

Health, Communities, and Pollution: Strengthening the NPRI with Health Data

Dakota Norris, Canadian Association of Physicians for the Environment (CAPE)
On behalf of the NPRI Multi-Stakeholder Working Group

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Introduction

The National Pollutant Release Inventory (NPRI) is an important tool for tracking pollution sources across Canada. However, regarding public health and environmental justice, it remains limited due to the absence of integrated health impact data. This report highlights key gaps and provides recommendations to enhance NPRI's ability to inform communities about the health risks of pollutants, with a specific focus on the oil and gas sector. We aim to help answer:

- What kind of changes need to be made to make NPRI more useful for communities and for contributing to solving environmental injustice issues?
- What can be done to expand reporting under NPRI and improvements to the accessibility of data under NPRI by communities?

In doing so, we support efforts to apply the lens of environmental justice to NPRI data, and to action the Right to a Healthy Environment under CEPA within the context of NPRI.

Through CAPE's work, particularly in the [Place-Based Power Project](#), we have identified several areas where the NPRI could better serve communities by providing accessible and actionable health information. Our recommendations emphasize transparency, accountability, and environmental justice, ensuring that communities, especially those disproportionately impacted, can use NPRI data to protect their health and advocate for stronger protections.

1. The Need for Health Impact Data in the NPRI

Currently, the NPRI provides extensive data on pollutant releases but does not integrate relevant health information, despite its availability through other sources. Communities need access to this information to make informed decisions about their exposure risks and to advocate for policy changes that protect public health, especially as related to the oil and gas sector. Key concerns include:

- **Lack of direct health impact information:** While NPRI tracks pollutants, it does not provide easily accessible data on their associated health risks.
 - Example: [Recent research](#) linking oil and gas industry pollution to negative health outcomes has identified that more data on pollutants is required to help create a more accurate picture of health harms. The research found a 9-21% increase in negative health outcomes based on how many oil and gas wells a person lives near, such information is critical to identifying and understanding environmental justice issues as well. Such research findings can be contributed to, and

integrated in, the NPRI, for example by overlaying different graphics of pollution and health concentrations.

- **Health data exists but remains siloed:** Public health agencies, academic institutions, and environmental organizations have compiled extensive research on the impacts of pollutants found in NPRI data. However, this information is not linked to the NPRI, making it difficult for communities to understand what these emissions mean for their health.
 - Example: The [NWT Bureau of Statistics](#) collects data on general health indicators - such as self-reports of mental health, community belonging, and asthma rates. Community-based monitoring programs have significant environmental related data. These could be linked to the NPRI to correlate changes in pollutant releases, environmental health, and public health.
- **Precedents in other sectors:** Some industries and regulatory bodies already integrate health-based risk assessments and pollutant reporting. The NPRI could follow similar models to promote public health transparency.
 - Example: [BC Human Health Risk Assessment Guidance](#) includes “a well-established methodology that identifies and quantifies the potential risk of adverse health effects in humans who may be exposed to chemical contaminants”, which can be used to inform regulatory bodies including at the federal level and “provides information to decision-makers, industry, and communities”. By integrating with health-based risk assessments in different regions and departments like Health Canada, for example through customized data packages, communications triggered by exceeding guidelines, or identifying cumulative impact risks, NPRI can help identify where pollutants exceed recommended or regulated levels for human health protection, support the community right to know, prioritize policy, program or service needs.

2. Addressing Environmental Justice Concerns

Certain communities face a disproportionate burden of exposure to pollutants due to geographic, economic, and social factors. The NPRI must account for these disparities by:

- **Recognizing at-risk communities:** Indigenous, rural, and low-income communities are often located near industrial pollution sources, such as tar sands developments and fracking sites.
 - Example: [Environmental Racism Story Maps](#), [Environmental Justice Atlas](#)’, and [Environmental Justice Index Maps](#) are examples of simple tools, if integrated with NPRI, that could allow recognition of at-risk, most impacted, or most relevant communities in regards to the disproportionate impacts of pollutants on communities.
 - Example: Industry often [underreports pollutant data](#), and cumulative effects may exist but be unknown due to the lack of accessible historic or cross-sector comparative data. Incidents of underreporting or cross-sector cumulative impacts

can be mapped on the NPRI and compared to at-risk communities to deepen understanding of the risk profile they face.

- **Enhancing community right-to-know:** Making health impact data readily available would empower affected populations to advocate for stronger environmental protections and public health interventions.
 - Example: Communities can be informed automatically, via a communications package, when pollutants exceed known or regulated limits to protect human health, or when multiple pollutants may trigger cumulative effects concerns.
- **Integrating environmental justice principles:** The NPRI should evaluate how its data reflects and can mitigate systemic environmental and human health disparities, aligning with the Government of Canada's commitments under CEPA and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).
 - Example: [Research on Pictou Landing First Nation](#), which suffered very high environmental pollution rates, found that comparing health data across regions allowed the community to validate that certain negative health outcomes were higher in their community than others. However, the First Nation had to mobilize this data themselves, due to a perceived failure of the government regulatory agencies to fulfill their mandates. Cases like this can help inform how NPRI can be mobilized for environmental justice purposes, for example by seeing how data is accessed, which pollutant and health data is compared by communities, and what limitations or opportunities regarding skills and training communities need to carry out this work. Similarly, [related research](#) has shown that including appropriate health data based on Indigenous worldviews can help overcome pollutant data availability and accessibility issues which result in negative health outcomes.
 - Example: [Research on sociodemographic based exposure](#) to oil and gas operations in Canada found "racial and socioeconomic disparities exist in residential proximity to active wells, with people of Aboriginal identity and people with less education being more exposed to active wells than the general population" - which was linked to increased odds of negative health outcomes. More research on such issues is required in Canada, and can be significantly supported by the NPRI integrating pollutant, health, and sociodemographic based data.

3. Strengthening Accountability Through Health Data

A more comprehensive NPRI that includes health information would increase accountability for industries contributing to pollution. Key recommendations include:

- **Linking pollutant releases to known health effects:** NPRI data should be supplemented with health impact information, data and studies on specific pollutants, making the risks clearer to the public. This should go beyond the currently available health information on NPRI website to create specific information that is very accessible, for example by including infographics with summarized information, or providing case

studies or stories of communities that have linked pollutant releases to health outcomes for policy, program, or decision making purposes.

- **Expanding data accessibility:** NPRI's interface should provide user-friendly health impact summaries alongside emission data, ensuring accessibility for non-expert audiences. This may include creating specific tools that support decision making, like automatic triggers to inform communities of exposures beyond recommended or regulated limits, layered or comparative maps, and guides for using data in health impacts assessments or to establish relationships between health outcomes and pollution data.
- **Incorporating fracking-related pollution:** Fracking activities are a significant yet underreported source of environmental and health risks. The NPRI should require and disclose detailed reporting on pollutants from fracking operations.

Recommendations Summary

1. Integrating Health Impact Data into NPRI

- **Link pollutant releases to health effects:** Supplement NPRI data with more detailed and user friendly health impact information, including existing studies on specific pollutants, to clarify risks to the public. Make this information more prominent through infographics, summaries, and ensuring it comes up in the results section of search queries and the links are clear and known for users.
- **Overlay health and pollution data:** Integrate public health indicators, such as respiratory illness rates or self-reported community health, with pollution maps to provide a clearer picture of environmental health impacts.
- **Enhance accessibility of health data:** Ensure NPRI presents health-related information in user-friendly formats, such as infographics, case studies, and summaries, alongside pollutant data.
- **Create automatic alerts for high exposure risks:** Implement notifications for communities when pollutant concentrations exceed known or regulated health thresholds., including through cumulative effects processes.
- **Coordinate with health agencies:** Collaborate with public health organizations, Health Canada, and academic institutions to incorporate cumulative impact assessments and risk evaluations.
- **Expand health risk thresholds on NPRI website:** Provide clearer thresholds for human health risks (through known or regulated thresholds) related to pollutant exposures and highlight known cases where exposure has led to negative health outcomes.

2. Addressing Environmental Justice and Disproportionate Impacts

- **Recognize at-risk communities:** Use NPRI data to identify where Indigenous, rural, low-income and other marginalized communities may be disproportionately impacted by pollution.

- **Integrate environmental justice mapping tools:** Develop NPRI-based tools similar to, or integrate with, Environmental Racism Story Maps, Environmental Justice Index Maps, and the Environmental Justice Atlas to visualize disparities in exposure.
- **Expand community right-to-know mechanisms:** Provide automatic, customized reports to affected communities, alerting them to pollution levels that exceed health-based guidelines.
- **Ensure Indigenous worldviews are reflected in data collection:** Work with Indigenous communities to incorporate culturally relevant health indicators and traditional knowledge into NPRI assessments where significant environmental justice or health harm concerns exist.
- **Support community-led data initiatives:** Facilitate training and resources for communities to access, interpret, and use NPRI data in environmental health advocacy and policy development.
- **Improve industry accountability on underreporting:** Establish mechanisms, tools or guides to cross-reference NPRI data with community monitoring and independent research to address potential underreporting of pollutants.

3. Strengthening Accountability Through Health Data

- **Require more detailed reporting on fracking-related pollution:** Expand NPRI to capture comprehensive data on pollutants released during hydraulic fracturing activities, given their significant health risks.
- **Develop decision-support tools:** Create tailored resources to assist policymakers, healthcare professionals, and community leaders in using NPRI data to guide health or regulatory decisions regarding environmental justice and health harms.
- **Expand cumulative impact analysis:** NPRI should facilitate research and reporting on the combined health effects of multiple pollutants in a given area, or ways to raise awareness of cumulative effects risks based on NPRI data, particularly in heavily industrialized and marginalized regions.
- **Provide comparative regional health data:** Allow communities to compare their health outcomes with other regions to identify pollution-related health disparities.
- **Enhance data usability:** Include NPRI pollutant data, or identify ways to make it accessible and user friendly, in public health risk assessments, human health risk assessment frameworks, and other health-related tools used by decision-makers and communities.

Conclusion

By integrating health impact data into the NPRI, and making it more accessible and user friendly, it can better serve human health and environmental justice, especially for Indigenous and other marginalized communities. CAPE calls for the NPRI to prioritize these changes, as strengthening the NPRI in these ways would empower communities, health outcomes, and ensure greater accountability.