



Introduction to Climate Change and Health



The physical climate system of the earth includes many different components that interact with each other to regulate the balance of energy in the earth's climate system, which in turn shapes the weather patterns we experience around the world (1). And while the earth's climate system has seen some variations throughout history, nothing has so dramatically affected the balance of energy throughout the earth's climate system as has the effects of human activities. Particularly the industrial revolution has spurred a pattern of human influences that continues to create environmental impacts that affect the earth's climate. Activities that cause the emission of greenhouse gases into the atmosphere, such as the burning of fossil fuels, serve to make the earth warmer (also called the "greenhouse effect"), much like the effects of a greenhouse.

Of greenhouse gases (GHGs), some stay in the atmosphere for a short period of time causing more short term effects, whereas others, such and carbon dioxide and nitrous oxide stay in the atmosphere for a long time (2). Carbon dioxide is believed to be primarily responsible for changing climate conditions (2). As carbon dioxide and other GHGs accumulate in the atmosphere, their greenhouse effects contribute to a warming earth and changes to the weather patterns we experience (2). Be it through changes in seasonal temperatures, changes in precipitations or evaporation patterns, or through the occurrence of more extreme weather events like tornadoes and ice storms.

Human health is intimately connected to the environment. For example, green space has been studied to have beneficial effects on wellness, physical and mental health for residents of urban cities (3). Natural environments provide us with the air we breathe, and life sustaining food and water. When the environment is altered it threatens these very systems that support our health and wellbeing. There are many actions that we can take to reduce the amount of GHGs that are emitted into the atmosphere (mitigation actions), as well as actions that serve to help us adapt to the effects of climate change (adaptation actions), both are important steps in preserving human health in the face of a changing climate. Some climate actions also offer health co-benefits, meaning that while the action may be good for the environment, there are also health benefits that can be gained. As an example, taking active transportation like biking to work helps to keep our air clean and also offers benefits from physical activity. As a second example, planting trees can provide shade, while also mitigating heat exposure and acting as a carbon sink.

Climate change also has significant implications for health equity. With health designated as a basic human right, the United Nations has stated that climate change poses a direct threat to human health. Furthermore, it is notable that those who are most vulnerable in our societies will disproportionately suffer harm from the effects of climate change (4). Children are particularly vulnerable to the effects of pollution and climate change making the need to protect future generations ever more pressing. This project looks to target parents by drawing on the importance of preserving the health of children in the face of climate change, both in the immediate and long term future.





The purpose of this project is to develop an evidence informed communication strategy that would serve to engage key target audiences who are not currently involved or actively supportive of initiatives that address climate change. By bringing together partners in both health and environmental sectors, the aim of this project is to leverage information about the health effects of climate change to appeal to audiences who are otherwise concerned about health, and are not currently engaged in climate conversations.

Through health-focused messaging, the objective of this project is to create a communication strategy that upon implementation in future phases of the project, could convey to key audiences the urgency for local and provincial strategies addressing climate change. This project encompassed several elements, including:

- Working with an advisory committee to incorporate the expertise of partners working in health and environmental sectors.
- Working with a communications firm to professionally develop a communication strategy.
- A scan of the literature for health impacts of climate change and a literature review around communication and public opinion around climate change.
- A stakeholder analysis and target audience research.
- Message development through consultation with subject matter experts.

Overview of Results from the Literature Reviews

Topic 1: Literature search methods for public opinion around climate change

Findings from the literature review explore the following key themes:

- i. Behavioural outcomes from messages that promote sustainable environmental practices
- ii. The importance for messaging to consider external factors with regard to behavioural outcomes
- iii. Messaging strategies that address external factors in vulnerable communities
- iv. Risk perception, attitudes and behaviours related to climate change
- v. Messaging that prioritize economic and market solutions

Topic 2: Literature search methods for health impact of climate change

The studies identified were deemed to be consistent with the current body of research that identify the key areas of concern when discussing health impacts of climate change to include: heat, air quality, UV exposure, vector-borne disease, and impacts associated with extreme precipitation (5).

Key Learnings from the Professional Development of the Strategy



By working with the consultants, the project team learned:

- The importance of being clear in the objective for the communication strategy
- The importance of ensuring that the target audience is well defined
- The short term and long term goals for the strategy
- The need for a clear and structured audience journey to link simple concepts, taking the audience from intrigue to action
- The need to ensure fact-based messaging is not only accurate and credible, but also appealing and relatable to the audience

Lessons from a Collaborative Experience in Messaging Development

A key asset of this project was the ability to consult with an Advisory Committee throughout the project around key activities and decision points. Lessons learned from our experience in collaborating for the purpose of creating a communication strategy around climate change include:

- Being able to provide an honorarium to non-profit project partners participating on the advisory committee was well-received and may have served to enable engagement in the project activities to a greater extent.
- Climate change presents a common threat to a wide range of sectors. This communication strategy presented an opportunity for a diversity of expertise to come together under a common mission to increase public support for climate solutions.
- Throughout the development of the strategy, it was found that many environmental and health sector partners were already tackling similar issues and benefited from sharing perspectives and strategies that have worked in their respective audiences.

Lessons from a Collaborative Experience in Messaging Development cont.



- Early in the project, transparency around the budget, project plan, and project roles were enablers to a cohesive environment. Decision making around the strategic imperatives was also approached by way of group consensus, which was believed to facilitate robust discussion and critical analysis of the alternatives. It was however important to have a lead organization acting as a secretariat for the project and coordinating the various project activities. This was believed to facilitate more effective engagement of the Advisory Committee because the committee could focus on areas where their expertise could be most impactful.
- Decision making by group consensus at critical points of the project was beneficial to the overall direction of the project, though required more time than foreseen in the project plan. In addition, the Advisory Committee was involved in all aspects of the project. This was believed to benefit the project activities by enabling: critical analysis and an informed approach to the progression of the project. It was also believed that this arrangement delivered recommendations and referrals to sources of information as needed.
- Consulting with experts for specific messaging needs around the use of statistics was believed to be an efficient way of ensuring quality and credibility of messaging while at the same time involving project partners that specialize in the respective areas. By seeking recommendations and referrals from the project partners, the process of seeking out the appropriate expertise was more efficient and targeted.
- The Advisory Committee was comprised of individuals with expertise and experience in their respective areas of work. This greatly benefited the project with regard to being able to access content expertise and information about partner constituencies as issues came up throughout project meetings.
- The project funder was involved in an advisory capacity throughout the project activities. This helped to reinforce support for project directions while they evolved. Feedback from the Atmospheric Fund throughout the project was helpful and incorporated throughout the project activities.

Key Messages



Throughout the project several key learnings informed the communication strategy. Of these learning, some key messages may be applicable to a broader context, and could be of benefit when building a communication strategy for climate related messaging. Key messages include:

- Key areas of concern when discussing health impacts of climate change include: heat, air quality, UV exposure, vector-borne disease, and impacts associated with extreme precipitation (5).
- Promoting the association between environmental issues and health may be effective in encouraging people to adopt environmentally friendly behaviours (6).
- Public health sectors can bring expertise in behaviour change approaches for public outreach as well as advocate for healthy public policy (6).
- A collaborative approach is recommended to better address environmental issues and break down silos of a variety of approaches (7, 8).
- Incorporating the expertise of communication experts can help to ensure that healthfocused climate messages are constructed in a strategic way that is compelling to key audiences.
- Attitudes and opinions about climate change are sensitive to framing, socio-political acceptance, and local factors (9-11).
- Pre-testing of messages should be tailored and targeted to respective audiences to better understand effects of messaging within the specific target audiences (7, 11, 12).
- Communications strategies must be careful not to increase harm for vulnerable populations by increasing alarm without addressing external factors over which target audiences have low control over (12). More research is also needed in order to understand how to effectively address maladaptive practices through communication messaging (13).
- Climate messaging should be careful not to contradict other health messaging that promotes health and physical activity (14).
- Consideration is needed for how factors such as race, ethnicity, and socioeconomic status, as well as gender may independently and systematically shape attitudes and beliefs around climate change (15).
- Previous analysis of Canadian news coverage around climate change has demonstrated a tendency toward isolated spikes of climate coverage, and that media has tended towards an emphasis on market-based solutions to climate change rather than the full range of solutions, including policies targeting each emitting sector (16).

Conclusion and Next Steps



A comprehensive communication strategy has been created and requires funding in order to begin implementation. Funding is projected at three tiers to suit variances in funding scenarios. In all scenarios, a professionally developed strategy with measurable success indicators will look to engage key audiences. The final strategy encompasses the following elements as next steps:

Strategic approach

Based on this direction, the proposed strategy aim is to clearly demonstrate a connection between climate change and health that our audiences can see and feel, understand and act on. It will do so through "health first" messaging that frames it as a health strategy specifically targeting the impacts on children.

Strategy overview

Consistent with the strategic imperatives, the strategy presents – and attracts interest – as a health issue then bridges to the connection to climate change. The strategy relies on the committee to provide suitable data for the first three steps of the strategy. The final step will empower the public and link to the actions they can take to reduce their GHG emissions and help protect their families' health. This basic narrative combines the messaging with the audience journey to provide the framework that will be used across all material.

Key messaging and narratives

In order to broaden the relevancy of the strategy and demonstrate that climate change has multiple health impacts, three major themes have been identified for the strategy, as well as opportunities to add other themes/climate drivers based on research evidence (e.g. health impacts of air quality and/or extreme weather events like flooding). The confirmed themes for which narratives have been developed so far include Lyme disease, asthma, and heat-related illness. The development of key messaging will also be explored for themes that feature impacts to health that can be achieved through co-benefits of climate action. The strategy will tell the story of the strategy objectives through each of these themes, ultimately drawing our audience in to the same core idea: *climate change hurts children's health and we need to do something about it.*

Finally, the project team will look to continually examine new government mandates that impact the Ontario Climate Change Strategy and will look to incorporate information which identifies new threats and/or opportunities for the implementation of the communication plan.

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