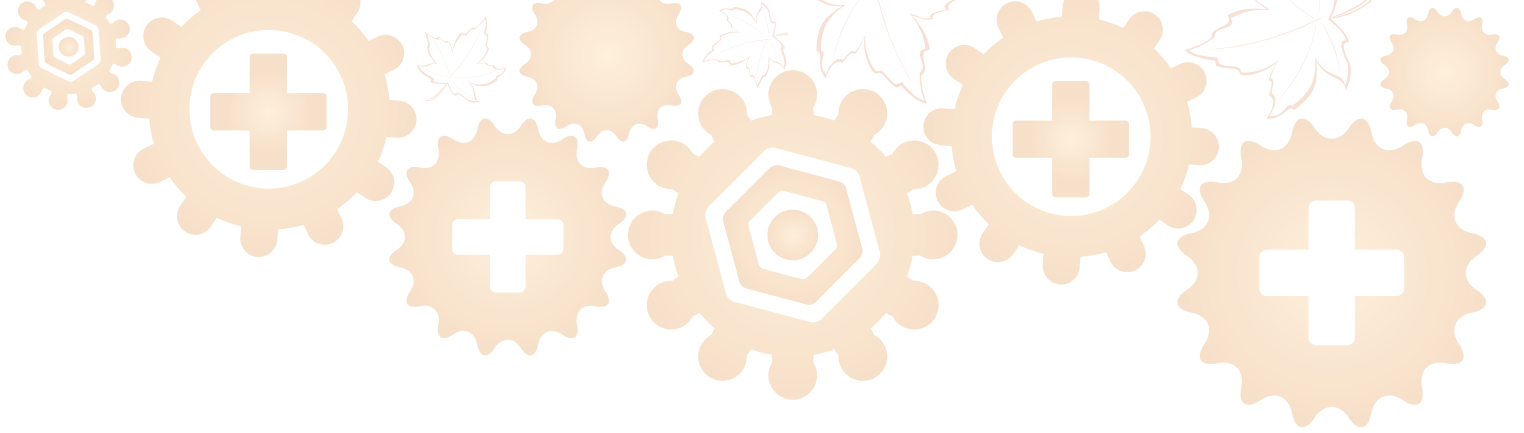
We partnered with Abacus Data to procure an online sample of ~1,500 members of the general population, stratified by gender and province. Equal numbers of men and women were targeted, along with regional breakdowns corresponding to the relative size of each province. Given the small base population, no respondents were sought in the territories.

Sample was drawn from the Fulcrum platform. Sampling occurred from May 2 to 4, 2020. The survey instrument was presented on the Qualtrics online platform.

The final sample contains 1,530 respondents. Random samples of this size are accurate within 2.5% at the 95% confidence interval.

Weighting of data occurred in two fashions. First, marginal values were adjusted using an iterative process, as provided by the ipfweight command in STATA15, according to census targets on age group and gender within provinces. Once these weights were inspected for reasonable parameters (ie. no weights greater than 5 or less than 0.2), we then relied on Qualtrics' similar interlocking weighting function to weight the results presented in this report. A log of complete crosstabs with STATA weighting (ie "banners") are available upon request.

Our survey instrument design was led by Peter Loewen in consultation with Senators Colin Deacon, Donna Dasko, and Rosemary Moodie.



II. Executive Summary

Canada is engaged in a major struggle to control the spread of COVID-19. This pandemic is having devastating effects on the health of Canadians and our economy. Key to combatting this pandemic is a combination of social distancing, widespread testing, and effective contact tracing.

In this report, we explore Canadians' views on contact tracing and specifically the use of the location tracing capabilities of their mobile phones. We demonstrate that Canadians are on the whole supportive of the use of contact tracing technology and would support its widespread adoption if their privacy is protected while generating the crucial data needed to assist in the public health fight against COVID-19.

We highlight six sets of findings:

1. **In the absence of a vaccine or treatment for COVID-19, 90 percent of Canadians believe that it will be necessary to continue contact tracing.**
2. **80 percent of Canadians support the use of mobile device data by public health officials to notify those who have been close to someone who has tested positive for COVID-19.**
3. **87 percent of Canadians believe contact tracing apps should trigger testing of themselves and others.**
4. **If assured that their data was kept confidential, large numbers of Canadians would share information from contact tracing apps with their physician (96 percent), their family (95 percent), public health officials (91 percent) and health researchers (87 percent). Fewer would share with employers and coworkers (75 percent), other government officials (73 percent), law enforcement (68 percent), and social media platforms (35 percent).**
5. **65 percent of Canadians support the mandatory use of contact tracing apps.**
6. **The privacy concerns of Canadians tend to align with the privacy safeguards proposed by Canada's Federal Privacy Commissioner.**

Canadians are ready for a widespread adoption of contact tracing applications, provided that the information helps public health officials to control the spread of COVID-19 and privacy is protected.

III. Background

How can we get Canadians out of their homes, back to work, and back into schools while protecting their health and safety in the midst of this pandemic? Canadians have indicated that they are supportive of the use of contact tracing apps, as are being used in several jurisdictions around the world, as a key component in this part of the fight against COVID-19.

In an effort to limit the spread of COVID-19, governments have mandated a combination of social distancing, expanded testing, widespread closures of non-essential services, and border closures. Parallel to this is a truly international effort to develop, test, and deploy a vaccine, a process that many experts expect could take up to 18 months or more. While we wait for a vaccine, it is becoming increasingly clear that a technological solution may help to control the spread of the disease and allow for existing restrictions to be increasingly and safely lifted.

Contact tracing has proven to be a critical tool in the fight against the highly-infectious COVID-19. This requires those who have been infected to produce as complete a listing as possible of those they have had contact with during the period of their infection. Public health officials then contact each of those individuals, and often request those who have been in contact with an infected person to themselves be tested.

This analog process, with individuals recalling from memory those with whom they have had contact and places they have been, is not without its shortcomings. However, without such contact tracing, the public health consensus is that we cannot contain the spread of the COVID-19.

This is why technological solutions, which rely on the location and proximity tracking capabilities of mobile phones, are being used in many jurisdictions. For example, a technology might work by logging whenever two cellphones (and presumably the individuals carrying them) are proximate to one another, as captured by Bluetooth. If one of those individuals later tests positive for the coronavirus, the person with whom they were proximate can receive an automatic notification to be tested. Such technology could massively increase the speed, accuracy and completeness of contact tracing.

In this report, we demonstrate that Canadians are on the whole supportive of the use of contact tracing technology and would support its widespread adoption if it helps public health officials to control the spread of COVID-19 while protecting their privacy. A complete annex with all results follows our report.

Alongside this strong support for the use of contact tracing apps, we do find concern about personal privacy and the security of personal data. Accordingly, any roll-out of an app(s) will require robust privacy protection to be in place in a manner that earns the support of potential users of the app.

IV. Detailed Survey Findings

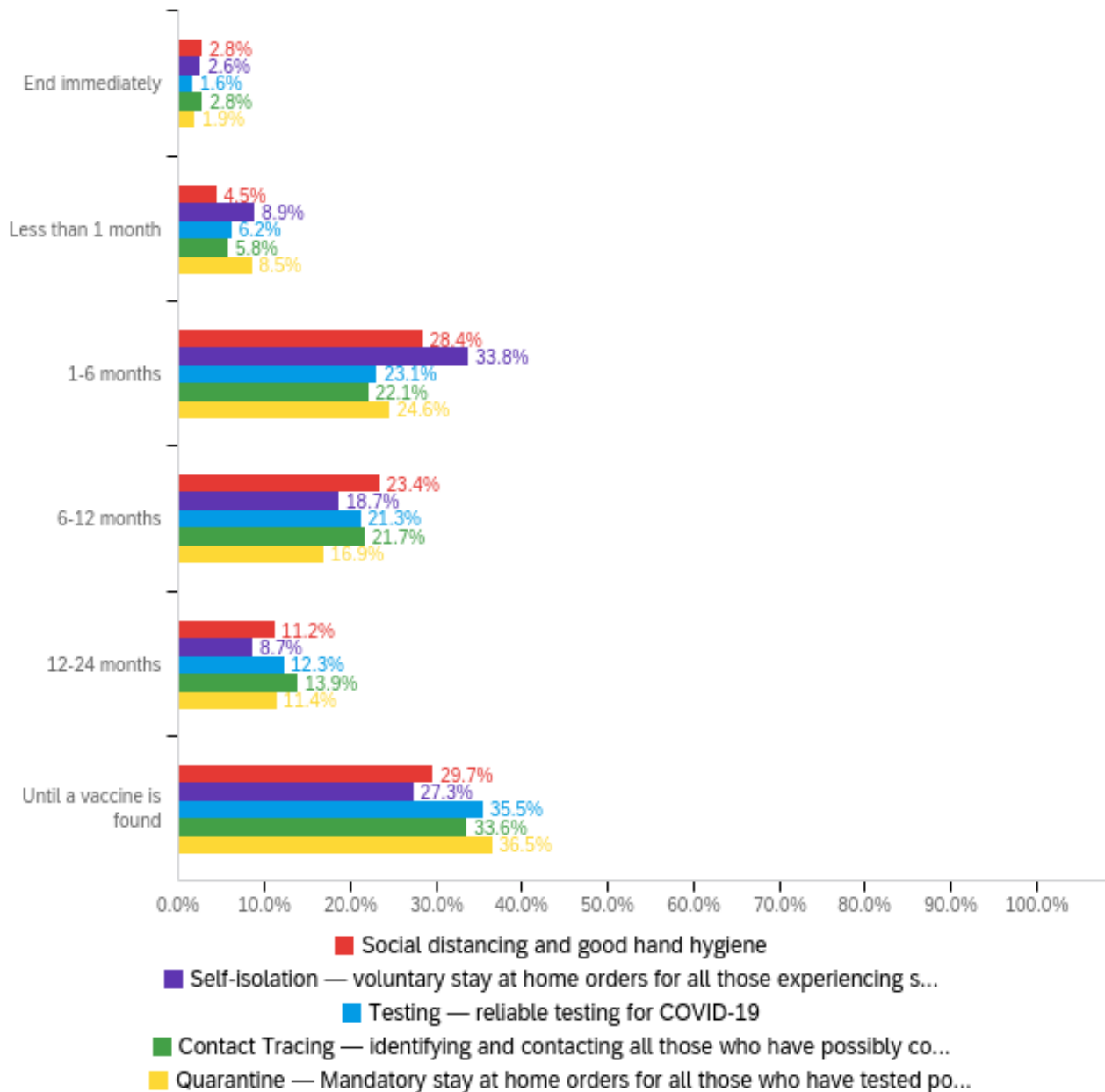
Finding 1:

In the absence of a vaccine or treatment for COVID-19, 90 percent of Canadians believe that it will be necessary to continue contact tracing.

When we ask Canadians how long contact tracing will need to be in place in order to control COVID-19, 36 percent believe it will need to be in place for at least 6 months, while another 34 percent believe it will be necessary until a vaccine is found.

When asked about what will be necessary in the absence of a vaccine or an effective treatment for COVID-19, 90 percent of Canadians believe that ongoing contact tracing will be necessary. This equals those who think other measures will be necessary, including social distancing and good hand hygiene (94 percent), self-isolation for those experiencing symptoms (91 percent), reliable testing for COVID-19 (90 percent), and mandatory quarantines for those who have tested positive (93 percent).

For how long do you think it will be necessary to keep each measure in place to control COVID-19?



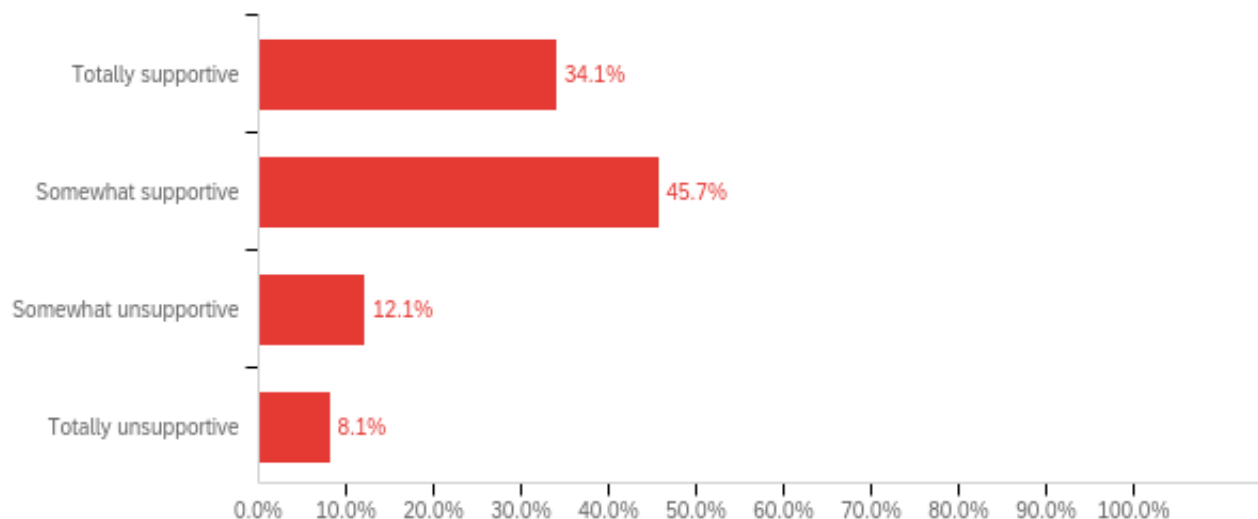
Finding 1 upshot: Canadians understand that contact tracing is necessary as a public health response to COVID-19.

Finding 2:

80 percent of Canadians support the use of mobile device data by public health officials to notify those who have been close to someone who has tested positive for COVID-19.

When we ask Canadians about their willingness to use a contact tracing app, we find strong and broad support. For example, we asked Canadians “If the tracking capabilities of smart phones provided public health officials with the ability to anonymously and automatically notify all those who have been close to someone who tested positive for COVID-19, how supportive would you be of using this capability in Canada?” 80 percent of respondents told us they were either totally supportive or somewhat supportive. Just 8 percent took the strongest oppositional position of “totally unsupportive”.

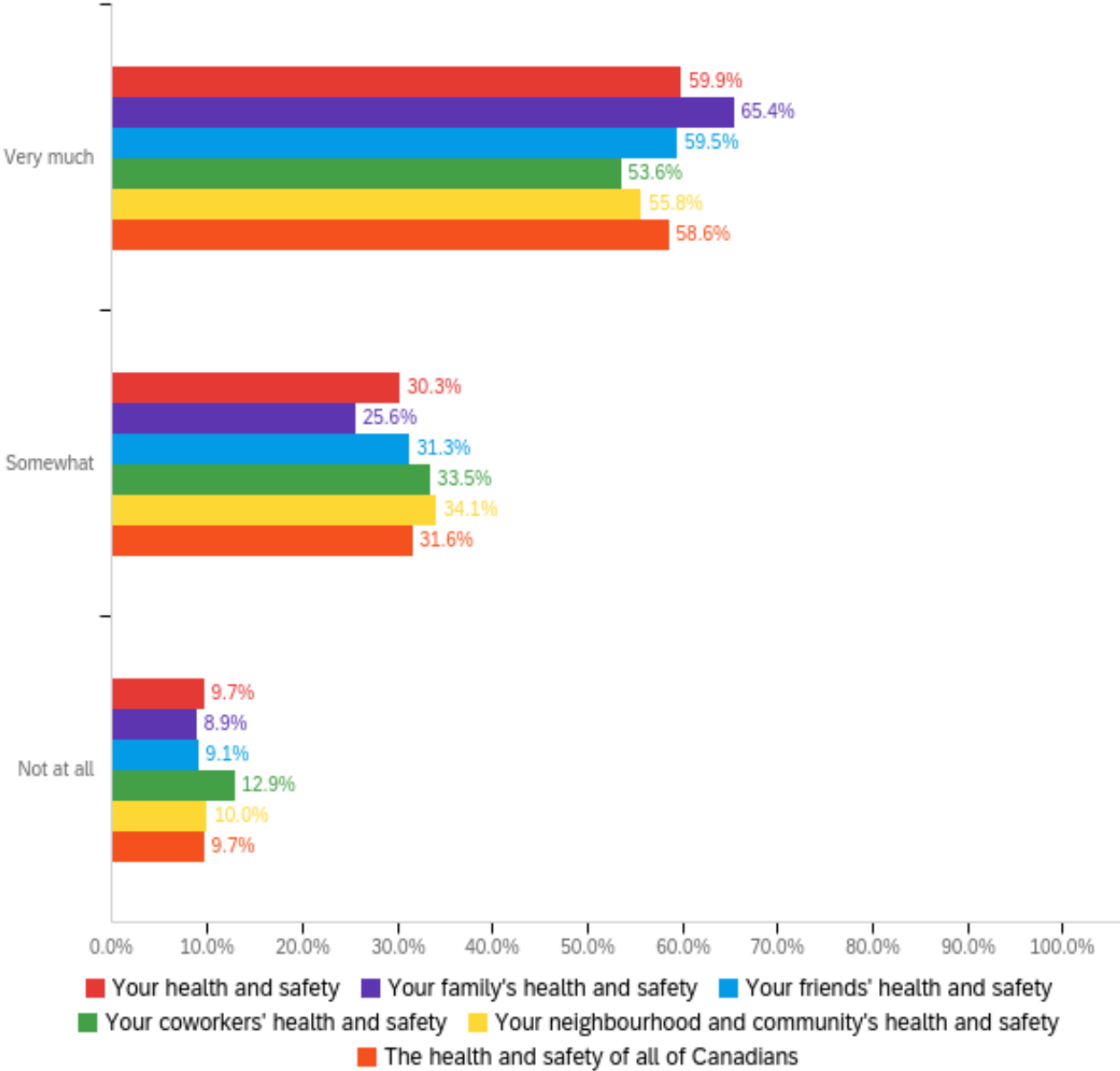
If the tracking capabilities of smart phones provided public health officials with the ability to anonymously and automatically notify all those who have been close to someone who tested positive for COVID-19, how supportive would you be of using this capability in Canada?



Importantly, this support is shared across major demographic groups. The percentage of respondents who are totally or somewhat supportive was 80 percent in Atlantic Canada, 77 percent in Quebec, 82 percent in Ontario, 81 percent in the Prairies, and 79 percent in British Columbia. Men and women are equally supportive (79 percent and 81 percent respectively). Finally, Canadians of all age groups are supportive, with 76 percent of those aged under 35, 78 percent of those aged 35-54, and 84 percent of those aged 55 or older being totally or somewhat supportive.

When Canadians are asked about their motivations for using such an app, we find a broad set of reasons. For example, 60 percent said it would matter very much that such an app could protect their health and safety, while 65 percent and 59 percent respectively said it would matter very much that such an app could protect their family’s health and safety and the health and safety of all Canadians.

If this technology helped to decrease the spread of COVID-19, how much would the following considerations motivate you to use it?



Finding 2 upshot: Canadians are willing to use contact tracing apps, and they see them as a part of our collective effort against the coronavirus.

Finding 3:

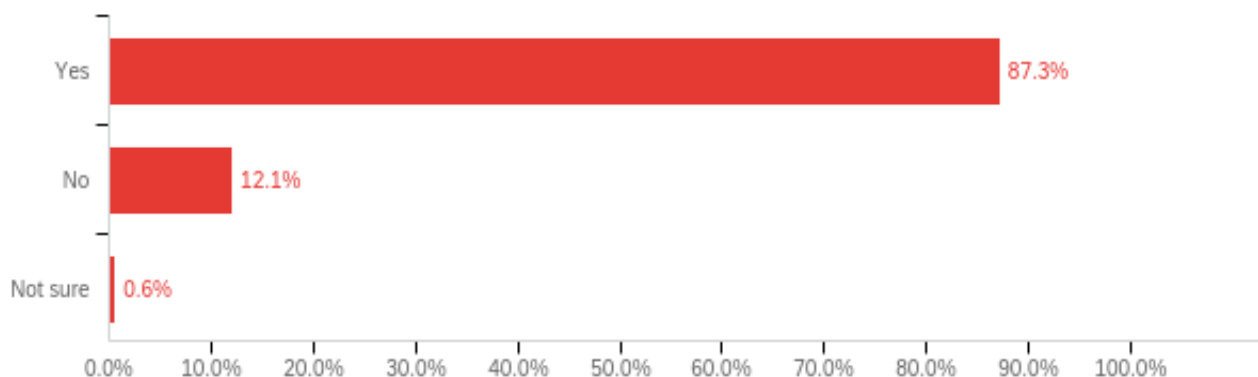
87 percent of Canadians believe contact tracing apps should trigger testing of themselves and others.

We probed Canadians' views on the consequences of positive tests for those using a contact tracing app. Their views are important for those who are designing and regulating such apps. Nearly nine-in-ten Canadians (87 percent) think that those who test positive for COVID-19 should be *required to anonymously* share their location history from the previous two weeks in order to assist in identifying others who may have been infected. When we earlier asked Canadians if they would be willing to share a positive test result anonymously, 92 percent agreed. This suggests broad willingness of Canadians to anonymously share information crucial for the fight against the coronavirus, and a belief that all should do so.

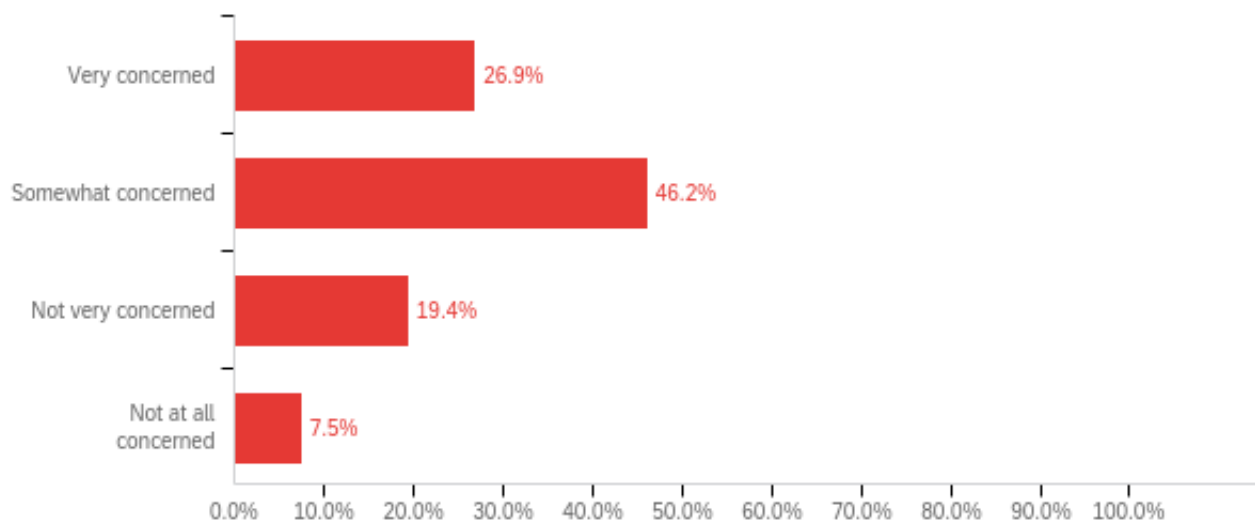
Conversely, we find that 73 percent of respondents are somewhat or very concerned that sharing positive test results could be used to discriminate against them.

Furthermore, when the small subset of Canadians (16 percent) who indicated they would not be willing to use a contact tracing app were asked about the Australian framework – which provides severe financial penalties for those violating privacy provisions in the app – we found that cohort's willingness to download an app grew by three fold to 25 percent. This indicates support increases with increasing safeguards.

If you were then tested, would you be willing to anonymously share your results so that others could also be automatically notified if they need to be tested.



How concerned are you that sharing this information would allow you to be identified and/or discriminated against?



Finding 3 upshot: Canadians are willing to anonymously share positive test results through a contact tracing app, however there is significant concern that the information can result in discrimination and therefore will need to be assured of anonymity.

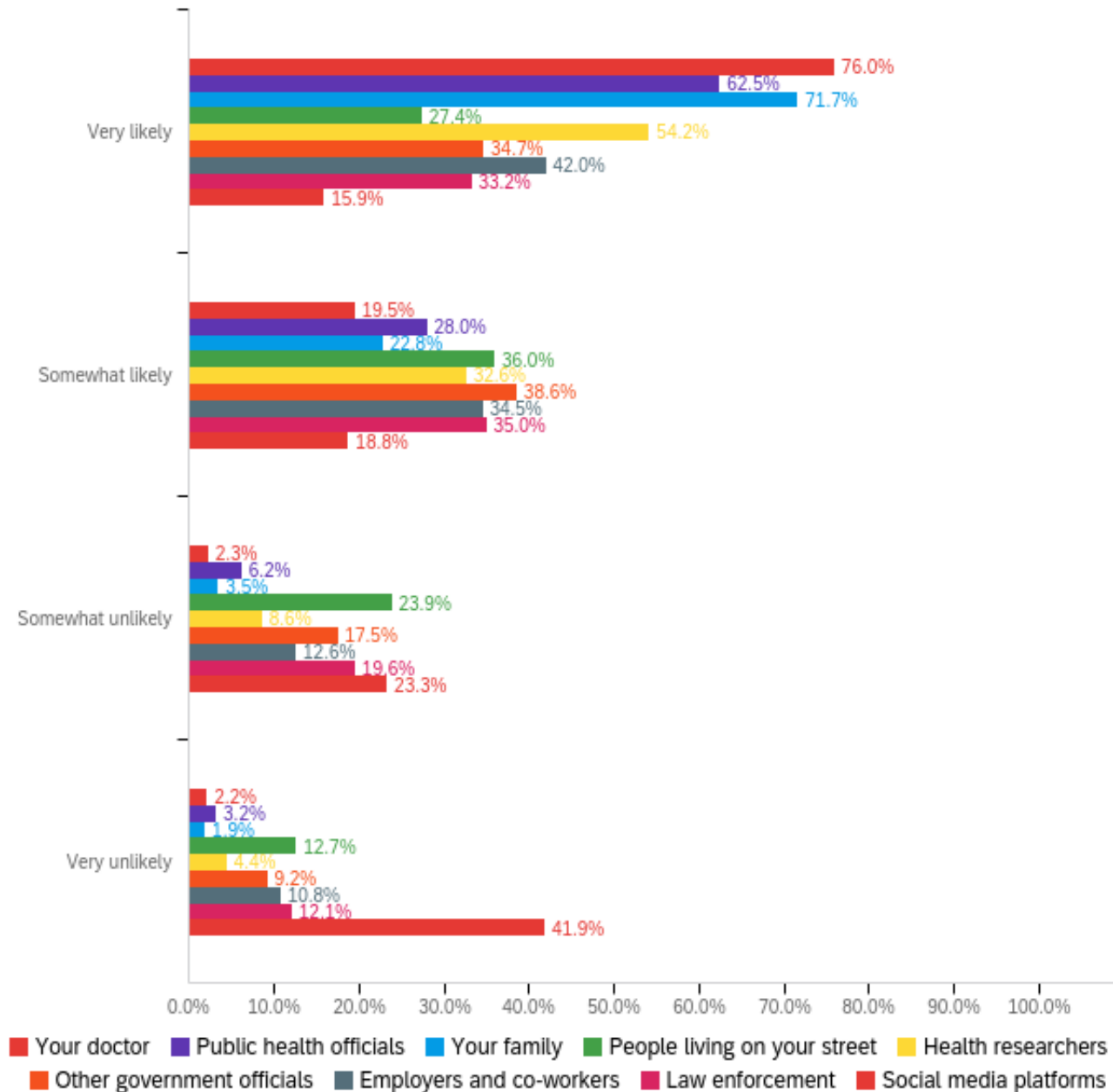
Finding 4:

If assured that their data was kept confidential, large numbers of Canadians would share information from contact tracing apps with their physician (96 percent), their family (95 percent), public health officials (91 percent) and health researchers (87 percent). Fewer would share with employers and coworkers (75 percent), other government officials (73 percent), law enforcement (68 percent), and social media platforms (35 percent).

We asked Canadians a number of questions concerning the use of the data they generate via contact tracing apps. We first find that 96 percent would be very or somewhat likely to share these data with their doctor, 91 percent with public health officials, 94 percent with their family, and 87 percent with health researchers. They are less supportive of sharing those data with other government officials, coworkers,

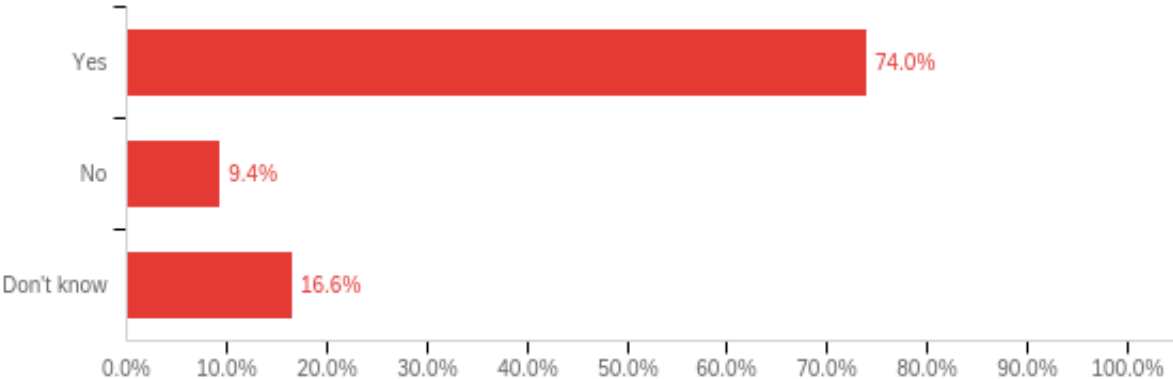
and the police. The only group which a majority of Canadians are somewhat or very unlikely to share their data with are social media platforms.

How likely would be to share this same information with each of the following people or groups, if you knew this information would be kept confidential?

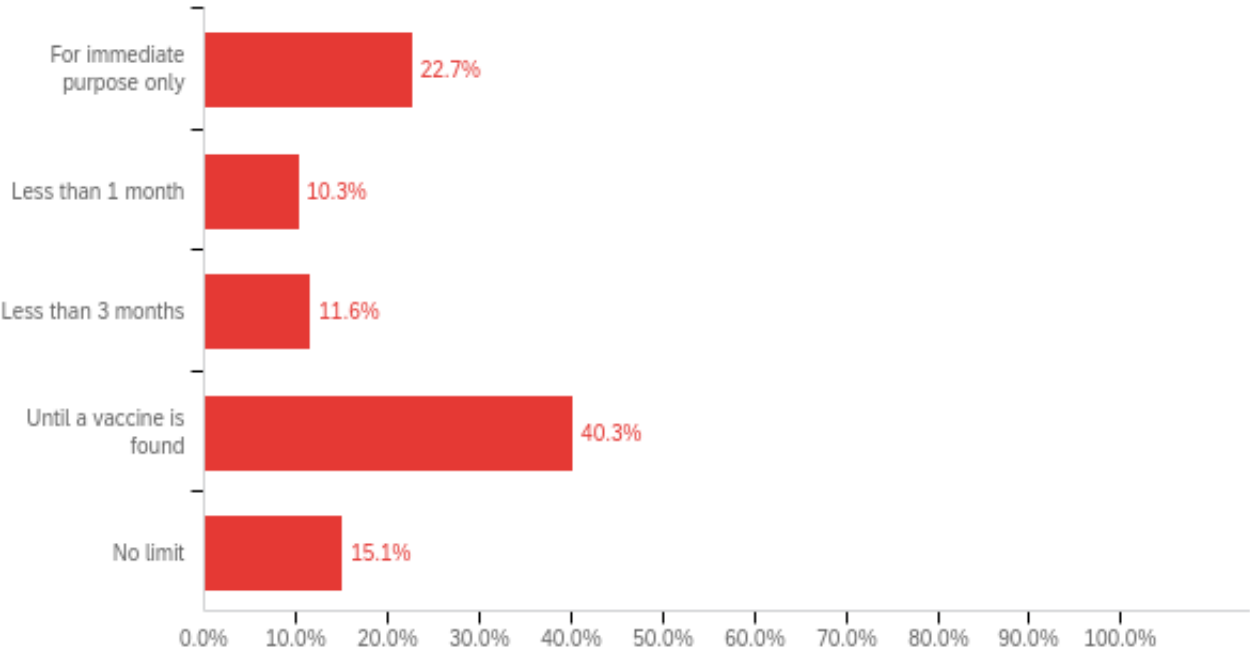


Provided that data are deidentified, 74 percent of Canadians are supportive of those data being saved for use by health researchers. 40 percent believe those data should be kept until a vaccine is found, while 15 percent believe there should be no limit on how long such data are retained by health researchers.

If you could be certain that anything that could identify you was fully removed from information, would you be willing to allow it to be saved for use by doctors, health researchers, and other medical scientists who are preparing for the next pandemic?



How long should it be possible for this information to be kept for?



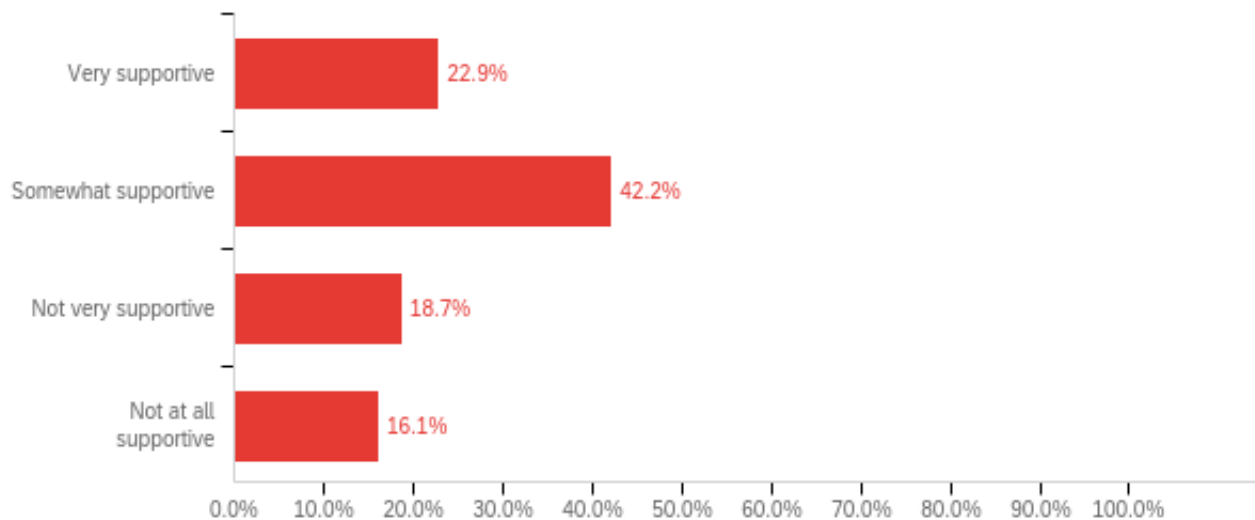
Finding 4 upshot: With proper protections, Canadians are willing to have their data shared and used by public health officials and scientists to tackle the coronavirus.

Finding 5:

65 percent of Canadians support the mandatory use of contact tracing apps.

We asked Canadians if they could be supportive of mandating the use of contact tracing apps. 65 percent of Canadians agree with a mandatory downloading of a contact tracing application.

In some countries, installation of this application is mandatory. How supportive would you be for this to be the case in Canada?



This support for the mandatory use of a contact tracing app is shared across demographic groups. Regionally, the percentage of respondents who are very or somewhat supportive is 65 percent in Atlantic Canada, 65 percent in Quebec, 64 percent in Ontario, 65 percent in the Prairies, and 68 percent in British Columbia. The same percentage of men and women (65 percent) report being very or somewhat supportive.

Finding 5 upshot: There is broad support for mandated contact tracing apps.

Finding 6:

The privacy concerns of Canadians tend to align with the privacy safeguards proposed by Canada’s Federal Privacy Commissioner.

Canada’s Federal Privacy Commissioner Daniel Therrien did an interview ^[1] on May 3rd, while the survey was in market. He stated “the federal government must obtain “meaningful consent” from Canadians if it wants them to use any future smartphone app to digitally track coronavirus cases” and that the “design must be done properly, and meet a series of criteria, in order to balance privacy concerns with public health needs.”

Mr. Therrien cited the following important privacy safeguards as:

- most importantly that the app only collects location and health data for public health purposes, not for commercial or “state surveillance” purposes
- data should stay on the user’s phone as de-identified and “aggregate” information (decentralized). Information should be sent to the government public health authorities so that they can monitor trends at a general level, but not know where each individual is
- users should know what they’re signing up for, with the government clearly laying out how their data will be used in order to achieve meaningful consent
- data collected through the app should only be kept for a limited time period — in this case, when the threat of the pandemic is over — and destroyed once that time period ends

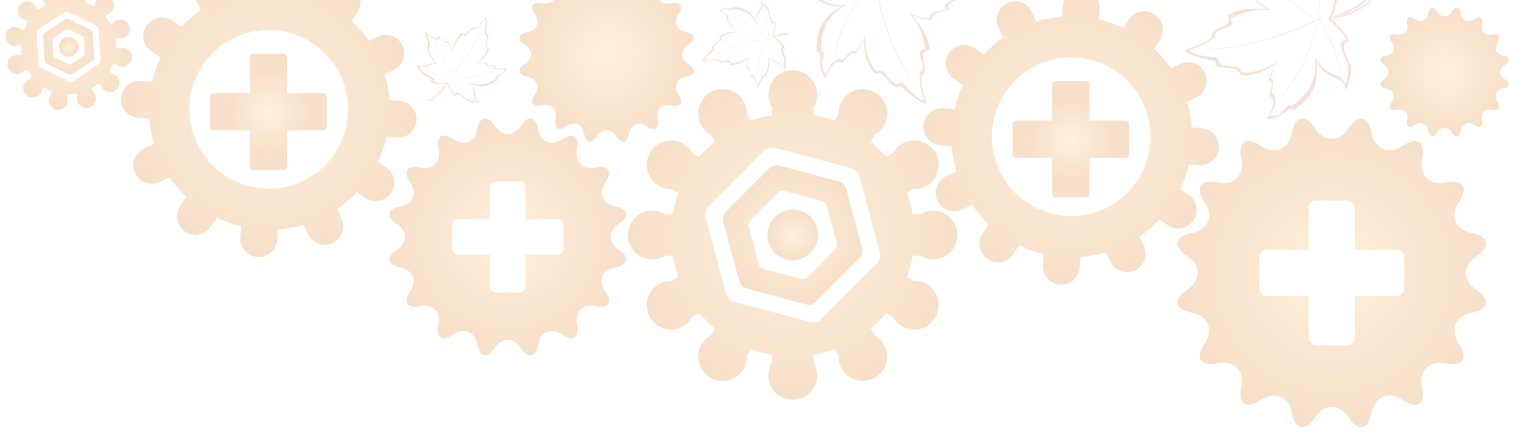
Mr. Therrien also added that “if Canada chose to make its app mandatory — or felt it had no other choice but to do so — his safeguards would become even more important to gain the public’s trust.”

Our respondents are in broad agreement with these criteria. First, respondents are willing to share their data with those who are addressing the pandemic directly (ie. their family doctor and public health officials), but they are in the main not willing to share it law enforcement or commercial social media platforms (see Finding 4). Second, the data individuals say they are willing to share is anonymized data (see Finding 3). Third, individuals are mostly willing to allow their data to be stored for immediate use in addressing the pandemic (see Finding 4).

[1] <https://globalnews.ca/news/6896631/coronavirus-canada-contact-tracing-privacy/>

Conclusions

Canadians are deeply concerned about the risks associated with COVID-19, both human and economic. They have displayed a remarkable willingness to make personal and collective sacrifices to flatten the curve of infection. As we move into the next stage of our fight against the COVID-19, they are willing to use available technologies to help trace and test for the virus. Policy makers should consider enabling the use of these sort of apps if the privacy of individual users is protected.



APPENDIX A:
LIST OF SURVEY
QUESTIONS

Q1 This survey is conducted on behalf of several members of the Senate of Canada. In it, you will be asked questions about data privacy as it relates to COVID-19.

This study has been commissioned by Senators Colin Deacon, Donna Dasko and Rosemary Moodie and is being conducted by the research firm Loewen FMR Inc.

Your responses are anonymous. No individual responses will be shared with anyone but the research team conducting this study.

You can complete this survey in English or in French. Thank you for your time in completing this survey.

Ce sondage, mené pour le compte des sénateurs Colin Deacon, Rosemary Moodie, et Donna Dasko, membres des Sénat du Canada, porte sur la sécurité des données et des renseignements personnels en ligne.

Vos réponses resteront strictement confidentielles. Aucune réponse individuelle ne sera partagée avec qui que ce soit en dehors de l'équipe de recherche qui mène cette étude.

La firme de recherche Loewen FMR a été mandatée par le sénateur Colin Deacon pour la réalisation de cette étude.

Vous pouvez répondre à ce sondage soit en anglais ou en français. Merci de votre temps et de votre participation à ce projet.

Q2 Are you a Canadian citizen?

Yes

No

Q3 What is your age? _____

Q4 Are you...

A man

A woman

Other (eg. Trans, non-binary, two-spirit, gender-queer)

Q5 What is the highest level of education that you have completed?

No schooling

Completed elementary school

Completed secondary / high school

Completed technical, community college, CEGEP, College Classique

Bachelor's degree

Master's degree

Professional degree or doctorate

Don't know

Q6 Which province or territory do you currently live in?

- Newfoundland and Labrador
- Prince Edward Island
- New Brunswick
- Nova Scotia
- Quebec
- Ontario
- Manitoba
- Saskatchewan
- Alberta
- British Columbia
- Northwest Territories
- Yukon
- Nunavut

Q7 What are the first three digits of your postal code? _____

Q8 Do you use a smart phone?

- Yes
- No
- Not sure

Q9 Are you familiar with the location tracing abilities of smart phones?

- Yes
- No
- Not sure

Q10 Do you use any of the following social media at least once a week?

	Yes	No	Don't know
Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Twitter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LinkedIn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instagram	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reddit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q11 Below is a list of groups and institutions in society. Please tell us the degree to which you trust or distrust members of these groups or institutions.

	Distrust a lot	Distrust somewhat	Neither trust, nor distrust	Trust somewhat	Trust a lot	Don't know
Experts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doctors and medical professionals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Legal professionals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
University professors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The federal government	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your provincial government	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public health officials in my province	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public Health Agency of Canada	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Canada Border Services Agency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CEOs and business executives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial experts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q12 How often have you read, listened to, or watched news related to the COVID-19 pandemic over the past week?

- Several times a day
- Daily
- Almost every day
- A few times
- Once
- Never

Q13 How likely is it that you will engage in the following actions for the next two months, even if you aren't sick?

	Extremely likely	Somewhat likely	Not very likely	Not at all likely
Avoid domestic and international travel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Avoid public in-person contact	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Avoid bars, restaurants, and shops	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Avoid public gatherings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14 For how many more months are you willing to engage in social distancing practices as required to stop the spread of COVID-19, such as avoiding personal contact, travel, public gatherings, and crowded places?

- Less than 6 months
- 6 - 12 months
- 12 - 24 months
- Longer

Q15 How much confidence do you have in the federal government to contain the COVID-19 pandemic?

- A great deal
- Some
- A little
- None at all

Q16 To what extent do you approve or disapprove of the federal government's handling of the COVID-19 pandemic so far?

- Strongly approve
- Somewhat approve
- Neither approve, nor disapprove
- Somewhat disapprove
- Strongly disapprove

Q17 To what extent do you approve or disapprove of your provincial or territorial government's handling of the COVID-19 pandemic so far?

- Strongly approve
- Somewhat approve
- Neither approve, nor disapprove
- Somewhat disapprove
- Strongly disapprove

Q18 How concerned are you about the COVID-19 pandemic?

- Very concerned
- Somewhat concerned
- A little concerned
- Not concerned at all

Q19 How serious of a threat do you think COVID-19 is to YOUR health?

- Very serious
- Somewhat serious
- Not very serious
- Not serious at all

Q20 How serious of a threat do you think the COVID-19 is to the health of Canadians?

- Very serious
- Somewhat serious
- Not very serious
- Not serious at all

Q21 Over the past week, which of the following actions have you taken as a result of the COVID-19 pandemic? Please select all that apply.

- Worked from home
- Increased hand washing
- Avoided bars, restaurants, and other places with crowds
- Avoided grocery stores at peak times
- Avoided in-person contact with friends, family, and acquaintances
- Stocked up on groceries and provisions, like hand sanitizer
- Maintained 2 meters of distance from people as much as possible
- Moved in-person appointments to virtual meetings
- Increased my reliance on online shopping for purchases
- Avoided domestic travel
- Avoided the use of public transit
- Stayed at home as much as possible
- Wore a mask
- None of the above/I have not made any lifestyle changes

Q22 Do you have a job that is at risk because of COVID-19?

- Yes
- Maybe
- No
- I have already been laid off due to the virus

Q23 Do you know someone personally who has lost their job as a result of COVID-19?

- Yes
- No
- Don't know

Q24 Have you been tested for COVID-19?

- Yes
- No
- Have been trying to get tested, but unable

Q25 Has someone in your household been tested for COVID-19?

- Yes
- No
- Have been trying to get tested, but unable

Q26 For how long do you think it will be necessary to keep each measure in place to control COVID-19?

	End immediately	Less than 1 month	1-6 months	6-12 months	12-24 months	Until a vaccine is found
Social distancing and good hand hygiene	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-isolation — voluntary stay at home orders for all those experiencing symptoms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Testing — reliable testing for COVID-19	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contact Tracing — identifying and contacting all those who have possibly contacted someone who tests positive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quarantine — Mandatory stay at home orders for all those who have tested positive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q27 How long do you think it will be until we have a COVID-19 vaccine?

- Less than 6 months
- 6 - 12 months
- 12 - 24 months
- Longer than 24 months

Q28 When a vaccine is discovered, will you take it?

- Yes
- No
- Not sure

Q29 Would you recommend that others do the same?

- Yes
- Maybe
- No

Q30 In the absence of a vaccine or effective treatments for COVID-19, what do you think it will be necessary to continue doing:

	Yes, this will be necessary	No, this will not be necessary
Social distancing and good hand hygiene	<input type="radio"/>	<input type="radio"/>
Self-isolation — voluntary stay at home orders for all those experiencing symptoms.	<input type="radio"/>	<input type="radio"/>
Testing — reliable testing for COVID-19	<input type="radio"/>	<input type="radio"/>
Contact Tracing — identifying and contacting all those who have possibly contacted someone who tests positive.	<input type="radio"/>	<input type="radio"/>
Quarantine — Mandatory stay at home orders for all those who have tested positive.	<input type="radio"/>	<input type="radio"/>

Q31 Many public health experts and scientists think that an effective vaccine for COVID-19 is at least 12 months away.

To limit the spread of COVID-19 and to avoid businesses and schools being closed for too long, many experts think that we need to practice sensible social distancing. In addition, some jurisdictions are using technology to track the spread of

COVID-19, trace its connections between people, and isolate those who are infected, until they become better.

To check that you have properly understood this information, could you please let us know which of the following statements is most correct?

- Within the next six months, a vaccine will stop the spread of COVID-19, and we can return to normal life.
- To begin opening up businesses and schools, citizens need to continue practicing sensible social distancing.
- To begin opening up businesses and schools, citizens need to continue practicing sensible social distancing and may need to adopt track, trace, and isolate technology.
- To begin opening up businesses and schools, we need to adopt track, trace, and isolate technology.

Q32 Contact tracing is the process of tracking down and testing all persons who have been in contact with an infected person. Currently, this is done by public health officials, who interview an infected person and then phone each person who he/she recalls that they have been in contact with over the previous 14 days.

Were you familiar with how contact tracing works before completing this survey?

- Yes
- No

Q33 Today's smart phones have location and proximity tracking capabilities. Used together with rapid testing capabilities, this technology could help public health professionals to more rapidly, accurately and completely trace the possible spread of COVID-19. This would allow them to protect public health and help to better manage the easing of social and economic restrictions.

Q34 If the tracking capabilities of smart phones provided public health officials with the ability to anonymously and automatically notify all those who have been close to someone who tested positive for COVID-19, how supportive would you be of using this capability in Canada?

- Totally supportive
- Somewhat supportive
- Somewhat unsupportive
- Totally unsupportive

Q35 If this technology helped to decrease the spread of COVID-19, how much would the following considerations motivate you to use it?

	Very much	Somewhat	Not at all
Your health and safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your family's health and safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your friends' health and safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your coworkers' health and safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your neighbourhood and community's health and safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The health and safety of all of Canadians	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q36 Would you want to be automatically notified if you were exposed to some else who tested positive, so that you could be rapidly tested?

- Yes
- No
- Don't know

Q37 If you were then tested, would you be willing to anonymously share your results so that others could also be automatically notified if they need to be tested.

- Yes
- No
- Don't know

Q38 How likely would be to share this same information with each of the following people or groups, if you knew this information would be kept confidential?

	Very likely	Somewhat likely	Somewhat unlikely	Very unlikely
Your doctor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public health officials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People living on your street	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health researchers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other government officials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employers and co-workers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Law enforcement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social media platforms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q39 How concerned are you that sharing this information would allow you to be identified and/or discriminated against?

- Very concerned
- Somewhat concerned
- Not very concerned
- Not at all concerned

Q40 If you could be certain that anything that could identify you was fully removed from information, would you be willing to allow it to be saved for use by doctors, health researchers, and other medical scientists who are preparing for the next pandemic?

- Yes
- No
- Don't know

Q41 How long should it be possible for this information to be kept for?

- For immediate purpose only
- Less than 1 month
- Less than 3 months
- Until a vaccine is found
- No limit

Q42 How willing would you be to install an application on your phone that records your location over the previous 14 days, for use by public health officials?

- Very willing
- Somewhat willing
- Not very willing
- Not at all willing

Q43 In some countries, installation of this application is mandatory. How supportive would you be for this to be the case in Canada?

- Very supportive
- Somewhat supportive
- Not very supportive
- Not at all supportive

Q44 If you tested positive for COVID-19, do you think you should be required to anonymously share your location history from the previous two weeks in order to assist in identifying those who are at risk of infection because they were near you, so that they could be rapidly tested?

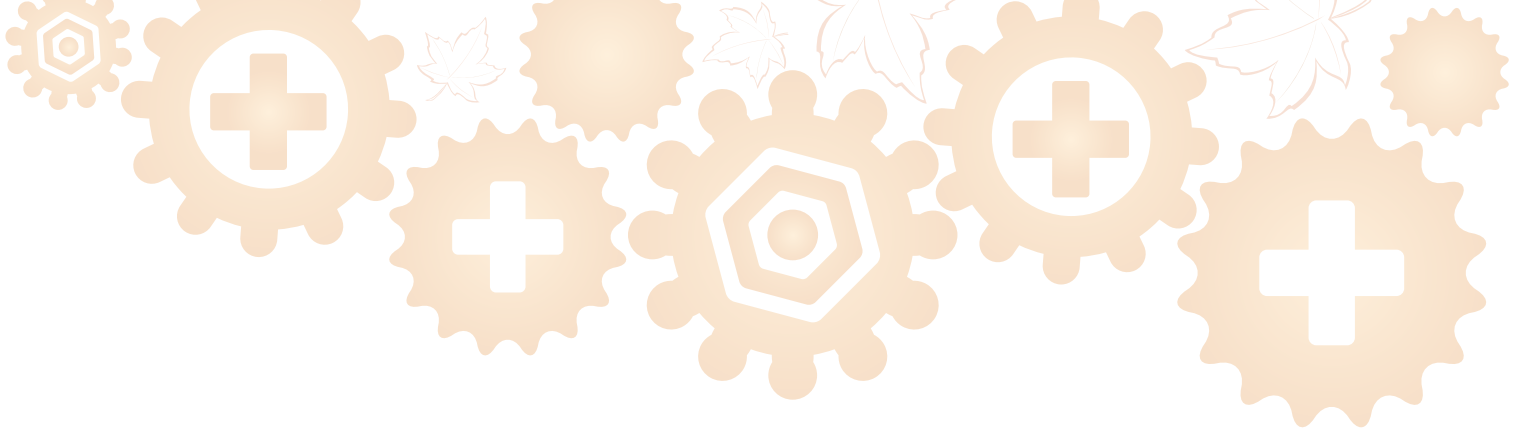
- Yes
- No
- Don't know

Q45 Recently, Australia has introduced a contact tracing application for smart phones. It was downloaded more than 1 million times in the first week. Under Australian law, anyone who violates others' private data on the app is subject to severe financial penalties. Would you be more willing to use a contact tracing application for smart phones if such penalties were in place?

- Yes
- No
- Unsure

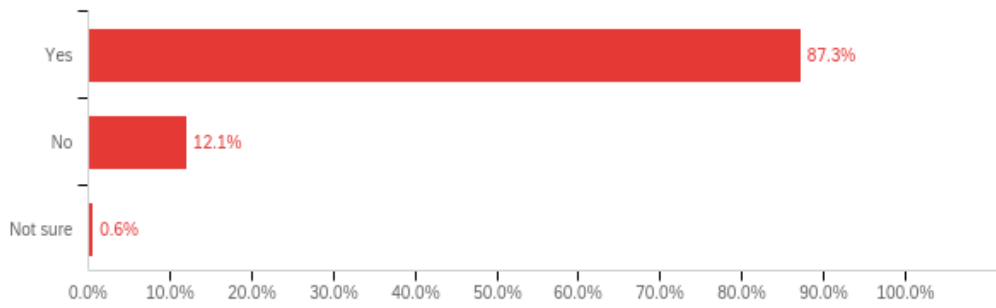
Q46 How much do you agree or disagree with each of the following statements?

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
We should use all the technology available to us to stop the COVID-19 pandemic.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't trust government to protect my personal information enough to use a tracing app.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would use a tracing app if and only if public health officials have access to the data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If using an app would end school and business closures sooner, I would be willing to do so.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

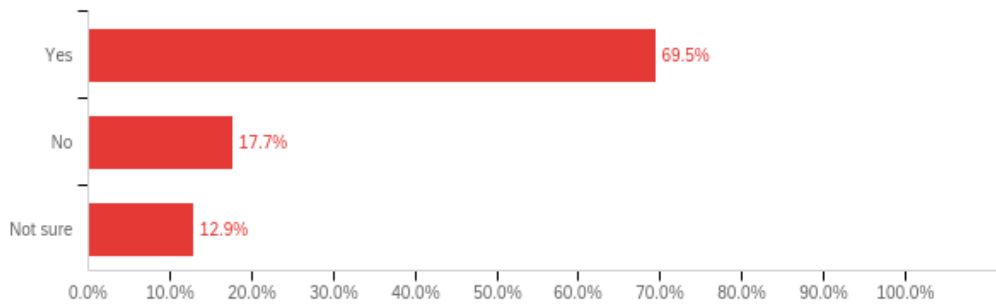


APPENDIX B:
TOPLINE RESULTS
AND GRAPHS

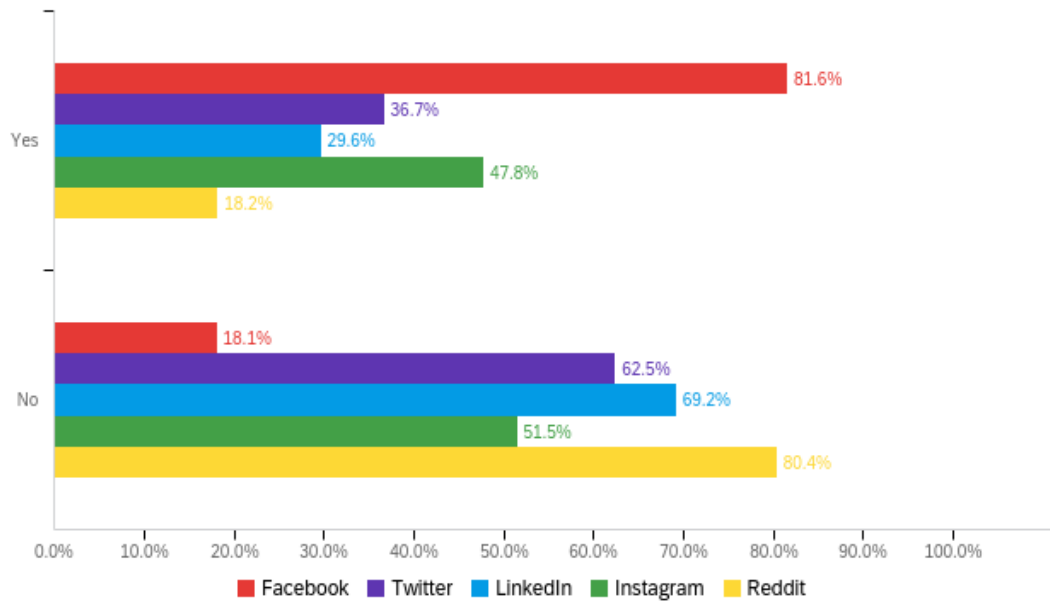
Q8 - Do you use a smart phone?



Q9 - Are you familiar with the location tracing abilities of smart phones?



Q10 - Do you use any of the following social media at least once a week?

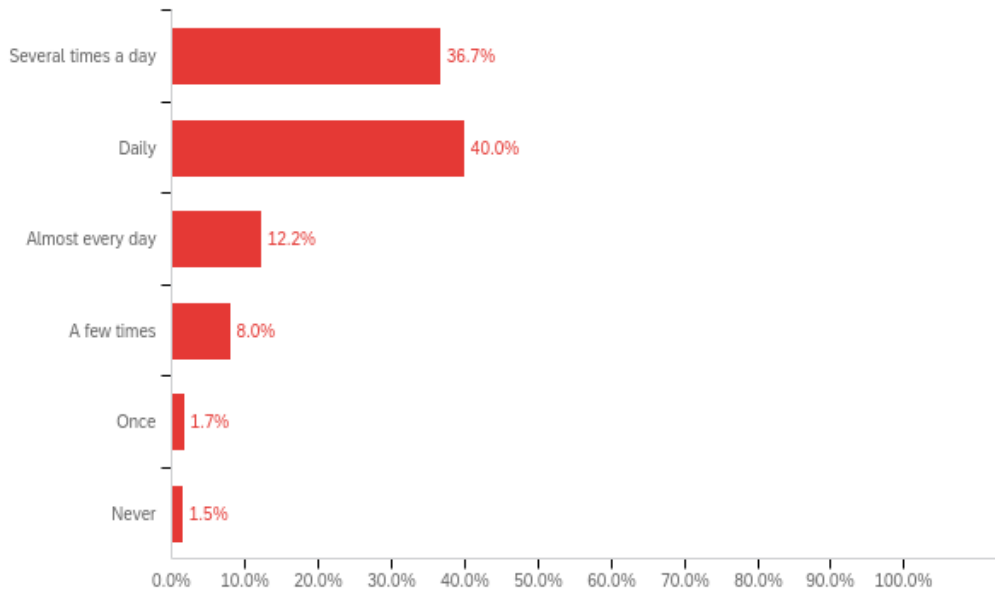


Q11 – Below is a list of groups and institutions in society. Please tell us the degree to which you trust or distrust members of these groups or institutions.

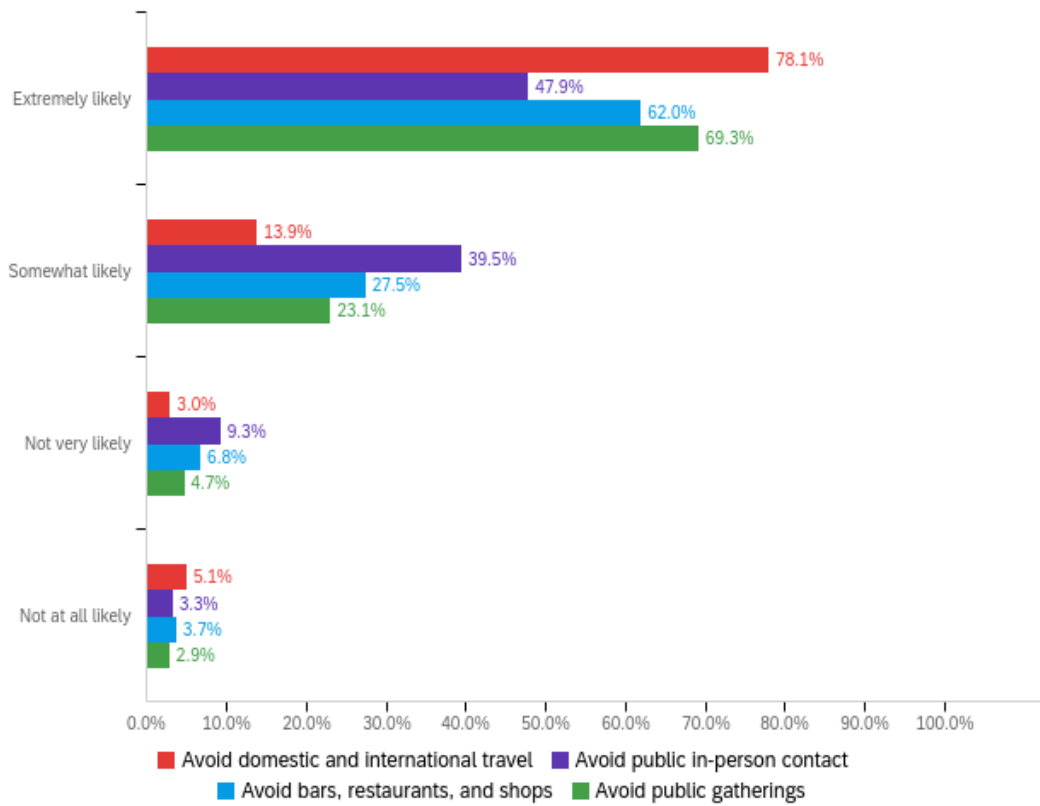
Field	Distrust a lot	Distrust somewhat	Neither trust, nor distrust	Trust somewhat	Trust a lot	Total
University professors	2.6%	5.2%	22.2%	43.5%	22.0%	1527.3
Your provincial government	6.5%	12.0%	18.6%	42.6%	18.3%	1526.3
Financial experts	3.9%	10.6%	30.8%	42.0%	8.8%	1526.3
Canada Border Services Agency	4.0%	8.4%	23.7%	41.1%	18.7%	1526.3
Experts	2.6%	6.5%	25.6%	40.6%	19.5%	1526.3
Legal professionals	4.7%	13.0%	27.7%	39.7%	11.2%	1526.3
Economists	4.2%	8.8%	33.3%	39.4%	9.6%	1526.3
The federal government	9.7%	12.0%	18.5%	38.9%	18.7%	1527.3
Public health officials in my province	3.0%	5.0%	14.5%	38.8%	36.5%	1526.3
Public Health Agency of Canada	3.4%	6.2%	12.7%	38.7%	36.4%	1527.3
Scientists	2.5%	4.2%	14.1%	37.2%	38.8%	1526.3
Doctors and medical professionals	2.0%	3.4%	8.1%	32.5%	51.7%	1527.3
CEOs and business executives	10.9%	23.3%	34.4%	23.6%	3.5%	1526.3

Showing rows 1 - 13 of 13

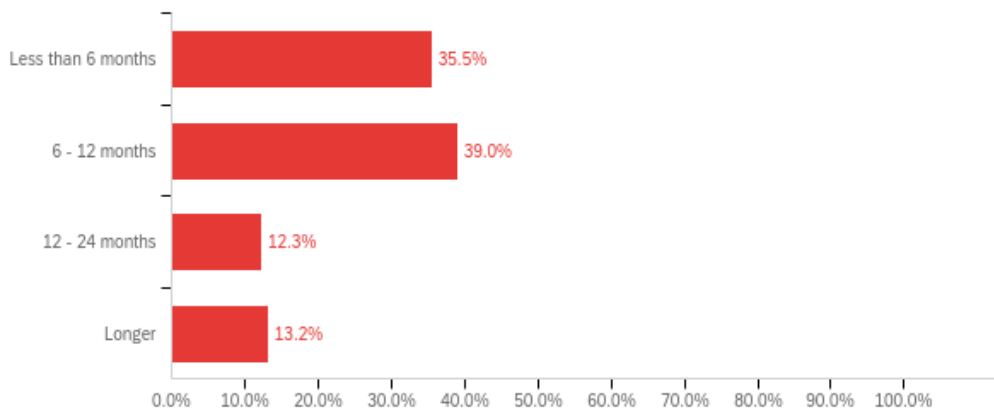
Q12 - How often have you read, listened to, or watched news related to the COVID-19 pandemic over the past week?



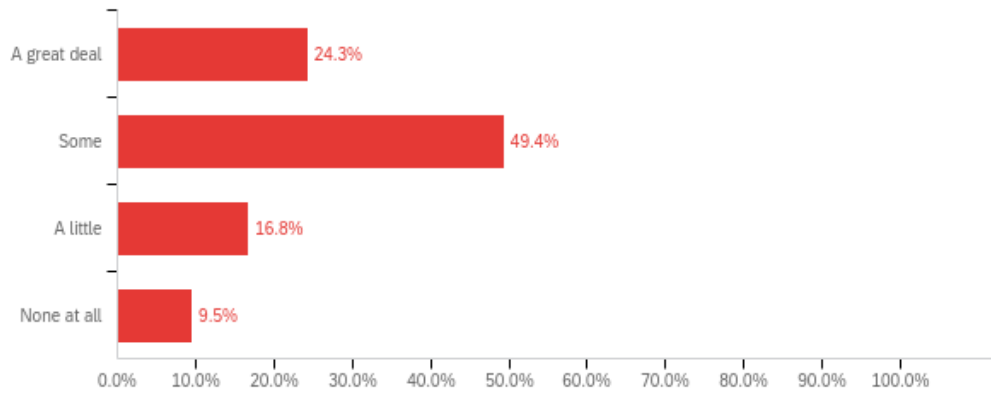
Q13 - How likely is it that you will engage in the following actions for the next two months, even if you aren't sick?



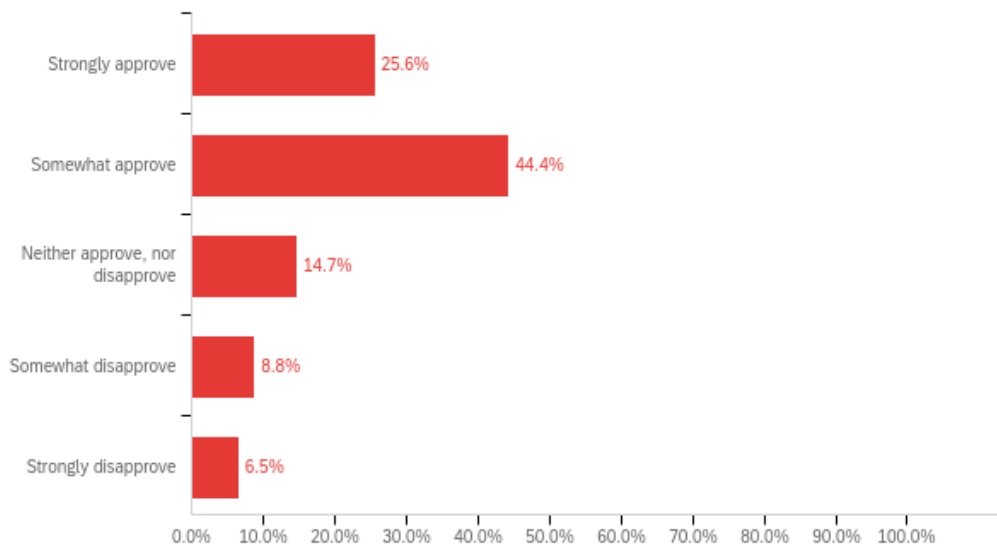
Q14 - For how many more months are you willing to engage in social distancing practices as required to stop the spread of COVID-19, such as avoiding personal contact, travel, public gatherings, and crowded places?



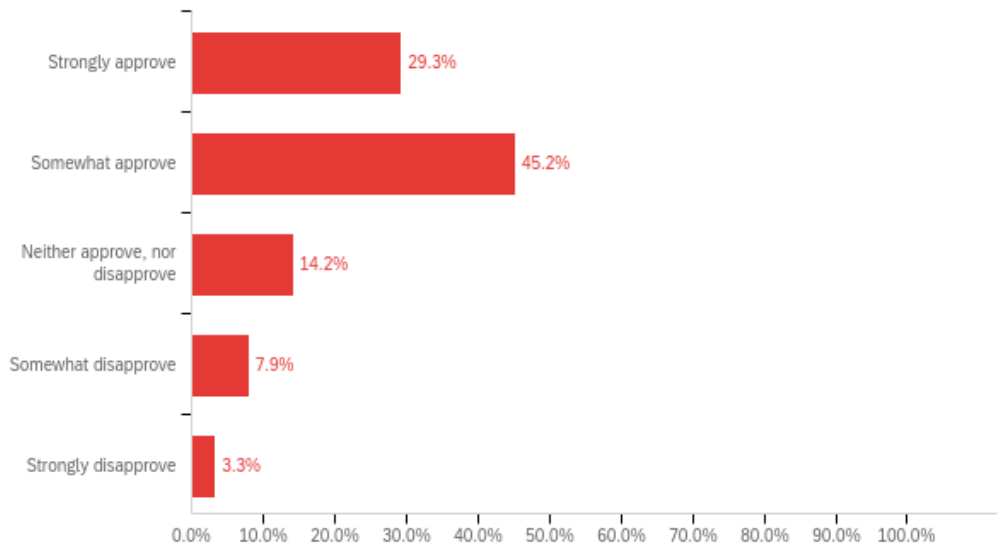
Q15 - How much confidence do you have in the federal government to contain the COVID-19 pandemic?



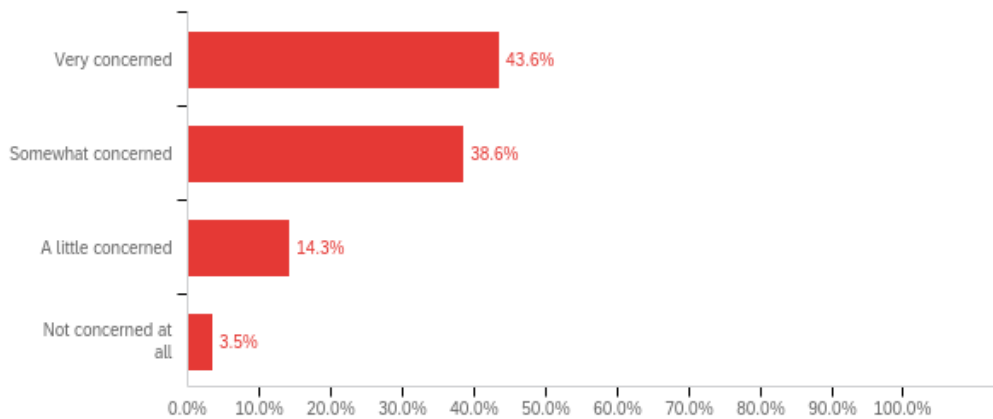
Q16 - To what extent do you approve or disapprove of the federal government's handling of the COVID-19 pandemic so far?



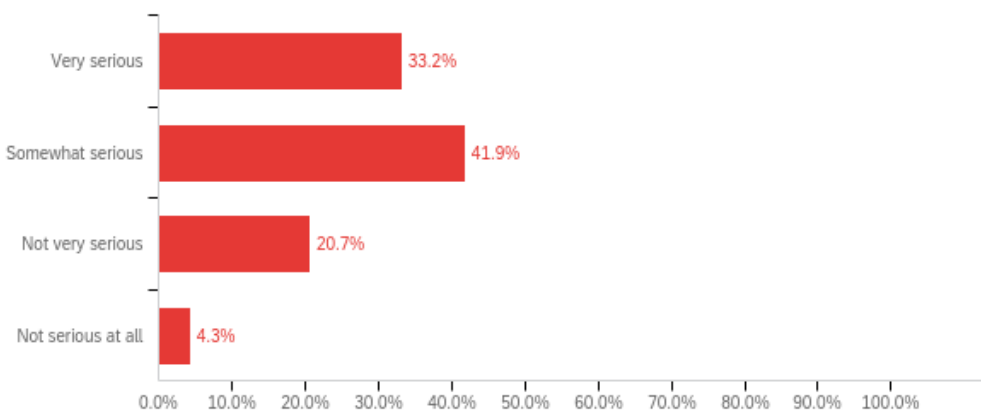
Q17 - To what extent do you approve or disapprove of your provincial or territorial government's handling of the COVID-19 pandemic so far?



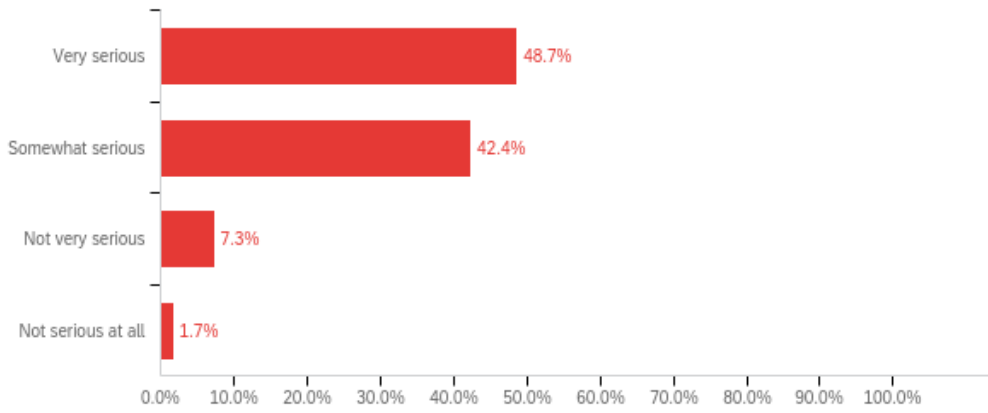
Q18 - How concerned are you about the COVID-19 pandemic?



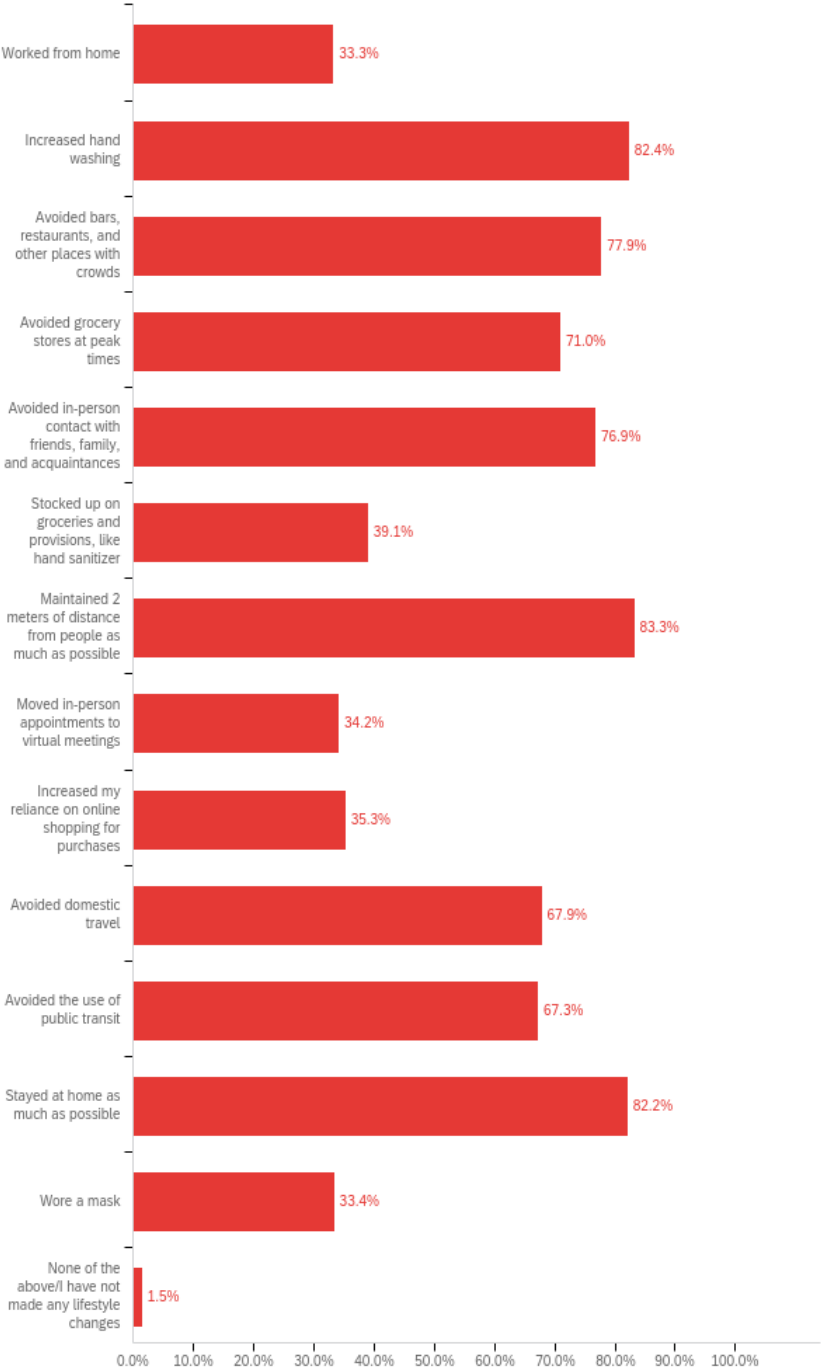
Q19 - How serious of a threat do you think COVID-19 is to YOUR health?



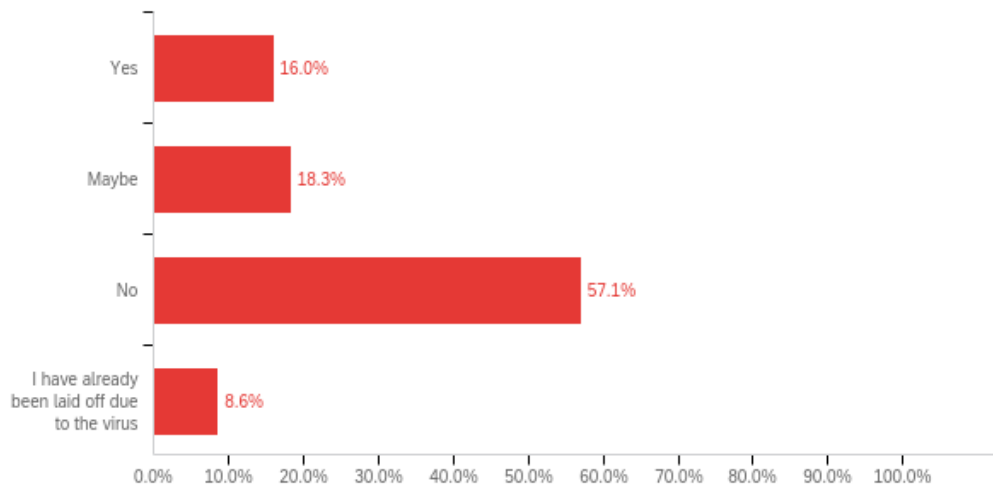
Q20 - How serious of a threat do you think the COVID-19 is to the health of Canadians?



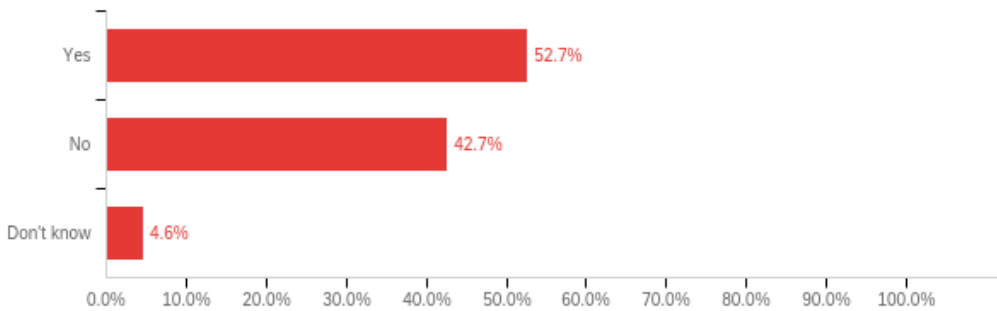
Q21 - Over the past week, which of the following actions have you taken as a result of the COVID-19 pandemic? Please select all that apply.



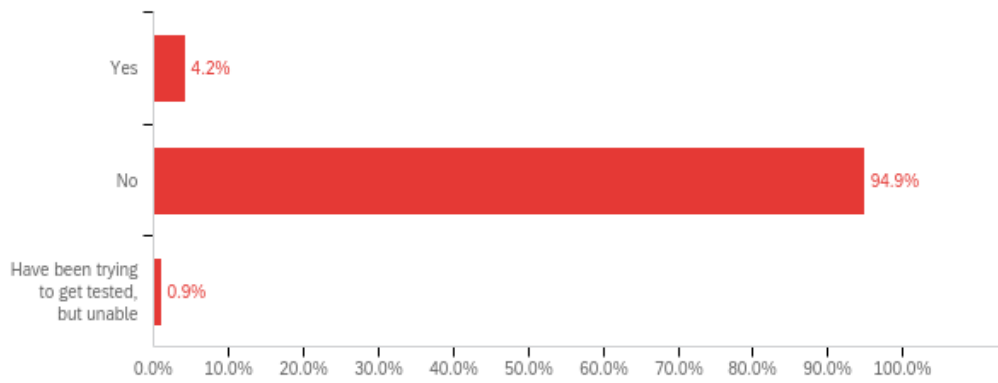
Q22 - Do you have a job that is at risk because of COVID-19?



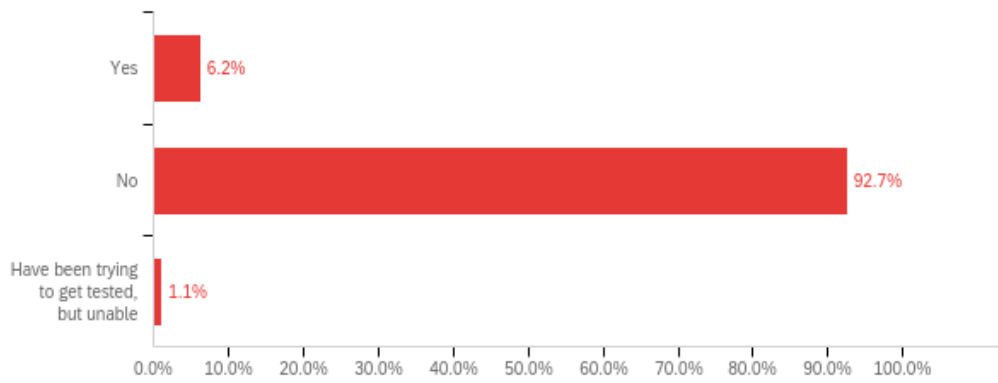
Q23 - Do you know someone personally who has lost their job as a result of COVID-19?



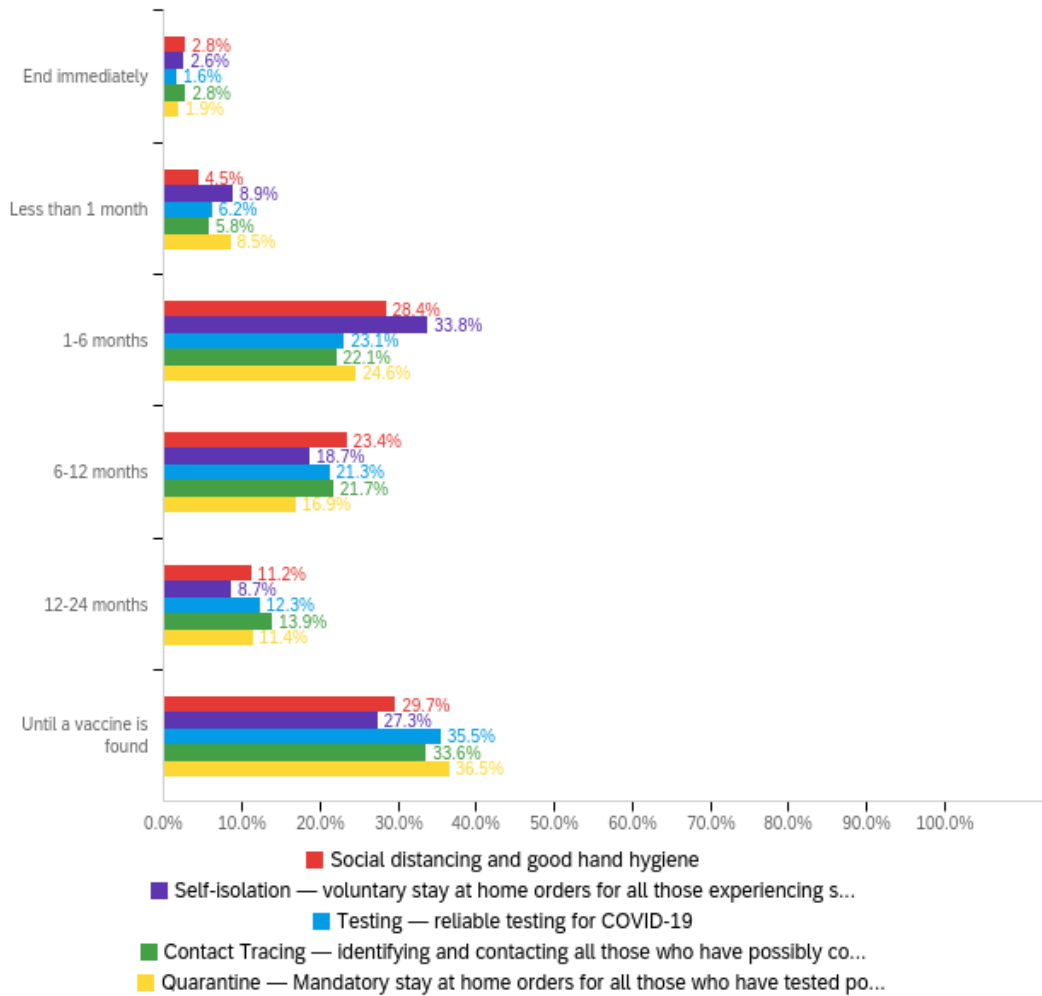
Q24 - Have you been tested for COVID-19?



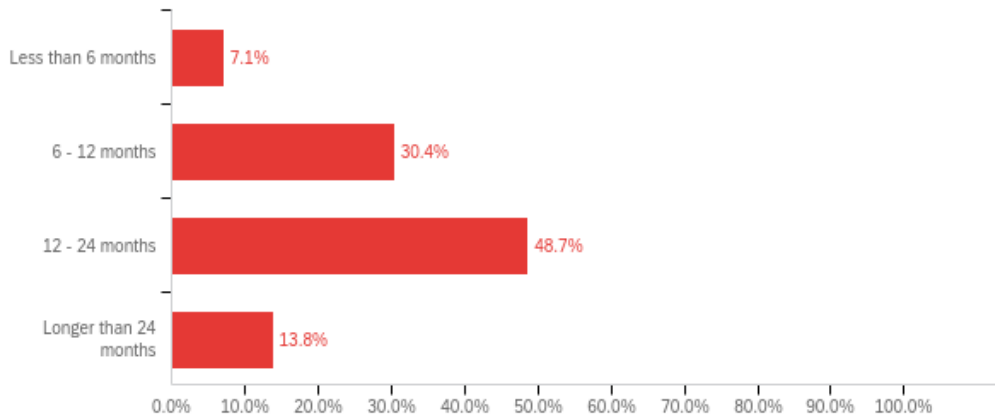
Q25 - Has someone in your household been tested for COVID-19?



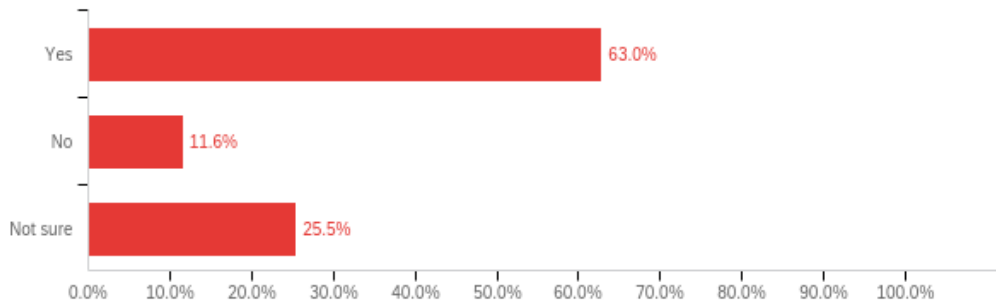
Q26 - For how long do you think it will be necessary to keep each measure in place to control COVID-19?



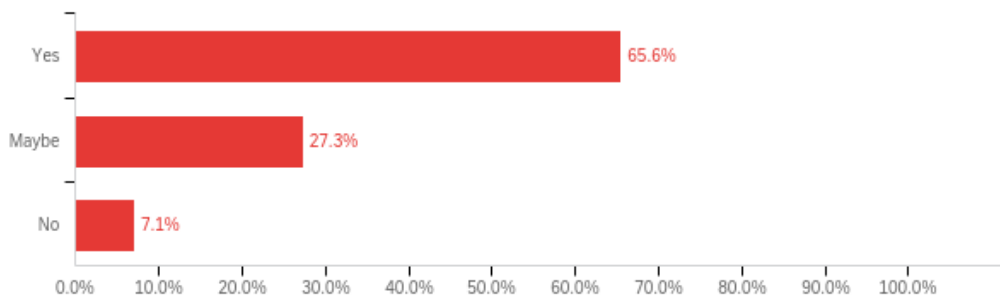
Q27 - How long do you think it will be until we have a COVID-19 vaccine?



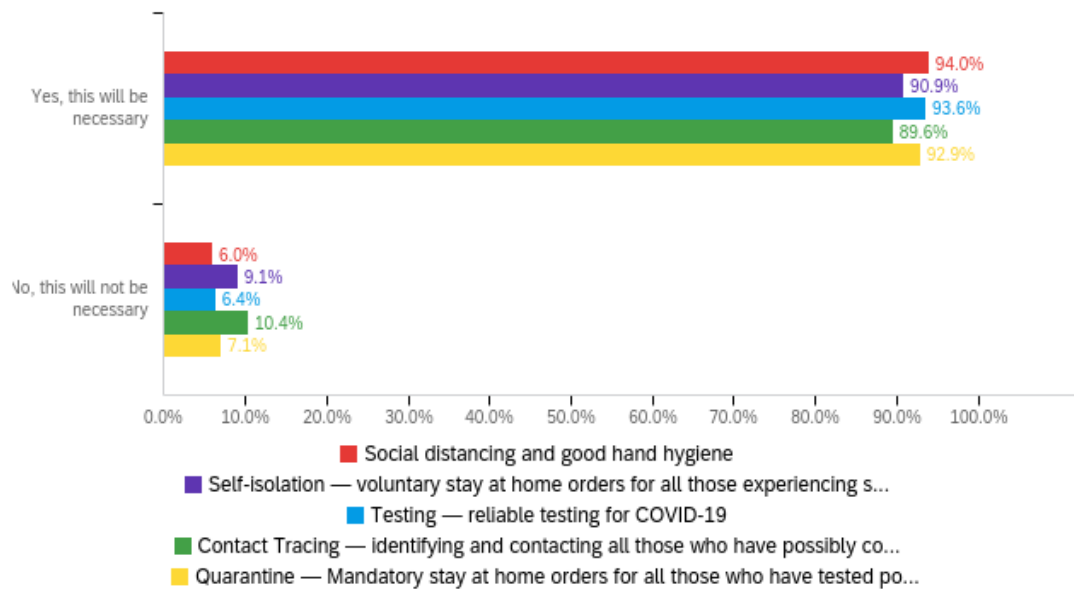
Q28 - When a vaccine is discovered, will you take it?



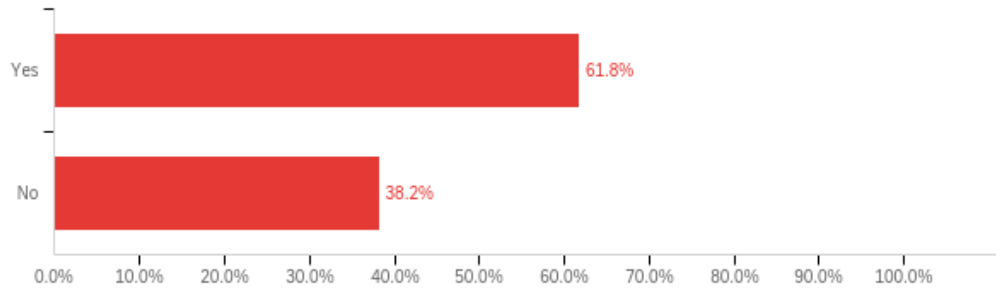
Q29 - Would you recommend that others do the same?



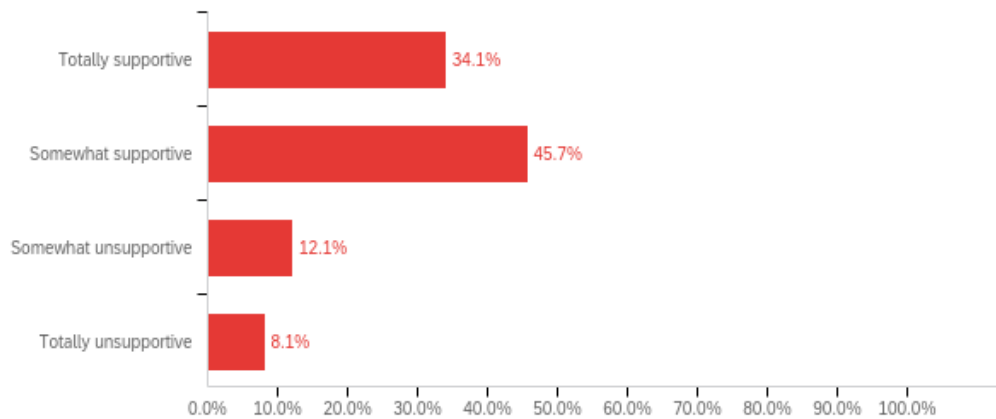
Q30 - In the absence of a vaccine or effective treatments for COVID-19, what do you think it will be necessary to continue doing:



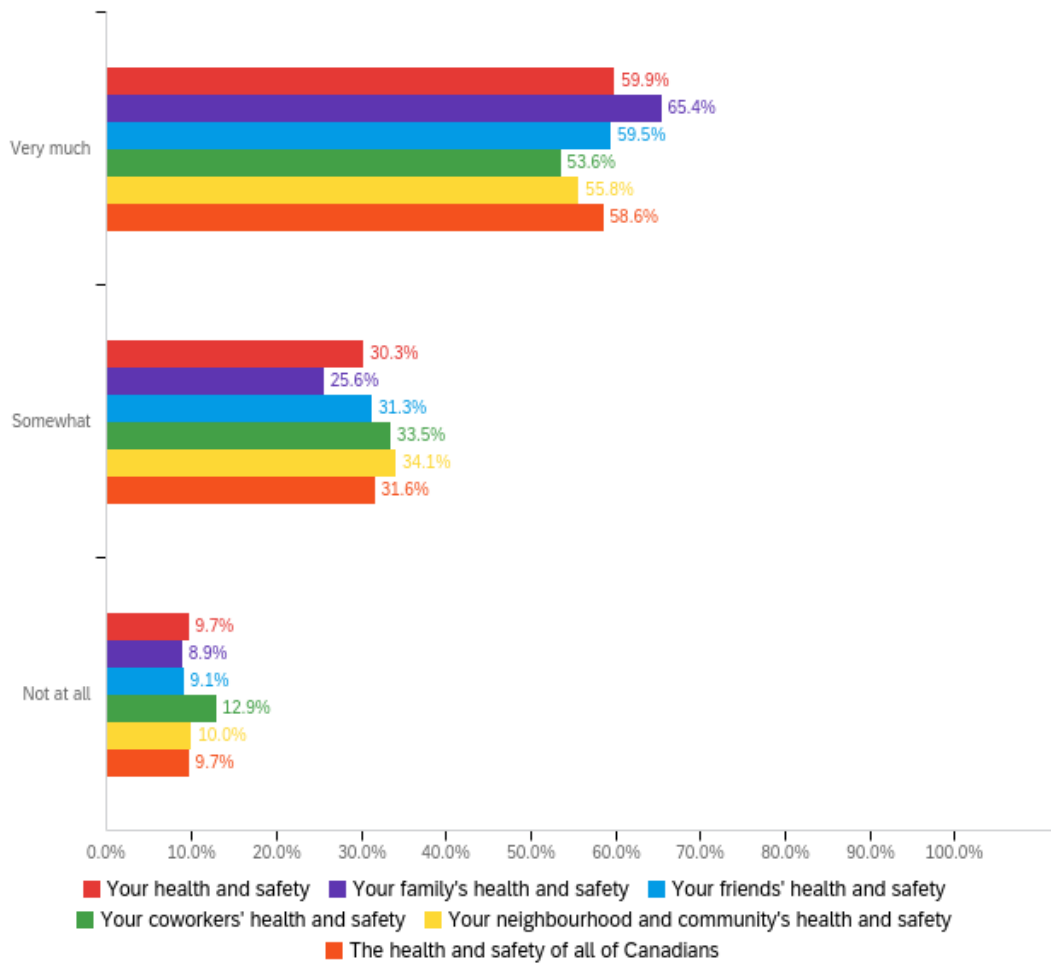
Q32 - Contact tracing is the process of tracking down and testing all persons who have been in contact with an infected person. Currently, this is done by public health officials, who interview an infected person and then phone each person who he/she recalls that they have been in contact with over the previous 14 days. Were you familiar with how contact tracing works before completing this survey?



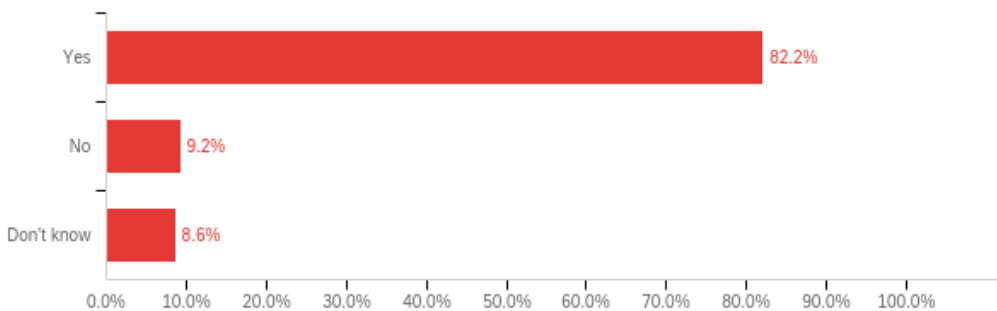
Q34 - If the tracking capabilities of smart phones provided public health officials with the ability to anonymously and automatically notify all those who have been close to someone who tested positive for COVID-19, how supportive would you be of using this capability in Canada?



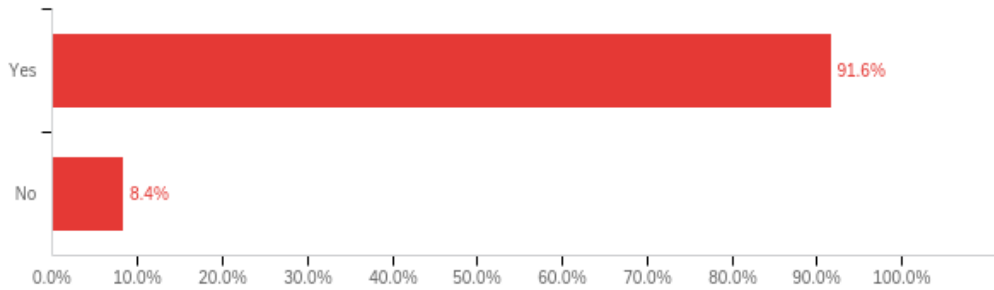
Q35 - If this technology helped to decrease the spread of COVID-19, how much would the following considerations motivate you to use it?



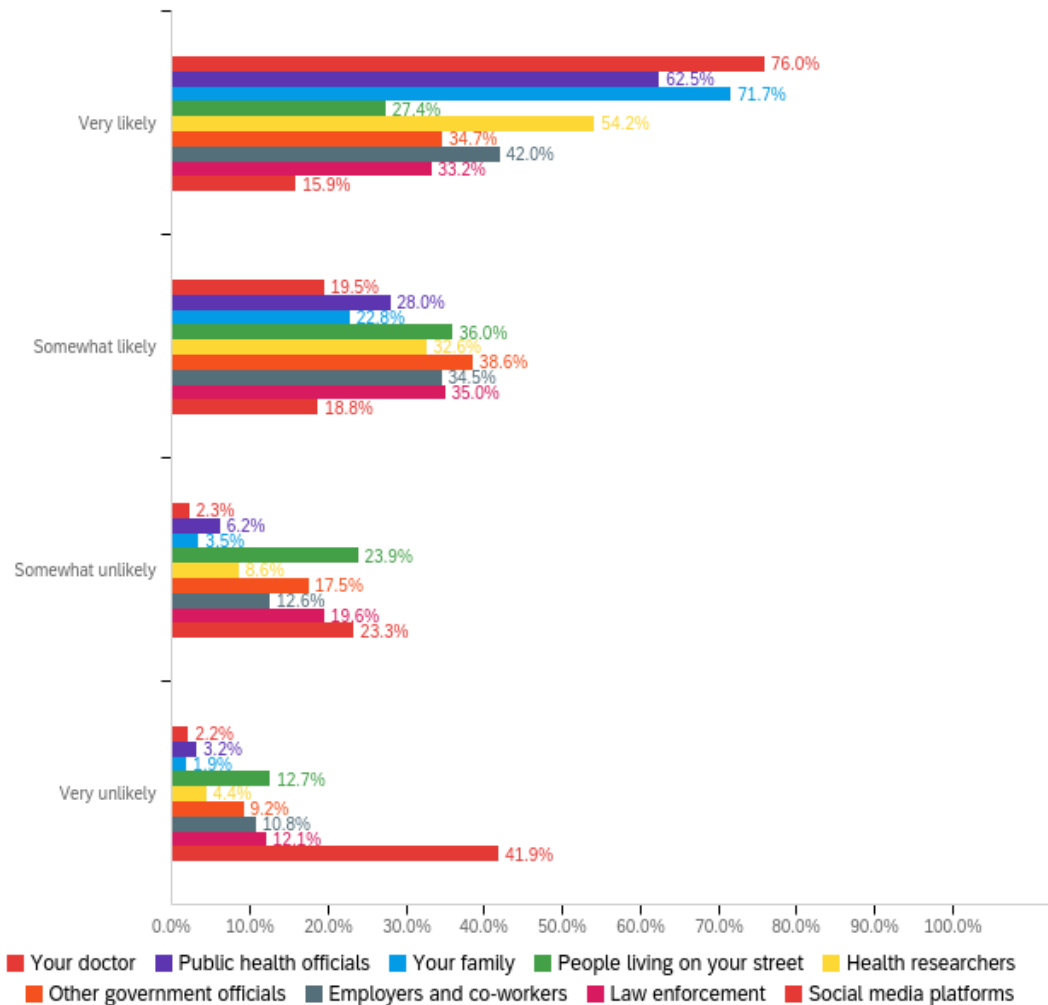
Q36 - Would you want to be automatically notified if you were exposed to some else who tested positive, so that you could be rapidly tested?



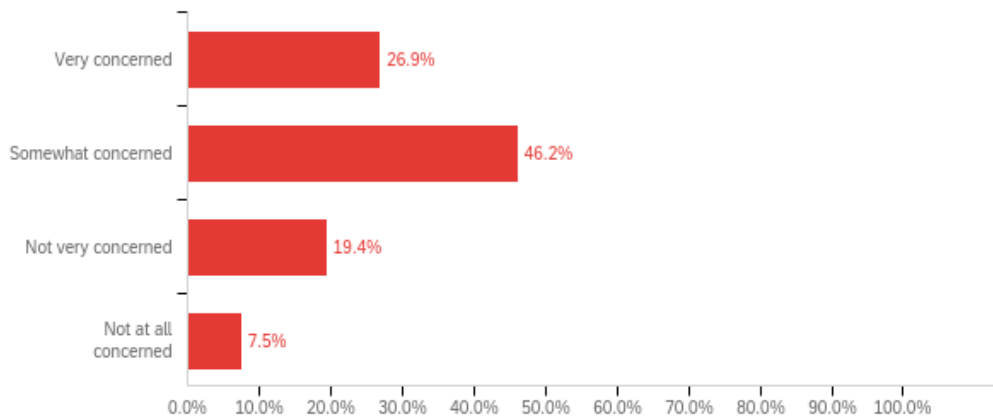
Q37 - If you were then tested, would you be willing to anonymously share your results so that others could also be automatically notified if they need to be tested.



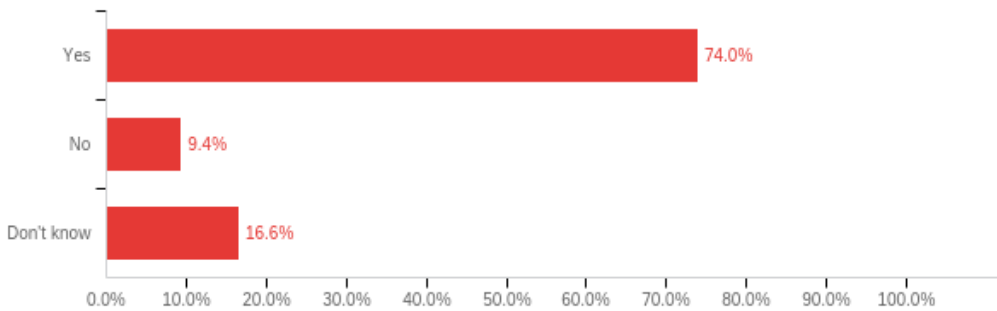
Q38 - How likely would be to share this same information with each of the following people or groups, if you knew this information would be kept confidential?



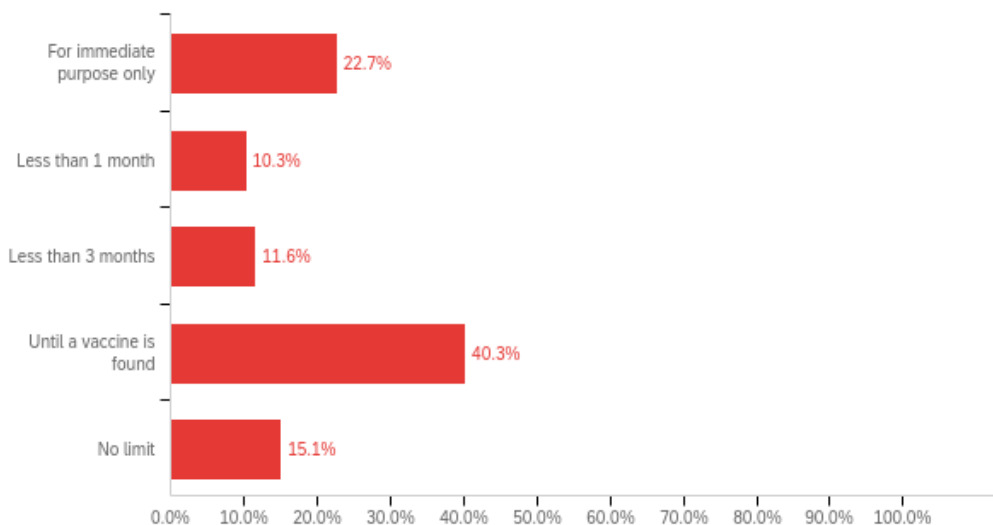
Q39 - How concerned are you that sharing this information would allow you to be identified and/or discriminated against?



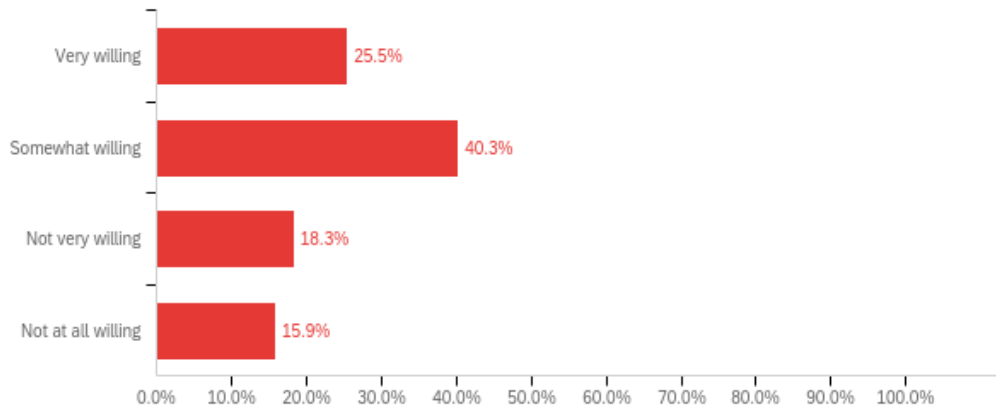
Q40 - If you could be certain that anything that could identify you was fully removed from information, would you be willing to allow it to be saved for use by doctors, health researchers, and other medical scientists who are preparing for the next pandemic?



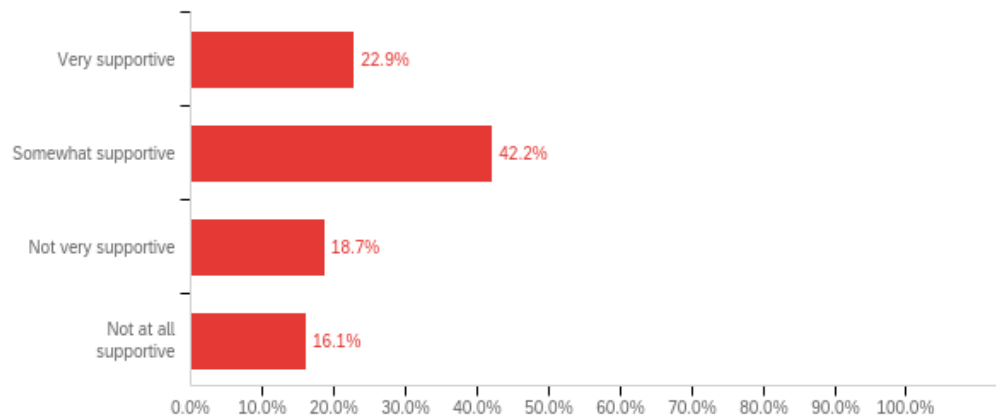
Q41 - How long should it be possible for this information to be kept for?



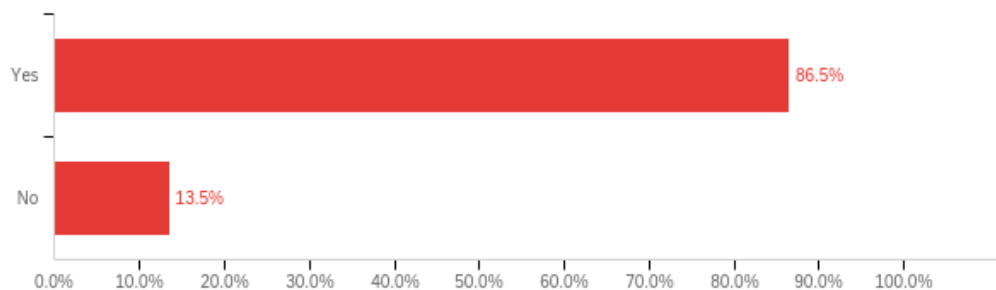
Q42 - How willing would you be to install an application on your phone that records your location over the previous 14 days, for use by public health officials?



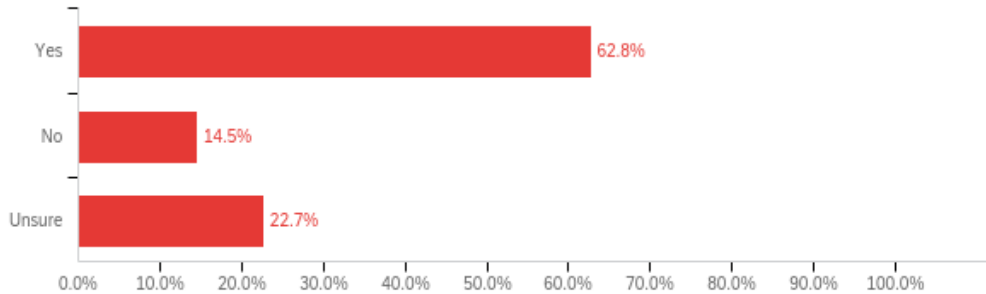
Q43 - In some countries, installation of this application is mandatory. How supportive would you be for this to be the case in Canada?



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Q45 - Recently, Australia has introduced a contact tracing application for smart phones. It was downloaded more than 1 million times in the first week. Under Australian law, anyone who violates others' private data on the app is subject to severe financial penalties. Would you be more willing to use a contact tracing application for smart phones if such penalties were in place?



Q46 - How much do you agree or disagree with each of the following statements?

