# SURVEY OF PARLIAMENTARIANS

## IMPACT OF THE COVID-19 PANDEMIC ON THE USE OF SCIENCE IN POLICY-MAKING

PREPARED BY:
THE EVALUATION & REPORTS COMMITTEE, CANADIAN SCIENCE POLICY CENTRE

# ABOUT CANADIAN SCIENCE POLICY CENTRE (CSPC)

CSPC is a non-profit, non-partisan, non-advocate organization that serves as an inclusive hub for connectivity, convening, capacity building and catalyzing research in support of an effective science policy community in Canada.In line with our mission, insights from our survey will help inform parliamentarians, scientists and the public to build a deeper understanding and appreciation for the role of science in Canada's COVID-19 response and recovery. Overall, CSPC strives to improve communication and collaboration between the scientific and political communities. For more information, please visit the CSPC website: https://sciencepolicy.ca/

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# ACKNOWLEDGEMENTS

**We would like to thank all parliamentarians and staff members who participated in our survey and recognize those that wished to have their participation noted: Senator Salma Ataullahjan, Senator Tony Dean, Senator Raymonde Gagné, Senator Rosa Galvez, Senator Stanley Kutcher, MP Leona Alleslev, MP Marilyn Gladu, MP Lloyd Longfield, and MP Bruce Stanton.**

Thank you to Senator Stanley Kutcher, MP Valerie Bradford, and Dr. Kimberley Girling for participating in the panel session titled “Presentation Results of the CSPC Parliamentarian Survey” at the 14th annual Canadian Science Policy Conference in 2022 [1]. A special thank you to our advisors who provided valuable input throughout the development, design, dissemination, analysis, and writing of the survey: Andre Albinati, Andrew Applejohn, Paul Dufour, George Enei, Kimberly Girling, Ted Hsu, Pari Johnson, Jeff Kinder, Megan Leslie, Preston Manning, Marc Saner, and Chris Tyler. We would like to thank the CSPC staff who supported this project. Finally, we would like to thank all former and current volunteers on the Evaluation and Reports Committee who contributed to all phases of the work discussed in this report.

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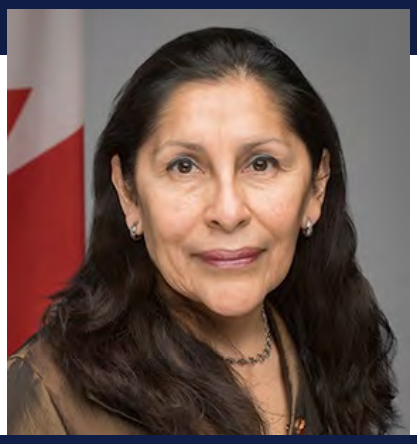

THE HONOURABLE SENATOR ROSA GALVEZ, SENATOR, QUEBEC

"Years 2020-2021 will remain in our memories as a historical period where it became evident that our world is dramatically changing by the impacts of human activity. Climate change, destructive extreme events and COVID-19 are prime examples. We need to listen to science well before crises emerge, we need urgently science and facts based policies. We need to focus on preserving our wellbeing as well of those of future generations."

MARILYN GLADU, MEMBER OF PARLIAMENT, SARNIA-LAMBTON

"Now more than ever it is critical to have accurate scientific information related to government policy as opposed to the current science only when convenient approach."

LLOYD LONGFIELD, MEMBER OF PARLIAMENT, GUELPH

"As we develop policy it is important more now than ever that we have access to reliable, unbiased scientific information."

BRUCE STANTON, MEMBER OF PARLIAMENT, SIMCOE NORTH

"This is a timely and important topic for all parliamentarians - the necessity of dispassionate, impartial scientific knowledge is a vital part of developing and shaping good public policy - especially when faced with the complex and consequential issues facing our country and planet."

## ANONYMOUS PARLIAMENTARIANS

"Clear accessible scientific knowledge is essential to responding to the current pandemic related challenges and will be even more essential to planning and readiness for the coming public health crises."

"Des données scientifiques accessibles sont absolument essentielles à nos travaux de parlementaires. Nos prises de décision dépendent d'information juste et vérifiée."

# SURVEY OF PARLIAMENTARIANS
# EXECUTIVE SUMMARY

## HIGHLIGHTS

The COVID-19 pandemic has vitally transformed our perception of science and its role in society. The importance of timely, pertinent and unbiased scientific information in government decision-making is clear, yet there is evidence that the influence and application of such information struggles to reach the policy sphere. This report highlights the fact that the COVID-19 pandemic has enhanced parliamentarians' desire to incorporate science into decision-making and that parliamentarians are more conscious than ever of the need for reliable and accessible scientific knowledge in their work. Parliamentarians agreed that having access to policy-ready evidence and to a non-partisan science advisory body could be useful tools for integrating science and research into the framework of public policy. Namely, the scientific advisory bodies could assist with addressing misinformation and disinformation which which are major obstacles to incorporating scientific knowledge in policy-making. These tools will support parliamentarians' ability to continue to use scientific knowledge in future work and decision-making.

## BACKGROUND

The CSPC Evaluation and Reports Committee implemented a survey of parliamentarians to explore how the COVID-19 pandemic has impacted the ways in which policy-makers in Canada understand, access, and use scientific information in their work. With the help of cross-partisan, expert advice, the committee developed survey questions which were disseminated via email, social media, and targeted calls to all 350+ federal parliamentarians who served during the 43rd Canadian Parliament. In this report, the CSPC presents the results of this survey that focus on the shift in parliamentarians' perception of science, due to the COVID-19 pandemic, and barriers to the use of science in public policy.

***Scientific Knowledge:*** objective data and information derived from studies and research conducted in all areas of science.

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KEY FINDINGS

# 1) Scientific knowledge in parliamentary work

### A) Accessibility to reliable scientific knowledge

Half of the participants perceived that reliable scientific knowledge is more accessible in their parliamentary work than before the COVID-19 pandemic. Of those who felt that reliable science was less accessible (15%), they noted fewer personal connections and events, which slowed their work, and that transfer of information from federal government departments to parliamentarians had not improved.

### B) Exchange of scientific information

The majority of the participants felt that the exchange of scientific knowledge increased after the COVID-19 pandemic. Specifically, MPs felt that the exchange increased the most with constituents, the private health sector, and with peers, whereas senators found that the exchange increased with public servants, peers, and academia.

### C) Use of Scientific knowledge

Half of the participants perceived that, compared to before the COVID-19 pandemic, the use of scientific knowledge increased in all areas of their parliamentary work. MPs used scientific knowledge more in party meetings and with constituents, whereas senators used it more in policy-making and parliamentary work.

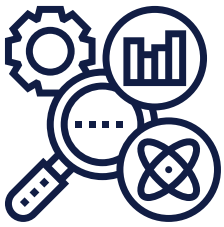
### D) Need for scientific knowledge

The need for scientific knowledge increased the most in the social, health, and environmental sciences as a result of the COVID-19 pandemic. Compared to these areas, there was less of a need in natural sciences and engineering. Although climate change and Indigenous issues gained prominence throughout the COVID-19 pandemic, these changes were not necessarily a direct result of it.

CANADIAN SCIENCE POLICY CENTRE

KEY FINDINGS

## 2) Communication of scientific knowledge in parliamentary work

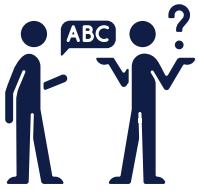


**A) Public health authorities were the most common source for researching scientific knowledge:**
A majority of participants sourced scientific knowledge from public health authorities, mainstream news, and international scientific sources. MPs more often used their constituents and personal contacts as sources for scientific knowledge, whereas senators more often used the Library of Parliament and expert consultation.

**B) Parliamentarians used social media to communicate scientific knowledge:**
Over three-quarters of participants communicated scientific knowledge to constituents through social media, with newsletters and emails being the next most common modes of communication.

## 3) Barriers in parliamentary work related to the use of scientific knowledge


**A) Misinformation and disinformation is a significant barrier:**
All participants found the COVID-19 pandemic made it more challenging to address misinformation (unintentionally misleading information) and disinformation (intentionally misleading information) surrounding scientific knowledge within their constituencies. Thus, it was difficult to discern between reliable and unreliable science.




**B) Specialist jargon and discerning reliable information also posed barriers:**
Participants agreed that a major barrier to incorporating scientific knowledge in their work was that scientific findings were presented with too much specialist language and jargon. Furthermore, lack of scientific consensus and challenges distinguishing between reliable and unreliable scientific knowledge were reported as significant obstacles.

> "Misinformation is one of our greatest enemies, so science is more important than ever"
>
> *MP Valerie Bradford, CSPC 2022*

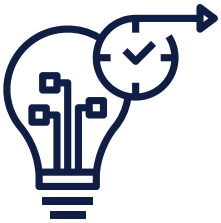
KEY FINDINGS

"Parliamentarians need information in a clear and digestible format that they can use, and it has to be valid, it has to be reliable, and it has to be provided at the point in time that they need it"
Senator Stan Kutcher, CSPC 2022

## 4) Factors to facilitate access to scientific information in parliamentary work

**A) Scientific information in a policy ready format**
The majority of participants felt strongly that scientific knowledge should be provided in a policy-ready format for their work.

**B) Mechanisms to provide parliamentarians with timely, reliable scientific knowledge**
Nearly three quarters of participants felt that a non-partisan science advisor for the House of Commons and Senate would be a useful mechanism to obtain scientific knowledge. Moreover, 70% of participants supported briefings on hot scientific topics, while 60% felt that a committee of scientists and public servants for the House of Commons and Senate, as well as research summaries from experts in an accessible form will help provide timely, accessible, and understandable scientific knowledge to be used in their work.



**C) Increased interest in incorporating science into policymaking**
Nearly three-quarters of participants indicated they were more inclined to use scientific knowledge in their future work, while no participants felt less inclined.

"The need for policy-relevant research is so obvious but there aren't a lot of obvious forums for scientists to be putting their science out there in policy space"

Kimberly Girling, CSPC 2022

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## CONCLUSION

The current study suggests that the inclination to use science in policy-making in parliament has increased in light of the COVID-19 pandemic. Today more than ever, parliamentarians recognize the need to have reliable and accessible scientific knowledge informing their work, and are exploring opportunities to integrate science and research more deeply into the fabric of public policy.

# INTRODUCTION

There has been an increasing emphasis on evidence-based policy in Canada and abroad over the past decade. Evidence-based policy uses a range of evidence to systemically solve problems. In a parliamentary setting, pertinent and unbiased information ensures that individuals are equipped with the necessary tools to make decisions and develop federal policies that are well-informed [2]. Consequently, Canadian governments have stressed the importance of making decisions based on evidence and, in many instances, on science.

The COVID-19 pandemic has brought science into the public sphere like never before, highlighting its importance in public policy decision-making. Although typically associated with traditional scientific fields, science as defined by the Council of Canadian Academies (CCA) takes on a broad definition and includes all areas of natural, health, and engineering sciences, as well as the social sciences and humanities [3]. In practice, it manifests itself in countless aspects of our lives and forms the foundation for the vast majority of technology that exists today. Yet, there is a dissconnect between the availability of science and its apploocation and influence in the development of public policy [4-7].

Discussions at the CSPC and within its annual conference, now in its 15th year, have often gravitated around this notion of evidence and the use of science in decision-making. However, initiatives were not necessarily focused on directly engaging parliamentarians.

Catalyzed by the COVID-19 pandemic, the CSPC

# INTRODUCTION

Evaluation and Reports Committee designed and implemented the present survey to better understand how parliamentarians' perception of employing scientific knowledge in policy-making has changed as a result of the COVID-19 pandemic. Using this data, the CSPC aimed to:

a. Identify the challenges that parliamentarians face regarding access and use of science and scientific research in the context of the COVID-19 pandemic;
b. Understand what can be improved to better facilitate the process of accessing and using science and scientific research by Canadian parliamentarians;
c. Synthesize recommendations from parliamentarians on how to facilitate this process;
d. Inform parliamentarians on how the perception and the use of science among their peers may have shifted as a result of the COVID-19 pandemic; and
e. Disseminate results to the science community for broader discussion and action.

In 2022, CSPC presented the results of the survey during a panel session at the 14th Canadian Science Policy Conference, with this full report serving as its successorto offer a more in-depth discussion of the survey and its findings. The analysis that follows in this report focuses on this shift in perception in order to identify barriers to, and factors facilitating the use of science in public policy

For this survey, CSPC refers to ***scientific knowledge*** as the objective data and information derived from studies and research conducted in all areas of the sciences listed below.

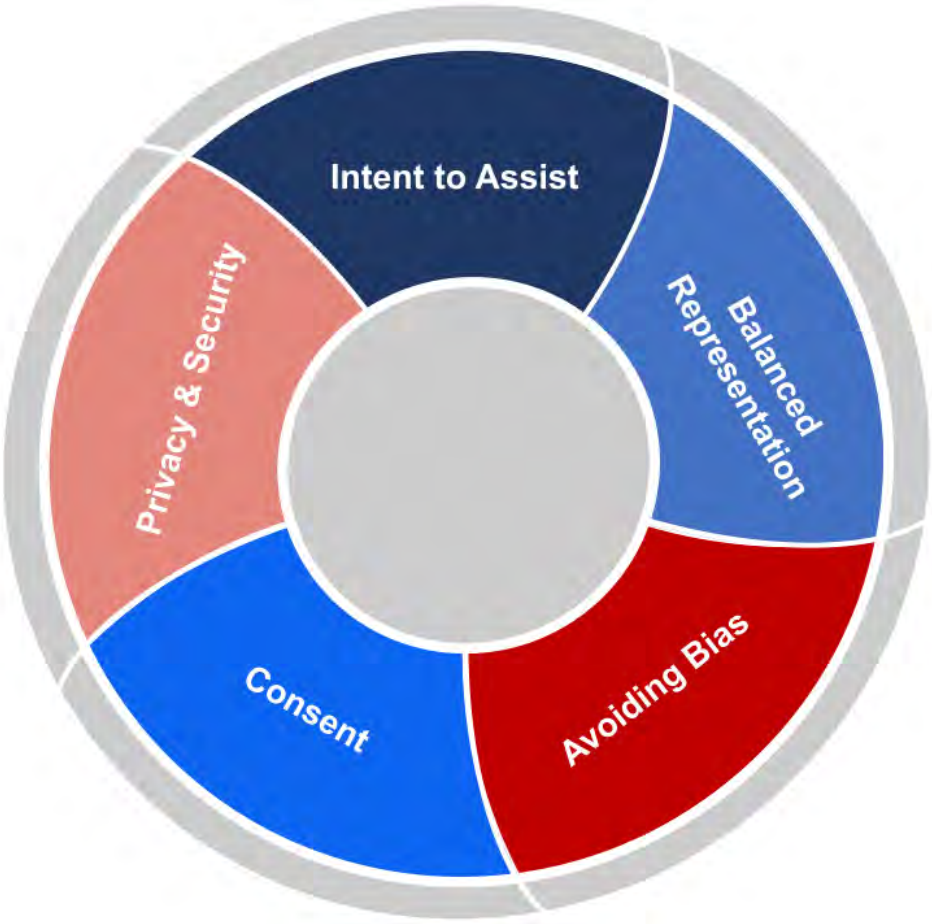
- Economics
- Environmental sciences
- Health science
- Indigenous Knowledge
- Natural sciences and engineering
- Social sciences and humanities

# METHODS

The survey is built on the foundation of five guiding principles:

1. Intent to assist parliamentarians by providing the results of this study as a resource when reflecting on lessons learned through the COVID-19 pandemic. CSPC seeks to establish long-term knowledge exchange strategies.
2. Fair and balanced representation of the current House of Commons and Senate by including party affiliation, gender, geographical location, and language.
3. Avoiding bias by giving all survey participants the same survey questions and the same prompts with all of the data analyzed by CSPC committee members.
4. Informed consent from all participants. CSPC acknowledged that participation in this survey is voluntary and any questions could be omitted.
5. Ensuring privacy of all participants by collecting anonymized response data on Canadian servers, with access limited to CSPC committee members involve in survey analysis. Data will be deleted after five years.

***Figure 1:*** **Guiding Principles**



# METHODS

CSPC began this survey in July 2020, during the early days of the COVID-19 pandemic. Initial tasks included deciding on the scope of the study, selecting advisors and drafting survey questions. With the help of cross-partisan and expert advisors, CSPC refined the survey questions to design a concise, targeted and impactful survey. The survey dissemination period refers to the period of time from June 2021 to May 2022 in which the survey was live. All 350+ parliamentarians were contacted via email, social media, or phone call.

The federal election occurred during this period – and participation was limited to parliamentarians who served during the 43rd Canadian Parliament. Near the end of this survey collection period, a targeted outreach approach was applied to improve the representation in the four key demographics noted in the second guiding principle. This approach included identifying and contacting parliamentarians via telephone from demographic groups that were underrepresented in the survey responses. Finally, the committee analyzed the data by considering the responses of all parliamentarians together, as well as the responses of members of parliament (MPs) and senators separately. This analysis was supplemented by insight from the panelists of "Presentation Results of the CSPC Parliamentarian Survey" at CSPC 2022, with certain quotes transcribed to

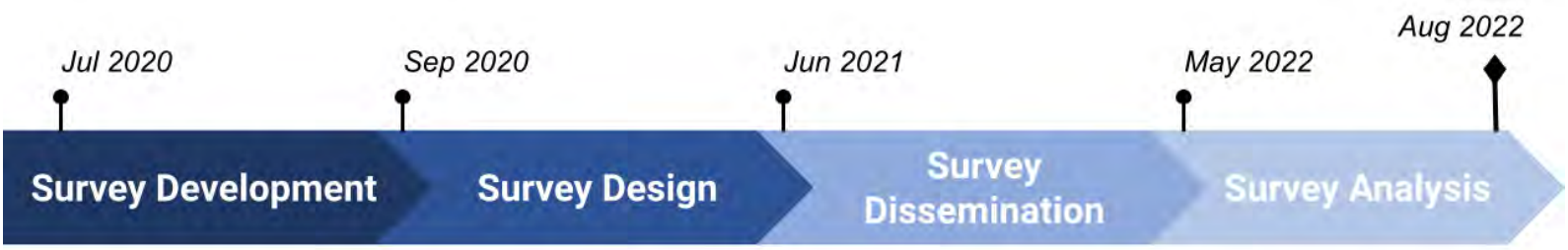



***Figure 2:*** **Survey Timeline**

# SURVEY RESPONDENT DEMOGRAPHICS

Twenty-six (26) parliamentarians participated in this study with representation from MPs and senators, though a higher number of senators (N=18) participated compared to MPs (N=8). Gender was evenly balanced with 50% of participants reporting their gender as female. This balance persisted when considering MPs and senators separately. Participants represented three political parties within the House of Commons with the highest representation coming from the Conservative Party of Canada (50%) followed by the Liberal Party of Canada (38%) and the Bloc Québécois (12%). The majority of senators (67%) were affiliated with the Independent Senators Group, but also featured representation from the Canadian Senators Group, the Progressive Senate Group, and the Conservative Party of Canada. One senator was unaffiliated. The survey had geographic representation from western, central, and eastern Canada, with the highest number of participants from Ontario (42%) and Quebec (23%).

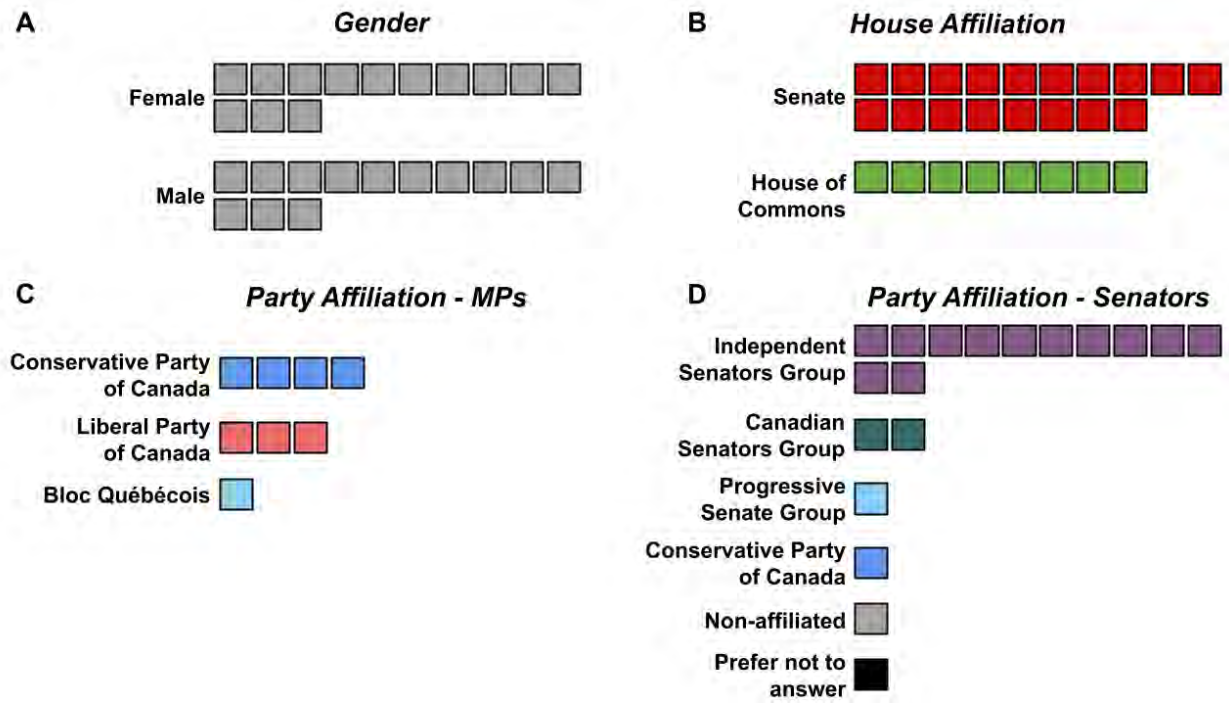



***Figure 3:*** **Respondent Demographics**

**A)** Reported gender for both senators and MPs. **B)** Reported house affiliation within the Government of Canada. **C)** Reported party affiliation by MPs. **D)** Reported affiliation by senators. **Each box represents the response from one participant.**

# SURVEY RESPONDENT DEMOGRAPHICS

| Prov | MP | Sen |
|---|---|---|
| ON | 5 | 6 |
| QC | 2 | 4 |
| AB | 1 | 1 |
| MB | 0 | 2 |
| NS | 0 | 2 |
| NB | 0 | 1 |
| NL | 0 | 1 |
| PE | 0 | 1 |

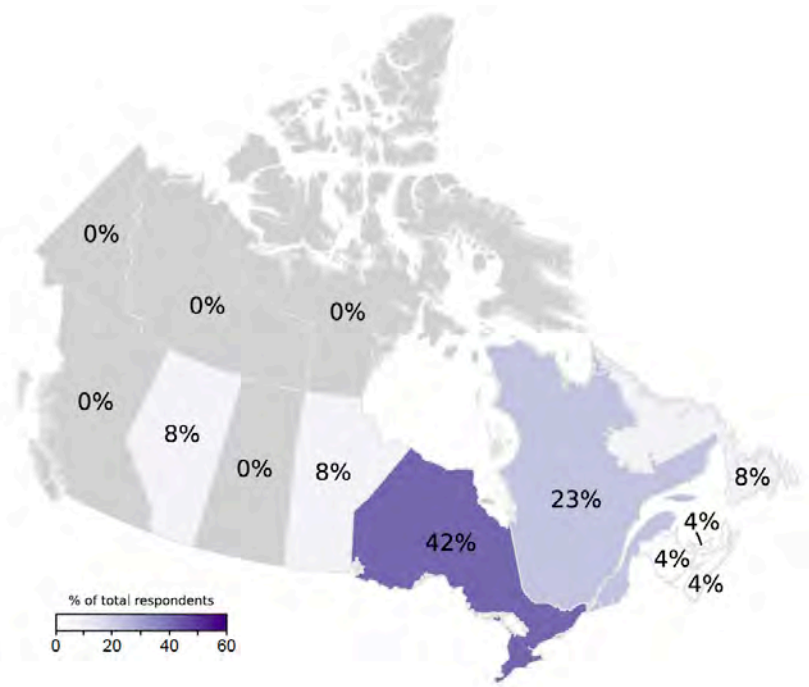
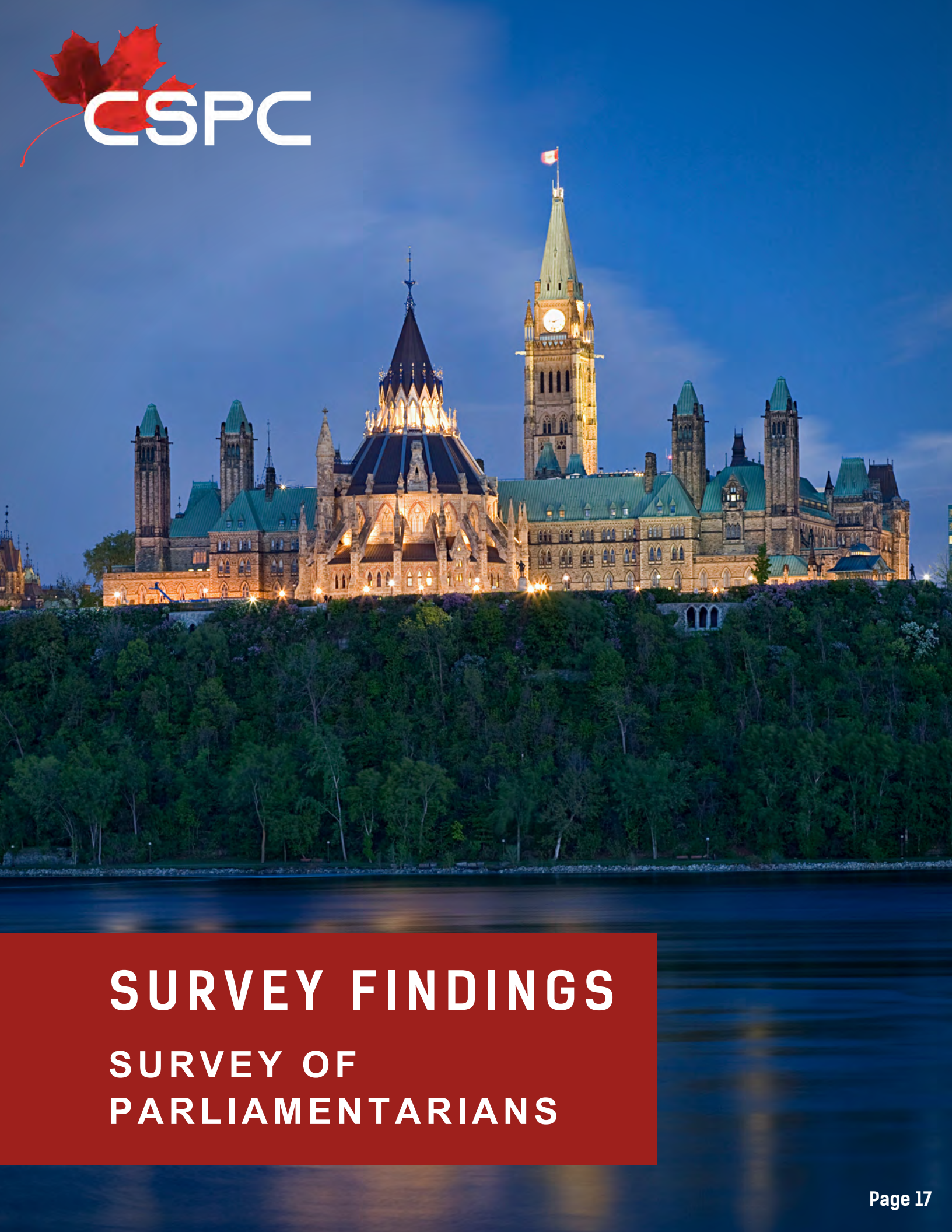



***Figure 4:*** **Geographic Representation**
Geographic representation for all participants and for participants separated by house affiliation. The data do not account for the population of each province. **Percentages reflect the total number of survey participants.**



# SURVEY FINDINGS

## SURVEY OF PARLIAMENTARIANS

## PARLIAMENTARIANS USE SCIENTIFIC KNOWLEDGE DIFFERENTLY DUE TO THE COVID-19 PANDEMIC

### Accessibility of reliable scientific knowledge

The survey revealed that half of all survey participants reported that access to reliable scientific knowledge has improved as compared to before the COVID-19 pandemic, with similar survey response trends across MPs and senators. Notably, among the participants who did not feel access to scientific data had improved, roughly one-third of MPs and senators felt there was no change, and about 15% felt that scientific knowledge was less accessible compared to before the COVID-19 pandemic. The parliamentarians who mentioned that reliable scientific knowledge became less accessible during the pandemic cited reasons such as slowdown in parliamentary work and reduced personal connections at interactive events. One parliamentarian also noted that the information used by government to make their decisions was not automatically passed on to all parliamentarians, and they had to continue the usual methods of collecting reliable data (e.g., searching, reading, cross-checking the information with several sources, and questioning the ministers and high-ranking officials) (Question 1, Annex A).

> "The complexity of policy making on issues such as global pandemics, climate change and Indigenous reconciliation require more dispassionate, scientifically informed and supported arguments and proposals. The availability of scientific, independent analysis is more crucial than ever before."
>
> *– Anonymous Parliamentarian*

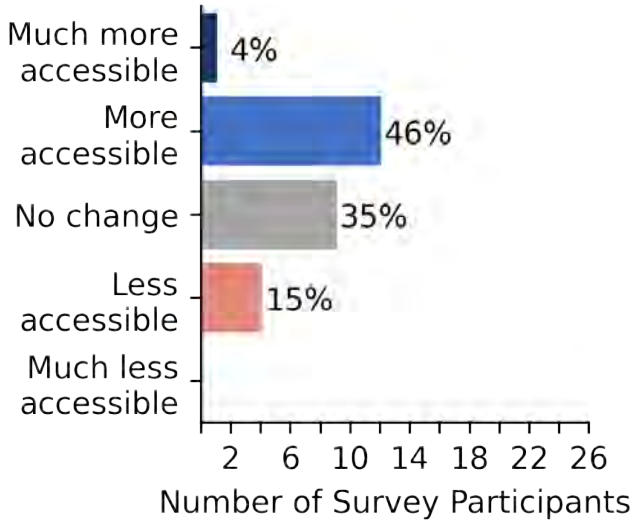



***Figure 5:*** **Accessibility of Reliable Scientific Knowledge**
Agreement of both MP and senator participants on how the COVID-19 pandemic has affected the accessibility of reliable scientific knowledge for their parliamentary work.

**Exchange of scientific knowledge**

Generally, both MPs and senators indicated an increase in exchange of scientific knowledge between relevant stakeholders groups as a result of the COVID-19 pandemic. In fact, for five of the seven options, over half of the participants indicated an increased exchange in scientific knowledge: peers and other parliamentarians; Governments of Canada departments and public servants; constituents and residents of designation; non-profit and non-governmental organization sector; and academia. One survey respondent noted that their exchange of scientific knowledge included reaching out and providing information to various professional and citizen organizations.

Within this overall trend, a notable difference existed in the responses of MPs versus senators. Senators expressed that the exchange of scientific knowledge increased most between federal government departments (67%), their parliamentary peers (67%), and academia (67%). Alternatively, in both parliamentary peers and academia categories, 22% of participants noted less exchange of scientific knowledge, suggesting that some barriers to communication may have arisen during the COVID-19 pandemic. Less than half the senators surveyed indicated an *increase in exchange of scientific knowledge with related private sector companies.*

MP participants reported the greatest increase in exchange of scientific knowledge with their constituents (62%) and health-related private sector companies (62%), followed by parliamentary peers (50%). With regards to constituents, parliamentarians stated that they reached out virtually to their constituents during the pandemic. For example, one survey participant noted that fewer face-to-face interactions with constituents and riding residents made it more difficult to properly explain complicated scientific concepts. In the case of health-related private sector companies, the increase in exchange was related to procurement of personal protection equipment, cleaning solutions, vaccines etc. Conversely, MPs more strongly indicated that there was either no change, or less exchange of information with academia. Only 25% of MP participants noted an increase in exchange with academia (Question 2, Annex A).

> "Durant la COVID, il y a eu moins d'interventions en personne avec les électeurs et les résidents de la circonscription. De tels échanges sont essentiels pour bien expliquer des éléments scientifiques compliqués."
>
> *– Anonymous Parliamentarian*

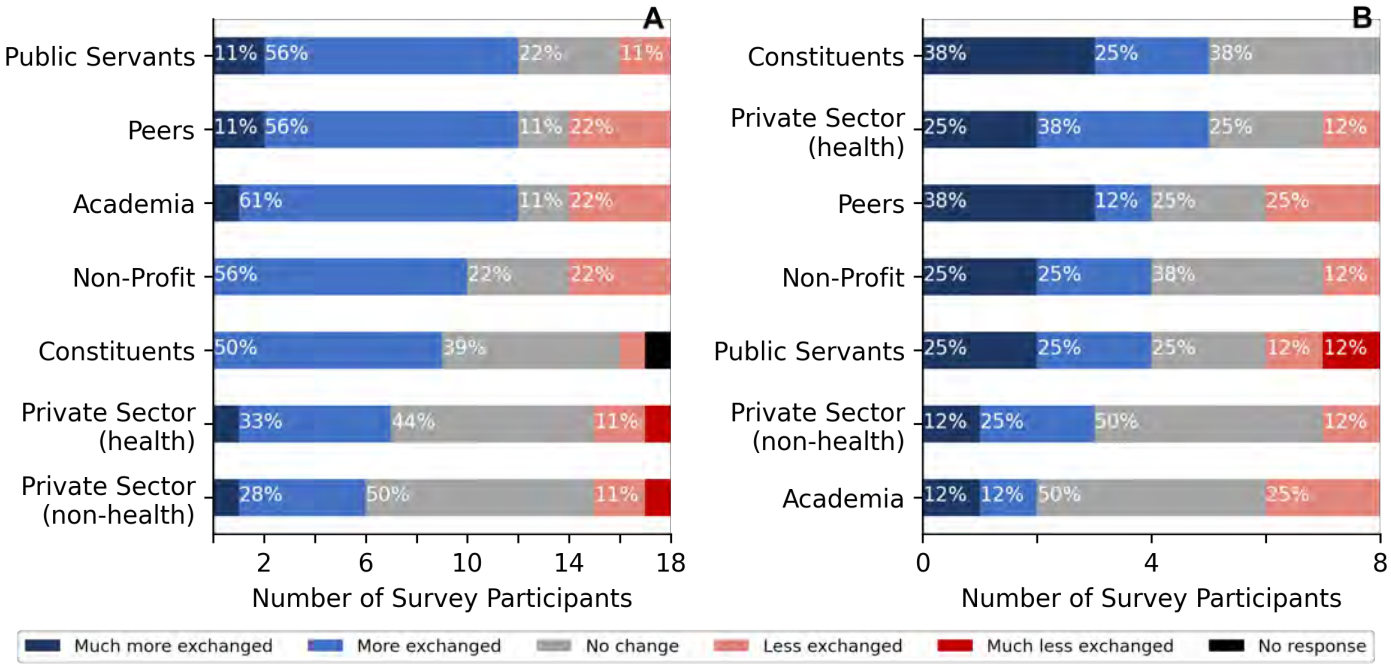



***Figure 6:*** **Exchange of Scientific Knowledge**
Agreement of survey participants on how the COVID-19 pandemic has affected the accessibility of reliable scientific knowledge for their parliamentary work: A) senators and B) MPs.

## Use of scientific knowledge

Among all survey participants, at least 50% perceived that there was an increase in the use of scientific knowledge in all aspects of their parliamentary work because of the COVID-19 pandemic. Moreover, less than 10% of participants noted less use of scientific knowledge.

For senators, the highest increase in use of scientific knowledge came as part of policy/decision-making (62%) and parliament sessions and question periods (62%). However, work within parliamentary committees, engagement with residents of their constituency, and communication with media also saw increases in the use of scientific knowledge by the majority of senator participants. Party and caucus meetings was the only response that had less than half of the senator participants note an increase in use (39%), possibly due to the high number of senators who are non-affiliated or independent.

The responses from MP participants revealed that over half of respondents applied scientific knowledge more frequently in all listed aspects of parliamentary work. The aspects with the highest increase in use of scientific knowledge for MP participants was in party and caucus meetings (75%) and when engaging with constituents (75%). The lowest increase in the use of scientific knowledge for MP participants was within parliament sessions and question period (50%) (Question 3, Annex A).

"Il est important pour moi de baser des décisions sur des argumentaires forts, vérifiables. Alors, que l'on soit en période de crise sanitaire ou non, je vais chercher l'information, la lire, la contre-vérifier et baser mes décisions sur l'ensemble des informations collectées. C'est d'autant plus important dans une période telle que celle que nous vivons; les gens sont particulièrement émotifs. Il faut plus d'objectivité."

*– Anonymous Parliamentarian*

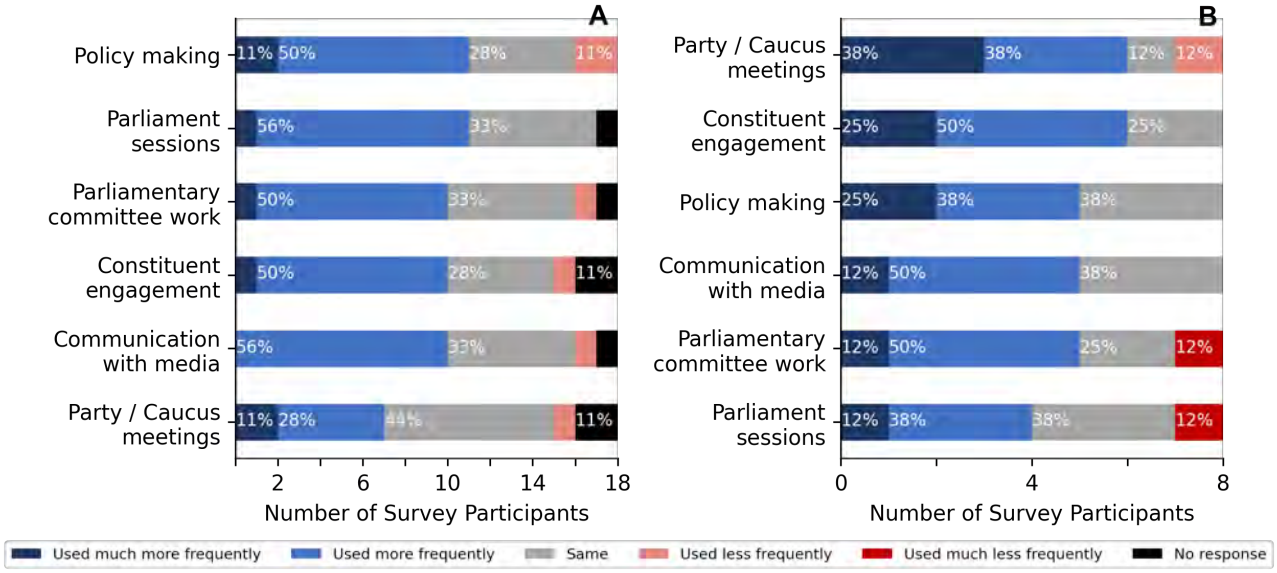



***Figure 7: Use of Scientific Knowledge***
Agreement of survey participants on how the COVID-19 pandemic has affected their use of scientific knowledge in different aspects of parliamentary work: A) senators and B) MPs.

## Need for different types of scientific knowledge

The committee found that across all participants, there was an increased need for all listed types of scientific knowledge by the majority of participants. One parliamentarian elaborated on this, highlighting that several Bills have touched on these areas over the course of the COVID-19 pandemic and that in their research work, parliamentarians have had to refer to these areas of scientific knowledge regularly.

Unsurprisingly, the type of scientific knowledge reported to have the largest increase in need was health sciences (85%). Notably, 4% or less of participants indicated a lesser need for all types of scientific knowledge, with health science, social science and humanities, and natural sciences and engineering seeing no decline in need by participants. Both MP and senator participants reported a greater need for research and evidence in health sciences (e.g., public health, vaccine research,

cancer treatment etc.), social sciences and humanities (e.g., psychology, sociology, law, ethics), and environmental sciences (e.g., climate, environment, earth studies) as a result of the COVID-19 pandemic. Particularly, one parliamentarian reflected that there is an increased need among policy-makers to be objective and listen to scientists, as well as scientific data and evidence in areas such as public health and climate change. However, the relative increase in need for each subject between groups was different. For instance, senator participants reported the largest increase in need for health sciences (89%), followed by environmental science (78%) and social sciences and humanities (73%); wheras MP participants reported the largest increase in need for social sciences and humanities (88%), followed by health sciences (75%) and environmental science (63%).

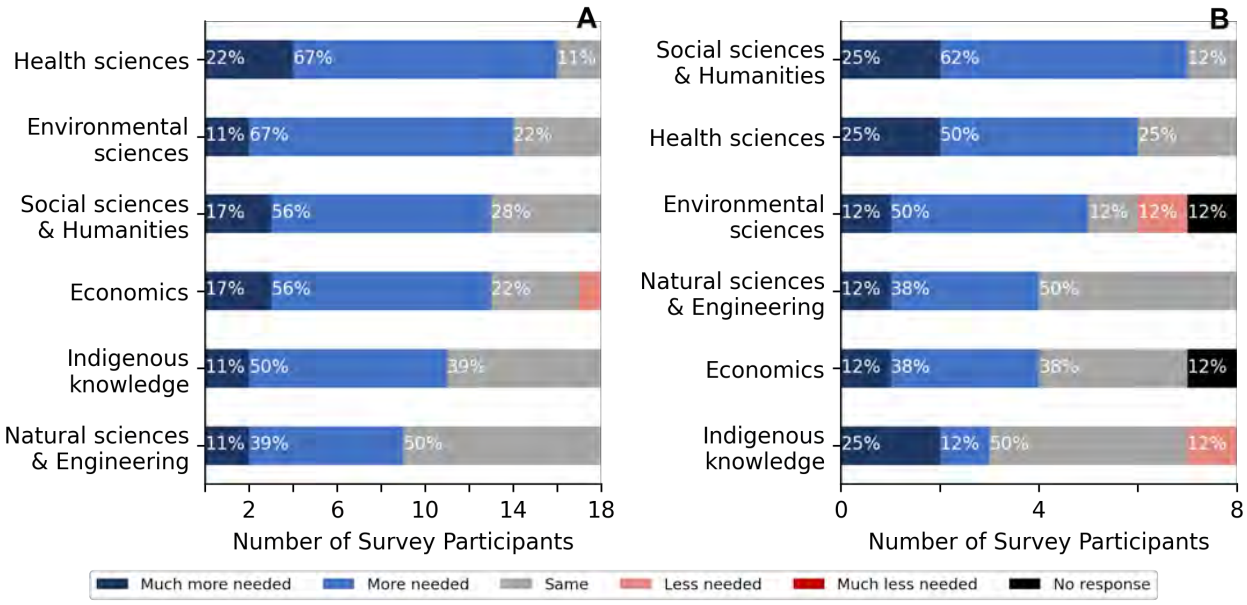



***Figure 8:*** **Types of Scientific Knowledge**
Agreement of survey participants on how the COVID-19 pandemic has affected their need of different types of scientific knowledge in parliamentary work: A) senators and B) MPs.

Economics, Indigenous Knowledge, and natural sciences and engineering (e.g., biology, chemistry, physics, mathematics, engineering) had smaller increases in need for both MPs and senators. For both groups, natural sciences and engineering saw 50% of participants indicate an increase in need. In the case of economics and Indigenous Knowledge, senators noted a larger increase in need for these fields compared to MPs. In particular, in the case of Indigenous Knowledge only 37% of MPs reported an increased need for this type of scientific knowledge compared to 61% of senators.

Finally, one parliamentarian noted that climate change and Indigenous issues have gained a greater prominence since the pandemic, but not necessarily as a result of it. Therefore, in addition to putting these responses in the context of the COVID-19 pandemic, these responses should also be considered in the context of other global and Canadian issues that arose over the course of this survey (Question 4, Annex A).

## PARLIAMENTARIANS ACCESS AND COMMUNICATE SCIENTIFIC KNOWLEDGE IN DIVERSE WAYS

### Sources of scientific knowledge

Parliamentarians were asked how often they sought out or researched new scientific knowledge in their work related to the COVID-19 pandemic from a provided list of 14 sources. Survey participants more often or very often sourced scientific knowledge from public health authorities (over 60%), mainstream news organizations (over 50%), and international scientific sources such as the World Health Organization (over 50%). Notably, parliamentarians sought out scientific knowledge from science media (under 30%) and social media (under 25%) less often. While the use of scientific journals was more common for senators (50%) compared to MPs (34%), survey participants from both groups reported they rarely or never used these sources (35%). One parliamentarian expanded upon this point, saying that it is very expensive to attempt to access information from scientific literature and added that even if they were willing to pay, there is no available mechanism to help decide what is worth paying for.

Compared to senators, MPs more often used "other" sources to access scientific knowledge (75%), including their constituents and personal contacts such as family and friends. MPs also used party sources and private sector sources (38% for both) more often, compared to senators (17% for both), although these were less common sources of scientific knowledge for both groups. Fifty percent of MPs and senators reported using the Library of Parliament often or very often. Expert consultation was used very often by senators (17% of the time) compared to 0% for MPs. Although not a common source, senators sought out scientific knowledge from non-profits more often than MPs. More generally, it was noted that there is a need for non-partisan, accurate scientific knowledge that is accessible to parliamentarians.

Overall, MPs appeared to use a more diverse range of sources for scientific knowledge, with at least 50% of MPs using seven of the listed sources at least often. In comparison, only four sources were used at often by 50% of Senators. This suggests a wider diversity in research methods for MPs (Question 7, Annex A).

> "The Library of Parliament is objective, very quick and provides us with very good background information in science and research."
>
> *– MP Valerie Bradford, CSPC 2022*

"I believe that good decisions are taken when in possession of facts, evidence, data and knowledge. Given the multiple crisis that the world is being subjected to COVID-19, climate change, economic depression is the duty of parliamentarians to seek and diffuse knowledge in order to take sound efficient decisions or to discuss and debate a problem"

*– Anonymous Parliamentarian, CSPC 2022*

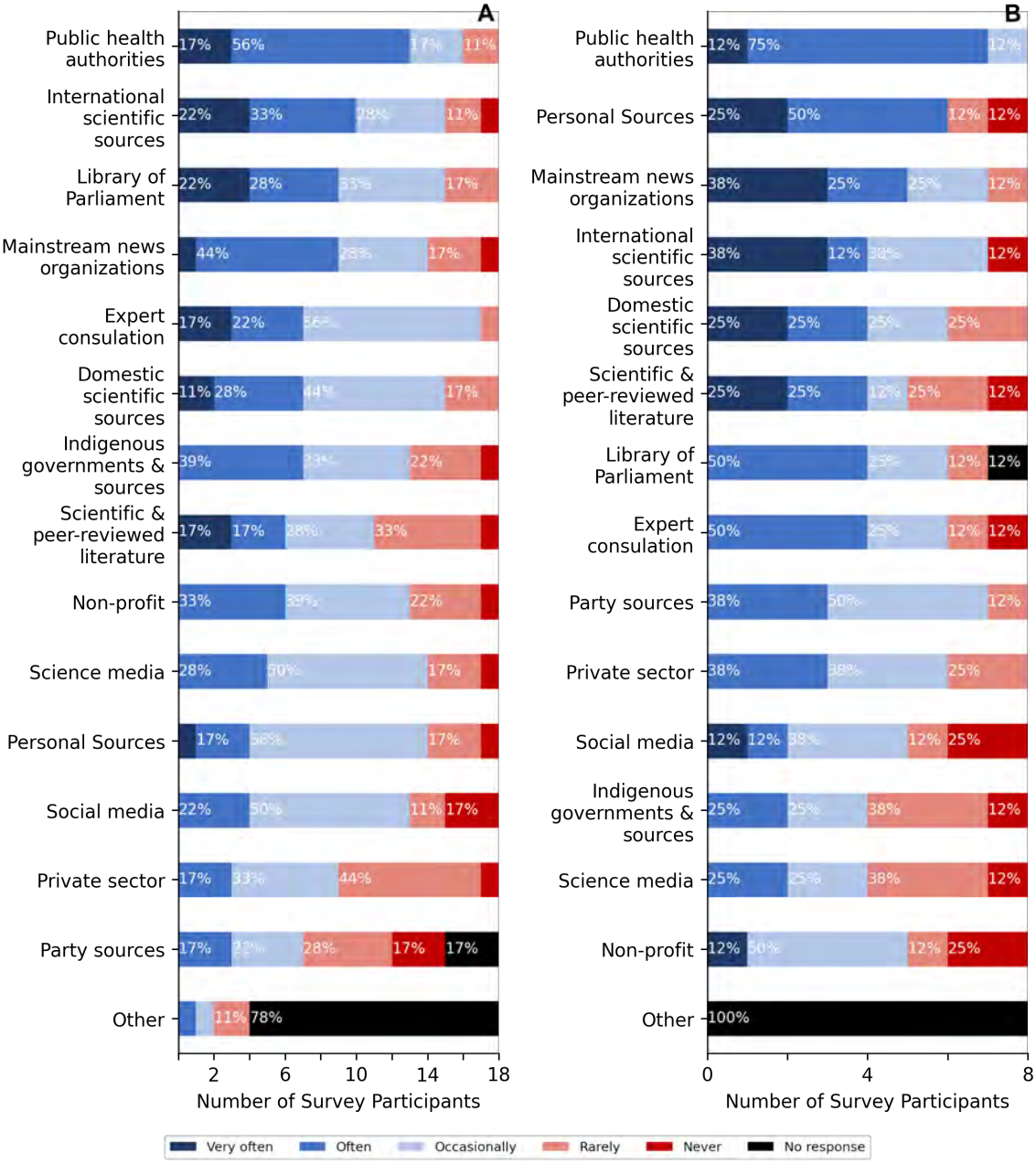



***Figure 9:*** **Sources of Scientific Knowledge**
Agreement of survey participants on how the COVID-19 pandemic has affected their need of different types of scientific knowledge in parliamentary work: A) senators and B) MPs.

## Modes for communication of scientific knowledge

When asked about the modes that parliamentarians' offices used to communicate scientific knowledge to their constituents or residents of their designation during the COVID-19 pandemic, the survey found that both senators and MPs communicated scientific knowledge primarily through social media (88% of MPs; 72% of senators). However, MPs used more modes of communication with their constituents compared with senators. For instance, 100% of MPs used newsletters and emails to communicate with their constituents, compared to only 28% of senators. Furthermore, at least 50% of MP participants communicated scientific knowledge through events (e.g., Facebook Live broadcasts, town halls, etc.), local news organizations, public health authorities, or official party communications. In contrast, each of these modes of communication was used by less than 25% of senators. One senator noted that communicating with the residents of their designation was not relevant to their role in the Senate. Overall, this highlighted clear differences between MPs and Senators in their approach to communicating science, perhaps due to the relative importance of engaging with constituents for MPs vs senators (Question 8, Annex A).

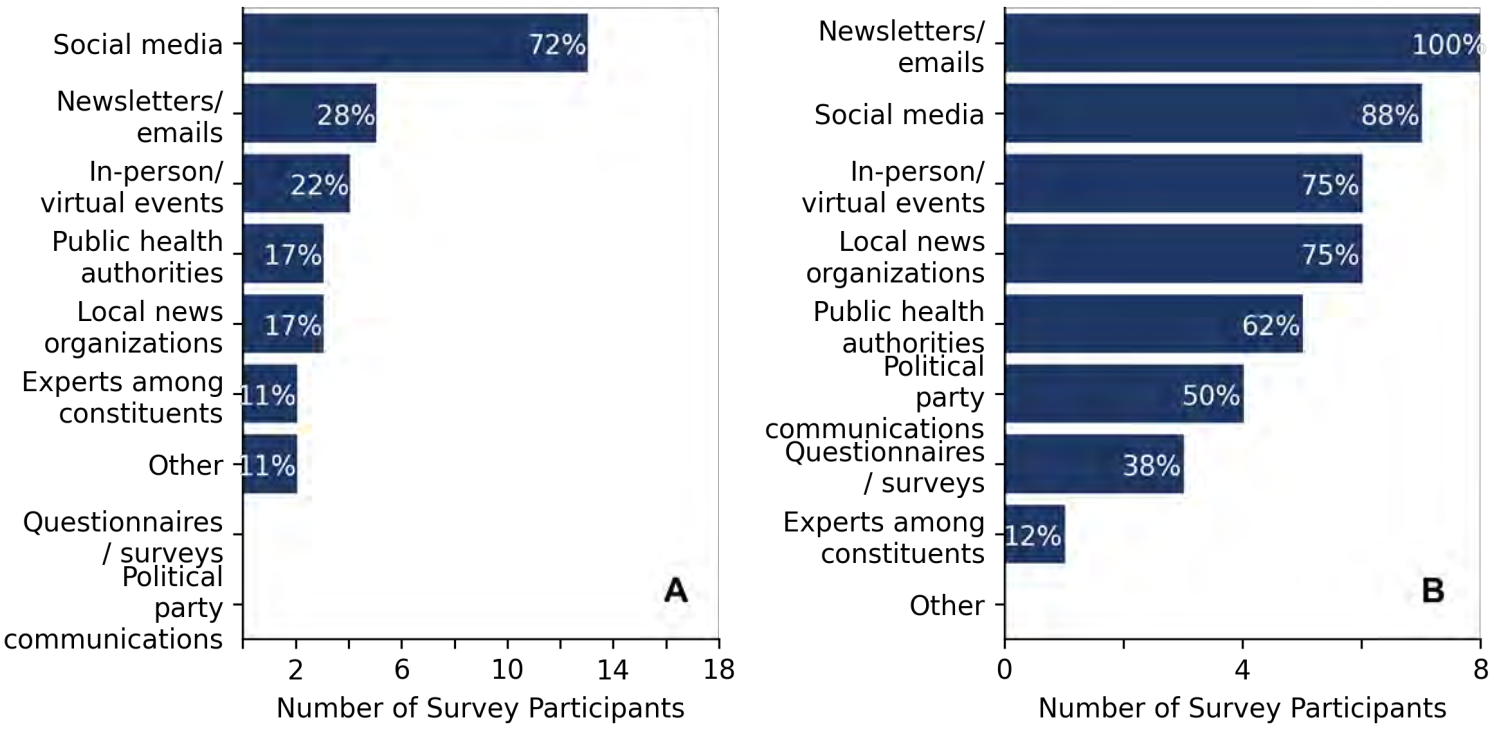



***Figure 10:*** **Modes for Communication of Scientific Knowledge**
Agreement of survey participants on which modes of communication their office used to communicate scientific knowledge to their constituents during the COVID-19 pandemic: A) senators and B) MPs.

## PARLIAMENTARIANS FACE COMPLEX BARRIERS WHEN RESEARCHING SCIENTIFIC KNOWLEDGE

### Misinformation and disinformation surrounding scientific knowledge

There was unanimous agreement among parliamentarians who participated in the survey that the COVID-19 pandemic made it more challenging to address misinformation and disinformation surrounding scientific knowledge within their constituencies or designations. In fact, the participants had strong opinions on this topic, with 77% and 85% of participants indicating that the COVID-19 pandemic made it much more challenging to address misinformation and disinformation, respectively. Misinformation is defined as unintentionally misleading information, such as unintentionally passing along false information through social media. Disinformation is defined as intentionally misleading information (e.g., an individual or group that finances a campaign to spread false information).

Several survey participants mentioned challenges related to addressing uncredible information that is cited as scientific fact. For example, information may come from studies that lack appropriate rigour or oversight, such as peer review, and are later proven inaccurate or false due to data tampering. Unfortunately, once these studies are released it becomes difficult to convince the public that they are not credible. To avoid this challenge, one parliamentarian recommended that stronger measures be implemented before studies are approved for public release.

Some parliamentarians also cited other specific challenges, including the role of social media in spreading misinformation and disinformation (e.g., echo chambers); the fact that some people do not verify information they access which makes it difficult to discern what is reliable information; and instances where non-experts are labeled as experts when speaking on a subject. Lower availability and less access to peer-reviewed information was also noted as a cause for the increased challenge in addressing misinformation and disinformation. One parliamentarian highlighted the role of the federal government to implement programs that could help verify information for Canadians. Regardless of the specific cause, there is consensus among parliamentarian participants that misinformation and disinformation has spread throughout the COVID-19 pandemic (Question 5, Annex A).

***Misinformation:*** unintentionally misleading information

***Disinformation:*** intentionally misleading information

"Les gens, et c'est naturel, ont tendance à se créer une bulle d'écho sur les réseaux sociaux et à lire les informations qui les confortent et les réconfortent. Malheureusement, peu de gens ont tendance à questionner tout ce qu'ils lisent, peu importe que cela soit une information qui les arrange ou les dérange. De ce fait, de tous côtés, il y a eu de grands défis de désinformation/mésinformation à combattre."

*– Anonymous Parliamentarian*

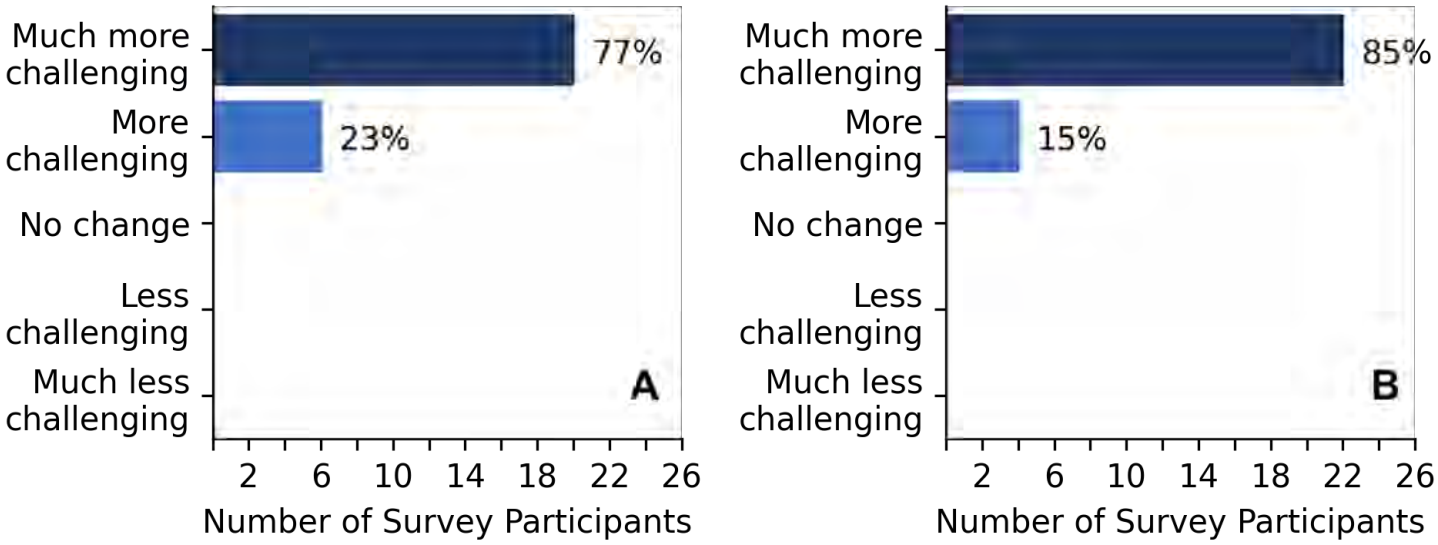



***Figure 11:*** **Misinformation and Disinformation Surrounding Scientific Knowledge**
Agreement of both MP and senator participants on how the COVID-19 pandemic affected the challenge of addressing A) misinformation and B) disinformation surrounding scientific knowledge among the parliamentarians' constituency or designation.

## Obstacles surrounding the use of scientific knowledge

MPs and senators indicated different obstacles faced when trying to incorporate scientific knowledge into their parliamentary work related to the COVID-19 pandemic. Overall, senators perceived less obstacles compared to MPs. On average, senators noted that they faced obstacles *often* or *very often* only 26% of the time, compared to 40% of the time for MPs. Furthermore, of six of the eight possible options, at least one senator reported they never faced those particular obstacles, with variable scientific consensus and too much scientific jargon being the exceptions. In comparison, there were no MPs who reported that they never faced any of the eight barriers.

For MPs, the survey found that 50% noted that the conflict between their constituents' demands and scientific knowledge was a major barrier for them, compared to just 22% of senators. Additionally, 37% of MPs also responded that they often had challenges finding reliable scientific sources, compared to just 11% of senators. In contrast, senators reported limited time as the largest barrier for incorporating scientific knowledge into their parliamentary work.

There were similarities between the two groups, with both reporting that discerning reliable and agreed-upon science, the presence of scientific jargon, and variable scientific consensus in regards to scientific knowledge were recurrent barriers. One parliamentarian elaborated that it was difficult to discern accurate and relevant information from information that is dated and inaccurate, or not peer reviewed. Another emphasized that, for the COVID-19 pandemic in particular, there was a lack of conclusive, long-term data to support decision-making. While lack of scientific expertise was not often found to be a barrier, some survey participants raised general concerns about scientific literacy within the policy sphere and the availability of clear, digestible scientific information to support policy-making.

However, not all comments emphasized the causes of these obstacles, instead shedding light on strategies they use to overcome these barriers in their work. For example, one parliamentarian acknowledged that in domains where they may lack expertise, they reach out for explanations from known experts in those domains to ensure they have accurate, reliable information to support their work (Question 6, Annex A).

> "If I put myself in the shoes of my non-scientist parliamentarian colleagues, they probably find it difficult to find accessible, easily digestible science. We need more venues where parliamentarians can exchange with scientists."
>
> *– Anonymous Parliamentarian*

**PARLIAMENTARIANS NEED MORE ACCESSIBLE SCIENTIFIC KNOWLEDGE AND THE SCIENCE COMMUNITY CAN PROVIDE IT**

**Scientific knowledge in a policy-ready format**

The committee found near unanimous agreement between all parliamentarian participants regarding the need for scientific knowledge to be translated into an accessible and policy-ready format. Notably, there were no parliamentarians that disagreed with this statement (Question 9, Annex A).

During the CSPC 2022 panel session, the panelists highlighted that instances during the COVID-19 pandemic where the scientific community has provided parliamentarians with reliable, accessible, and timely scientific knowledge has proven to be a very effective mechanism. However, the panelists emphasized that this information sharing to parliamentarians cannot be a one-time event; rather, there need to be mechanisms in place to support continued flow of information between parliamentarians and the scientific community.

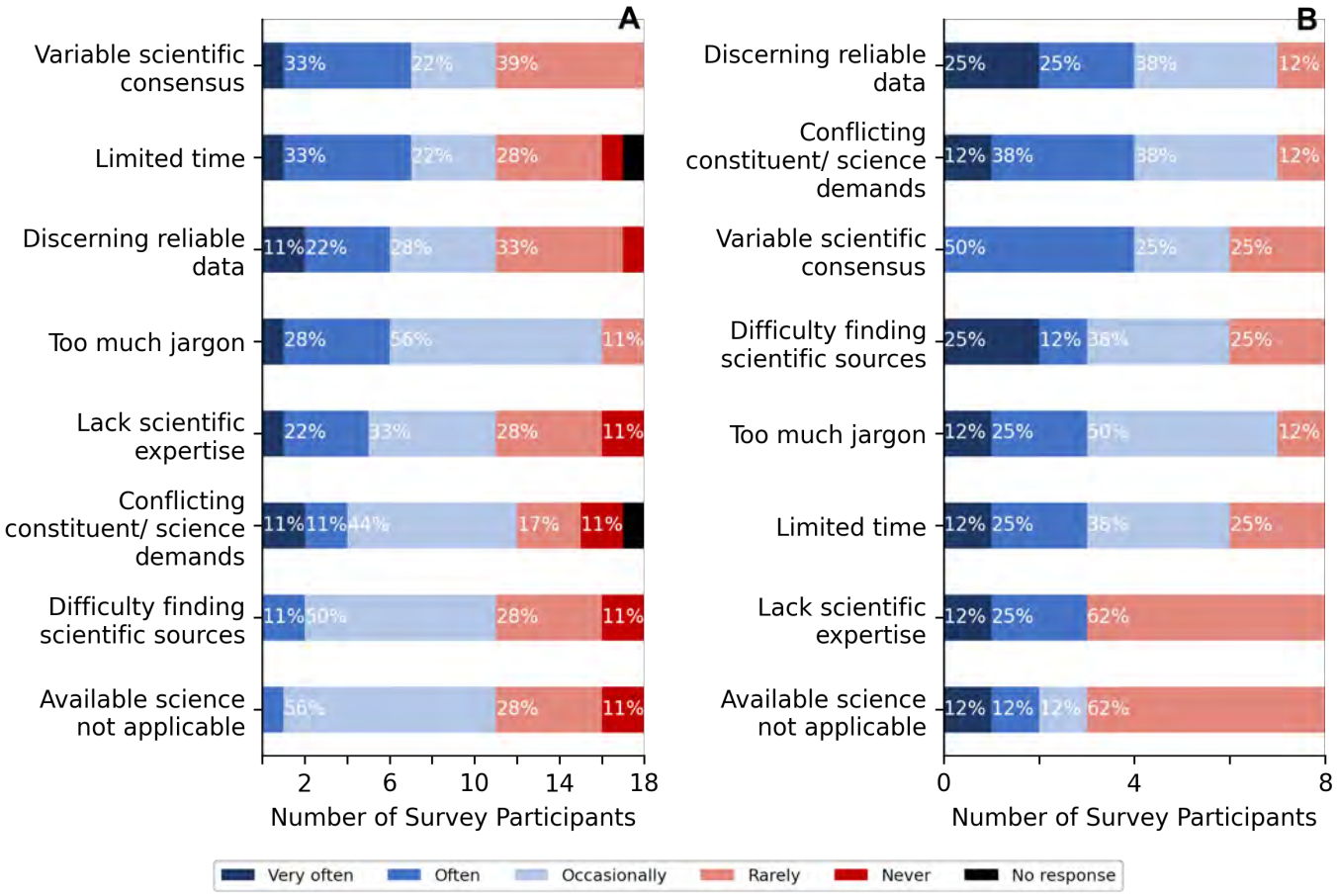



***Figure 12:*** **Obstacles Surrounding the Use of Scientific Knowledge**
Agreement of survey participants on how often they faced different obstacles when trying to incorporate scientific knowledge into their work related to the COVID-19 pandemic: A) senators and B) MPs.

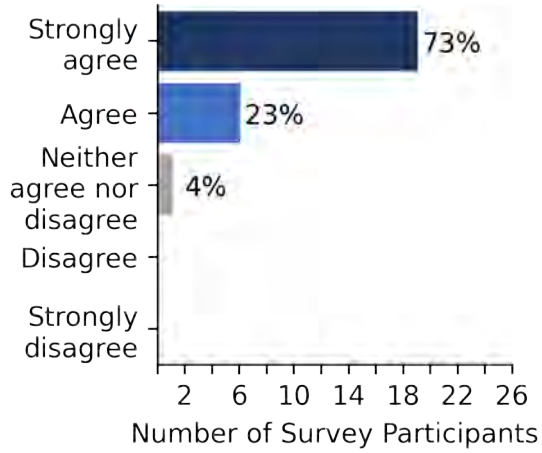



***Figure 13:*** **Scientific Knowledge in a Policy-Ready Format**
Agreement of both MP and senator survey participants on whether scientific knowledge needs to be translated into a more accessible format for their work.

"MPs and senators need a reliable, just-in-time resource that can help us with scientific information when we need it and where we can trust the information that we are getting"

*– Senator Stan Kutcher, CSPC 2022*

**Mechanisms to help provide scientific knowledge**

Parliamentarians were provided a list of twelve different mechanisms that could provide timely, accessible, and understandable scientific knowledge. Some of the mechanisms were derived from those used by other governments around the world, such as the Royal Society Pairing Scheme [8] and the UK Parliamentary Office of Science and Technology (POST). [9]

Responses showed that at least some parliamentarians felt that each of the listed mechanisms (please see Figure 14 for a list of mechanisms) could provide the scientific knowledge they need, with four stand-outs. Nearly three-quarters of parliamentarians felt that a non-partisan science advisor for the House of Commons and Senate would be a useful mechanism to obtain scientific knowledge. Also highly supported was the suggestion of briefings on 'hot' scientific topics, with nearly 70% of parliamentarians noting this to be a helpful mechanism (this mechanism has already been proven to be successful through POST in the UK). To round out the top four, about three out of five parliamentarians also felt that a committee of scientists and public servants for the House of Commons and Senate, as well as research summaries from experts in an accessible form, would be helpful mechanisms.

Outside of these top-rated mechanisms, senators also considered openly accessible scientific literature (i.e., scientific literature without a paywall) to be a helpful mechanism. In comparison, MPs considered an expert network to help find experts in their constituency, or an expert network to find academics at post-secondary institutions, to be desirable mechanisms. Other mechanisms beyond those that were mentioned by respondents included a trusted and non-partisan scientific team that parliamentarians and their staff could contact for direct information, daily information in both official languages coming directly from public health agencies in order to respond to questions in real time, and direct access to the sources that the government uses to make decisions.

Conversely, parliamentarians generally did not feel that an expert network with the private sector would be a helpful mechanism for obtaining timely, accessible, and understandable scientific knowledge. Senators also generally felt that scientists working in a party research office would not be a helpful mechanism for them, whereas MPs were split, with half noting it would be a useful mechanism. Overall, these results point to the desire of parliamentarians to have non-partisan science advice in an easy-to-access form Question 10, Annex A).

> "Parliamentarians and their staff don't have the time or the expertise to research medical papers. We would benefit from having a trusted and non-partisan scientific team we can contact for direct information."
>
> *– Anonymous Parliamentarian*

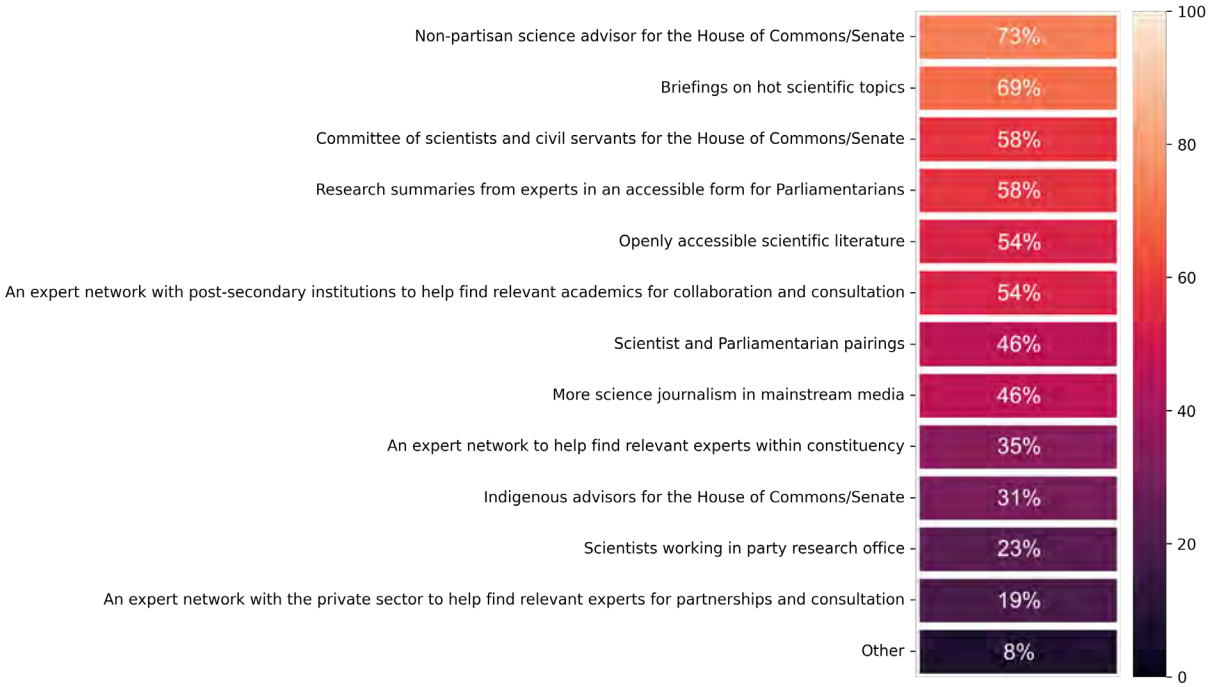



***Figure 14:*** **Mechanisms to Help Provide Scientific Knowledge**
Heat map showing, for each mechanism, the percent of both MP and senator participants who felt it would be helpful in providing timely, accessible, and understandable scientific knowledge.

## Inclination to use scientific knowledge in future work

Nearly three-quarters of parliamentarians who responded to the survey felt that the COVID-19 pandemic made them more inclined to use scientific knowledge in their future parliamentary work on other science-related issues. These issues may include the economic recovery, energy, environment, agriculture, and other scientific fields. This sentiment was the same across MP and Senator participants, with no major differences in the responses from each group. While not all respondents felt more inclined to use scientific knowledge in the future, there were no parliamentarians who felt less inclined as a result of the COVID-19 pandemic (Question 11, Annex A).

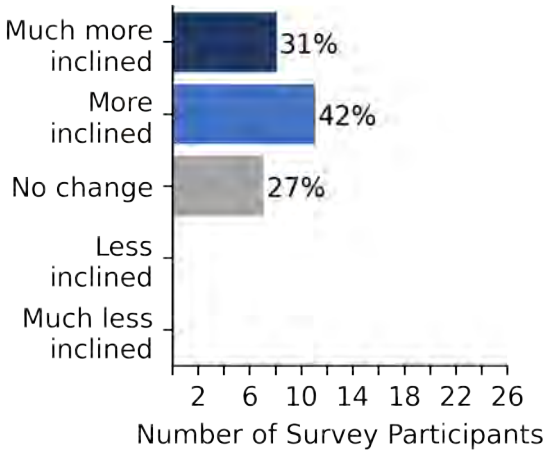



***Figure 14:*** **Inclination to Use Scientific Knowledge in Future Work**
Agreement of both MP and senator survey participants on their inclination to use scientific knowledge in their future parliamentary work related to other science-related issues.

"The best available scientific information is only one part of a complex cauldron of competing forces, but it is essential"

*– Senator Stan Kutcher, CSPC 2022*

# RECOMMENDATIONS FROM PARLIAMENTARIANS TO THE SCIENTIFIC COMMUNITY

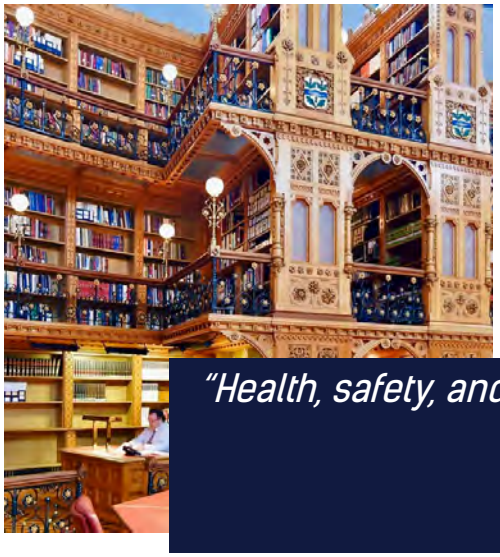
At the end of the survey, the committee asked the participants how the CSPC or science community can better support parliamentarians in their use of scientific knowledge.

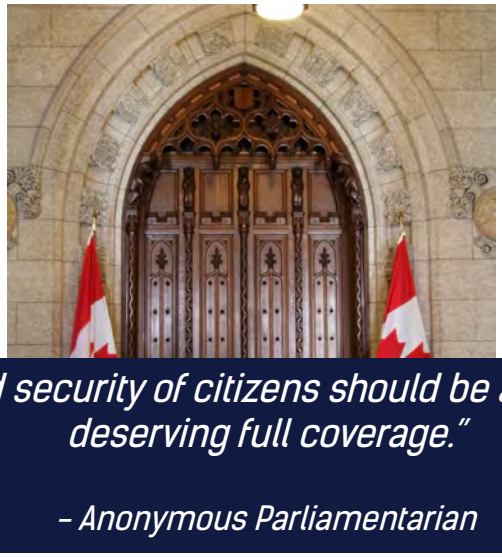
Parliamentarians detailed the large volume of information they receive on a magnitude of topics, as well as concerns that incorrect information and erosion of scientific knowledge may lead to flawed decision making.

> "Not only are our specific decisions at risk of being flawed because they are based on incorrect science but the very future of information and scientific knowledge is at risk as the foundations and methods upon which they were based are systematically eroded."
>
> *– Anonymous Parliamentarian*

Moreover, parliamentarians underlined the necessity of scientists and non-profits like CSPC to begin a dialogue with parliamentarians, especially those who serve on relevant parliamentary committees and have extensive scientific expertise. This could include reaching out to parliamentarians directly, as well as increased use of social and other media to share scientific knowledge. Parliamentarians highlighted that identifying areas of uncertainty would be particularly useful for them. Specific sources of information like think tank reports were identified as being effective means of receiving information. In addition, participants highlight other effective ways to communicate, including scientific briefing notes from non-partisan subject matter experts and virtual meetings on specific subjects and policy matters, allowing for focused discussion and ability to ask questions directly to researchers.

Finally, parliamentarians expressed that traditional news media tends to report on current issues with little in-depth discussion or details when it comes to science-related topics. Survey participants added that the media needs to invest in educational programming with higher quality information.





*"Health, safety, and security of citizens should be a non-partisan issue deserving full coverage."*

*– Anonymous Parliamentarian*

SURVEY OF PARLIAMENTARIANS

# DISCUSSION AND CONCLUSION

High quality information is critical for the functioning of democracy. Thanks to the expansion of universities, public policy programmes, as well as private sector research and think tanks, legislators have access to a wealth of knowledge and information [10–11]. Yet, it remains difficult for parliamentarians to judge the quality of the information they encounter. Although Canadian parliamentarians have united to uniformly support health authorities during the COVID-19 pandemic [12], this event has led to an increased focus on science and policy-makers. Certain previous studies have looked at the use of evidence in policy-making [2]; however, to the best of the committee's knowledge the current report is the first to engage Canadian parliamentarians directly in order to understand the impact of the COVID-19 pandemic on their perception of using science in policy-making. The results of this study give evidence that the COVID-19 pandemic increased parliamentarians' need for accessing clear, unbiased and reliable scientific knowledge.

In the current survey, half of participants perceived that reliable scientific knowledge was more accessible than before the COVID-19 pandemic. Furthermore, a majority of parliamentarians felt that the exchange and use of scientific knowledge increased as a result of the COVID-19 pandemic. Paradoxically, acquiring scientific knowledge is more challenging due to the abundance of competing misinformation and disinformation. As stated by researchers De Angelis et al. [13], misinformation and conspiracy theories have persisted in confusing and influencing public health discussions and policy decisions around the world. The survey results align with this statement since all participants felt that the COVID-19 pandemic made it more challenging to address misinformation and disinformation surrounding scientific knowledge within their constituencies. Parliamentarians sought out scientific knowledge from public health authorities, mainstream news, and scientific sources; moreover, they communicated it with their constituency or designation mainly by using social media.

> "When so many are claiming to be "following the science" it is important to have a clear, credible and uncomplicated view as to what that science really is."
>
> *– Anonymous Parliamentarian*

# DISCUSSION AND CONCLUSION



There was near unanimous agreement by parliamentarians that there is a need for scientific knowledge in an accessible and policy-ready format. Building upon that, and taking into account the difficulties that parliamentarians identified in acquiring scientific knowledge to support policy-making, there were two main facilitators suggested by participants that may improve timely and understandable scientific knowledge in parliamentarian work. Firstly, the provision of scientific knowledge in a policy-ready format through a non-partisan science advice mechanism such as a non-partisan science advisor for the House of Commons and Senate. Secondly, research summaries in an accessible format and/or briefing of hot scientific topics provided by experts. As parliamentarians revealed in this survey, there is a clear desire to use scientific knowledge more frequently as a result of the COVID-19 pandemic. Therefore, the scientific community has an opportunity to support parliamentarians in this regard through mechanisms such as those indicated here.

Notwithstanding, the findings above come with some limitations within this study. First, the committee acknowledges that due to the small sample size of survey participants – particularly for MPs – the results presented in this report may not be representative of the parliamentarians of the 43rd Canadian Parliament. The committee also acknowledges that this limitation is further compounded by incomplete demographic representation. Although the committee made great efforts to achieve a survey demographic across gender, party affiliation, geographical location, and language that was representative of the 43rd Canadian Parliament, there were certain demographics that were ultimately under-represented. For these reasons, trends highlighted in this report and comparisons between MPs and senators should be interpreted with these limitations in mind. Finally, the committee acknowledged the possibility that the data presented in this report may be biased towards more positive perceptions of scientific knowledge, since this survey was more likely to have been completed by parliamentarians who have an interest in science. Even with these limitations, this study provides a critical step forward in understanding parliamentarians' needs regarding acquisition of scientific knowledge in their work and proposing possible mechanisms to support these needs.

In conclusion, the current report reveals that parliamentarians' inclination to use science in policy-making has increased in light of the COVID-19 pandemic. Moreover, parliamentarians are more aware than ever of the necessity for accurate and accessible scientific knowledge in their work. There are clear challenges facing the use of scientific knowledge in policy-making, namely misinformation and disinformation, but participants highlighted different key proposed mechanisms that can better integrate science and research into the framework of public policy.

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## Annex A: Survey Questions

### Section 1: Impacts of the COVID-19 Pandemic on Parliamentary Work

**Question 1.**

Compared to before the COVID-19 pandemic, how would you describe the accessibility of reliable scientific knowledge in your parliamentary work?

Rating scale questions: Please check one box that is most characteristic.

| *Much less accessible* | *Less accessible* | *No change* | *More accessible* | *Much more accessible* |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

Additional Comments (If desired):

**Question 2.**

Compared to before the COVID-19 pandemic, how has the exchange of scientific knowledge between parliament and the following groups changed in your parliamentary work?

Rating scale questions: Please check one box that is most characteristic for each row.

| | *Much less scientific knowledge exchanged* | *Less scientific knowledge exchanged* | *No change* | *More scientific knowledge exchanged* | *Much more scientific knowledge exchanged* |
|---|---|---|---|---|---|
| Academia | ○ | ○ | ○ | ○ | ○ |
| Private sector comprising of health related companies | ○ | ○ | ○ | ○ | ○ |
| Private sector comprising of non-health related companies | ○ | ○ | ○ | ○ | ○ |
| Non-profit/Non-governmental organization sector | ○ | ○ | ○ | ○ | ○ |
| Government of Canada departments/Public servants | ○ | ○ | ○ | ○ | ○ |
| Peers/Other parliamentarians | ○ | ○ | ○ | ○ | ○ |
| Your constituents/residents of your designation | ○ | ○ | ○ | ○ | ○ |

Additional Comments (If desired):

**Question 3.**
Compared to before the COVID-19 pandemic, how has your use of scientific knowledge changed in the following aspects of your work?

Rating scale questions: Please check one box that is most characteristic for each row.

| | *Used much less frequently* | *Used less frequently* | *Same* | *Used more frequently* | *Used much more frequently* |
|---|---|---|---|---|---|
| Parliament sessions/Question period | ○ | ○ | ○ | ○ | ○ |
| Work within parliamentary committees | ○ | ○ | ○ | ○ | ○ |
| Party/Caucus meetings | ○ | ○ | ○ | ○ | ○ |
| Engaging with your constituents / Residents of your designation | ○ | ○ | ○ | ○ | ○ |
| Communication with media | ○ | ○ | ○ | ○ | ○ |
| Policy making/Decision making | ○ | ○ | ○ | ○ | ○ |

Additional Comments (If desired):

**Question 4.**
Compared to before the COVID-19 pandemic, how has your need for the following types of scientific knowledge shifted in your decision making and work as a parliamentarian?

Rating scale questions: Please check one box that is most characteristic for each row.

| | *Much less needed* | *Less needed* | *Same* | *More needed* | *Much more needed* |
|---|---|---|---|---|---|
| Health sciences (e.g. public health, vaccine research, cancer treatment, etc.) | ○ | ○ | ○ | ○ | ○ |

| | | | | | |
|---|---|---|---|---|---|
| Economics | ○ | ○ | ○ | ○ | ○ |
| Indigenous Knowledge | ○ | ○ | ○ | ○ | ○ |
| Natural sciences and engineering (e.g. biology, chemistry, physics, mathematics, engineering) | ○ | ○ | ○ | ○ | ○ |
| Environmental science (e.g. climate, environment, earth studies) | ○ | ○ | ○ | ○ | ○ |
| Social sciences and humanities (e.g. psychology, sociology, law, ethics) | ○ | ○ | ○ | ○ | ○ |

Additional Comments (If desired):

## Section 2: Accessibility and Usage of Science through the Pandemic

**Question 5.**

How has the COVID-19 pandemic affected the challenge of addressing misinformation (unintentionally misleading information) and disinformation (intentionally misleading information) surrounding scientific knowledge among your constituents/residents of your designation?

Rating scale questions: Please check one box that is most characteristic for each row.

| | *Much less challenging* | *Less challenging* | *No change* | *More challenging* | *Much challenging* |
|---|---|---|---|---|---|
| Misinformation (unintentional) | ○ | ○ | ○ | ○ | ○ |
| Disinformation (intentional) | ○ | ○ | ○ | ○ | ○ |

Additional Comments (If desired):

**Question 6.**

In your parliamentary work related to the COVID-19 pandemic, how often have you faced the following obstacles when trying to incorporate scientific knowledge into your work?

Rating scale questions: Please check one box that is most characteristic for each row.

| | *Never* | *Rarely* | *Occasionally* | *Often* | *Very Often* |
|---|---|---|---|---|---|
| Unsure how/where to find relevant science | ○ | ○ | ○ | ○ | ○ |
| Scientific findings are presented with too much specialist jargon | ○ | ○ | ○ | ○ | ○ |
| Difficult to discern between reliable and unreliable science | ○ | ○ | ○ | ○ | ○ |
| Science evolves too rapidly/no scientific consensus | ○ | ○ | ○ | ○ | ○ |
| Lack of scientific expertise in a particular area | ○ | ○ | ○ | ○ | ○ |
| Available science is not directly applicable | ○ | ○ | ○ | ○ | ○ |
| Limited time/capacity within office | ○ | ○ | ○ | ○ | ○ |
| Constituent demands are in conflict with science | ○ | ○ | ○ | ○ | ○ |
| Others: please specify in additional comments | ○ | ○ | ○ | ○ | ○ |

Additional Comments (If desired):

**Question 7.**

In your parliamentary work related to the COVID-19 pandemic, how often have you sought out/researched for new scientific knowledge from each source?

Rating scale questions: Please check one box that is most characteristic for each row.

| | *Never* | *Rarely* | *Occasionally* | *Often* | *Very Often* |
|---|---|---|---|---|---|
| Domestic scientific sources (e.g. Canadian post-secondary institutions, research institutes) | ○ | ○ | ○ | ○ | ○ |
| International scientific sources (e.g. WHO, UNESCO, Gates Foundation, international post-secondary institutions) | ○ | ○ | ○ | ○ | ○ |

| | | | | | |
|---|---|---|---|---|---|
| Scientific journals and peer-reviewed literature (e.g. New Scientist, Nature, Science) | ○ | ○ | ○ | ○ | ○ |
| Private sector (e.g. vaccine distributors,medical supply producers, interest/advocacy groups) | ○ | ○ | ○ | ○ | ○ |
| Non-profit/non-governmental organization sector (e.g. CIFAR, Genome Canada, MITACS, interest/advocacy groups) | ○ | ○ | ○ | ○ | ○ |
| Public health authorities (e.g. federal, provincial, municipal) | ○ | ○ | ○ | ○ | ○ |
| Indigenous governments, organizations, and communities | ○ | ○ | ○ | ○ | ○ |
| Library of Parliament | ○ | ○ | ○ | ○ | ○ |
| Party sources (e.g. caucus research office, personal staff) | ○ | ○ | ○ | ○ | ○ |
| Mainstream news organizations (e.g. national, provincial, local, or international news outlets) | ○ | ○ | ○ | ○ | ○ |
| Science media (e.g. Science Media Centre of Canada, Quebec Science, etc.) | ○ | ○ | ○ | ○ | ○ |
| Direct consultation with expert (e.g. scientist, physician, committee witness presentations) | ○ | ○ | ○ | ○ | ○ |
| Family, friends, personal contacts, or your constituents/residents of your designation) | ○ | ○ | ○ | ○ | ○ |
| Social media, search engines, news aggregator apps (e.g. Facebook, Instagram, LinkedIn, Google) | ○ | ○ | ○ | ○ | ○ |
| Others: please specify in additional comments | ○ | ○ | ○ | ○ | ○ |

Additional Comments (If desired):

**Question 8.**

Throughout the COVID-19 pandemic, which modes has your office used to communicate scientific knowledge to your constituents/residents of your designation?

Multiple answer: Please check all boxes that apply.

| | |
|---|---|
| Newsletters/emails | ○ |
| Questionnaires/surveys | ○ |
| In-person/virtual events | ○ |
| Social media | ○ |
| Official communications by your political party | ○ |
| Public health authorities | ○ |
| Experts among your constituents | ○ |
| Local news organizations | ○ |
| Other: please specify in additional comments | ○ |

Additional Comments (If desired):

## Section 3: Lessons Learned on Reducing Barriers to Accessing Science

**Question 9.**
As a parliamentarian, I think that scientific knowledge needs to be translated into an accessible and policy-ready format and language for my work.

Rating scale questions: Please check one box that is most characteristic.

| *Strongly disagree* | *Disagree* | *Neither agree nor disagree* | *Agree* | *Strongly agree* | *I prefer not to comment* |
|---|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ | ○ |

Additional Comments (If desired):

**Question 10.**
Which of the following mechanisms, if any, would help to provide you with timely, accessible, and understandable scientific knowledge to be used in your work as a parliamentarian?

Multiple answer: Please check all boxes that apply.

| | |
|---|---|
| Non-partisan science advisor for the House of Commons/Senate | ○ |
| Committee of scientists and civil servants for the House of Commons/Senate | ○ |

| | |
|---|---|
| Indigenous advisors for the House of Commons/Senate | ○ |
| Scientist and parliamentarian pairings (e.g. Royal Society Pairing Scheme) | ○ |
| Briefings on 'hot' scientific topics (e.g. UK Parliamentary Office of Science and Technology) | ○ |
| Scientists working in party research office | ○ |
| Research summaries from experts in an accessible form for parliamentarians | ○ |
| Openly accessible scientific literature (e.g. not behind a paywall) | ○ |
| More science journalism in mainstream media | ○ |
| An "expert network" to help find relevant experts within constituency | ○ |
| An "expert network" with post-secondary institutions to help find relevant academic for collaboration and consultation | ○ |
| An "expert network" with the private sector to help find relevant academic for partnerships and consultation | ○ |
| Other: please specify in additional comments | ○ |

Additional Comments (If desired):

**Question 11.**

Overall, how has the COVID-19 pandemic affected your inclination to use scientific knowledge for your future parliamentary work on other science-related issues (such as but not limited to economic recovery, energy, environment, agriculture, etc.)?

Rating scale questions: Please check one box that is most characteristic.

| *Much less inclined* | *Less inclined* | *No change* | *More inclined* | *Much more inclined* | *I prefer not to comment* |
|---|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ | ○ |

Additional Comments (If desired):

## Recommendations for the Scientific Community

Please provide any additional information not covered in the survey, on your experience with scientific knowledge as a parliamentarian through the COVID-19 pandemic.

Short answer: Please fill in the box.

Do you have any comments, feedback, or suggestions for how CSPC and/or the science community can better support parliamentarians in their use of scientific knowledge?

Short answer: Please fill in the box.

CSPC plans to release a two page executive summary based on the findings of this survey, followed by a detailed report and infographics via official CSPC social media. If you have additional requests regarding the format of dissemination of survey results, please indicate here. CSPC will do its best to accommodate these preferences.

Short answer: Please fill in the box.

## Annex B: Participant Consent

Guiding Principles and Methodology

Thank you for your participation in this survey of current Canadian parliamentarians, conducted through the Canadian Science Policy Centre (CSPC). The purpose of our study is to understand how the perception and usage of science in parliament for policymaking may have shifted as a result of the COVID-19 pandemic. We aim to gather representative data from current Members of Parliament and senators. Survey results will be disseminated by CSPC, first to the parliamentarians with the intent to inform them of the role of science in the work of their peers. The results will subsequently be shared with CSPC's target audience of academics, scientists, and public servants to help them better prepare and communicate scientific information to decision-makers.

Demographic information is requested from respondents for the sole purpose of ensuring that sample demographics are representative of the current parliament. All information released to the public will be fully anonymized and aggregated to prevent any identification, including party affiliation, gender, geographical location, and language. Providing demographic information is encouraged, but not mandatory to participate in the survey.

The CSPC has identified five guiding principles to serve as the foundation of this survey:

1. The Intent to Assist: The survey is designed to help parliamentarians in three ways. First, the findings will be made available to parliamentarians to provide a timely look at the current use of science by parliamentarians. Second, the findings will be made publicly available with recommendations to scientists and public servants, so that they may better communicate information based on scientific research to parliamentarians. Third, the findings will provide a unique "Zeitgeist" for the role of science in Canada, to be used as a resource by decision-makers, public servants, scientific experts, and the general public when reflecting on lessons learned from this public health crisis. We seek to establish long-term knowledge exchange strategies and provide a primary account from decision-makers for current and future parliamentarians alike.
2. Fair and Balanced Representation: The CSPC will strive to ensure that responses to this survey provide a representative sample of the demographics of the current House of Commons and Senate, based on the four demographic criteria on which parliament is organized. These include party affiliation, gender, geographical location, and language, as listed on the websites of the Canadian House of Commons and the Senate. The role of the CSPC will be to evaluate these four demographic categories of respondents and balance the responses by soliciting responses from underrepresented groups through a randomized approach. A breakdown of these demographics after primary contact and secondary contact will be included in any deliverables, for full transparency.
3. Avoiding Bias: This survey will be conducted through this secure online form hosted by SimpleSurvey, with all responses being analyzed by the CSPC Evaluation and Reports Committee. All survey recipients will receive the same survey questions with the same prompts, provided in either French or English based on the language selected. In cases where the MP or senator requests the survey to be conducted over a phone or video call, the CSPC Evaluation and Reports Committee will conduct the survey using the same questions and prompts provided on the online form.
4. Consent: The CSPC acknowledges that participation in this survey is voluntary and as a respondent, you may withdraw your responses at any time, prior to results dissemination. If you

withdraw your consent, we will delete your response within 48 hours and notify you of its deletion from our records. Furthermore, any questions can be skipped during the survey process. By providing consent, you acknowledge that your responses will be used to meet our survey objectives. Direct, unattributed quotes from responses may be presented in the survey report as part of the analysis. All responses will be given equal weight in the survey analysis. The CSPC acknowledges that survey responses will not impact the standing of the parliamentarian within the CSPC organization, now or in the future. Anonymity of survey responses will be maintained in the dissemination of survey results, such that responses will be aggregated and will not be identifiable to any individual or party. The CSPC may use the anonymized responses for analysis, in final deliverables, and on social media channels.

5. Privacy and Security: As a respondent for this survey, you are entitled to protection of privacy. Access to disaggregated information that may be identifiable to specific demographic categories will be restricted to the CSPC Evaluation and Reports Committee. All reported data and analysis will be aggregated. Furthermore, survey analysts will be bound to confidentiality. Through SimpleSurvey, response data is held on Canadian servers and is encrypted and password protected. Basic demographic information, as described above, will be provided in our final deliverable. To ensure due diligence to make participation anonymous, in the case of parliamentarians from the Yukon, Northwest Territories, or Nunavut, the territory of representation will be listed as “Territories.” At the end of the survey period (31-05-2022), all responses will be downloaded from our survey host and demographic information will be separated from the survey responses. The data collected will be available to the CSPC Evaluation and Reports Committee during the period of data analysis and deliverable preparation, after which, the data will be held solely by the President of the CSPC for a period of five years before being securely destroyed. Survey respondents and relevant staff who wish to have their participation recognized may opt-in to a participant acknowledgement section.

By checking this box I confirm that I have read the above statement of consent and I agree, of my own free will, to the terms and conditions for participation in this survey. At the end of this survey, I have the ability to download a copy of this statement of consent for the purpose of record.

NOTE: You will have the option to submit your final responses or withdraw participation from the survey at any time after agreeing to these terms.

○ I consent to the above