People's Health Movement – Canada
Submission to the Expert Panel Review of Environmental Assessment Processes

Why We Need to Remember Health in This Conversation

This submission originates in the work of the Canadian chapter of the People's Health Movement (PHM). PHM is a global network bringing together grassroots health activists, civil society organizations and academic institutions from around the world. In Canada, we are a volunteer-run network of academics and professionals across the country who seek to support community-led responses to health concerns that they face. We are working with communities and partners from Latin America, northern Saskatchewan and Quebec to understand and address the health impacts of mining and oil and gas development.

In this document we make specific recommendations related to: 1) better inclusion of health evidence – especially related to social determinants of health – in environmental assessment processes; and 2) enhanced participation of communities in assessing, monitoring and making decisions about the health implications of proposed economic developments. Our recommendations are primarily motivated by examples drawn from mining and oil and gas development ("resource extraction"), but are also relevant to other sectors. We have organized our comments to respond to specific questions posed by the Expert Panel in their Suggested Themes for Discussion. We make and explain recommendations for the Panel, and provide Appendices justifying our recommendations with reference to relevant scientific literatures.

Recommendation 1: Better inclusion of health evidence – especially related to social determinants of health – in environmental assessment processes

This recommendation responds to questions posed by the Expert Panel under the themes of 'Planning Environmental Assessment', 'Environmental Assessment in Context' and 'Decision and Follow-up'.

Planning Environmental Assessment
- **Q2 – For project environmental assessments, do you think the current scope and factors considered are adequate?**
- **Q3 – Are there other things (effects, factors, etc.) that should be scoped into an environmental assessment?**

Environmental Assessment in Context
- **Q2 – What outcomes do you want federal environmental assessment processes to achieve in the future?**
- **Q3 – How can federal environmental assessments support investor certainty, community and environmental wellbeing, the use of best available technology, certainty with respect to the protection of Aboriginal and treaty rights and timely decision making?**

Decision and Follow-up
- **Q1 – What types of information should inform environmental assessment decisions?**

The scope of consideration of health impacts under the current EA process is incapable of meeting the challenge of understanding and mitigating the effects of resource extraction (and other forms of development) on health. The current EA process may do an adequate job of assessing local health impacts through biophysical pathways such as exposure to toxins, contamination of drinking water, noise and exposure to radiation.[1] It is less able to capture health impacts related to long-range transport of contaminants through waterways (e.g. mercury contamination in waters far from original source), and/or the atmosphere (e.g. acid rain). Health impacts due to climate change represent a further consequence of such long-range transport, in which emissions from Canadian resource development activities affect health through global-scale processes.

The direct effects of environmental contamination, however, are only the tip of the iceberg when it comes to the health impacts of resource extraction. In particular, and in keeping with prominent internationally-recognized definitions, health must be understood as 'not merely the absence of disease or infirmity'[2], but also as overall well-

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[1] "Health Canada's Participation in Environmental Assessments under CEAA 2012", Health Canada, 2015, Retrieved December 2016 from http://www.healthycanadians.gc.ca/publications/department-ministere/hc-sc/environmental-assessment-evaluation-environnementale/index-eng.php.

[2] Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948.

being and the ability to adapt and self-manage (Huber et al., 2011). Whether viewed more broadly, or in a more narrow biomedical sense as absence-of-illness-or-injury, it is clear that health is hugely impacted by alterations in social determinants of health (SDH), or 'the circumstances in which people grow, live, work, and age' (CSDH, 2008: 2). The landmark 2008 report of the World Health Organization's Commission on the Social Determinants of Health synthesized decades of evidence generated through rigorous health science research on how factors such as income (and income inequality), social support, early childhood education and safe, well-paid ('decent') work make an enormous difference in a wide range of health outcomes from infant mortality rates to prevalence of chronic conditions and life expectancy.

Even though as we note impacts from resource development can be felt far away and far into the future, it does profoundly transform its most proximate communities in a short period of time. While opportunities for access to economic wealth in the form of employment, payments and preferential treatment for local businesses may be created, communities often experience health issues related to: a sudden influx of new earnings; rotational work schedules; growing inequality; stress and other impacts on mental health; substance abuse; violence and crime; physical injury; changes to nutrition; and increased instances of chronic and infectious disease. A rapid migration of workers into a community can add pressure to existing systems ranging from housing to health care services, while growing inequality between those who benefit from the development versus those who do not may strain the social fabric of a community and perpetuate power imbalances. For example, men often benefit more than women from new economic opportunities deepening gender inequalities. These and many other social and cultural determinants of health act determine health outcomes as surely as do changes to air, water and soil, but are currently not well integrated into the EA process.

Of further importance, impacts on social determinants of health from resource extraction interact with ecological or biophysical pathways to health outcomes in cumulative, non-linear ways that must be assessed with an understanding of complex system dynamics and long-term environmental and social change processes[3]. This consideration is especially important to recognize in light of the co-presence in particular regions of multiple resource development and other new economic activities, necessitating an approach to EA that takes cumulative impacts across projects into account.

While some health and socioeconomic determinants may be included under current assessment legislation both federally and provincially, the challenge remains given that they are never integrated, but rather conducted as one-off reviews with little consideration of the complex interaction between causal pathways (i.e. by conducting a social and/or health impact assessment, rather than considering the ongoing and integrated project-related cumulative impacts).

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[3] Climate change is a process that has the potential to fundamentally distort the EA process. We urge the committee to build in appropriate methods that recognize and anticipate current and future potential environmental, social, cultural and health transformations that are and will result from its effects. See the Multi-Interest Advisory Committee Report (and others) for a more detailed discussion.

What is needed is an inclusion of the variety of spatial and temporal issues not currently legislated in assessment processes – a going beyond the project footprint considered under impact assessments

- To better integrate consideration of past land uses,
- To give broader attention to past/present/future impact possibilities,
- To commit to continued evaluation of valued components through parallel processes of government, proponent and citizen-led analysis to triangulate findings and contextualize impact pathways.

We urge the panel to take the seriousness of resource development on the SDH thoughtfully, so that health impacts – both upstream and down – are recognized, addressed, mitigated and/or avoided through these processes, as well as monitored through on-going evaluation. The capacity to include considerations of SDH into EA practice currently exists within Health Canada through the Public Health Agency of Canada[4], and as captured in Health Canada's *Canadian Handbook on Health Impact Assessment.*[5] See Appendix A for a review of relevant scientific literature on resource extraction and health.

Specific recommendations

1. **We recommend that CEAA be changed to require:**
   a. **Meaningful assessment of impacts on social determinants of health by proponents, beyond social and health impact assessments, by broadening the scope of impacts to include consideration of complex interactions between causal pathways;**
   b. **Rigorous assessment of regional cumulative health impacts by the Government of Canada.**
2. **We also recommend that Health Canada and other relevant government departments develop the capacity to recognize, address, mitigate and/or avoid impacts, while conducting on-going evaluation of the project over its lifecycle, building on the Public Health Agency of Canada's existing capacity to track social determinants of health.**[6]

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[4] "What Determines Health?" Public Health Agency of Canada, 2011, retrieved December 2016 from http://www.phac-aspc.gc.ca/ph-sp/determinants/index-eng.php

[5] In 1999, Health Canada and the health and environment ministries from the provinces and territories developed a Guide on how to incorporate health impacts into Environmental Assessment. The document, *Canadian Handbook on Health Impact Assessment,* was revised in 2004.

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Recommendation 2: Enhanced participation of communities in determining, monitoring and making decisions about the health implications of proposed economic developments

This recommendation responds to questions posed by the Expert Panel under the themes Overarching Indigenous Considerations, Conduct of Environmental Assessment, Decision and Follow-Up, and Public Involvement.

Decision and Follow-up
- **Q1 - What types of information should inform environmental assessment decisions?**
- **Q2 - What would a fair, transparent and trustworthy decision-making process look like?**
- **Q3 - Who should participate in the implementation of follow-up and monitoring programs and how should that participation be encouraged or mandated?**

Public Involvement
- **Q1 - What do you think meaningful, effective and inclusive participation in the environmental assessment process looks like?**
- **Q2 - To what extent are current opportunities for public participation in federal environmental assessment processes adequate?**
- **Q4 - What information do you need during an environmental assessment to allow you to effectively participate? What capacity support should be provided and at what stage in the process would that support enable meaningful engagement?**

Overarching Indigenous Considerations
- **Q1 - How can federal environmental assessment processes better reflect and incorporate the multiple ways in which Indigenous Peoples may interact with federal environmental assessment, including as potentially affected rights holders, proponents of development, self-governing regulators, and partners?**
- **Q2 - How is the need to address potential impacts to potential and established Aboriginal and treaty rights best incorporated into the federal environmental assessment process?**
- **Q5 - How can the practices and procedures associated with federal environmental assessments, as well as the process itself, support the Government of Canada's goal of renewing the nation-to-nation relationship with Indigenous Peoples and moving towards reconciliation?**

The Environmental Assessment process currently incorporates community participation through work by proponents to prepare Environmental Impact Statements, typically by contracting environmental consultants with variable expertise in community engagement. Such consultation, however, does not constitute meaningful public involvement in making decisions about resource extraction, especially when the final decision on whether impacts of a project are 'justified' is made in a non-transparent manner by the Governor in Council.

Over half of all new extractive industry projects worldwide experience community action (Chatham House, 2013). Given that consultation and knowledge sharing can help avert

and alleviate adverse impacts, reduce tensions in the conflict-prone resource development process, and contribute to good governance and the protection of health and human rights, public participation in environmental decision-making has been adopted across the globe, with additional rights being asserted by Indigenous peoples. More inclusive planning process have the further benefit of enhancing social capital and building community cohesion, while simultaneously producing fairer agreements that are more likely to contribute to sustainable development than externally-imposed practices.

We recognize that efforts have been taken to address these concerns under the new framing of 'social licence' that has gained prominence in these conversations; however, the lack of public confidence in CEAA, NEB and other EA processes is a reflection of the fact that consultation is not recognized as a continual commitment to a process during the lifecycle of a project (and beyond), but rather currently conducted as a 'scoping' exercise for proponents prior to construction to support their acquisition of an EA certificate. To capture these impacts through both public consultation and the Environmental Impact Statement, the ways in which community perspectives are included and data is collected must change, as must project monitoring and evaluation procedures to ensure that proponents responsible for approved projects meet their commitments. We recognize that Corporate Social Responsibility efforts have been developed in an effort to address some of these concerns; however, given their voluntary, unmonitored nature and dependence on proponents acting against their bottom-line, CSR efforts are insufficient mechanisms to adequately address community participation needs.

To achieve community engagement/participation that is more than symbolic, efforts are needed to ensure a process managed by communities themselves. More commitment to multiple forms of knowledge generation is needed to address community concerns, including: citizen juries and citizen science projects; decolonizing methodologies of data collection; analysis with and for Indigenous communities at the local level; and benchmarked comparator indicators with high resolution across provinces and Canada on socioeconomic conditions of communities. These approaches are critical given that many resource operations occur in smaller communities with a small population size. While these communities might be fundamentally impacted, monitoring health and socioeconomic changes is often not otherwise possible using traditional methodologies with any degree of certainty or high resolution given the small sample sizes.

Strengthening the voice of communities that face the potential burden of the project development also requires a broader understanding of and planning for impacts of large-scale projects. The process must move beyond the air, water, soil approach of existing environmental assessment mechanisms that fail to capture the complexities and nuances a genuine understanding of community health and well-being necessitates. Improved assessment mechanisms must also incorporate research examining the intersection of Indigenous health and colonization, and must recognize the ways in which societal structures, including power, mediate the ways in which social determinants determine a population's health.

If genuine nation-to-nation relationships are to be built not only must the United Nations Declaration on the Rights of Indigenous Peoples be signed into law, but all communities, Indigenous and non, must have the right to refuse project development as

promised under the commitment to free, prior and informed consent, regulatory environments must be strengthened and better monitored, and the justification of EA project decisions must be made transparent. See Appendix B for more information.

Specific recommendations

1. **The Government of Canada must ensure that CEAA is fully consistent with our international commitments under the United Nations Declaration on the Rights of Indigenous Peoples, with specific reference to the principles of free, prior and informed consent and explicit inclusion of the right to refuse project development.**

2. **With specific respect to the health impacts of resource extraction, communities need to be supported in collecting baseline data on relevant health and well-being indicators that go beyond quantitative measures to incorporate qualitative methodologies capable of capturing ongoing impacts of colonization, that respect Indigenous ways of knowing, and are grounded in genuinely participatory community-managed processes; in designing studies to understand and track the health impacts of proposed or existing resource development projects; and in having the ability to say no to projects when the likely health impacts are unacceptable.**

3. **Within this process there must be greater commitment to multiple forms of data gathering and analysis to address community concerns, e.g. citizen juries and citizen science projects, and decolonizing methodologies of data collection and analysis with and for Indigenous communities at the local level, benchmarked comparator indicators with high resolution across provinces and Canada on socioeconomic conditions of communities.**

4. **Health Canada and other relevant federal departments need to rigorously and transparently evaluate the adequacy of public participation and consultation carried out by proponents and supervision of the monitoring and evaluation of proponent responsibilities should a project be approved. A corollary requirement is the capacity among federal departments to evaluate consultation/participation processes carried out in preparation of Environmental Impact Statements, and to supervise approved projects to ensure that proponents comply with their community-related commitments.**

Appendix A: Health impacts of resource extraction

Large-scale extractive industry projects have significant potential to impact the public's health. While some impacts such as injuries on the job site result directly from project activities, there are also indirect health impacts that result from changes in the physical and social environment around developments that should be considered among impacts of a project. Without these considerations, the picture of project impacts on health that emerges is typically incomplete (Morgan, 2011; Spickett, Batmunkh and Jones, 2012). This is not only a critical missed opportunity, but may contribute – however unwittingly – to the development of unanticipated but significant adverse health impacts. Health risks that are not adequately identified early in the impact assessment process can pose unnecessary costs to projects, and or threaten the achievement of the project itself. Integrating considerations of health – and further social and cultural impacts – into the EA process may provide an opportunity to improve governance, especially in settings where extractive industry development dominates.

Social Determinants of Health
Health is largely determined by social, environmental, behavioural and institutional factors that are themselves influenced by policies and activities outside the health sector (CSDH, 2008). The quality of these determinants helps explain the wide health inequalities that exist between populations. How long people live and how likely it is they will develop cancer or infectious disease is a function of the conditions in which they live, while the peaks and valleys in international demand for resources, and the limited lifespan of the projects can have significant social, economic and personal costs, fundamentally disrupting the determinants of health.

Employment and the economy
The arrival of new goods and services can negatively impact some sectors of the local economy, while the practice of traditional livelihood could be lost. While new opportunities can emerge, proper training and safety procedures must be in place to keep workers safe. Plans must also consider what will happen after project termination (e.g. mine closure). Communities must also be aware that the vast majority of jobs are short-term and front-end loaded. Once construction is complete the majority of jobs disappear, leaving fewer opportunities for higher trained personnel, yet the land that had previously served other purposes is no longer available.

Housing and Shelter
The influx of workers can also create pressures on existing housing leading to higher land and house prices, higher rents, housing shortages for existing residents, and overcrowding. Temporary accommodations begin to appear, which are often poorly constructed and prone to infestation. Local communities may need to be resettled away from the project site, resulting in negative health impacts from the social, economic and cultural dislocation that occurs.

Nutritional Impacts
Health Canada already recognizes the potential for reduced access to traditional or locally grown food, or food contamination due to heavy metal accumulation through the ingestion of contaminated drinking water, fish, livestock, and soil-to-plant transfer. However, while mining projects have the potential to increase food availability in local

communities, improving nutrition and health, a change in diet can also lead to a risk of obesity and micronutrient deficiency, as populations become more sedentary or have less access to healthy foods. Further, food insecurity can result when rapid project development alters access to land and water, disrupting food production and distribution.

Learning and Education
Projects may bring wider prosperity that improves local infrastructure such as schools and libraries, and increases the educational opportunities and resources that parents can afford for their children. However, there can also be a loss of traditional skills as young people focus on getting jobs linked to the project, or children may leave school early for work that may be short-term, leaving them unprepared for the future.

Crime and Safety
The influx of new people into a community has the potential to increase crime and anti-social activities. The mixing of communities and cultures may lead to tensions or the weakening of social controls that have traditionally maintained order. Increased consumption of alcohol can spur violent behaviour. The project and a growing population may stretch the capacity of local police, fire and other related services to deal with incidents.

Health, Social Care, and Public Services
Projects may place additional pressures on local health, social care and public services (including emergency services) due to the increase in population that they can bring, particularly if they also cause disruption and lead to new, or exacerbate existing, health and social problems.

Social Capital and Community Cohesion
Community tensions can arise if there is conflict between those who support and those who oppose a proposed project. In addition, the new people who come into the area may further affect the cohesion of local communities. For example, as young people are exposed to new ideas, new ways of doing things and different perspectives they may clash with existing social structures, traditions and norms. There may also be tensions between skilled and unskilled workers and discrimination against migrants. The potential for increased violence related directly to disputes over control of resources from the extractive industry must also be considered as it may also threaten the health and wellbeing of the community.

Spirituality, Faith and Cultural Traditions
For communities whose spirituality and identity are strongly connected to the land, damage to the landscape caused by a project's activities or loss of access to sacred sites may harm their spiritual wellbeing. In such communities, relocation is likely to be doubly damaging to their sense of self and mental wellbeing.

(See Social Determinants of Health in Citations for Orellana et al., 2013; Shandro et al., 2011; Kien et al. 2010; Kis, 2010; Native Women's Association of Canada, 2007; Li et al., 2006; Gebrekristos et al., 2005; Noronha, 2004; Paoliello et al., 2002; Pawson et al., 2001; Banken, 1999).

Equity Considerations

Differences in health status and experiences occur across populations. Avoidable and unfair differences in resource development result from differential exposure to risks (e.g. pollution, violence, stress), and/or differing abilities to access supports that preserve health, such as quality housing, strong social networks, adequate income, access to health care, performance of cultural practices, clean water, good nutrition, and education – the social, cultural, and environmental determinants of health. Without these supports health suffers as individuals and groups experiencing these inequities may be made vulnerable or may experience marginalization. These can include older people, children and young people, women, migrants, people with disabilities, people with low incomes or who are unemployed, those with Indigenous status, people from minority ethnic backgrounds, the LGBT community, or those who are from socially excluded groups. Perceived or actual power differences (including those between the resource extraction industry and their political supporters, and local inhabitants) also can determine whether groups feel they are able to ask for and receive the supports they need to thrive. Examples include:

- The groups who lose access to their traditional land, on which their livelihood depends, are most vulnerable to health effects resulting from loss of income and from food insecurity.
- If the project results in loss of social support networks, vulnerable individuals who were reliant on those networks may find that their quality of life is compromised, as is often the case for migrant workers.
- Indigenous peoples may experience compounded vulnerability due to the lasting legacy of colonialism and loss of culture and language.
- Women in particular may suffer from the shift in livelihood patterns. Resource-based economies tend to concentrate wealth in the hands of men, which has an impact on the way women have economic and social agency. Increasing dependence on men is known to have significant impact on the health of women, including but not limited potential increased risk of infectious diseases and domestic violence.

(See Equity in Citations for Caxaj et al., 2013; D'Souza, Karkada, Somayaji, 2013; D'Souza et al., 2013; Morrice, Colagiuri, 2013; Czyzewski, 2011; Masuda et al., 2008; Utzinger et al. 2005; Kuyek, 2004; Petrova, Yalovleve, Zakharova, 2001)

Mitigating and Avoiding Health Impacts
Industry-induced shifts to social and cultural determinants of health transmit down the causal pathway to variously impact health outcomes in proximate communities, as explored in the following examples. By expanding the mandate of the Environmental Assessment to address the Social Determinants of Health many of these health impacts can be mitigated or avoided.

Infectious Disease
A large influx of non-local workers, or workers living in a camp setting, for example at a mine or oil and gas site, can be associated with an increased pressure on local services, overcrowded housing, and an increase in sex work in a region. These changes can have direct links to the spread of infectious disease including sexually transmitted infections, respiratory infections, and water-borne and other disease linked to sanitation and hygiene. (See Infectious Disease in Citations for Barwise et al., 2013; Stuckler et al., 2011; Adei, Addei, Kwadjosse, 2011; Lightfoot et al., 2009; Patz et al. 2004)

Non-Communicable Disease
Communities can be exposed to potentially hazardous materials (e.g. dust, particulate matter, heavy metals) emitted from mining sites, which can lead to respiratory illnesses, skin diseases, organ damage, circulatory problems, birth defects, cancers and neurological disorders. Projects can also bring changes that affect people's lifestyles (e.g. diet, level of physical activity, smoking, alcohol and drug consumption) that increase or decrease their risk of non-communicable or chronic diseases. As these illnesses are difficult to track it is important to collect baseline data at the outset, and to support communities in ongoing data collection to capture epidemiological shifts. (See Non-Communicable Disease in Citations for Esch, Hendryx, 2011; Hendryx et al., 2011; Friesen et al; 2010; Ramos et al., 2008; Yu et al. 2006; Wang, Tian, Tian, 2004; Coggon, Taylor, 1998; Steen et al., 1997.)

Mental Health and Substance Abuse
Mining projects can lead to improvement in mental health by reducing poverty, increasing self-esteem and empowering local communities. Jobs and stable income reduce stress and increase one's sense of control in life. Alternatively, mining projects can cause disruption and uncertainty, creating worry, stress and a feeling of powerlessness, especially common among those forced to relocate. Low-income families can be burdened by financial stress as costs rise in the community. Changes to the local environment can increase stress, especially among those who feel a strong connection to the land. Job insecurity results if projects only provide short-term opportunities, increasing stress. Mental health impacts can also be sparked by greater food insecurity, a decline in health status, increased social tension, deterioration in family relationships, and reduced ability to access care. Violence against women is frequently higher in mining communities. Drug use and alcohol consumption can be problematic issues in transient workers and in environments coping with rapid change; substance use, abuse and dependence can rise in mining regions as people attempt to cope with stress. (See Mental Health and Substance Abuse in Citations for Caxaj et al., 2014; Shandro et al. 2011; Sharma, Rees, 2011; Astete et al. 2010; Goessling, 2010; Wernham, 2004; Barton, 2002.)

Physical Injury
Globally, the extractive industries are considered to be the most dangerous among industrial activities, with risks arising not only from extractive operations, but ranging from materials processing to driving to the work site along dangerous roads. For workers, injury risk is heightened by exposure heavy machinery as well as underground and surface mining environments with chance for collapses and explosions. Mining projects may also affect injury rates indirectly through social and economic change in the region. For instance, the risk of violence in a community may decrease as young men are provided gainful employment and the overall level of wealth in the community improves. Alternatively, the migration of large groups of what are generally male workers into the region may potentially lead to social unrest, including incidence of violence and sexual assault. Injury and occupational disease prevention requires active preventative measures on many fronts. (See Physical Injury in Citations for Lenné et al. 2012; Ahn, Bena, Bailer, 2004; Smith, 2001; Loewenson, 1999.)

Appendix B: Enhanced participation of communities in determining, monitoring and making decisions about the health implications of proposed economic developments

UNDRIP, Effective Consultation and Gaining Consent

In 2007 the UN adopted the Declaration of the Rights of Indigenous Peoples, which, in addition to ILO Convention 169 and a growing body of jurisprudence, extended the notion of participation for certain communities (Fontana and Grugel, 2016). This legally mandated process requires states to seek the free, prior and informed consent of Indigenous communities for any project that has the potential to affect them (Flemmer and Schilling-Vacaflor, 2016). Driven by concepts of autonomy and self-determination, "the right to FPIC constitutes a stronger right to participation than the right to prior consultation, as it implies the right to give or withhold consent, not just to be consulted" (Flemmer and Schilling-Vacaflor, 2016:172).

In order to be effective these rights must be implemented in a manner that recognizes real-world challenges of power asymmetries and communications barriers that restrict the promise of participatory practices – recognizing that simply having a voice does not equate having influence (Flemmer and Schilling-Vacaflor, 2016; Fontana and Grugel, 2016; Owen and Kemp, 2014; Glucker et al., 2013). There is a need for capacity building so community members are able to effectively participate in the process (Owen and Kemp, 2014). To achieve legitimate participation conditions must be met, including:

- More equal distribution of power and resources;
- Decentralized decision-making processes;
- Wide and transparent knowledge exchange;
- Collaborative partnerships that support the capacity of those involved;
- A breakdown of silos between institutions;
- Increased accountability; and
- A means for actors to engage outside of government.
  (Fischer, 2012; Gaventa, 2002)

If these conditions are not met communities facing large-scale project development may seek other opportunities to have their voices heard (Jaskowski, 2014; Gaventa and Barrett, 2012), as reflected by the fact that over half of all new extractive industry projects worldwide experience community action (Chatham House, 2013).

The Importance of Including Health

Residents of rural and remote Canadian communities, especially those with Indigenous status, may face multiple challenges to the social, cultural, economic and environmental determinants of health, including climate change, poverty, and lack of appropriate housing and employment opportunities. These challenges, significantly impacting health and wellbeing, can be compounded by resource development initiatives proximate to communities (Kwiatkowski, 2011). By including considerations for the determinants of health early and authentically in project decision-making processes, better inclusion of preventive action and mitigation strategies can be offered that help improve health outcomes (Kwiatkowski, 2011).

However, some scholars further contend that insufficient attention has been paid to the ways in which societal structures, including power, mediate how social determinants

determine a population's health by neglecting the societal, political and geographic context (Raphael, 2011; Cummins et al., 2007; Braveman, 2006; Coburn et al., 2003). This erasure of context, or more specifically the deletion of experiences specific rural and remote communities, limits the effectiveness of EAs.

These omissions are particularly problematic for Indigenous communities. Not only are specific considerations of the on-going processes of colonization imperative, but the normative mechanisms currently employed in EAs fail to comprehend and appropriately incorporate Indigenous health concepts that differ fundamentally from Western concepts of health and wellbeing enshrined, even with consideration for the SDH (Tobias and Richmond, 2014, 2014; Adelson, 2005). What is needed is to recognize and find ways to integrate Indigenous ontologies and conceptions of health to mitigate the impacts of resource development.

If these considerations are neglected, we risk perpetuating the same failures. No easy solution exists but needed is a political orientation where communities hold projects to account for the impact that they will have on their environmental and social health (and find ways to anticipate, avoid, and/or mitigate these impacts). To achieve this end, communities must be able to participate in the process, owning their data, framing the ways in which it is collected and applying their analytic expertise to its interpretation (The First Nations Information Governance Centre, 2014).

Collecting Appropriate Data Appropriately
Including community voice in the EA process includes changing the ways in which data is collected, and by changing our understanding of what constitutes appropriate data. Although the use of qualitative research methods and application of community participatory research principles are more evident in health research today, there is still a reliance on population health data, including census data, vital statistics, disease surveillance or registries and/or national health surveys that neglect the social, political and geographic structures that underlie this evidence (Smylie and Firestone, 2015).

The Environmental Health Research Division (EHRD) of the First Nations and Inuit Health Branch within Health Canada conducts research activities research activities to inform Health Canada's policy decision-makers and Indigenous community decision-makers. EHRD recognizes that it is imperative that participatory processes focus on community priorities and needs, that community voice is authentically included and that the decision-making processes are collaborative throughout the decision-making process. Authentic participation requires respect for and integration of western-based science with the First Nations' traditional knowledge and/or Inuit Qaujimajatuqangit, Indigenous values, principles, approaches and ideas (Kwiatkowski, 2011). Community-based participatory research, a qualitative research methodology grounded in community empowerment, is considered by many Indigenous scholars to be an effective approach in help in achieving these goals (Kwiatkowski, 2011).

Importance of Authentic Participation
It is imperative that the inclusion of community voice in these processes is done in an authentic manner. Research has raised the concern that participation within formal structures may have been co-opted by the development imperative resulting in the further marginalization of the community partner (Cooke and Kothari, 2001). Work from Moffat and Zhang reveals how proponents hire researchers to learn which

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processes best build trust with communities to achieve a social license to operate (2014). Kirsch (2014) and Couman (2011) present evidence of proponents hiring anthropologists and development experts to share information about how to better control community expectations, and impede community critiques.

Participatory processes may also conceal power structures within communities and exacerbate local inequities by controlling who is allowed to participate (Fontana and Schilling-Grugel, 2016). Further, attention is drawn to the ways "the micro-level of intervention can obscure, and indeed sustain, broader macro-level inequalities and injustice" (Cooke and Kothari, 2001, pg. 14). A Western approach pervades the participatory processes, selecting and perpetuating certain types of knowledge – giving power to those who align with this perspective (Cooke and Kothari, 2001), while failing to appreciate other ways of knowing (Fontana and Schilling-Grugel, 2016).

Bearing these pitfalls in mind, the inclusion of community voice in consultation processes, and as required under UNDRIP with regard to the obligations of free, prior, and informed consent, offer a more legitimate option for formal participatory process in efforts to gain consent. With amendments to the process there is the potential to strengthen Indigenous and other proximate communities' position, and creates opportunities to gain appropriate and stronger guarantees that help to preserve social, cultural and health imperatives.

With the adoption of UNDRIP, and its associated principles of free, prior and informed consent that includes the right to refuse; by moving beyond just the collection of quantitative data to include qualitative data gathered through community-based participatory research methods; with the integration of western-based science with the First Nations' traditional knowledge and/or Inuit Qaujimajatuqangit, Indigenous values, principles, approaches and ideas; with the inclusion of SDH; and by making establishing rigours and transparent criteria for the justification of projects that integrates these important criteria, the EA process will be dramatically strengthened. While the process may be lengthened a process that includes broader considerations of health and community voice will limit conflict, build trust, and ultimately improve health outcomes for proximate communities.

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