The Public Health Agency of Canada's Behavioural Science Office (BeSciO):

The First Two Years – April 2021 to March 2023

Public Health Agency of Canada
Agence de la santé publique du Canada

Canada

TO PROMOTE AND PROTECT THE HEALTH OF CANADIANS THROUGH LEADERSHIP, PARTNERSHIP, INNOVATION AND ACTION IN PUBLIC HEALTH.

—Public Health Agency of Canada

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Behavioural Science Office

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LAND ACKNOWLEDGEMENT

The Public Health Agency of Canada's Behavioural Science Office team is humbled and grateful to carry out its work on many traditional and unceded territories of First Nations, Inuit, and Métis peoples. We acknowledge the ancestral connection to these lands, and we respect the richness and importance of the cultures, languages, and practices that have taken place across these lands since time immemorial.

MESSAGE FROM THE EXECUTIVE TEAM

We are thrilled to present *The Public Health Agency of Canada's Behavioural Science Office (BeSciO): The First Two Years – April 2021 to March 2023*. This report highlights the Public Health Agency of Canada (PHAC)'s progress in building a behavioural science function through the establishment of BeSciO, and the activities and achievements of BeSciO from April 2021 to March 2023, during its first two years of operations as PHAC's center of expertise in behavioural science.

BeSciO's establishment in Spring 2021 signaled formal recognition of the significant role human behaviour and decision-making play in achieving public health goals and improving health outcomes for Canadians. Launching in the midst of the COVID-19 pandemic was not easy, but it did equip PHAC with timely capacity to provide the rapid advice and deep-dive evidence needed to support the Government of Canada's pandemic response. As key lessons from the pandemic continue to emerge, the field of behavioural science is now making even bigger contributions to priority public health areas beyond the pandemic, like mental health and wellness, antimicrobial resistance, and climate change, among others. Through its applied research program and evidence-based insights, BeSciO is poised to continue making impact across a multitude of public health domains that affect Canadians for years to come.

As we reflect on the first two years, we would be remiss not to mention the many partnerships and collaborations that BeSciO has formed with organizations across PHAC and the Government of Canada. We have been incredibly fortunate to collaborate with several program areas across PHAC whose expertise and wisdom have improved the research we undertake together. We have joined forces with the Office of the Chief Public Health Officer, the World Health Organization, the Organisation for Economic Co-operation and Development and the Behavioural Insights Team, to name only a few. The Privy Council Office's Impact and Innovation Unit has also been a pivotal partner and co-leader on the frontier of the Government of Canada's behavioural science, innovation and experimentation agenda since BeSciO's inception.

And last but certainly not least, we are indebted to the incredible staff of BeSciO, as well as PHAC's Data, Surveillance and Foresight Branch (formerly Corporate Data and Surveillance Branch). In only two short years, this group of committed and interdisciplinary professionals has helped build BeSciO from a scrappy start-up to a maturing practice; their creativity and collaborative spirit exemplify the very best of our talented and dedicated public service.

As we invite you to explore BeSciO's first two years, we are already eager to share BeSciO's 2023-24 highlights, but those will have to wait until our first annual report in 2024. In the meantime, you can connect with us anytime at bescio-bsc@phac-aspc.gc.ca.

Yours in behavioural science,

Heather Devine (she | elle)
Acting Director of the Behavioural Science Office

Dhurata Ikonomi (she | elle)
Former Acting Executive Director of the Centre for Integrated Insights

BUILDING THE PUBLIC HEALTH AGENCY OF CANADA'S BEHAVIOURAL SCIENCE FUNCTION THROUGH ESTABLISHING A BEHAVIOURAL SCIENCE OFFICE

PHAC'S COMMITMENT TO BEHAVIOURAL SCIENCE

The Public Health Agency of Canada (PHAC) promotes and protects the health of Canadians through leadership, partnership, innovation and action in public health. PHAC is committed to providing timely, trusted, and evidence-based information by continuing to build behavioural science capacity and deliver impact across PHAC programs. This includes the expansion of behavioural science research and insights beyond the pandemic to include other public health priorities and building behavioural science capacity and communities through the development of research tools, training, and networks.

WHAT IS BEHAVIOURAL SCIENCE?

Behavioural Science (BeSci) is a multidisciplinary approach to the study of human behaviour and decision-making, combining findings and methods from psychology, neuroscience, and other social sciences. Practitioners consider how psychological, sociocultural, and systemic factors influence the context and environment in which people make decisions. Understanding the diverse barriers and motivations for decision-making enables practitioners to design and test solutions that drive demonstrable and meaningful impacts on behaviour-based outcomes.

BEHAVIOURAL SCIENCE OFFICE'S ORIGIN STORY

Behavioural Science (BeSci) had been applied across PHAC program areas to promote healthy behaviours of Canadians long before the COVID-19 pandemic and the creation of the Behavioural Science Office (BeSciO). Following a needs assessment in April 2021, the Minister of Health formally recognized the significant role human behaviour and decision-making play in achieving public health goals by establishing BeSciO as a first-of-its-kind, central hub for BeSci advice and expertise within the Data, Surveillance and Foresight Branch (formerly Corporate Data and Surveillance Branch) of PHAC. Creating BeSciO introduced an innovation and experimentation function within the Branch to support PHAC's revitalization as a world leading, data-driven public health organization.

Since launching, BeSciO has collaborated closely with PHAC's program areas to address priority public health areas that advance their mandates. In partnership with the Privy Council Office's Impact and Innovation Unit (IIU), also known as Impact Canada, BeSciO developed a start-up program and embedded behavioural science expertise in PHAC. In its first year, BeSciO addressed priority areas such as vaccine confidence, public health measures, combatting mis/disinformation, borders measures, and public health communications to inform key pandemic response activities. In its second year, BeSciO expanded its focus to new areas that emerged as critical to PHAC's mandate, including climate change and infectious disease, mental health, and antimicrobial resistance.

In just two short years, PHAC's investments in behavioural science have built up a centre of expertise that undertakes deep-dive research and provides rapid advice to generate public health-related BeSci evidence and insights, integrating them into action via policy, communications and programming interventions.

BEHAVIOURAL SCIENCE IN PUBLIC HEALTH

An increasing number of countries across the world are already using behavioural science to improve health outcomes. In the public health context, BeSci can be thought of as a lens through which to help understand and address public health challenges at the individual, group, and societal level. An understanding of human decision-making tendencies:

- ✓ results in more informed predictions of how people will respond to programs and policies;
- ✓ facilitates the identification of barriers that prevent people from acting in the interest of their health and others';
- ✓ enables the design of programs and policies that align with how people tend to think, feel, and behave; and,
- ✓ encourages evaluations of programs and interventions with an emphasis on meaningful behavioural outcomes, in order to determine the best way forward.

BESCIO'S VISION, MISSION, AND MANDATE

VISION 	BeSciO is a trusted and innovative leader in equipping PHAC and partners with evidence-based, equitable, and data-informed behavioral science insights, driving proactive action to address the greatest public health threats facing people in Canada.
MISSION 	BeSciO equips public health decision-makers with rigorous, integrated behavioural science insights to improve policy, communications, and programming interventions and promotes awareness and timely application of behavioural science across PHAC, Canada, and beyond.
MANDATE 	To ensure behavioural science evidence is fully translated and integrated across policy, communication, and programming interventions supporting PHAC's revitalization as a world leading, data-driven public health organization.

BESCIO'S FIRST TWO YEARS: BY THE NUMBERS*

Expanding Behavioural Science Evidence and Insights

Completed
11
deep-dive research projects

Delivered
50+
requests for rapid advice

Recruited
10
Behavioural Science Fellows

Strengthening and Mobilizing the Practice of Behavioural Science

Delivered
10+
training sessions

Enlisted
308
PHAC BeSci Community of Practice members

Released
63
BeSciO digests, newsletters, and publications

BeSciO staff also participated in numerous conferences, presentations, podcasts, and blogs to share evidence and insights with the behavioural science community.

* Statistics collected in March 2023

DEEP-DIVE RESEARCH AND ADVISORY SERVICES– WHAT ARE THEY?

- BeSciO's deep-dive research implements the IMPActS framework (Identify the challenge; Map the behaviours and barriers; Protype the solutions; Act on the hypotheses; Scale the insights) to generate new evidence and insights and fills existing knowledge gaps. Deep-dive research often takes several months to complete and produces findings that are translated and mobilized widely.

- BeSciO also responds to requests for behavioural public health advice that require a quick turnaround. Rapid advisory services are provided after a scan of existing behavioural evidence from relevant literatures.

MANY PRIORITY PUBLIC HEALTH AREAS ADDRESSED, INCLUDING:

COVID-19

RESPIRATORY INFECTIONS

PUBLIC TRUST

ANTIMICROBIAL STEWARDSHIP

CHILDHOOD IMMUNIZATIONS

MENTAL HEALTH

PUBLIC HEALTH MEASURES

CLIMATE CHANGE

INFECTIOUS DISEASES

CHRONIC DISEASES

BUILDING A PUBLIC HEALTH BEHAVIOURAL SCIENCE PRACTICE

Although PHAC's Behavioural Science Office joins a growing list of over 300 applied behavioural science units around the globe, BeSciO is the first Canadian federal public service unit dedicated to applying BeSci to public health.

BeSciO has built a multidisciplinary team and put in place strong foundational systems and practices in order to:

- Deliver timely behavioural science expertise and advice to public health decision-makers, and
- Build capacity to develop and integrate behavioural science evidence into public health decisions about policies, programs, and communications.

"Today it is absolutely unthinkable to be doing public health without putting people at the heart of what we do." - Elena Altieri, Unit Head, Behavioural Insights, World Health Organization (2022)

To plan for the growth of dedicated behavioural science capacity in PHAC, BeSciO has developed a maturity plan that outlines the office's evolution from start-up to mature program within five years.

2021/22	2022/23	2023-25	2025+
Stage 1 DEVELOPING	**Stage 2 EMERGING**	**Stage 3 ACHIEVING**	**Stage 4 OPTIMIZING**
Driven by the **pandemic.** Building **program fundamentals.**	Expanding **beyond the pandemic.** Building **capacity and community** through **tools and networks.**	Contributing to the **global evidence base** as a **mature program.** Investing in PHAC-led **research infrastructure and surge capacity.**	**Evolving and innovating the practice** as the behavioural science field and public service needs evolve.

RESPONDING TO THE COVID-19 PANDEMIC

With the onset of the COVID-19 pandemic in 2020, it became clear that behavioural science could play an effective role in helping to keep people in Canada safe. Early in the pandemic, PHAC worked with the Impact and Innovation Unit (IIU) to launch a research program with the goal of integrating evidence-based, behaviourally-informed insights and recommendations into public communication materials, policy and program considerations, and whole-of-government decision making to reduce the spread of COVID-19 in Canada. The creation of the Behavioural Science Office (BeSciO) the following year supported and expanded on these efforts.

"During the pandemic, we leveraged evidence from risk communications and behavioural science research to design messaging about vaccines and public health measures to support the informational needs of the public, as well as promoted the behaviours needed to keep people safe." – Dr. Harpreet Kochhar, Former President, Public Health Agency of Canada (2022)

BeSciO continues to collaborate closely with the IIU and many other public health partners on a range of applied research projects*, including the second phase of the COVID-19 Snapshot Monitoring (COSMO Canada), a behavioural population-based study designed to meet the specific, changing needs of Canadians throughout the pandemic.

**Please note that this report provides information up to March 2023, and subsequent developments, including the completion of certain research projects, are not reflected.*

SPOTLIGHT: COVID-19 SNAPSHOT MONITORING (COSMO CANADA) STUDY

PARTNERS

Privy Council Office's (PCO) Impact and Innovation Unit (IIU) and Public Opinion Research Team

CHALLENGE

"The COVID-19 outbreak has placed an overwhelming burden on health systems and authorities to respond with effective and appropriate interventions, policies and messages. One of the most critical elements of reducing virus transmission is public behaviour."

– World Health Organization (2020)

PROJECT

Following the onset of the COVID-19 pandemic, the World Health Organization (WHO) published the WHO Behavioural Insights Tool to assist nations in monitoring public knowledge, risk perceptions, and behaviors related to COVID-19, with the goal of supporting nations to promote evidence-based, effective responses that help reduce virus transmission.
The Government of Canada leveraged the WHO Behavioural Insights Tool to conduct the COVID-19 Snapshot Monitoring (COSMO Canada) Longitudinal Study.

The COSMO Canada Study generates data to inform our understanding of the knowledge, perceptions, and behaviours of people in Canada related to the pandemic. With its longitudinal design, the survey is updated to reflect the current COVID-19 situation and tracks how various measures evolve with the progression of the pandemic.

Phase 1 of the study, led by PCO in partnership with PHAC, collected data from more than 2,000 people in Canada over sixteen waves of data collection from April 2020 to November 2021. In February 2022, BeSciO partnered with the IIU to launch the second phase of the study with a new sample of 2,000 adults for eight waves of data collection, the last of which launches in May 2023.

COSMO Canada examines data on many aspects of Canadians' pandemic experience, including
public health measures, adult vaccination and pediatric vaccination, sources of information and trust, COVID-19 knowledge and misinformation, mental health and wellbeing, as well as pandemic outlook and recovery.

KEY INSIGHTS

Findings from multiple waves of the COSMO Canada Study over the course of the pandemic have helped

inform a variety of public health responses, including policy, interventions, and communications. Key insights include:

- Trust in government information was among the strongest predictors of Canadians' adherence to protective behaviours, willingness to vaccinate against COVID-19, and support re-introducing measures, if needed.
- People's attitudes and risk perceptions related to travel and border measures were linked to and in line with public health risk mitigation evidence, including strong and persistent support for testing and vaccination requirements for travel to mitigate infection and transmission risks. Greater belief in misinformation has been consistently and significantly associated with behavioural intentions, lower pro-vaccination attitudes and lower self-reported adherence to protective behaviours throughout the pandemic, including reduced support for and use of rapid COVID-19 tests and reduced support for re-introducing public health measures, if needed.
- Cognitive and behavioural factors - what people are thinking, believing and doing - have shown to be significantly more predictive of adherence to key public health behaviours than demographics alone.

In close to real-time, robust evidence generated through this longitudinal research are translated into application. For instance, COSMO findings and insights provided the evidence base for many of PHAC's campaigns and outreach to the Canadian public, including the "My Why" social vaccination campaign that applied COSMO research on social norms to encourage Canadians to share their reasons for choosing to vaccinate. Moreover, there has been continuous engagement with provinces and territories and sharing of knowledge through forums such as the Federal, Provincial and Territorial Special and Technical Advisory Committees on COVID-19 to support policy efforts and strategies on public health measures and vaccines across the country.

NEXT UP

BeSciO and IIU are leveraging COSMO data and insights to explore related lines of research, including:

- Advance understanding of Canadians' pandemic-related perceptions, attitudes, and behaviours in a transitioning pandemic environment, including Canadians' intentions to follow public health measures to combat transmission of respiratory diseases
- Conducting studies on mis/disinformation and public trust, including investigating Canadians' trust in PHAC as a source of public health information
- Exploring opportunities to build on the successes of the COSMO Study with the development of a new, population-based research study to gather behavioural insights on emerging PHAC priorities beyond the pandemic

PROVIDING BEHAVIOURAL SCIENCE EVIDENCE AND EXPERTISE: BEYOND THE PANDEMIC

After its launch, BeSciO built its capacity to conduct applied research and generate behavioural science evidence and expertise with the goal of improving public health outcomes. This work includes deep-dive, focused research projects with PHAC program areas and Government of Canada partners, as well as rapid analysis and advice on key public health challenges.

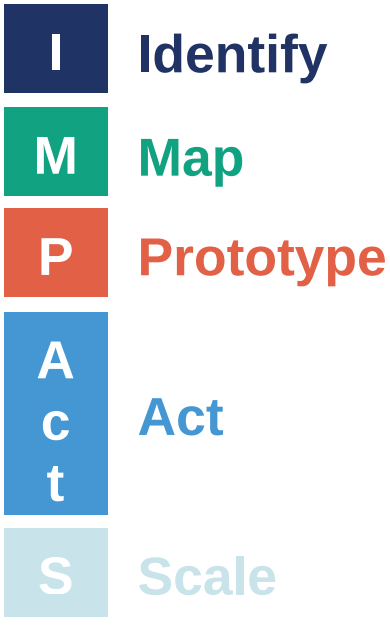
"Public Health Measures and Guidance Division (PHMGD) has worked closely with BeSciO and some of the BeSciO Fellows. They have been an incredibly valuable resource to inform our work, and the guidance we release for the Canadian public."- PHMGD (2022)

WHAT DOES APPLIED RESEARCH AT PHAC'S BESCIO LOOK LIKE?

BeSciO's research projects follow the IMPActS model, an organizing structure that describes the BeSciO project lifecycle. The IMPActS model was developed by BeSciO in partnership with the Privy Council Office's Impact and Innovation Unit (IIU); it sets out an iterative, adaptable framework to support individual project needs and to guide BeSciO's collaborations with program areas and partners.

As of March 2023, BeSciO has nine key research projects at various stages of the IMPActS lifecycle across a diverse array of public health domains. Project areas include antimicrobial stewardship, childhood immunizations, mask wearing, mis/disinformation, mental health, infectious diseases, healthy living and climate change.

Phase	Description
IDENTIFY	Determine how behavioural science can suitably be applied to the policy challenge
MAP	Further understand the key drivers and barriers of the target behaviour to facilitate hypothesis generation and identify potential points of intervention
PROTOTYPE	Generate feasible and impactful behavioural intervention ideas and design a study or trial to robustly evaluate the impact of these interventions
ACT	Activate the study protocol to test hypotheses, generate findings, and support knowledge translation
SCALE	Implement and scale the results and recommendations of the behavioural science research project



SPOTLIGHT: ROUTINE CHILDHOOD IMMUNIZATION DURING THE PANDEMIC

PARTNERS

Vaccine Behaviour and Confidence Team (PHAC)

Privy Council Office's Impact and Innovation Unit (IIU)

CHALLENGE

One important way for parents to protect their children's health is by keeping their vaccinations up to date. Although Canada has maintained relatively high childhood vaccination rates, the COVID-19 pandemic shifted Canadian parents' confidence and intent to vaccinate their children.

PROJECT

BeSciO and PHAC's Vaccination Behaviour and Confidence Team partnered with the IIU on a research project to support the catch-up and success of routine childhood immunization programs. The research team conducted a survey with Canadian parents in January 2023.

KEY INSIGHTS

Canadian parents' confidence in vaccines remains high; however, the pandemic may have increased concerns and polarized opinions.

- Up to 25% of parents missed or delayed a routine childhood immunization appointment for their child(ren) at some point since the pandemic began.
- COVID-19-related concerns were among the top barriers associated with missed or delayed vaccines, including concerns about interactions between routine and COVID-19 vaccines.
- To make routine immunization easier, parents indicated interest in:
  - Better availability/option of vaccination at the pharmacy
  - More convenient appointment times
  - Reminders when their children are due to be immunized

NEXT UP

The topline findings from the survey are being written up for academic publication and shared out with relevant groups in government and the public who are well-positioned to apply the insights.

SPOTLIGHT: ANTIMICROBIAL RESISTANCE AND STEWARDSHIP

PARTNERS

PHAC's Antimicrobial Resistance Task Force (AMR-TF)

Privy Council Office's Impact and Innovation Unit (IIU)

CHALLENGE

The threat of antimicrobial resistance (AMR) is rising, leading to increased illness, death and healthcare costs. In long-term care homes (LTCHs), high rates of infection coupled with high antibiotic use create a selective pressure for antimicrobial-resistant organisms that pose a risk to residents and staff, as well as surrounding hospitals and communities.

PROJECT

In partnership with PHAC's Antimicrobial Resistance Task Force (AMR-TF), BeSciO conducted a literature synthesis to assess factors influencing antibiotic prescribing decisions in the unique context of long-term care facilities and the impacts on their residents and staff.

KEY INSIGHTS

Antimicrobial stewardship interventions were found to be successful in LTCHs, though there was considerable variation in the literature. Prescribing decisions are influenced by the context of the individual patient, including factors like:

- health status and cognitive abilities,
- caregivers,
- the clinical environment,
- the healthcare system, and
- surrounding sociocultural environment.

There is a clear need for more well-designed studies that explore innovative and multifaceted solutions to antimicrobial stewardship in long-term care homes.

NEXT UP

BeSciO completed an in-field pilot project with the objective of improving antimicrobial stewardship in LTCHs that will be rolled out in a larger scale in spring of 2024. The project will test and evaluate the effectiveness of clinician feedback, as well as education for clinicians and family/friend caregivers in LTCHs across Canada.

GROWING BEHAVIOURAL SCIENCE CAPACITY & COMMUNITY IN PUBLIC HEALTH

Building behavioural science capacity and community across PHAC is critical to delivering on PHAC's mission to promote and protect the health of Canadians. To advance the knowledge and practice of behavioural science at PHAC, BeSciO has worked hard to develop and leverage behavioural science capacity, networks and partnerships across PHAC, Canada and internationally.

PHAC BEHAVIOURAL SCIENCE COMMUNITY OF PRACTICE

BeSciO established the PHAC Behavioural Science Community of Practice (PHAC BeSci CoP), an informal knowledge-sharing community open to everyone in the Health Portfolio. The CoP aims to grow members' understanding of behavioural science, share interdisciplinary knowledge, and collaborate to advance BeSci at PHAC.

The CoP launched in November 2022 and hosts bi-monthly meetings featuring guest speakers leading discussions on a variety of public health areas. BeSciO also hosts monthly BeSci Cafés, an informal opportunity to connect with colleagues who practice or have an interest in behavioural science.

BEHAVIOURAL SCIENCE TRAINING AND INFORMATION SESSIONS

To develop the understanding, practice, and application of behavioural science across PHAC, BeSciO delivers training and information sessions to partners and program areas. These sessions offer a foundational understanding of behavioural science, and BeSciO's service offerings, while opening a dialogue for potential partnerships on emerging public health issues.

BEHAVIOURAL SCIENCE OFFICE: 2022 PUBLIC HEALTH AGENCY OF CANADA AWARD

In 2022, BeSciO received the Public Health Agency of Canada (PHAC) Award in Creativity, Innovation and Service Delivery - PHAC's highest level of formal recognition. The BeSciO team was recognized for their creative and innovative approaches that improved operations and helped to effectively communicate PHAC's mandate.

LOOKING AHEAD

PHAC's investment in building the behavioural science function over the past two years has produced a number of noteworthy achievements. Through strong collaborations and partnerships, behavioural science has informed positive changes to policies, program implementation and communications campaigns that delivered more effective public health actions. For example, behavioural insights have helped inform actions to reduce the spread of COVID-19 as well as improve antimicrobial stewardship, mental health and well-being, and childhood immunization, just to name a few.

With several research projects in the field across a diverse number of public health priority areas, a growing community of behavioural science practitioners and policy makers in the public health sphere, and a maturing behavioural science practice, behavioural science is poised to continue to deliver positive impacts on many key public health issues in the years to come and we are just getting started!

As the field of behavioural science moves to the forefront of shaping public health policy and program design, BeSciO is keen to keep playing a key role in improving health outcomes for Canadians as we move beyond the pandemic.

"I certainly see behavioural science as an essential part of the future of public health." - Dr. Theresa Tam, Chief Public Health Officer of Canada, Seventy-fifth World Health Assembly (2022)

CONNECT WITH US

Have a question? Want to learn more? Contact BeSciO at: bescio-bsc@phac-aspc.gc.ca.

Behavioural Science Office